ECF East 96th Street

Draft Environmental Impact Statement

Lead Agency:
New York City Educational Construction Fund
30-30 Thomson Avenue, 1st Floor
Long Island City, NY 11101

January 17, 2017

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A. IDENTIFICATION OF THE PROPOSED PROJECT

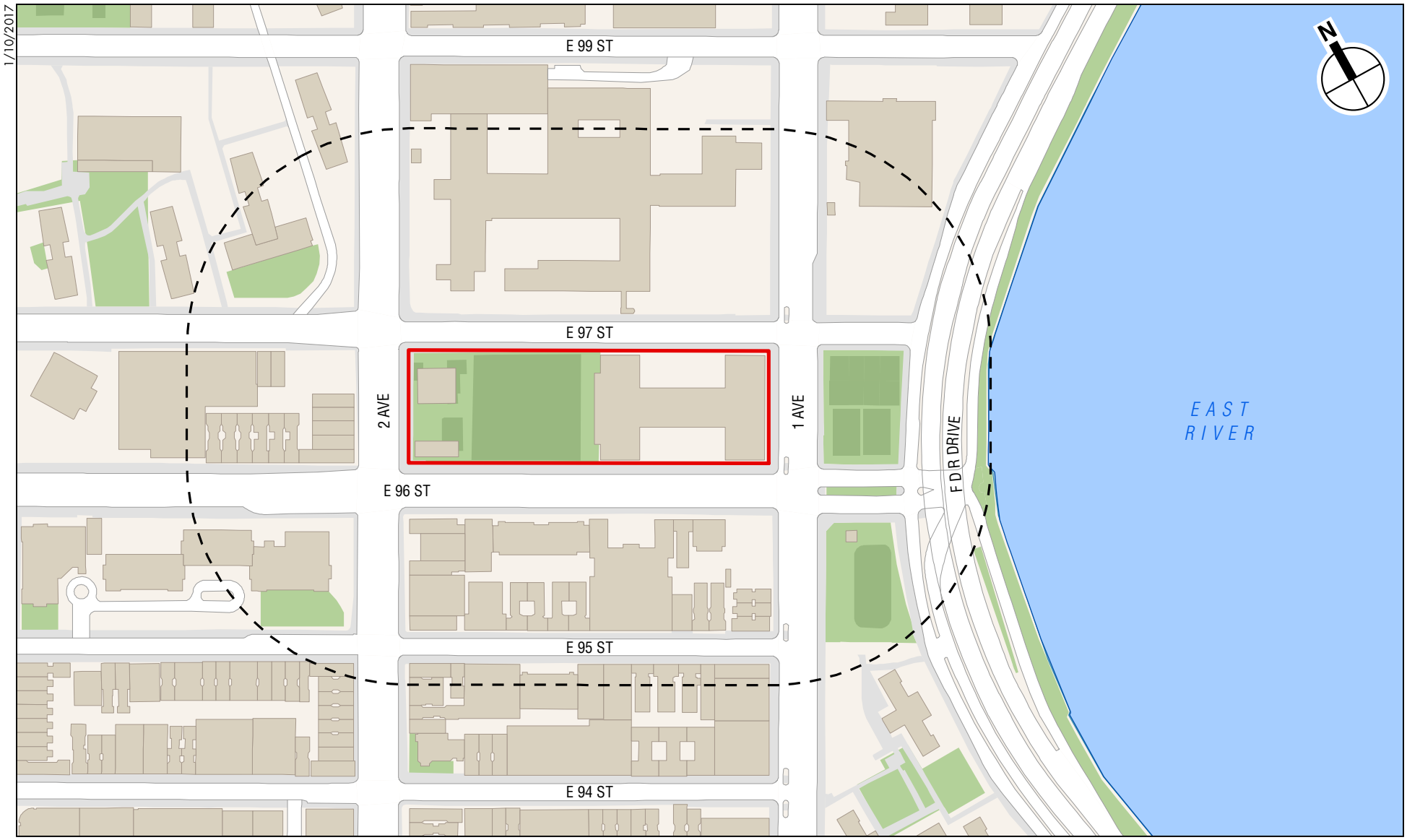
The co-applicants, the New York City Educational Construction Fund (ECF) and AvalonBay Communities (AvalonBay), are seeking a rezoning and other actions to allow the construction of a mixed-use building, which will include a replacement facility for an existing school, a new facility for the relocation of two existing neighborhood public high schools, and the relocation of an existing jointly-operated playground on Block 1668, Lot 1, in the East Harlem neighborhood of Manhattan (see **Figures S-1 and S-2**). The proposed project involves the construction of a mixed-use tower on Second Avenue containing a 135,000-gross square foot (gsf) public technical school—a replacement facility for the existing School of Cooperative Technical Education (COOP Tech) currently located on the project site—as well as approximately 25,000 gsf of retail space, and approximately 1,015,000 gsf of residential floor area (1,200 units[1]). Following the demolition of the existing COOP Tech, the co-applicants will construct a 135,000-gsf building on First Avenue that will house two existing, relocated public high schools. The jointly-operated playground currently on the western portion of the project site would be relocated to the center of the project site.

The project site is currently owned by the City of New York. The western portion of the project site is currently occupied by the Marx Brothers Playground, which is jointly operated by the Department of Education (DOE) and the New York City Department of Parks and Recreation (NYC Parks). The portion of the playground area facing Second Avenue is currently in use by the Metropolitan Transportation Authority (MTA) as a staging area for Second Avenue Subway construction. The eastern portion of the project site is occupied by a four-story, 103,498-gsf school building, currently in use by COOP Tech.

The proposed project would require: a zoning map amendment to change the northern half of the project site from an existing R7-2 district to a C2-8 district within 100 feet of Second Avenue and an R10 district over its remainder, and the southern half of the project site from an existing R10A district to a C2-8 district within 100 feet of Second Avenue and an R10 district over its remainder (see **Figure S-3**); amendments to the Zoning Resolution to modify Section 74-75 to allow distribution of allowable lot coverage and Appendix F to establish a Mandatory Inclusionary Housing Designated Area over the project site; a special permit to allow distribution of lot coverage; modification of height and setback restrictions and tower regulations; a special permit to waive accessory off-street parking requirements for non-income restricted residences; certifications to modify restrictions on location of curb cuts, and a certification that a transit easement is not required.

The proposed project require approval of a home rule request by the New York City Council and legislation by the New York State Legislature to authorize the alienation and disposition to ECF

[1] Depending on unit sizing, the project could contain between 1,100 and 1,200 dwelling units. For the purposes of a reasonable worst-case analysis, this Environmental Impact Statement (EIS) will assess potential project impacts based on 1,200 units.



ECF EAST 96TH STREET

Project Site Location
Figure S-1

1/10/2017

Project Site

Study Area (400-foot boundary)

0 400 FEET

Aerial

ECF EAST 96TH STREET

Figure S-2

of the existing jointly-operated playground, and its replacement with an equivalent size and proportion of jointly-operated playground on the project site. The project also involves a transfer of the City-owned project site to ECF, which would lease the portion of the property on which the mixed-use building will be constructed to the designated developer, AvalonBay. ECF would hold title to the entire site, until it conveys the schools to the City (acting through DOE) and re-conveys control of the jointly-operated playground to DOE and NYC Parks. To facilitate construction of the schools, ECF would issue tax-exempt bonds.

The proposed discretionary actions require review under the City Environmental Quality Review (CEQR) and the State Environmental Quality Review Act (SEQRA). The environmental review provides a means for decision-makers and other government agencies to: systematically consider environmental effects along with other aspects of project planning and design; evaluate reasonable alternatives; and identify, and mitigate where practicable, any significant adverse environmental impacts. Development of the proposed project may potentially result in significant adverse environmental impacts, requiring that this Environmental Impact Statement (EIS) be prepared. The environmental review process is described in greater detail below. The EIS analyses have been undertaken pursuant to SEQRA, and the 2014 *CEQR Technical Manual* generally serves as a guide with respect to environmental analysis methodologies and impact criteria for evaluating the effects of the proposed project. ECF is serving as the lead agency for this application. The New York City Department of City Planning (DCP) is serving as an Involved Agency.

B. PROJECT DESCRIPTION AND PURPOSE AND NEED

PROJECT SITE

The project site is Block 1668, Lot 1 in the East Harlem neighborhood of Manhattan. As shown in **Figures S-1 and S-2**, the project site is the full block bounded by East 96th and 97th Streets and First and Second Avenues. It is located in Manhattan Community District (CD) 11. The northern half of the project site is zoned R7-2; the southern half of the project site is zoned R10A (see **Figure S-3**). The lot area within 150 feet of Second Avenue is also within the Special Transit Land Use District. The project site is currently owned by the City of New York. No lot mergers are required for the project. There are no (E) designations for the project site.

The western portion of the project site (approximately 64,150 sf) is currently occupied by the Marx Brothers Playground, which is jointly operated by DOE and NYC Parks. The playground includes a multi-purpose baseball and soccer field. The playground area facing Second Avenue (approximately 23,000 sf) is currently in use by MTA as a staging area for Second Avenue Subway construction. The eastern portion of the project site (approximately 66,396 sf) is occupied by a four-story, 103,498-gsf school building, currently in use by COOP Tech, a public technical high school.

PROJECT DESCRIPTION

The proposed project would develop a 68-story building (760 feet in height, including bulkhead and mechanical equipment) with approximately 1,175,000 gsf on the western side of the project block, facing Second Avenue, and an eight-story building (185 feet in height, including bulkhead and mechanical equipment) with approximately 135,000 gsf on the eastern side of the block, facing First Avenue. The western building would include approximately 1,015,000 gsf of residential use (approximately 1,200 residential units[2]); approximately 25,000 gsf of commercial retail use (Use

[2] Depending on unit sizing, the project could contain between 1,100 and 1,200 dwelling units. For the purposes of a reasonable worst-case analysis, the EIS will assess potential project impacts based on 1,200 units.

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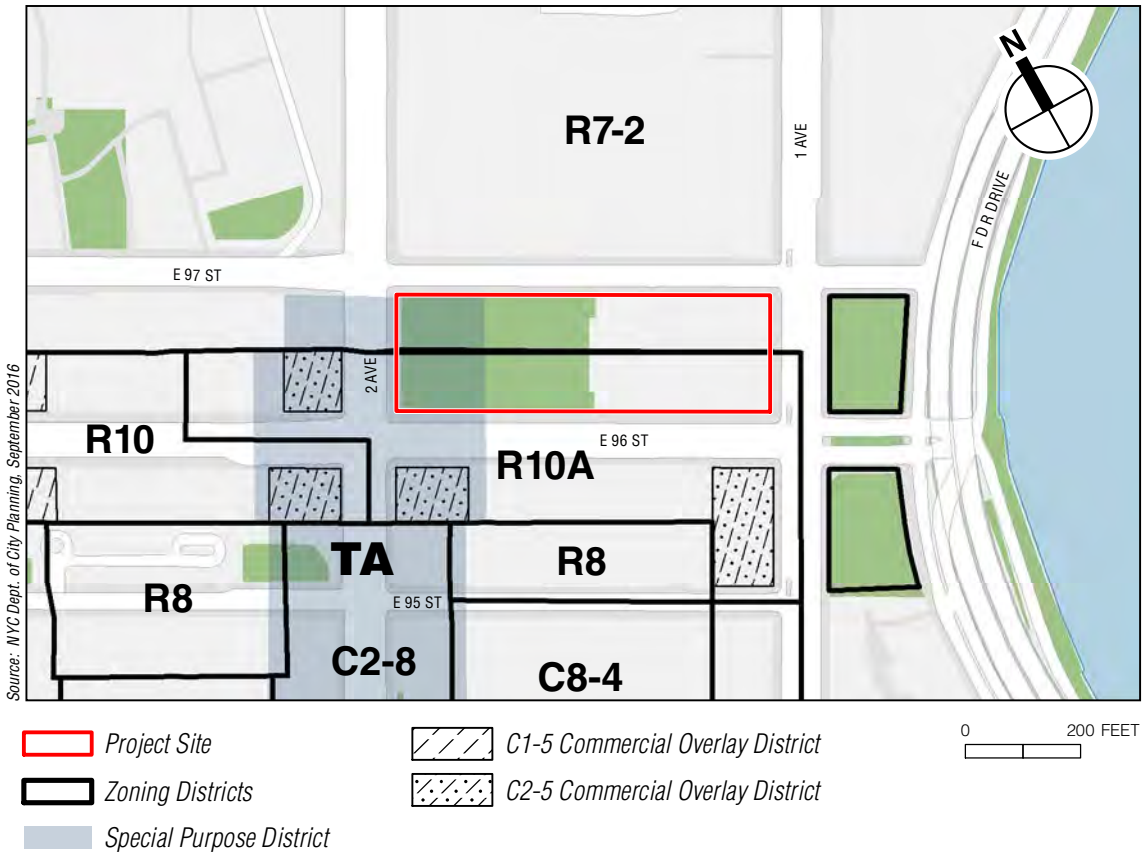
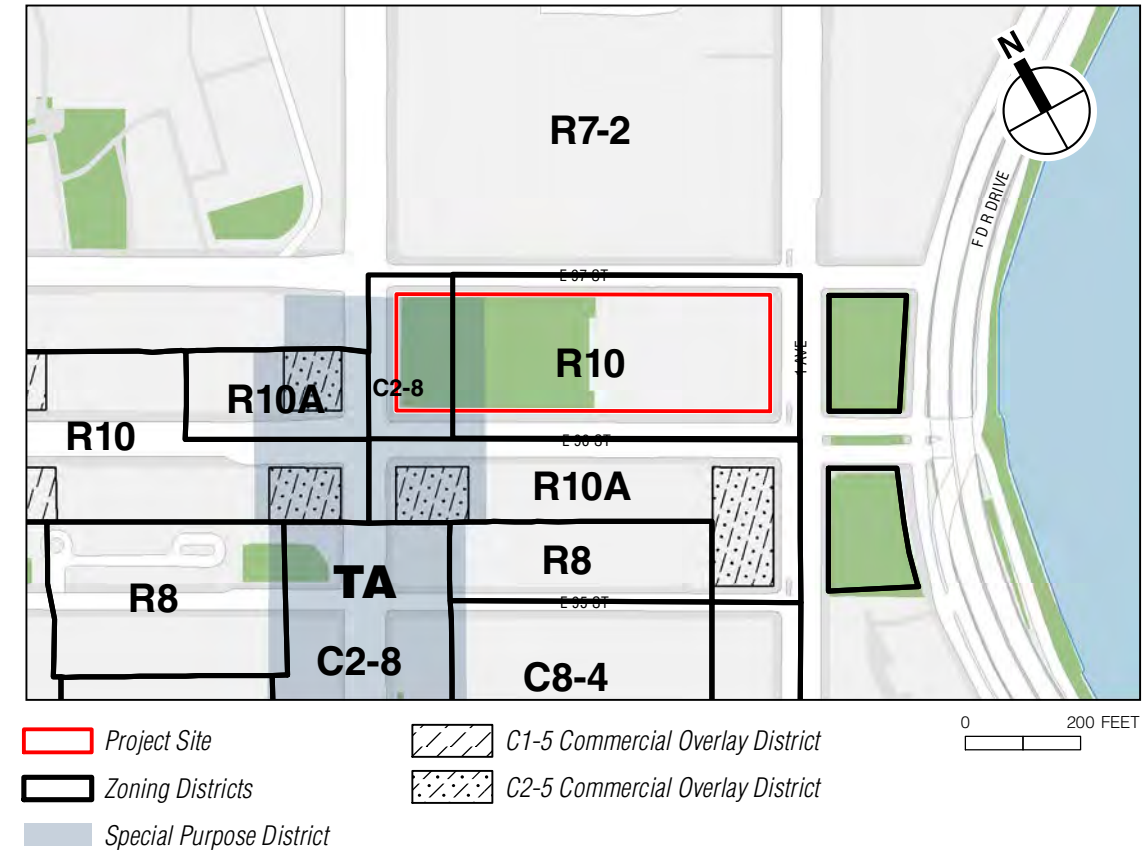
Existing



Proposed



ECF EAST 96TH STREET

Existing and Proposed Zoning
Figure S-3

Groups 6A/6C); and approximately 135,000 gsf of public school use (Use Group 3A, a technical school to replace the existing COOP Tech). It possible that the western building also would include up to 120 accessory parking spaces. The eastern building would house two additional public high schools that would relocate from nearby locations within CD 11. In total, the development on the site would be approximately 1,310,000 gsf (see **Figures S-4 through** S-7).

The building facing First Avenue would be served by one curb cut on East 97th Street and one on East 96th Street. The building on Second Avenue would have a nine-story portion facing East 97th Street, for the replacement technical school; the proposed retail use would be on the first and second floors of the building facing Second Avenue; and the residential use would be in the tower portion of the building, facing East 96th Street. The Second Avenue building would be served by one curb cut on East 97th Street, which would be used by COOP Tech's loading operations and automotive trades shop; the other curb cut, on East 96th Street, would serve the proposed residential uses, including the potential accessory parking facility. One additional curb cut, on East 97th Street, would serve the relocated playground.

The proposed project would establish an MIH designated area at the project site. Thirty percent of the residential units will be affordable and will be occupied by households with incomes that are an average of 60 percent of Area Median Income (AMI). The Applicant is proposing to utilize Option 1, which requires at least 25 percent of the residential floor area be provided as permanent affordable housing. The weighted average of the affordable housing may not exceed 60 percent of AMI (currently $54,360 for a family of four) and at least 10 percent of the affordable housing must be affordable to households with incomes not exceeding 40 percent of Area Median Income (currently 36,240 for a family of four). There can be no more than three income bands, and the maximum household income may not exceed 130 percent of Area Median Income (currently $117,780 for a family of four).

The existing jointly-operated playground would be relocated to the middle of the block, between the two new buildings. The relocated jointly-operated playground would be of an equivalent size and proportion to the existing jointly-operated playground.

The proposed buildings would incorporate design elements to improve the site's resiliency, including elevating the first floor of the new buildings above the design flood elevation, and other measures to assist in protecting the lower levels of the buildings.

With the proposed project, the project site would be developed to an overall floor area ratio (FAR) of 9.7, as compared to the maximum permitted FAR under the proposed rezoning of 12.0. The agreements between ECF and AvalonBay will restrict the permitted development to that described in this EIS.

PURPOSE AND NEED

ECF is a public benefit corporation established in 1967 by the New York State Legislature to provide funds for combined occupancy structures, including school facilities in New York City. ECF serves as a financing and development vehicle for the DOE, encouraging the development of new public schools as part of mixed-use projects in which the public component (i.e., relocated COOP Tech, new high schools and enhanced, relocated playground) is financed by tax-exempt bonds. ECF uses ground rents, lease payments, and/or tax equivalency payments from the non-school portions of the development to pay the debt service on the bonds issued to finance the public facilities. ECF enhances the ability of DOE to rehabilitate and construct new school facilities, thereby increasing the number of seats for the entire school system. ECF encourages comprehensive neighborhood development by facilitating new mixed-use developments that feature new school facilities. ECF works with DOE and the New York City

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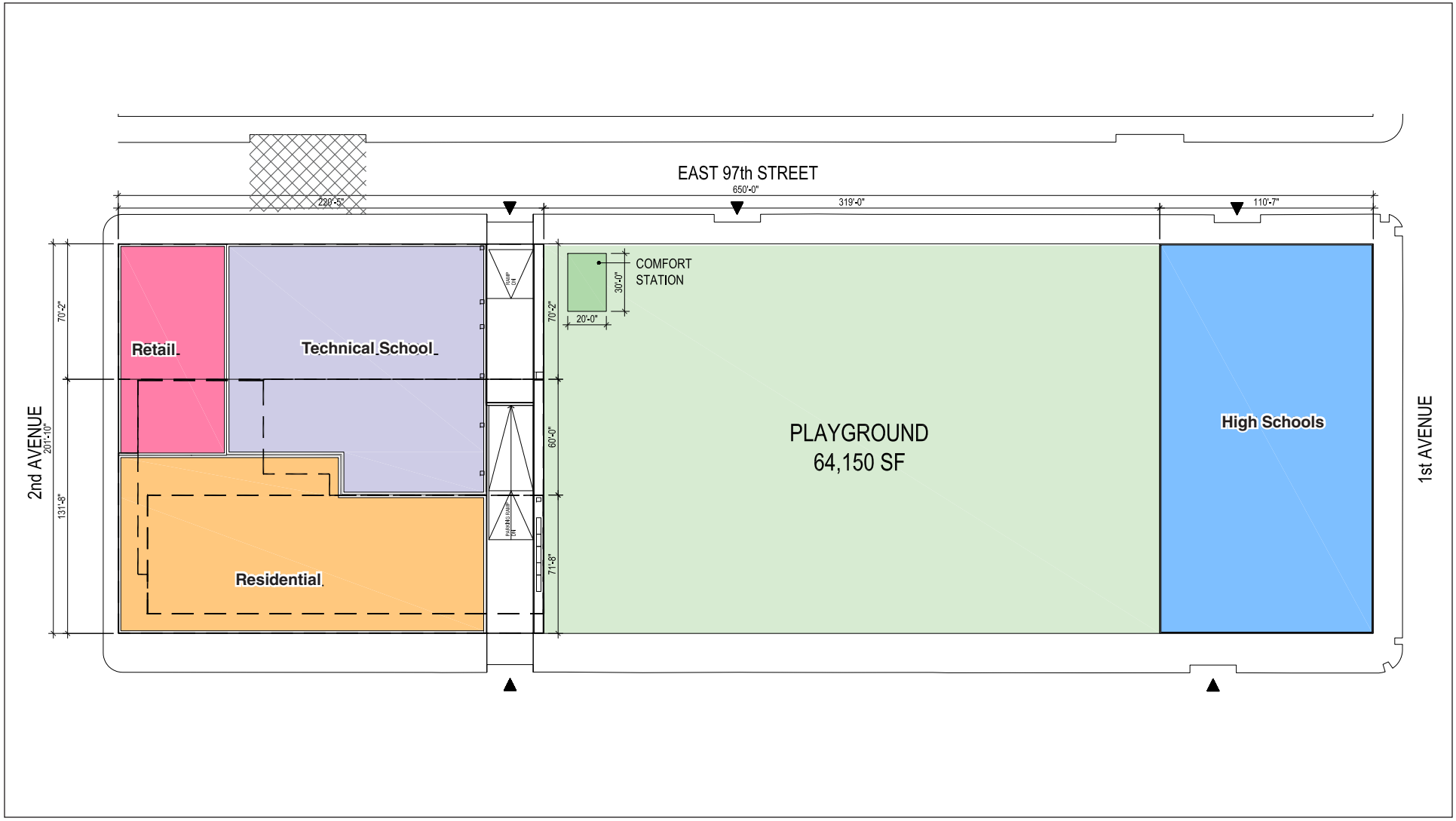

Proposed Ground Floor Plan

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Figure S-4

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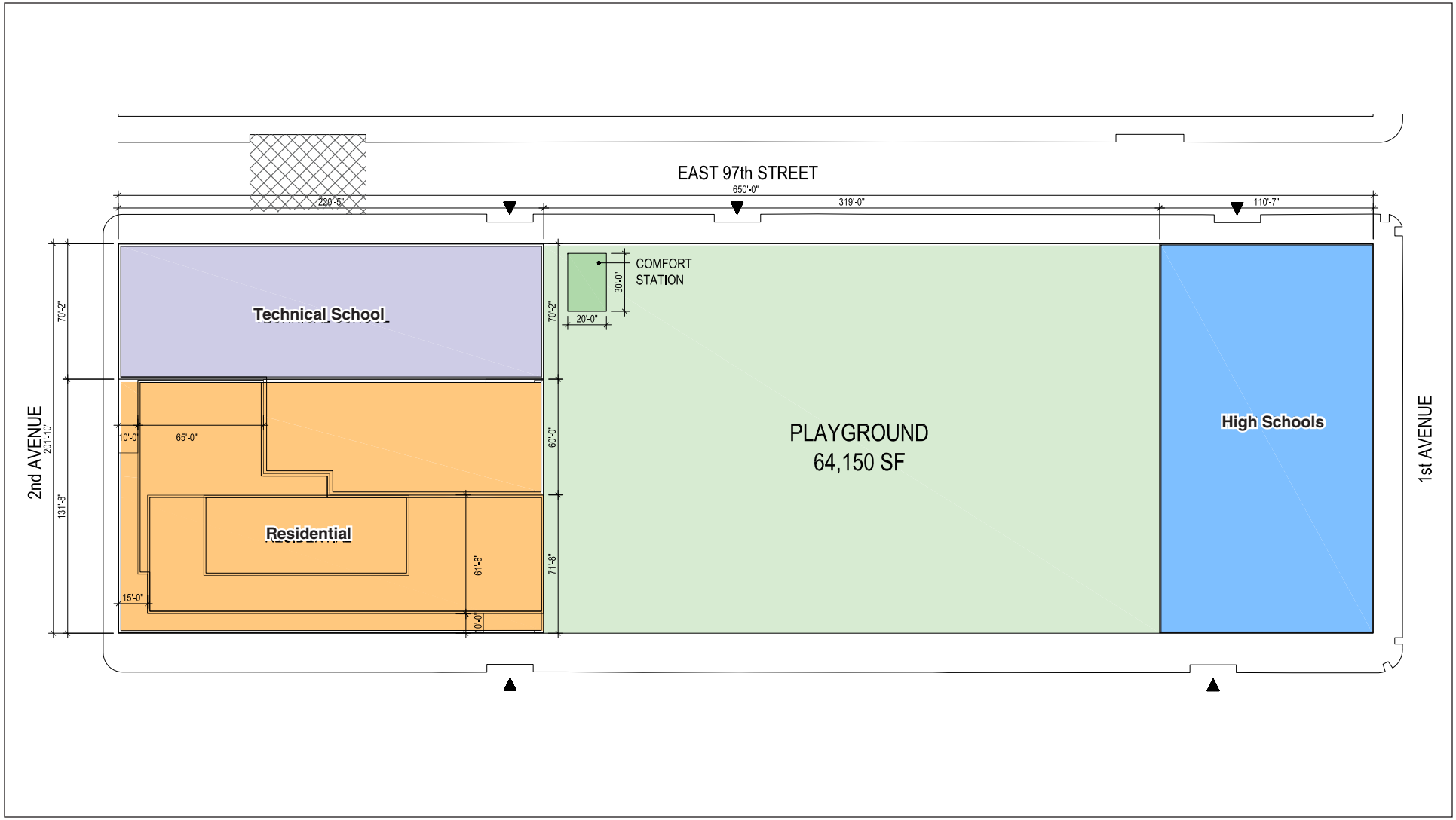
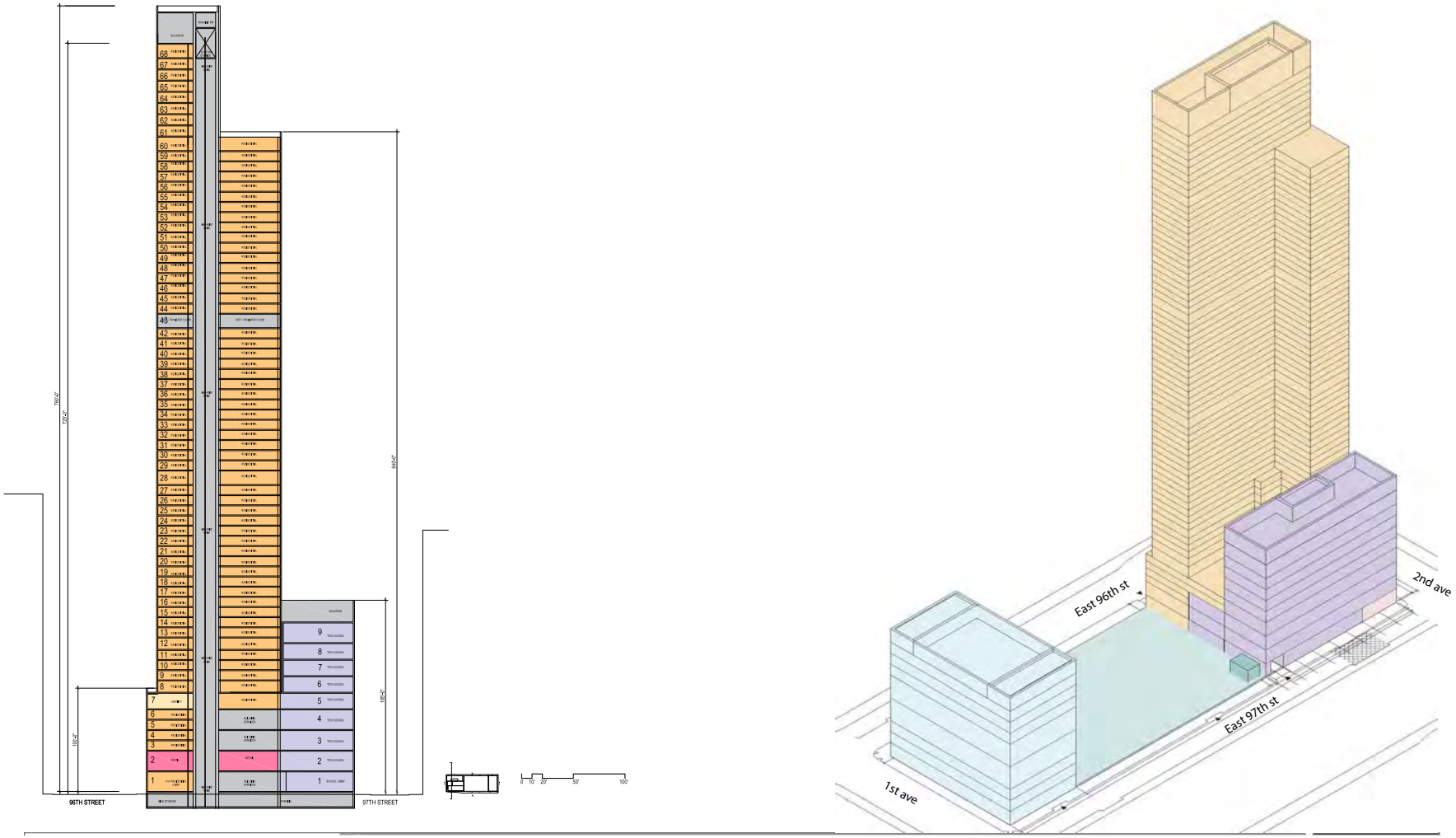


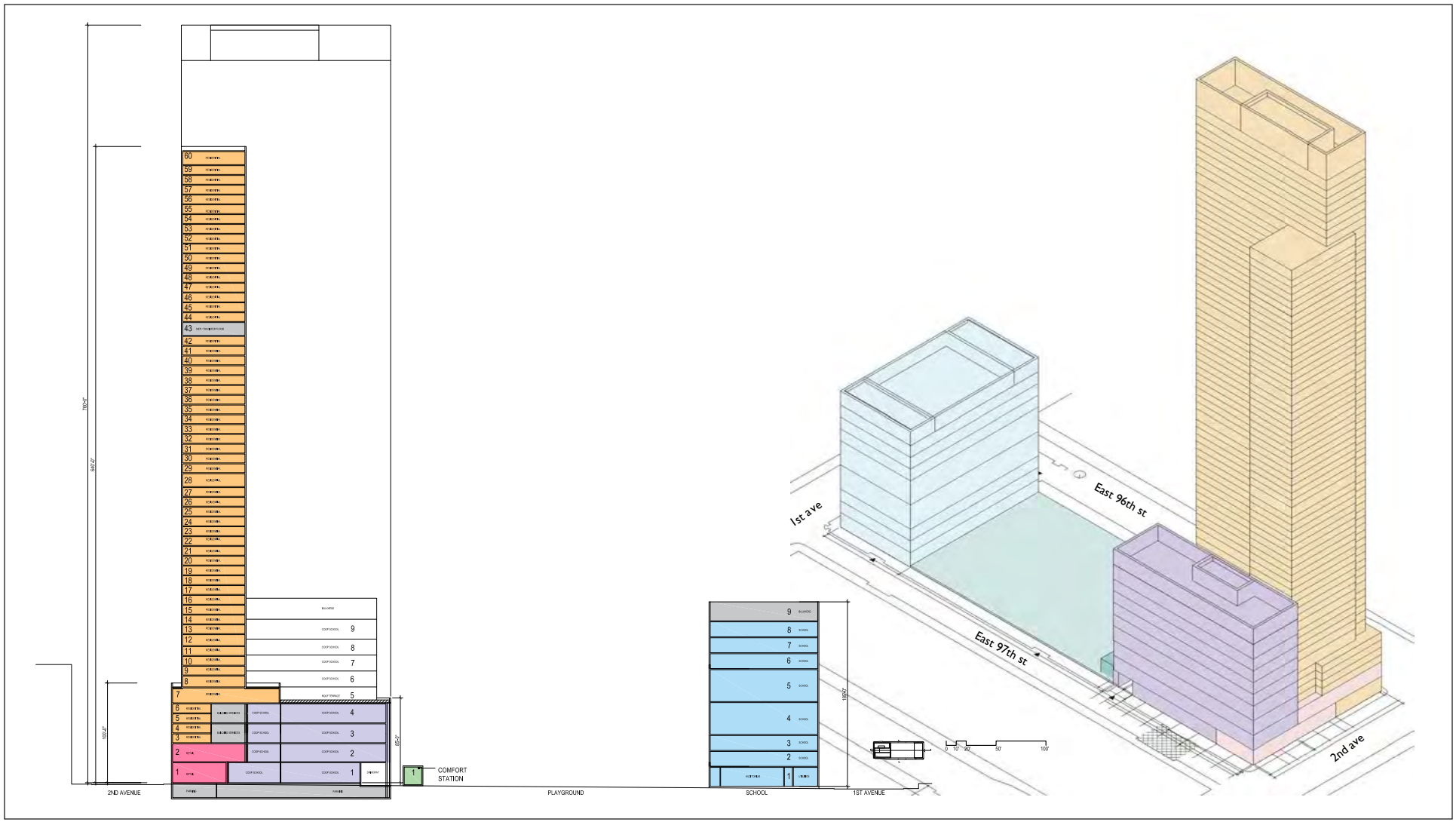
Site Plan

Figure S-5

ECF EAST 96TH STREET



Proposed Massing and North-South Section



Proposed Massing and East-West Section

ECF EAST 96TH STREET

Figure S-7

School Construction Authority (SCA) to identify schools and communities that need improved school facilities, and whose potential value can allow a private partnership to support and construct the buildings within a viable financial model.

BACKGROUND AND PROJECT PLANNING

In September 2013, ECF met with the staff of local elected officials and Community Board 11 to introduce a proposed new ECF project for three sites, including 321 East 96th Street. After consideration of competitive bidders and available locations to keep the schools active during construction, the decision was made to redevelop COOP Tech with AvalonBay.

NEW SCHOOL FACILITIES

The current school facilities on the site date to the early 1940s and are outmoded. COOP Tech, as well as the Heritage School and Park East High School—which would relocate to the project site in the future with the proposed project—all have cramped learning environments and lack available space for growth and/or appropriate facilities for high school achievement. At COOP Tech, additional shops for popular trades (e.g., welding, carpentry, automotive, culinary) cannot be accommodated in the current space; electrical and ventilation systems are inadequate to serve the needs of the technical training environment; and there is a lack of centralized, efficient storage facilities for trade equipment and supplies. The Heritage School lacks appropriate cafeteria, gym, and private counseling space, as well as storage facilities, and there is limited space for the growth of a vital community cultural institution, the Julia de Burgos Cultural Center, which occupies the same building. At the Park East High School, the gym serves as both gym and auditorium; the cafeteria doubles as an art room; and overall, the facility is not fully Americans with Disabilities Act (ADA)-accessible. There is no access to open space or playgrounds either of in the current high school locations. See **Figures S-8 and S-9** for photographs illustrating current constrained conditions at the three facilities.

The proposed actions would result in the replacement of the existing COOP Tech with a new state-of-the-art facility, as well as the relocation of the Heritage School and Park East High School to the site in new, improved facilities. These improvements will help achieve a better learning environment by alleviating over-crowded conditions and providing modern educational facilities adjacent to a new playground for enhanced physical education opportunities.

AFFORDABLE HOUSING

The proposed actions would facilitate the productive use of the project site by creating a new residential development of approximately 1,100 to 1,200 units, 30 percent of which would be designated as affordable, pursuant to the MIH program. This affordable housing would advance a City-wide initiative to build and preserve 200,000 affordable units over 10 years in order to support New Yorkers with a range of incomes, from the low to middle.

PLAYGROUND IMPROVEMENTS

Since 2008, the western portion of the jointly-operated Marx Brothers Playground has been used for MTA's Second Avenue Subway staging. The Second Avenue Subway opened at the end of 2016. The proposed project would relocate the Marx Brothers Playground midblock—a move which was requested by NYC Parks in order to buffer the playground use from the active First Avenue and Second Avenue corridors—and would include improvements to the playground. It is anticipated that it will include anew comfort station and maintenance building, along with play equipment and courts and fields for active recreation. The specific elements to be included and the overall design of

Current COOP Tech Conditions

ECF EAST 96TH STREET

Figure S-8

Current Conditions, High Schools to be Relocated

Figure S-9

the playground will reflect continued input from NYC Parks, DOE, Community Board 11, and the local community. The original size dimensions of the playground would be maintained.

C. ANALYSIS FRAMEWORK FOR ENVIRONMENTAL REVIEW

As noted above, the *CEQR Technical Review Manual* will serve as a general guide on the methodologies and impact criteria for evaluating the project's potential effects on the various environmental areas of analysis. In disclosing impacts, the EIS considers the proposed project's potential significant adverse impacts on the environmental setting. It is anticipated that the proposed project would be operational in 2023. Consequently, the environmental setting is not the current environment, but the future environment. Therefore, the technical analyses and consideration of alternatives first assess existing conditions and then forecast these conditions to 2023 ("Future Without the Proposed Actions") for the purposes of determining potential impacts in the future with the proposed project ("Probable Impacts of the Proposed Actions").

THE FUTURE WITHOUT THE PROPOSED ACTIONS

For the purposes of this EIS, it is assumed that in the future without the proposed project (the No Action condition), the project area will continue as in the existing condition, except that the MTA will vacate the western portion of the jointly-operated Marx Brothers Playground and will reconstruct and restore that 23,000-sf portion of the site back into open space. For each technical analysis in the EIS, the No Action condition will also incorporate approved or planned development projects within the appropriate study area that are likely to be completed by the analysis year.

PROBABLE IMPACTS OF THE PROPOSED ACTIONS

For each of the technical areas of analysis identified in the *CEQR Technical Manual*, conditions with the proposed project (the With Action condition) will be compared to the No Action condition (see **Table S-1**).

Table S-1
Comparison of No Action and With Action Scenarios

Use (GSF)	Existing Conditions/No Action Scenario	With Action Scenario	Increment
Use Group 2 (Residential)	0	1,015,000 gsf	+1,015,000 gsf
Residential Units	0	1,200[1]	+1,200
Affordable Unit Count	0	360[2]	+360
Use Group 6A/6C (Retail)	0	25,000 gsf	+25,000 gsf
Use Group 3A (Public School)	103,498 gsf (1 public technical school)	270,000 gsf (1 public technical school 2 public high schools)	+166,502 gsf 2 public high schools
Accessory Parking	34 *surface*[3]	0 *surface*[4]	(34)[4]
Jointly-Operated Playground	64,150 sf	64,150 sf	No change in size; change in location on site

Notes:
[1]Depending on unit sizing, the project could contain between 1,100 and 1,200 dwelling units. For the purposes of a reasonable worst-case analysis, the EIS will assess potential project impacts based on 1,200 units.
[2]Approximate number. Total number to be provided will be 30 percent of total built dwelling units.
[3]The loading area is used as informal staff parking for 34 cars.
[4]With the proposed special permit to waive accessory off-street parking requirements for non-income restricted dwelling units, no parking would be provided. It is possible that the proposed project would include an accessory parking facility with up to 120 enclosed parking spaces.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

LAND USE, ZONING, AND PUBLIC POLICY

The detailed analysis concludes that the proposed actions would not have a significant adverse impact on land use, zoning, or public policy.

LAND USE

The proposed actions would not adversely affect surrounding land uses, nor would the proposed actions generate land uses that would be incompatible with land uses, zoning, or public policy in either the primary or the secondary study areas. Furthermore, the proposed actions would not result in land uses that conflict with public policies applicable to the study area.

The proposed project would be compatible with and would support use of the Marx Brothers Playground. The redevelopment of the playground would contribute to the open space resources in the area and would improve the visual character of the area. Active ground-floor retail and other uses would enhance the pedestrian experience.

ZONING

The proposed project would require a zoning map amendment to change the northern half of the project site from an existing R7-2 district to a C2-8 district within 100 feet of Second Avenue and an R10 district over its remainder, and the southern half of the project site from an existing R10A district to a C2-8 district within 100 feet of Second Avenue and an R10 district over its remainder; amendments to the Zoning Resolution to allow modifications and waivers of lot coverage, height and setback, parking, and curb cut requirements and to establish a mandatory inclusionary housing designated area, and certification that a transit easement is not required. All of the proposed actions would be more consistent with the zoning in the study area and immediately beyond (the area ¼-mile from the boundary of the project area), and would reflect the trend to increased density in the study area. The proposed actions also would be consistent with the goals of the East Harlem rezoning effort.

PUBLIC POLICY

The proposed project would be consistent with the *Housing New York* and the *Zoning for Quality and Affordability* plans, as the project would result in a substantial amount of new permanently affordable housing at a variety of income levels, and would be supportive of this key public policy goal. The proposed project is also supportive of the *Upper Manhattan Empowerment Zone*, *Manhattan Community Board 11 197-A Plan*, and the *East Harlem Neighborhood Plan*; all of which are public policy initiatives in the area.

The proposed actions would be consistent with the city's sustainability goals, including those outlined in OneNYC by creating substantial new housing opportunities at a range of incomes; redeveloping underutilized sites along the waterfront with active uses; focusing development in areas served by mass transit; and fostering walkable retail destinations. The proposed project would also incorporate resiliency measures for future storm events. Overall, the proposed actions would be supportive of the applicable goals and objectives of OneNYC.

Located within the city's Coastal Zone, the proposed project is subject to review for consistency with the policies of the New York City Waterfront Revitalization Program (WRP) designed to maximize the benefits derived from economic development, environmental preservation, and

public use of the waterfront, while minimizing the conflicts among those objectives. The proposed project is consistent with applicable WRP policies.

SOCIOECONOMIC CONDITIONS

The analysis finds that the proposed actions would not result in significant adverse socioeconomic impacts. As there are no residents or existing businesses on the project site, the proposed actions would not result in direct residential or business displacement. While the proposed actions would likely add new population with a higher average household income as compared to existing households, the increase in population would not be large enough relative to the size of the No Action study area population to potentially affect real estate market conditions in the study area. Therefore, the proposed actions would not result in significant adverse impacts due to indirect residential displacement. The proposed actions would not introduce commercial development exceeding the *CEQR Technical Manual* threshold for an analysis of indirect business displacement. As the proposed actions would not directly displace any business or have significant adverse indirect effects on businesses in the study area, there would be no significant adverse impacts on specific industries with the proposed actions.

COMMUNITY FACILITIES AND SERVICES

Based on a preliminary screening, the proposed actions would not exceed the thresholds for analysis of health care facilities, fire and police protection services, and public high schools. Therefore, no significant impacts on these facilities would occur. The proposed actions would exceed the thresholds for analysis of elementary and intermediate schools, libraries and child care facilities, and therefore detailed analyses were undertaken. The detailed analyses concluded that the proposed actions would not result in significant adverse impacts on public schools, libraries, or child care facilities.

OPEN SPACE

The proposed project would not have any direct, significant adverse impacts on existing open space in terms of air quality, noise, odors, or shadows. As described in detail in Chapter 6, "Shadows," new shadows from the proposed buildings would fall on several sunlight-sensitive open space resources at certain times of day in certain seasons, but in no case would the new shadows significantly impact the use or usability of the resource or any vegetation within the resource.

The proposed project would limit public access to the Marx Brothers Playground throughout the duration of construction; the temporary displacement of the playground is discussed in more detail in Chapter 16, "Construction." Upon completion of the project, the playground would be reconstructed in its new location and its overall condition would be enhanced in comparison to the No Action condition.

The analysis of indirect effects concluded that the proposed project would not result in a significant adverse open space impact as a result of reduced open space ratios. While the open space ratios for the study area are, and would continue to be, below the City's open space goals and the median community district ratios, the proposed project would not result in a decrease of more than five percent in the total, active, and passive open space ratios. In addition, the proposed project would enhance open spaces options within the study area by reconstructing the Marx Brothers Playground. The private rooftop open spaces that would be created on the proposed residential tower would be for use by building residents and would help to serve the open space needs of the residents to be generated by the proposed project. There would also

rooftop access on COOP Tech, specifically for students enrolled in the school's solar panel program.

SHADOWS

The assessment found that new shadows would fall on several sunlight-sensitive resources at certain times of day in certain seasons, but in no case would the new shadows significantly impact the use or usability of the resource or any vegetation within the resource.

HISTORIC AND CULTURAL RESOURCES

The proposed construction on the project site would not entail the demolition of any known or potential architectural resources; would not result in the replication of aspects of any of the architectural resources in the study area so as to cause a false historical appearance; and would not result in the introduction of significant new shadows or significant lengthening of the duration of existing shadows over historic landscapes or structures. There would be no physical changes to any of the architectural resources in the surrounding area.

The former P.S. 150 is located slightly more than 90 feet from the project site. Therefore, to avoid inadvertent demolition and/or construction-related damage to this resource, the school would be included in a CPP for historic structures that would be prepared in coordination with LPC and implemented in consultation with a licensed professional engineer. None of the other architectural resources in the 400-foot study area are located within 90 feet of the project site, and thus would not be included in the CPP.

The proposed project would not isolate any architectural resource from its setting or visual relationship with the streetscape, or otherwise adversely alter a historic property's setting or visual prominence. At 68 stories, the proposed building fronting on Second Avenue would be taller than the buildings in the surrounding area, but there are tall buildings up to 43 stories in height in the surrounding area, particularly to the south. The proposed building fronting on First Avenue would be of a comparable height and footprint to other buildings in the study area. The proposed new buildings on the project site would not introduce incompatible visual, audible, or atmospheric elements to a resource's setting. The proposed residential, school, and retail uses of the development are comparable with the use of many of the historic and modern buildings in the study area. The proposed project would not eliminate or screen significant publicly accessible views of any architectural resource.

URBAN DESIGN AND VISUAL RESOURCES

The new buildings on the project site would be built closer to the lot line on First Avenue than the existing COOP Tech, and would be built to the lot line on Second Avenue, and thus would create cohesive street frontages and stronger streetwalls throughout the site. These stronger streetwalls would be expected to enhance the pedestrian experience along adjacent sidewalks. While the proposed buildings would be taller than the existing building on the site, they would be compatible with other tower developments in the southern portion of the study area, as described below. The school use of the proposed buildings would remain the same as in existing/No-Action conditions, with the addition of retail and residential space along Second Avenue. In addition, the relocated open space would be improved in comparison to the existing/No Action condition, and its new mid-block location would provide a buffer from the busy Second Avenue corridor. The curb cuts serving the project site would be reduced, from seven to four, which would also be expected to enhance the pedestrian experience.

The proposed project would not result in any changes to buildings, natural features, open spaces, or streets in the study area. In comparison with the No Action condition, the proposed project would alter the visual character of the surrounding area, but this character is already changing through the buildings currently under construction. The proposed project also would enhance the visual character of the project site as compared to existing/No Action conditions, and thus would enhance the pedestrian experience of the neighborhood. The proposed residential, institutional, and retail uses are consistent with the predominant land uses in the study area, and the proposed lot coverage is more consistent with the surrounding area than the lot coverage in existing/No Action conditions.

In the future with the proposed actions, the proposed buildings would be prominent in views along surrounding streets, particularly along Second Avenue and East 96th Street, as well as from the East River Esplanade. In views looking south, the proposed development on the project site would be more consistent with residential towers to the south of East 96th Street. The height of the development on First Avenue would be visually consistent with surrounding buildings in views to the north and south on this corridor, and the proposed Second Avenue building would not be notable in these views except those nearest the project site. As described above, the height of the proposed Second Avenue building would be taller than existing buildings in the study area; however, the sloping topography of the study area would serve to somewhat lessen the perceived height in east-west views.

The proposed buildings would not obstruct or eliminate views to other visual landmarks in the surrounding area. The proposed buildings would change the immediate context of the former P.S. 150 building (now the Life Sciences Secondary School, M655), but this change in context is not considered to be a significant adverse effect on this visual resource, and the school building would continue to be visible from existing nearby vantage points. As described above, other historic resources in the surrounding area, including several school buildings, are visually interesting, but are not highly visible except along adjacent streets, and thus the proposed buildings would not be anticipated to adversely affect views to those resources.

HAZARDOUS MATERIALS

The proposed project would entail demolition of the existing structure and excavation for the new development. The November 2015 Phase I Environmental Site Assessment (ESA) identified Recognized Environmental Conditions (the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property related to a release). Although excavation activities could increase pathways for human exposure, impacts would be avoided by performing the project in accordance with the following:

- Following completion of the EIS and prior to ground disturbance required for the proposed development, a subsurface (Phase II) investigation would be conducted that would include the collection of soil, groundwater, and soil vapor samples with laboratory analysis. Prior to such testing, a Work Plan for the investigation would be submitted to New York City Department of Environmental Protection (DEP) for review and approval. Following receipt of the sampling results, a DEP-approved site-specific Remedial Action Plan and Construction Health and Safety Plan (RAP/CHASP) to be implemented during construction would be prepared based on the results of the Phase II Investigation. The RAP/CHASP would specify procedures for managing any encountered underground storage tanks (USTs) and any encountered contamination (including procedures for stockpiling and off-site transportation and disposal of soil). It would also identify any measures (e.g., vapor controls) required for the proposed buildings. The CHASP also would address appropriate health and

safety procedures, such as the need for dust or organic vapor monitoring. Plans for remediation, including any vapor controls for the proposed school buildings, also would be provided to SCA for review.

- Removal of all known and any unforeseen petroleum tanks encountered during redevelopment would be performed in accordance with applicable regulatory requirements including New York State Department of Environmental Conservation's (DEC's) requirements relating to spill reporting tank registration, and tank removal procedures, as warranted.
- Prior to demolition, the existing building would be surveyed for asbestos by a NYC-certified asbestos investigator and all asbestos-containing materials (ACM) would be removed and disposed of prior to demolition in accordance with local, state, and federal requirements.
- Demolition activities with the potential to disturb lead-based paint would be performed in accordance with applicable requirements (including federal Occupational Safety and Health Administration regulation 29 CFR 1926.62 - Lead Exposure in Construction, where applicable).
- Unless there is labeling or test data indicating that any suspect polychlorinated biphenyl (PCB)-containing electrical equipment and fluorescent lighting fixtures do not contain PCBs, and that any fluorescent lighting bulbs do not contain mercury, disposal would be conducted in accordance with applicable federal, state, and local requirements.
- If dewatering were to be necessary for the proposed construction, water would be discharged to sewers in accordance with DEP requirements.

ECF would require, through the terms incorporated into the Development Agreement, AvalonBay comply with and implement all measures outlined above into the proposed project, with review and oversight by the appropriate regulatory agencies/authorities. With the measures outlined above, no significant adverse impacts related to hazardous materials would be expected to occur as a result of the proposed project.

WATER AND SEWER INFRASTRUCTURE

The analysis finds that the proposed project would not result in any significant adverse impacts on the City's water supply or wastewater and stormwater conveyance and treatment infrastructure. The proposed project would result in an increase in water consumption and sewage generation on the project site as compared with the No Action condition. While the proposed project would result in an incremental water demand of 520,295 gallons per day (gpd), this would not represent a significant increase in demand on the New York City water supply system. An analysis of water supply is not warranted since it is expected that there would be adequate water service to meet the incremental demand, and there would be no significant adverse impacts on the City's water supply.

While the proposed project would generate 324,800 gpd of sanitary sewage, an increase of 315,190 gbd above the No Action condition, this incremental increase in sewage generation would be approximately 0.16 percent of the average daily flow at the Wards Island Wastewater Treatment Plant (WWTP) and would not result in an exceedance of the plant's permitted capacity. The proposed project would not require the rerouting of the existing conveyance system, except for the removal of the 8-inch pipe that was installed in 2013 to serve the MTA staging area on the western portion of the project site. In addition, DEP's approval and sign-off would be required to obtain building permits. The Final EIS (FEIS) will include any additional

information that may become available. Therefore, the proposed project would not result in a significant adverse impact to the City's sanitary sewage conveyance and treatment system.

With the incorporation of selected stormwater source control best management practices (BMPs) that would be required as part of the site connection approval process, subject to the review and approval by DEP, the peak stormwater runoff rates would be reduced.

TRANSPORTATION

As described above, the proposed project would include a special permit waiver to eliminate the requirement for providing any parking on the project site, with an option to provide up to 120 accessory parking spaces. With regards to traffic, the project-generated trips would be more dispersed under the parking waiver scenario as compared to the 120 on-site parking spaces scenario. Correspondingly, the potential significant adverse traffic impacts associated with the parking waiver scenario would likely be less severe and expected to be within the envelope of impacts identified for the 120 on-site parking spaces scenario. Therefore, for a conservative analysis, the traffic analysis assumes the 120 on-site parking spaces scenario. For parking, the potential implications from the parking waiver and the 120 on-site spaces scenarios are both assessed.

TRAFFIC

Based on a detailed assignment of project-generated vehicle trips, ten intersections were identified as warranting detailed analysis for the weekday AM, midday, and PM peak hours. There would be the potential for significant adverse impacts at seven intersections during the weekday AM peak hour, five intersections during the midday peak hour, and six intersections during the PM peak hour.

The majority of the locations where significant adverse traffic impacts are predicted to occur could be fully mitigated with the implementation of standard traffic mitigation measures (e.g., signal timing changes). However, the significant adverse impacts at the intersections of East 96th Street at York Avenue/FDR Northbound Ramp, East 96th Street at FDR Southbound Ramp, East 96th Street at First Avenue, and East 96th Street at Second Avenue could not be fully mitigated during one or more analysis peak hours. It should be noted that there are often traffic enforcement agents present to direct traffic flow at these study area intersections. Hence, although unmitigatable impacts were identified, the actual traffic conditions are likely more favorable than shown by the analysis results.

TRANSIT

Based on a detailed assignment of project-generated subway and bus trips, detailed analyses of station circulation elements and control areas were conducted for the 96th Street-Lexington Avenue Station (No. 6 line) and the 96th Street-Second Avenue Station (Q line). Subway line-haul (No. 6 line) and bus line-haul (M96, M15, and M15 Select Bus Service [SBS]) analyses were conducted for the weekday AM and PM peak hours.

Based on the subway station analysis results, a potential significant adverse stairway impact was identified for the S4 stairway at the 96th Street-Lexington Avenue Station during the weekday AM peak hour. With the recent opening of the Second Avenue Subway line, ridership at the 96th Street-Lexington Avenue Station has yet to be normalized and the actual ridership may be lower than what was estimated in this analysis, such that the projected impact at the S4 stairway may not materialize. Furthermore, the analysis conservatively assumed, in accordance with CEQR guidelines, that the timings of peak travel by the proposed project's residential and school uses

take place during the same commuter peak hours, while in reality, they typically stagger over an approximately two-hour window in the morning and minimally overlap in the afternoon. Nonetheless, discussions with NYCT are underway to identify mitigation needs. If no feasible mitigation measures were found, the identified significant adverse stairway impact would be unmitigated.

The line-haul analyses showed that the proposed project would not result in the potential for a significant adverse subway line-haul impact. It would, however, have the potential to yield significant adverse bus line-haul impacts on the westbound M96, and the northbound and southbound M15 SBS during the PM peak period. Potential measures to mitigate the projected significant adverse bus line-haul impacts are described in Chapter 18, "Mitigation."

PEDESTRIANS

Weekday peak period pedestrian conditions were evaluated at key area sidewalk, corner reservoir, and crosswalk locations. Based on the detailed assignment of pedestrian trips, 5 sidewalks, 11 corners, and 6 crosswalks were selected for detailed analysis for the weekday AM, midday, and PM peak hours. Significant adverse impacts were identified for 1 crosswalk during the weekday AM and PM peak hours. Potential measures (i.e., signal timing adjustments) were identified to mitigate the projected pedestrian impacts.

VEHICULAR AND PEDESTRIAN SAFETY

Crash data for the study area intersections were obtained from the New York State Department of Transportation (NYSDOT) for the time period between January 1, 2013 and December 31, 2015. During this period, a total of 255 reportable and non-reportable crashes, 2 fatalities, 155 injuries, and 46 pedestrian/bicyclist-related accidents occurred at the study area intersections. A rolling total of accident data identifies two study area intersections, First Avenue at East 96th Street and Third Avenue at East 96th Street, as high crash locations in the 2013 to 2015 period. Additional safety measures, such as restriping faded crosswalks, can be implemented at the intersection of Third Avenue and East 96th Street to improve pedestrian safety. At the intersection of First Avenue and East 96th Street, additional safety measures, such installing a countdown timer and repositioning bicycle signal head, can be implemented to improve pedestrian safety.

PARKING

The proposed project would include a special permit waiver to eliminate the requirement for providing any parking on the project site, with an option to provide up to 120 spaces (with 111 spaces allocated for residential use, and the remaining 9 spaces allocated for school staff use). Accounting for the parking supply and demand generated by the proposed project, the With Action public parking utilization is expected to result in a parking shortfall in the ¼-mile study area during the weekday midday time period if the up to 120 on-site parking spaces are not constructed. In consideration of this potential parking shortfall, an additional inventory of off-street parking resources was conducted to determine if the overflow demand could be accommodated at a slightly longer walking distance from the project site. This undertaking concluded that the additional parking resources available between ¼-mile and ½-mile of the project site would yield 942 additional available parking spaces during the peak weekday parking demand midday time period, such that the overflow demand could be adequately accommodated. Therefore, while a ¼-mile parking shortfall would be expected with the proposed parking waiver, it would not result in a significant adverse parking impact.

If the proposed project includes accessory parking for up to 120 spaces, accounting for the parking supply and demand generated by the proposed project, the With Action public parking utilization is expected to increase to just below 98 percent during the weekday midday peak period within the ¼-mile study area. Since this parking utilization level would be within the study area's parking capacity, the proposed project is not expected to result in the potential for a parking shortfall or a significant adverse parking impact in this scenario.

AIR QUALITY

The maximum predicted pollutant concentrations and concentration increments from the project's potential accessory parking garage would not result in any significant adverse air quality impacts. Therefore, the proposed project would not have significant adverse impacts from mobile source emissions.

Analysis of the emissions and dispersion of nitrogen dioxide (NO_2) and particulate matter less than 10 microns in diameter (PM_{10}) from the proposed project's heating and hot water systems indicate that these emissions would not result in a violation of National Ambient Air Quality Standards (NAAQS). In addition, the maximum predicted $PM_{2.5}$ incremental concentrations from the proposed project would be less than the applicable 24-hour and annual average criteria. To ensure that there are no significant adverse impacts resulting from the proposed project due to heating and hot water system emissions, certain restrictions would be required.

An analysis of the laboratory exhaust system for the proposed public high schools determined there would be no significant impacts in the proposed buildings or on the surrounding community in the event of a chemical spill in a laboratory.

The analysis of the COOP Tech's industrial source emissions demonstrates that there would be no predicted significant adverse air quality impacts on the proposed project.

Based on the analysis of the emission sources from the Metropolitan Hospital on the proposed project, no significant adverse air quality impacts are predicted to occur.

CLIMATE CHANGE

The *CEQR Technical Manual* defines five goals through which a project's consistency with the City's emission reduction goal is evaluated: (1) efficient buildings; (2) clean power; (3) sustainable transportation; (4) construction operation emissions; and (5) building materials carbon intensity.

The designated developer is currently evaluating the specific energy efficiency measures and design elements that may be implemented, and is seeking to achieve certification under the Leadership in Energy and Environmental Design (LEED) rating system for the proposed residential development, and similar energy requirements would be applied for the proposed public high school building which would be developed to meet SCA guidelines. The designated developer is committed at a minimum to achieve the prerequisite energy efficiency requirements under LEED and would likely exceed them. To qualify for LEED, the project would be required to exceed the ASHRAE 90.1-2010 standard, resulting in energy expenditure lower than a baseline building designed to meet but not exceed that standard by five percent. New York City has recently increased the stringency of its building code to require energy efficiency equivalent to the newer ASHRAE 90.1-2013 code. The SCA guidelines which would be applied to the proposed high school building are designed to reduce energy expenditure to at least 20 percent below the minimum which would be achieved under the New York State energy code. The proposed COOP Tech building has special ventilation requirements associated with the

combination of industrial type uses (e.g., automotive trade shops) with classroom level heating and cooling needs. This type of non-standard use is not well addressed by energy baseline analyses applied in LEED-based evaluations and would therefore not satisfy the SCA requirements. Nonetheless, the proposed COOP Tech facility would be designed to include substantial energy efficiency measures such as heat recovery and LED lighting, and would exceed the minimum energy requirements of the building code.

Overall, the project's commitment to building energy efficiency under LEED would result in energy expenditure that is at least two percent lower than the expenditure that would result from meeting the minimum energy requirements of the New York City building code, and would likely be lower than that, ensuring consistency with the efficient buildings goal defined in the *CEQR Technical Manual* as part of the City's greenhouse gas (GHG) reduction goal and would be specified and required under the conditions of the special permit. The proposed project also would support the other GHG goals by virtue of its nature and location: its proximity to public transportation, reliance on natural gas, and commitment to construction air quality controls. All of these factors demonstrate that the proposed development supports the GHG reduction goal.

Therefore, based on the commitment to energy efficiency and by virtue of location and nature, the proposed actions would be consistent with the City's emissions reduction goals, as defined in the *CEQR Technical Manual*.

NOISE

The analysis finds that the proposed project would not result in any significant adverse mobile source or stationary source noise impacts due to operations of the project.

The CEQR building-attenuation analysis concludes that up to 31 dBA of building attenuation as well as an alternate means of ventilation for the project buildings would be necessary to meet CEQR interior noise level requirements. These requirements would be included in the development agreement between ECF and AvalonBay Communities. Because the proposed buildings would be designed to satisfy these specifications, there would be no significant adverse noise impacts with respect to building attenuation.

Noise levels at the relocated and enhanced playground on the project site would be greater than the 55 dBA $L_{10(1)}$ CEQR guideline, but would be comparable to other active recreation spaces around New York City. Therefore, there would be no significant adverse noise impacts with respect to the playground.

NEIGHBORHOOD CHARACTER

The preliminary neighborhood character analysis concluded that the proposed project would not result in any significant adverse impacts on neighborhood character, and that a detailed analysis was not necessary. The proposed project would be compatible with the existing residential, institutional, and commercial uses that define the surrounding area. It is anticipated that the proposed project would create a new, active residential, institutional, and commercial destination at the project site, enhance the relocated Marx Brothers Playground and COOP Tech, and contribute to the essential character of the area.

Although the proposed actions would result in significant adverse traffic, pedestrian, and transit impacts, most of these impacts could be mitigated through standard measures (e.g., signal timing changes, crosswalk widening, increasing the number of buses for affected routes). Discussions with New York City Transit (NYCT) are underway to identify mitigation options for the anticipated stairway impact at the 96th Street-Lexington Avenue subway station. If no feasible

mitigation measures are found, the identified significant adverse stairway impact would be unmitigated. While there would be increased transportation activity in the surrounding neighborhood in the future with the proposed actions, the resulting conditions—even if partially unmitigated—would be similar to those seen in the high activity urban neighborhoods defining the study area and would not result in conditions that would be out of character with the study area or surrounding neighborhoods.

CONSTRUCTION

Construction of the proposed project—as is the case with any construction project—would result in some temporary disruptions in the surrounding area. The project's construction phasing plan must incorporate the need to maintain the operations of COOP Tech at its current location until the replacement school is completed. As such, the overall construction of the proposed project is anticipated to take approximately five years to complete. Construction of the western building would take place over approximately 45 months, with the anticipated construction start date of June 2018 through February 2022. Construction of the COOP Tech replacement school is anticipated to be complete in the spring of 2021 with classes ready for commencement at this new location in September 2021. Construction of the eastern building would take place over approximately 26 months, with the anticipated construction start date of August 2021 through September 2023; there would be an overlap of approximately seven months with the construction of the western building. Construction activities associated with the proposed project would result in temporary significant adverse impacts in the areas of traffic, noise, and open space. Additional information for key technical areas is summarized below.

TRANSPORTATION

For purposes of the construction traffic analysis, the peak quarter of construction traffic was assessed. Compared with the No Action condition, construction activities associated with the proposed project would generate 384 more daily passenger car equivalents (PCEs) during peak construction. During the 6:00 to 7:00 AM and 3:00 to 4:00 PM construction traffic peak hours, the incremental construction PCEs would exceed the 2014 *CEQR Technical Manual* threshold of 50 vehicle-trips and would generate 126 and 90 PCEs, respectively. However, the peak construction traffic increments (during the second quarter of 2020) during these peak hours would be much lower than the full operational traffic increments associated with the proposed project in 2023 during the 8:00 to 9:00 AM and 5:00 to 6:00 PM commuter peak hours. Therefore, if traffic impacts occur during the peak construction they are expected to be within the envelope of significant adverse traffic impacts identified for the With Action condition. In addition to the above comparison between operational and construction traffic increments, an assessment of cumulative operational and construction effects (when construction of the western building is completed and operational and the eastern building is still under construction) showed that the cumulative trip-making during any point of project development in the morning and afternoon hours would be lower than the critical 8:00 to 9:00 AM and 5:00 to 6:00 PM commuter peak hours, for which project-related impacts were identified. Therefore, all potential traffic impacts and required mitigation measures have been identified as part of the assessment of the full build-out of the proposed project.

Measures to mitigate the 2023 operational traffic impacts were recommended for implementation at up to five intersections during one or more of the weekday analysis peak hours. These measures would encompass primarily signal timing changes, which could be implemented early at the discretion of the New York City Department of Transportation (DOT) to address actual conditions experienced at that time. As with the operational condition, there

could also be significant adverse traffic impacts at the intersections of East 96th Street and York Avenue/FDR Northbound Ramp, East 96th Street and FDR Southbound Ramp, East 96th Street and First Avenue, and East 96th Street and Second Avenue (although unlikely given the magnitude of trips during the 6:00 to 7:00 AM and 3:00 to 4:00 PM peak hours) that could not be fully mitigated during one or more analysis peak hours.

The proposed project is not expected to result in any significant adverse parking, pedestrian, or transit impacts during construction.

AIR QUALITY

Construction activities associated with the proposed project would not result in any significant adverse stationary or mobile source air quality impacts. To minimize the effects of the proposed project's construction activities on the surrounding community, the proposed project would implement an emissions reduction program that would include, to the extent practicable: diesel equipment reduction, the use of ultra-low sulfur diesel (ULSD) fuel; best available tailpipe reduction technologies; and the utilization of newer equipment. The proposed project would also adhere to *New York City Air Pollution Control Code* regulations regarding construction-related dust emissions, and to *New York City Administrative Code* limitations on construction-vehicle idling time.

NOISE

The detailed modeling analysis concluded that construction of the proposed project has the potential to result in construction noise levels that exceed *CEQR Technical Manual* noise impact criteria for an extended period of time at the portion of Metropolitan Hospital immediately across East 97th Street north of the project site, the western façade and western portions of the north and south façades of the existing COOP Tech school building, and the north façade of the residential building at 306 East 96th Street immediately south of the project site.

The affected facades of Metropolitan Hospital and 306 East 96th Street would experience exterior noise levels in the high 70s dBA, which represent increases in noise level up to approximately 13 dBA compared with existing levels, for up to approximately three years during the construction period. The affected portions of the existing COOP Tech building would experience exterior noise levels in the mid 80s dBA, which represent increases in noise level up to approximately 18 dBA compared with existing levels, for up to approximately three years during the construction period.

Construction noise levels of this magnitude for such an extended duration would constitute a significant adverse impact. Field observations determined that these buildings have insulated glass windows and alternate means of ventilation (i.e., air conditioning), and would consequently be expected to experience interior $L_{10(1)}$ values less than 45 dBA during much of the construction period, which would be considered acceptable according to CEQR criteria. At the outdoor balconies on the north façade of the 306 East 96th Street building, there are no feasible or practicable measures to attenuate the construction noise that reaches the building. Therefore, additional receptor controls (i.e., façade attenuation improvements) to further reduce interior noise levels at these locations are not proposed.

At other receptors near the project site, including open space, residential, and hospital receptors, noise resulting from construction of the proposed project may at times be noticeable, but would be temporary and would generally not exceed typical noise levels in the general area and so would not rise to the level of a significant adverse noise impact.

OPEN SPACE

The existing Marx Brothers Playground would be temporarily displaced during construction. To allow for a more efficient and expedited construction, construction staging would take place within the project site. On-site construction staging would minimize disruptions to the surrounding roadways during construction and would allow for vehicle access to be maintained at nearby facilities including Metropolitan Hospital to the north of the project site across East 97th Street. On-site construction staging would also allow for a safer environment for the public passing through the area as the activities would be contained within the project site. According to the *CEQR Technical Manual*, in areas that are well served by open space, a reduction of open space ratios greater than five percent may be considered significant, as it may result in overburdening existing facilities or further exacerbating a deficiency in open space. During the construction period, the active open space ratios for the study area would be reduced by more than the CEQR threshold of five percent; therefore, the temporary displacement of the Marx Brothers Playground during construction would be considered a significant adverse construction-period impact. There are other active open space resources in the area, such as Stanley Isaacs Playground and Ruppert Park that could partially accommodate the active recreation activities temporarily displaced from the Marx Brothers Playground. Upon completion of the proposed project, the Marx Brothers Playground would be reconstructed and enhanced following a process that would reflect continued input from NYC Parks, DOE, Community Board 11, and the local community.

ALTERNATIVES

The alternatives consist of the following:

- A No Action Alternative, which is mandated by CEQR and SEQRA, and is intended to provide the lead and involved agencies with an assessment of the expected environmental impacts of no action on their part. The No Action Alternative assumes that in the future without the proposed actions, the project site will continue as in the existing condition, except that the MTA will vacate the western portion of the jointly-operated Marx Brothers Playground and will reconstruct and restore that portion for open space uses.
- A No Unmitigated Significant Adverse Impacts Alternative, which considers a project program which would eliminate the proposed project's unmitigated significant adverse impacts in the area of transportation.

Of the unmitigatable significant adverse transportation impacts identified for the proposed project, the traffic impacts at the East 96th Street and FDR Northbound and Southbound Ramps and at the East 96th Street and Second Avenue intersections were determined to be the most difficult to mitigate, due to multiple lane groups/movements at these intersections projected to operate at congested levels. Hence, even small increases in incremental project-generated traffic volumes at these intersections would result in significant adverse traffic impacts that could not be fully mitigated during one or more analysis peak hours. Correspondingly, any residential development or the addition of the two new high schools could result in unmitigated traffic impacts. Therefore, no reasonable alternative could be developed to avoid such impacts without substantially compromising the proposed project's stated goals.

MITIGATION

TRANSPORTATION

The proposed project would result in potential significant adverse impacts to traffic, transit (subway and bus), and pedestrians, as detailed below. No significant adverse impacts were identified for parking and vehicular and pedestrian safety.

Traffic

Traffic conditions were evaluated at 10 intersections for the weekday AM, midday, and PM peak hours. In the 2023 With Action condition (the proposed project), there would be the potential for significant adverse traffic impacts at seven intersections during the weekday AM peak hour, five intersections during the weekday midday peak hour, and six intersections during the weekday PM peak hour.

The majority of the locations where significant adverse traffic impacts are predicted to occur could be fully mitigated with the implementation of standard traffic mitigation measures (e.g., signal timing changes), as described below. However, the significant adverse impacts at the intersections of East 96th Street at York Avenue/FDR Northbound Ramp during the AM and PM peak hours, East 96th Street at FDR Southbound Ramp during the AM, midday, and PM peak hours, East 96th Street at First Avenue during the AM peak hour, and East 96th Street at Second Avenue during the PM peak hour could not be fully mitigated. There are often traffic enforcement agents present to direct traffic flow at the study area intersections along East 96th Street. Hence, although unmitigatable impacts were identified for three of these intersections, the actual traffic conditions are likely more favorable than shown by the analysis results.

Transit

Subway station circulation elements and control areas were analyzed for the 96th Street-Lexington Avenue station and the 96th Street-Second Avenue station for the weekday AM and PM peak hours. Subway line-haul (No.6 line) and bus line-hauls were also evaluated for the same peak periods. In the 2023 With Action condition, the proposed project would potentially result in a significant adverse subway stairway impact at the S4 stairway at the 96th Street-Lexington Avenue station during the weekday AM peak hour. Discussions with NYCT are underway to identify mitigation measures. If no feasible mitigation measures are found, the identified significant adverse stairway impact would be unmitigated.

Bus line-haul impacts were identified for the westbound M96, and northbound and southbound M15 SBS routes during the weekday PM peak hour. Increases in service frequency of one, one, and four buses an hour for the westbound M96, northbound M15 SBS, and southbound SBS routes, respectively, would fully mitigate the projected line-haul impacts.

Pedestrians

Pedestrian conditions were evaluated at five sidewalks, 11 corners, and six crosswalks for the weekday AM, midday, and PM peak hours. In the 2023 With Action condition, the proposed project would result in significant adverse pedestrian impacts at one crosswalk during the weekday AM and PM peak hours.

Summary

Measures to mitigate these potential significant adverse impacts are described below. The proposed traffic and pedestrian mitigation measures would be subject to approval by DOT prior to implementation. The proposed traffic mitigation measures entail signal timing changes—

standard measures routinely implemented throughout the City and generally considered to be feasible. The pedestrian mitigation measures consist of signal timing changes that are also routinely implemented and are generally considered feasible. For the significant adverse subway stairway impact identified for the S4 stairway at the 96th Street-Lexington Avenue station during the weekday AM peak hour, discussions with NYCT are underway to identify mitigation needs. If no feasible mitigation measures are found, the identified significant adverse stairway impact would be unmitigated. Regarding the significant adverse bus line-haul impacts, reducing headways by increasing the number of buses for the impacted routes would mitigate the bus line-haul impacts. These changes would take place, subject to NYCT's fiscal and operational constraints.

CONSTRUCTION

Construction activities associated with the proposed project would result in temporary significant adverse impacts in the areas of traffic, noise, and open space.

Traffic

The peak construction traffic increments during the construction peak hours (6:00 to 7:00 AM and 3:00 to 4:00 PM) would be much lower than the full operational traffic increments associated with the proposed project during the 8:00 to 9:00 AM and 5:00 to 6:00 PM commuter peak hours. Therefore, if traffic impacts occur during the peak construction they are expected to be within the envelope of significant adverse traffic impacts identified for the With Action condition. Measures to mitigate the 2023 operational traffic impacts were recommended for implementation at up to five intersections during one or more of the weekday analysis peak hours. These measures would encompass primarily signal timing changes, which could be implemented early at the discretion of DOT to address actual conditions experienced at that time. As with the operational condition, there could also be significant adverse traffic impacts at the intersections of East 96th Street and York Avenue/FDR Northbound Ramp, East 96th Street and FDR Southbound Ramp, East 96th Street and First Avenue, and East 96th Street and Second Avenue (although unlikely given the magnitude of trips during the 6:00 to 7:00 AM and 3:00 to 4:00 PM peak hours) that could not be fully mitigated during one or more analysis peak hours.

Noise

The detailed analysis of construction noise determined that construction of the proposed project has the potential to result in construction noise levels that would constitute temporary significant adverse impacts at the portion of Metropolitan Hospital immediately across East 97th Street north of the project site, the western façade and western portions of the north and south façades of the existing COOP Tech building, and the north façade of the residential building at 306 East 96th Street immediately south of the project site.

Based on field observations, the affected areas of Metropolitan Hospital and COOP Tech school have insulated glass windows and an alternative means of ventilation (i.e., central air conditioning), which would be expected to provide approximately 30 dBA window/wall attenuation. Consequently, interior noise levels during construction in the affected portion of the hospital would be in the low to mid 50s dBA, up to approximately 9 dBA higher than the 45 dBA threshold recommended for inpatient medical or classroom use or approximately 4 dBA higher than the 50 dBA threshold recommended for outpatient medical or office/administrative use according to CEQR noise exposure guidelines. With these façade noise attenuation measures already in place, there are no feasible and practicable mitigation measures that would be able to reduce or eliminate the potential significant adverse noise impacts. Source or path controls

beyond those already identified for the construction of the proposed project would not be effective in reducing the level of construction noise at the receptors that have the potential to experience significant adverse construction noise impacts. Additional noise receptor controls at these locations would require change to the buildings' design that would have disproportionately high cost considering that the potential noise impacts would be temporary, the interior noise levels during construction are expected to be no more than approximately 9 dBA over the acceptable threshold levels, and that the potential impacts would be limited to construction hours, which would not include regular night-time or weekend periods.

Based on field observations, 306 East 96th Street appears to have insulated glass windows and an alternative means of ventilation (i.e., through-wall air conditioning units), which would be expected to provide approximately 30 dBA window/wall attenuation. Consequently, interior noise levels during construction in this area would be in the mid to high 40s dBA, up to approximately 5 dBA higher than the 45 dBA threshold recommended for residential use according to CEQR noise exposure guidelines. With these façade noise attenuation measures already in place, there are no feasible and practicable mitigation measures that would be able to reduce or eliminate the potential significant adverse noise impacts. Source or path controls beyond those already identified for the construction of the proposed project would not be effective in reducing the level of construction noise at the receptors that have the potential to experience significant adverse construction noise impacts. Additional noise receptor controls at these locations would require change to the building design that would have disproportionately high cost considering that the potential noise impacts would be temporary, the interior noise levels during construction are expected to be no more than approximately 5 dBA over the acceptable threshold levels, and that the potential impacts would be limited to construction hours, which would not include regular night-time or weekend periods.

At the outdoor balconies on the north façade of the building at 306 East 96th Street, there would be no feasible or practicable way to mitigate the construction noise impacts. Therefore, these balconies would be considered to experience unmitigated significant noise impacts as a result of construction. However, even during the portions of the construction period that would generate the most noise at these balconies, the balconies could still be enjoyed without the effects of construction noise outside of the hours that construction would occur, e.g. during late afternoon, nighttime, and on weekends.

Open Space

To allow for a more efficient and expedited construction, construction staging would take place within the project site and the existing Marx Brothers Playground would be temporarily displaced. On-site construction staging would minimize disruptions to the surrounding roadways during construction and would allow for vehicle access to be maintained at nearby facilities including the Metropolitan Hospital to the north of the project site across West 97th Street. On-site construction staging would also allow for a safer environment for the public passing through the area as the activities would be contained within the project site. During the construction period, the active open space ratios for the study area would be reduced by more than the CEQR threshold of 5 percent; therefore, the temporary displacement of the Marx Brothers Playground during construction would be considered a temporary significant adverse construction-period impact. There are other active open space resources in the area, such as Stanley Isaacs Playground and Ruppert Park that could partially accommodate the active recreation activities temporarily displaced from the Marx Brothers Playground. Upon completion of the proposed project, the Marx Brothers Playground would be reconstructed and enhanced following a process

that would reflect continued input from NYC Parks, DOE, Community Board 11, and the local community.

UNAVOIDABLE ADVERSE IMPACTS

TRANSPORTATION

The significant adverse vehicular traffic impacts at the intersections of East 96th Street and York Avenue/FDR Northbound Ramp, East 96th Street and FDR Southbound Ramp, East 96th Street and First Avenue, and East 96th Street and Second Avenue could not be fully mitigated during one or more analysis peak hours.

The proposed project would also result in a significant adverse subway stairway impact at the S4 stairway at the 96th Street-Lexington Avenue station during the weekday AM peak hour. Discussions with NYCT are underway to identify subway mitigation needs. If no feasible mitigation measures are found, the identified significant adverse stairway impact would be unmitigated.

CONSTRUCTION

Traffic

There is the potential for temporary significant adverse traffic impacts during the peak construction period at the intersections of East 96th Street and York Avenue/FDR Northbound Ramp, East 96th Street and FDR Southbound Ramp, East 96th Street and First Avenue, and East 96th Street and Second Avenue that could not be fully mitigated during the construction peak hours.

Noise

The detailed analysis of construction noise determined that construction of the proposed project has the potential to result in construction noise levels that would constitute temporary significant adverse impacts at the portion of Metropolitan Hospital immediately across East 97th Street north of the project site, the western façade and western portions of the north and south façades of the existing COOP Tech school building, and the north façade of the residential building at 306 East 96th Street immediately south of the project site.

Based on field observations, the affected areas of Metropolitan Hospital and COOP Tech school have insulated glass windows and an alternative means of ventilation (i.e., central air conditioning) and 306 East 96th Street appears to have insulated glass windows and an alternative means of ventilation (i.e., through-wall air conditioning units). With the window/wall attenuation provided by these measures, interior noise levels at these locations during the loudest portions of construction are predicted to be up to 9 dBA higher than the acceptable levels according to CEQR noise exposure guidelines. With these façade noise attenuation measures already in place, there are no feasible and practicable mitigation measures that would be able to reduce or eliminate the potential significant adverse noise impacts. Source or path controls beyond those already identified for the construction of the proposed project would not be effective in reducing the level of construction noise at the receptors that have the potential to experience significant adverse construction noise impacts. Additional noise receptor controls at these locations would require change to the buildings' design that would have disproportionately high cost considering that the potential noise impacts would be temporary, the interior noise levels during construction are expected to be no more than approximately 9 dBA over the acceptable threshold levels, and that the potential impacts would be limited to construction hours, which would not include regular night-time or weekend periods.

At the outdoor balconies on the north façade of the building at 306 East 96th Street, there would be no feasible or practicable way to mitigate the construction noise impacts.

Open Space

During the construction period, the active open space ratios for the study area would be reduced by more than the CEQR threshold of five percent; therefore, the temporary displacement of the Marx Brothers Playground during construction would be considered a temporary significant adverse construction-period impact. There are other active open space resources in the area, such as Stanley Isaacs Playground and Ruppert Park that could partially accommodate the active recreation activities temporarily displaced from the Marx Brothers Playground. Upon completion of the proposed project, the Marx Brothers Playground would be reconstructed and enhanced following a process that would reflect continued input from NYC Parks, DOE, Community Board 11, and the local community.

GROWTH-INDUCING ASPECTS OF THE PROPOSED PROJECT

The proposed project would be limited to the project site, which consists of Block 1668, Lot 1, in the East Harlem neighborhood of Manhattan. The project would increase the density of the project site by introducing approximately 1,200 more residential units, 25,000 gsf of retail, and approximately 166,502 gsf more public school use than in the existing condition. These uses would be consistent with the existing uses in the surrounding area. While the proposed actions would likely add new population with a higher average household income as compared to existing households, the increase in population would not be large enough relative to the size of the No Action study area population to potentially affect real estate market conditions in the study area. Therefore, the proposed project is not expected to introduce or accelerate a trend of changing socioeconomic conditions.

In addition, the proposed project would not include the introduction or expansion of infrastructure capacity (e.g., sewers, central water supply) that would result in indirect development; any proposed infrastructure improvements would be made to support development of the project site itself.

Therefore, the proposed project is not expected to induce significant new growth in the surrounding area.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The resources are considered irretrievably committed because their reuse for some purpose other than the proposed project would be highly unlikely. The proposed project constitutes an irreversible and irretrievable commitment of the project site as a land resource, thereby rendering land use for other purposes infeasible, at least in the near term.

These commitments of land resources and materials are weighed against the benefits of the proposed project. The proposed actions are intended to achieve a better learning environment for COOP Tech, the Heritage School, and Park East High School by alleviating over-crowded conditions and providing modern facilities for these schools. The proposed actions also would create up to 360 affordable housing units on the project site, pursuant to the MIH program, and thus would make a substantial contribution to the housing production goals of the Mayor's *Housing New York: A Five-Borough, Ten-Year Plan*. In addition, the proposed actions would result in substantial improvements to the existing Marx Brothers Playground, with its relocation midblock in order to buffer the playground use from the active First Avenue and Second Avenue corridors. ✷

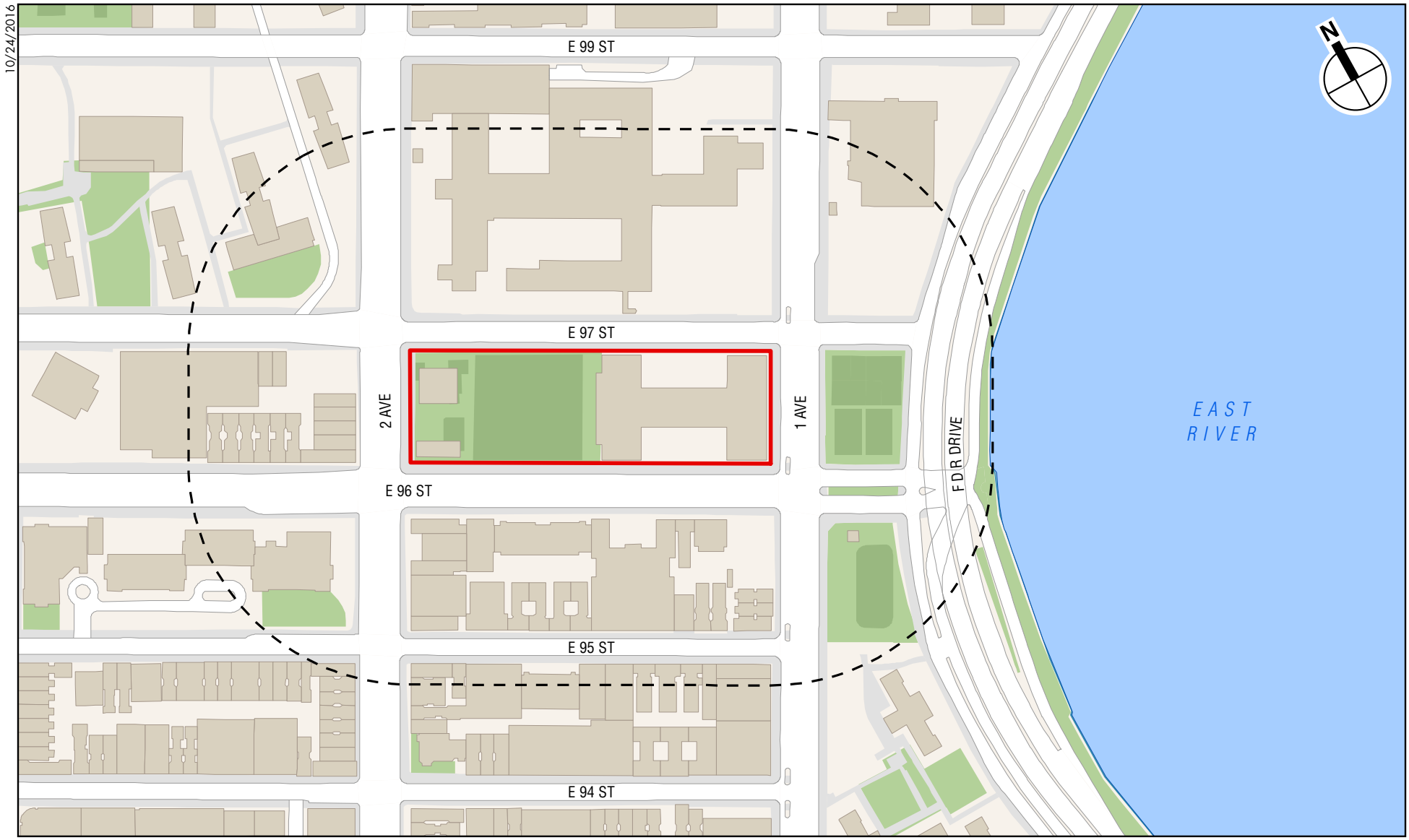
A. IDENTIFICATION OF THE PROPOSED PROJECT

The co-applicants, the New York City Educational Construction Fund (ECF) and AvalonBay Communities (AvalonBay), are seeking a rezoning and other actions to allow the construction of a mixed-use building which will include a replacement facility for an existing school, a new facility for the relocation of two existing neighborhood public high schools, and relocation of an existing jointly-operated playground on Block 1668, Lot 1, in the East Harlem neighborhood of Manhattan (see **Figures 1-1 and 1-2**). The proposed project involves the construction of a mixed-use tower on Second Avenue containing a 135,000-gross-square-foot (gsf) public technical school—a replacement facility for the existing School of Cooperative Technical Education (COOP Tech) currently located on the project site—as well as approximately 25,000 gsf of retail space, and approximately 1,015,000 gsf of residential floor area (1,200 units[1]). Following the demolition of the existing COOP Tech, the co-applicants will construct a 135,000-gsf building on First Avenue that will house two public high schools. The jointly-operated playground currently on the western portion of the project site would be relocated to the center of the project site.

The project site is currently owned by the City of New York. The western portion of the project site is currently occupied by the Marx Brothers Playground, which is jointly operated by the Department of Education (DOE) and the New York City Department of Parks and Recreation (NYC Parks). The portion of the playground area facing Second Avenue is currently in use by the Metropolitan Transportation Authority (MTA) as a staging area for Second Avenue Subway construction. The eastern portion of the project site is occupied by a four-story, 103,498-gsf school building currently in use by COOP Tech.

The proposed project would require: a zoning map amendment to change the northern half of the project site from an existing R7-2 district to a C2-8 district within 100 feet of Second Avenue and an R10 district over its remainder, and the southern half of the project site from an existing R10A district to a C2-8 district within 100 feet of Second Avenue and an R10 district over its remainder; amendments to the Zoning Resolution to modify Section 74-75 to allow distribution of lot coverage and Appendix F to establish a Mandatory Inclusionary Housing Designated Area over the project site; a special permit to allow distribution of lot coverage; modification of height and setback restrictions and tower regulations; a special permit to waive accessory off-street parking requirements for non-income restricted residences; certifications to modify restrictions on location of curb cuts, and a certification that a transit easement is not required.

[1] Depending on unit sizing, the project could contain between 1,100 and 1,200 dwelling units. For the purposes of a reasonable worst-case analysis, this Environmental Impact Statement (EIS) will assess potential project impacts based on 1,200 units.



ECF EAST 96TH STREET

Project Site Location
Figure 1-1

10/24/2016

Project Site

Study Area (400-foot boundary)

0 400 FEET

Aerial

ECF EAST 96TH STREET

Figure 1-2

The proposed project also will require approval of a home rule request by the New York City Council and legislation by the New York State Legislature to authorize the alienation and disposition to ECF of the existing jointly-operated playground, and its replacement with an equivalent size and proportion of jointly-operated playground on the project site. The project also involves a transfer of the City-owned project site to ECF, which would lease the portion of the property on which the mixed-use building will be constructed to the designated developer, AvalonBay. ECF would hold title to the entire site, until it conveys the schools to the City (acting through DOE) and re-conveys control of the jointly-operated playground to DOE and NYC Parks. To facilitate construction of the schools, ECF would issue tax-exempt bonds.

The proposed discretionary actions require review under the City Environmental Quality Review (CEQR) and the State Environmental Quality Review Act (SEQRA). The environmental review provides a means for decision-makers and other government agencies to: systematically consider environmental effects along with other aspects of project planning and design; evaluate reasonable alternatives; and identify, and mitigate where practicable, any significant adverse environmental impacts. Development of the proposed project may potentially result in significant adverse environmental impacts, requiring that this EIS be prepared. The environmental review process is described in greater detail below. The EIS analyses have been undertaken pursuant to SEQRA, and the 2014 *CEQR Technical Manual* generally serves as a guide with respect to environmental analysis methodologies and impact criteria for evaluating the effects of the proposed project. ECF is serving as the lead agency for this application. The New York City Department of City Planning (DCP) is serving as an Involved Agency.

B. PROJECT DESCRIPTION AND PURPOSE AND NEED

PROJECT SITE

The project site is Block 1668, Lot 1 in the East Harlem neighborhood of Manhattan. As shown in **Figures 1-1 and 1-2**, the project site is the full block bounded by East 96th and 97th Streets and First and Second Avenues. It is located in Manhattan Community District (CD) 11. The northern half of the project site is zoned R7-2; the southern half of the project site is zoned R10A (see **Figure 1-3**). The lot area within 150 feet of Second Avenue is also within the Special Transit Land Use District. The project site is currently owned by the City of New York. No lot mergers are required for the project. There are no (E) designations for the project site.

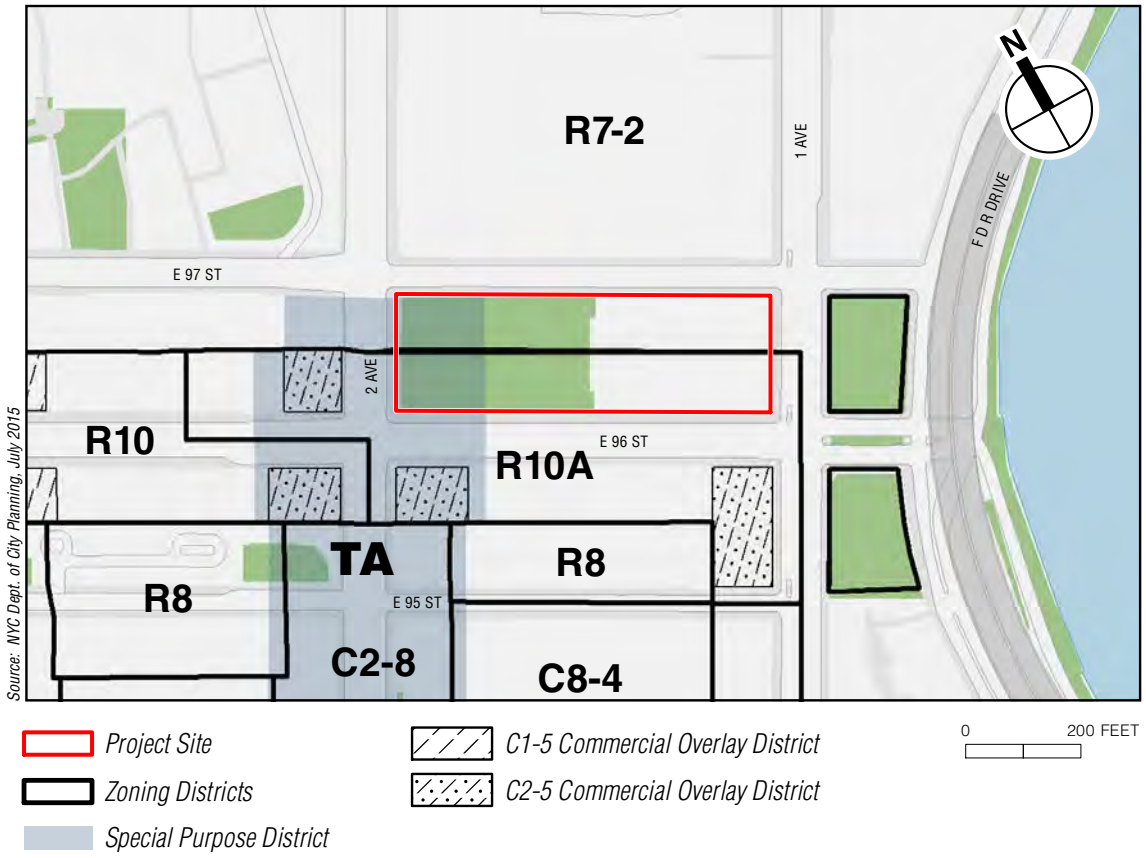
The western portion of the project site (approximately 64,150 sf) is currently occupied by the Marx Brothers Playground, which is jointly operated by DOE and NYC Parks. The playground includes a multi-purpose baseball and soccer field. The playground area facing Second Avenue (approximately 23,000 sf) is currently in use by MTA as a staging area for Second Avenue Subway construction. The eastern portion of the project site (approximately 66,396 sf) is occupied by a four-story, 103,498-gsf school building, currently in use by COOP Tech, a public technical high school.

PROJECT DESCRIPTION

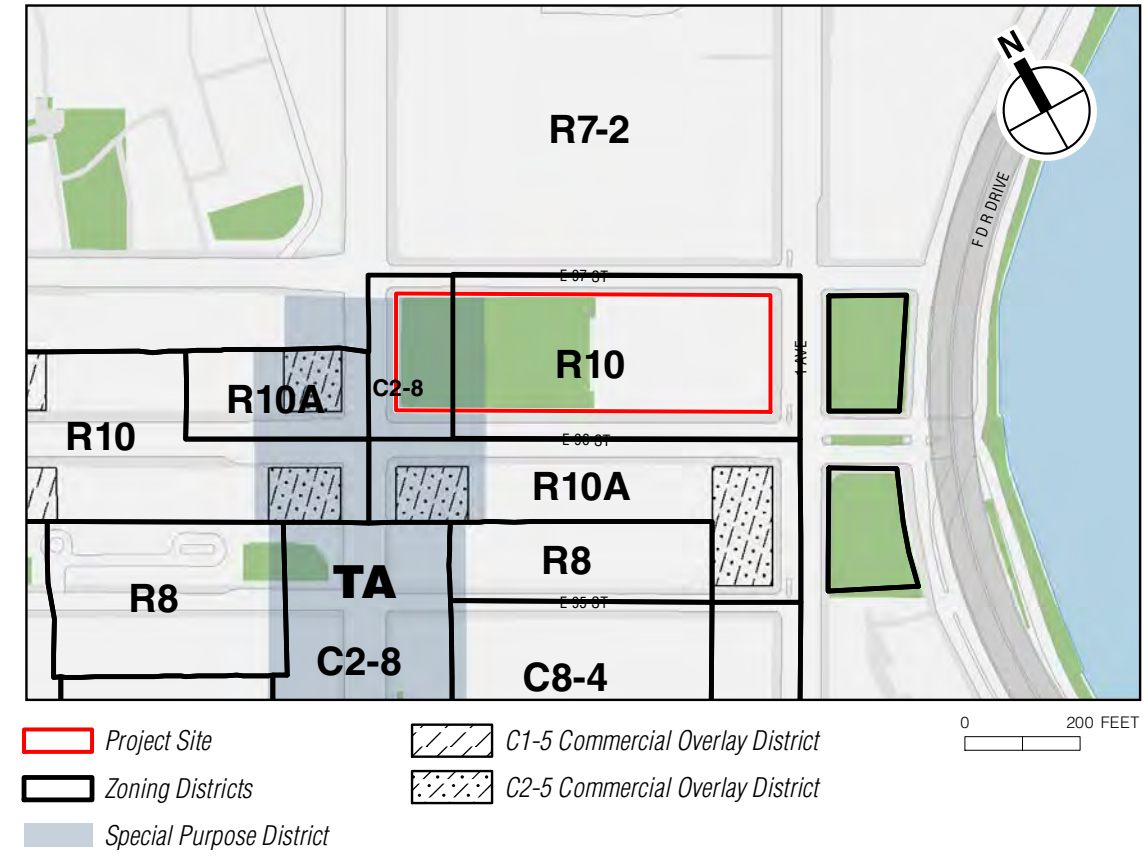
The proposed project would develop a 68-story building (760 feet in height, including bulkhead and mechanical equipment) with approximately 1,175,000 gsf on the western side of the project block, facing Second Avenue, and an eight-story building (185 feet in height, including bulkhead and mechanical equipment) with approximately 135,000 gsf on the eastern side of the block, facing First Avenue. The western building would include approximately 1,015,000 gsf of

10/24/2016

Existing



Proposed



Existing and Proposed Zoning
Figure 1-3

residential use (approximately 1,200 residential units[2]); approximately 25,000 gsf of commercial retail use (Use Groups 6A/6C); and approximately 135,000 gsf of public school use (Use Group 3A, a technical school to replace the existing COOP Tech). It is possible that the western building also could include an accessory parking facility with up to 120 parking spaces. The eastern building would house two additional public high schools that would relocate from nearby locations within CD 11. In total, the development on the site would be approximately 1,310,000 gsf (see **Figures 1-4 through 1-7**).

The building facing First Avenue would be served by one curb cut on East 97th Street and one on East 96th Street. The building on Second Avenue would have a nine-story portion facing East 97th Street, for the replacement technical school; the proposed retail use would be on the first and second floors of the building facing Second Avenue; and the residential use would be in the tower portion of the building, facing East 96th Street. The Second Avenue building would be served by one curb cut on East 97th Street, which would be used by COOP Tech's loading operations and automotive trades shop; the other curb cut, on East 96th Street, would serve the proposed residential uses, including the potential accessory parking facility.

The proposed project would establish an MIH area at the project site. Thirty percent of the residential units will be affordable and will be occupied by households with incomes that are an average of 60 percent of Area Median Income (AMI).

The existing jointly-operated playground would be relocated to the middle of the block, between the two new buildings. The relocated jointly-operated playground would be of an equivalent size and proportion to the existing jointly-operated playground.

The proposed buildings would incorporate design elements to improve the site's resiliency, including elevating the first floor of the new buildings above the design flood elevation, and other measures to assist in protecting the lower levels of the buildings.

With the proposed project, the project site would be developed to an overall floor area ratio (FAR) of 9.7, as compared to the maximum permitted FAR under the proposed rezoning of 12.0. The agreements between ECF and AvalonBay will restrict the permitted development to that described in this EIS.

PURPOSE AND NEED

ECF is a public benefit corporation established in 1967 by the New York State Legislature to provide funds for combined occupancy structures, including school facilities in New York City. ECF serves as a financing and development vehicle for the DOE, encouraging the development of new public schools as part of mixed-use projects in which the public component (i.e., relocated COOP Tech, new high schools and enhanced, relocated playground) is financed by tax-exempt bonds. ECF uses ground rents, lease payments, and/or tax equivalency payments from the non-school portions of the development to pay the debt service on the bonds issued to finance the public facilities. Future revenues from the non-school portions of the development are used to pay the debt service of the new school facility. ECF enhances the ability of DOE to construct new school facilities, thereby increasing the number of seats for the entire school system. At the same time, ECF encourages comprehensive neighborhood development by

[2] Depending on unit sizing, the project could contain between 1,100 and 1,200 dwelling units. For the purposes of a reasonable worst-case analysis, the EIS will assess potential project impacts based on 1,200 units.

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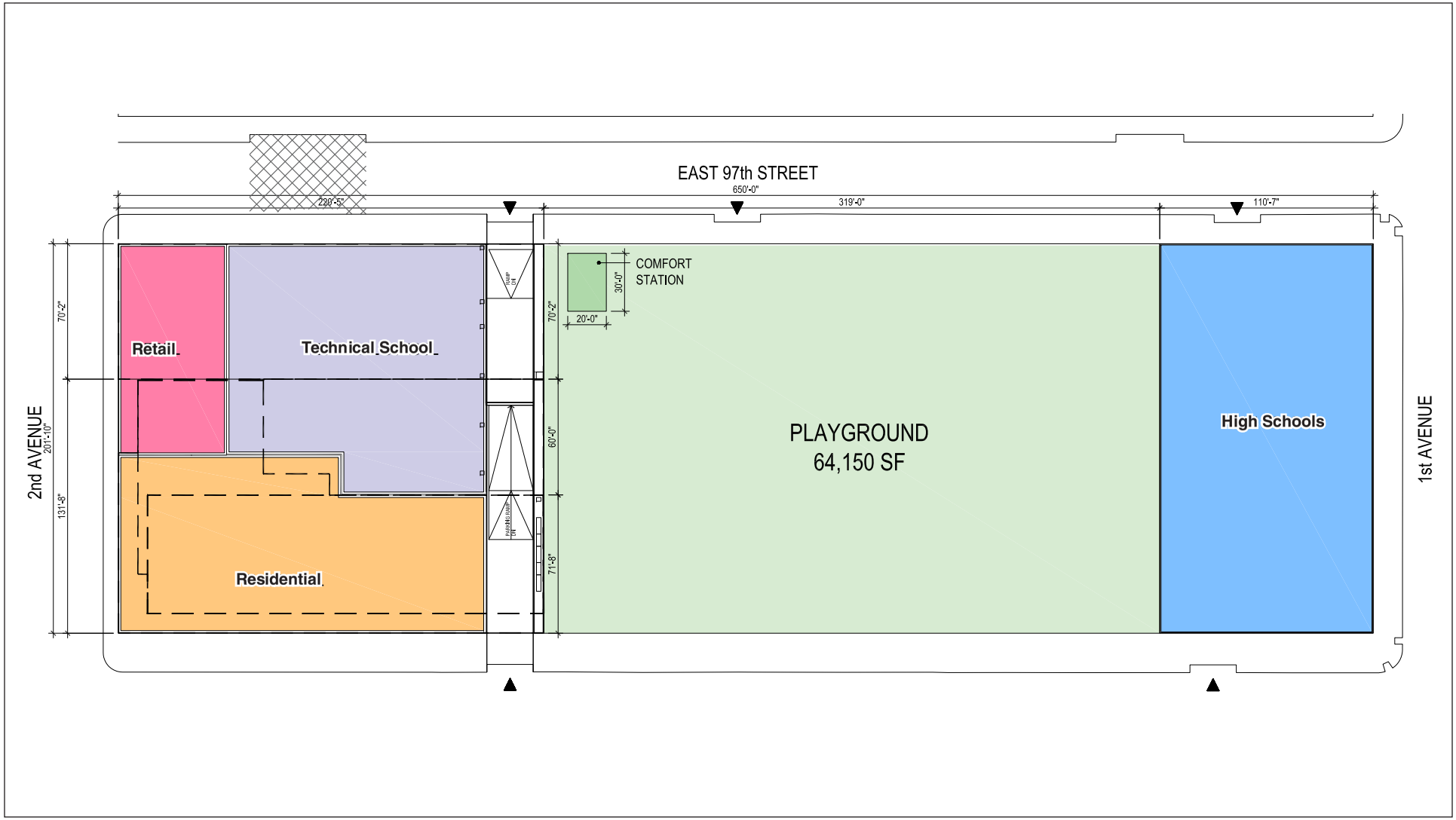

Proposed Ground Floor Plan

Figure 1-4

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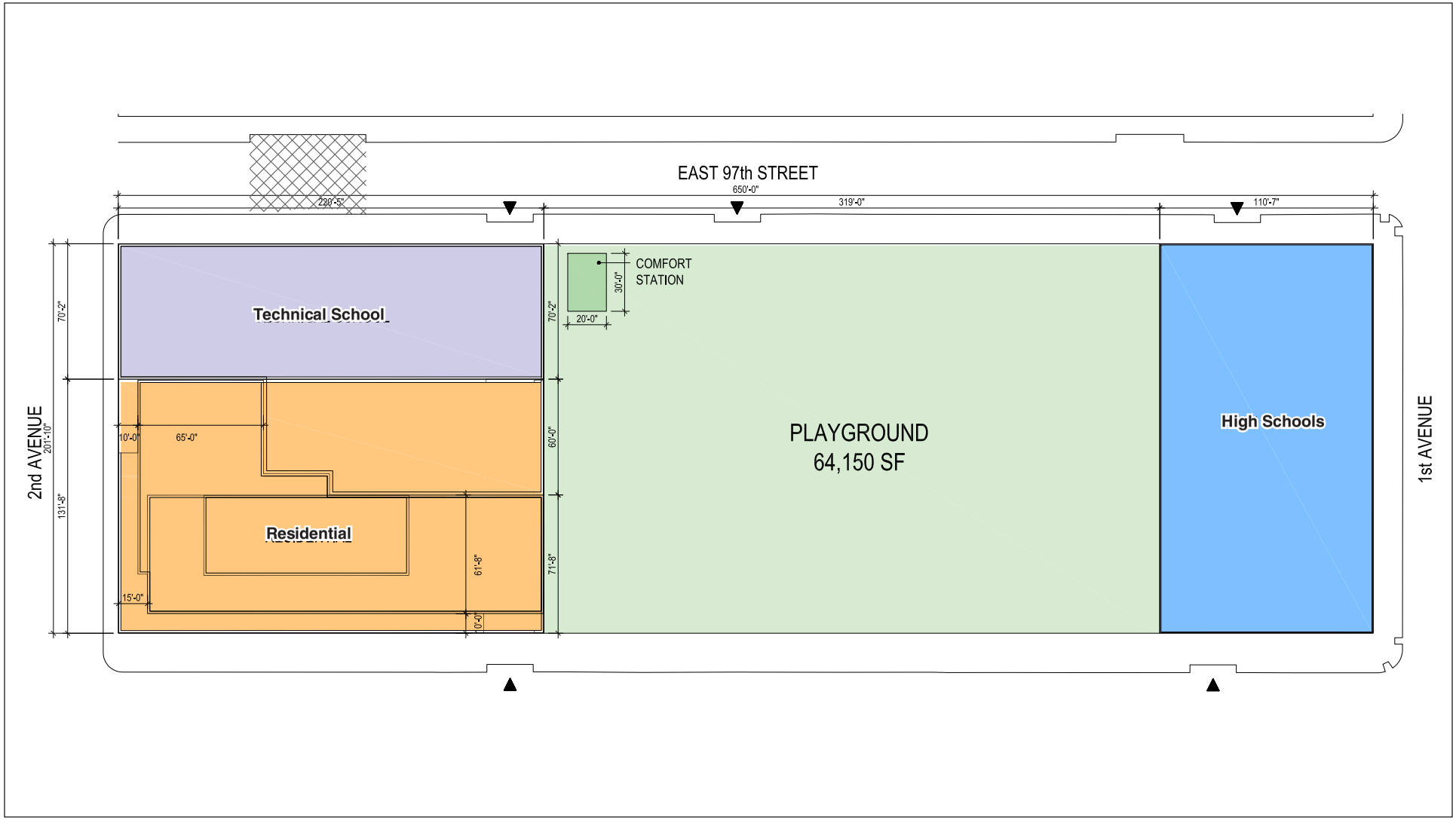
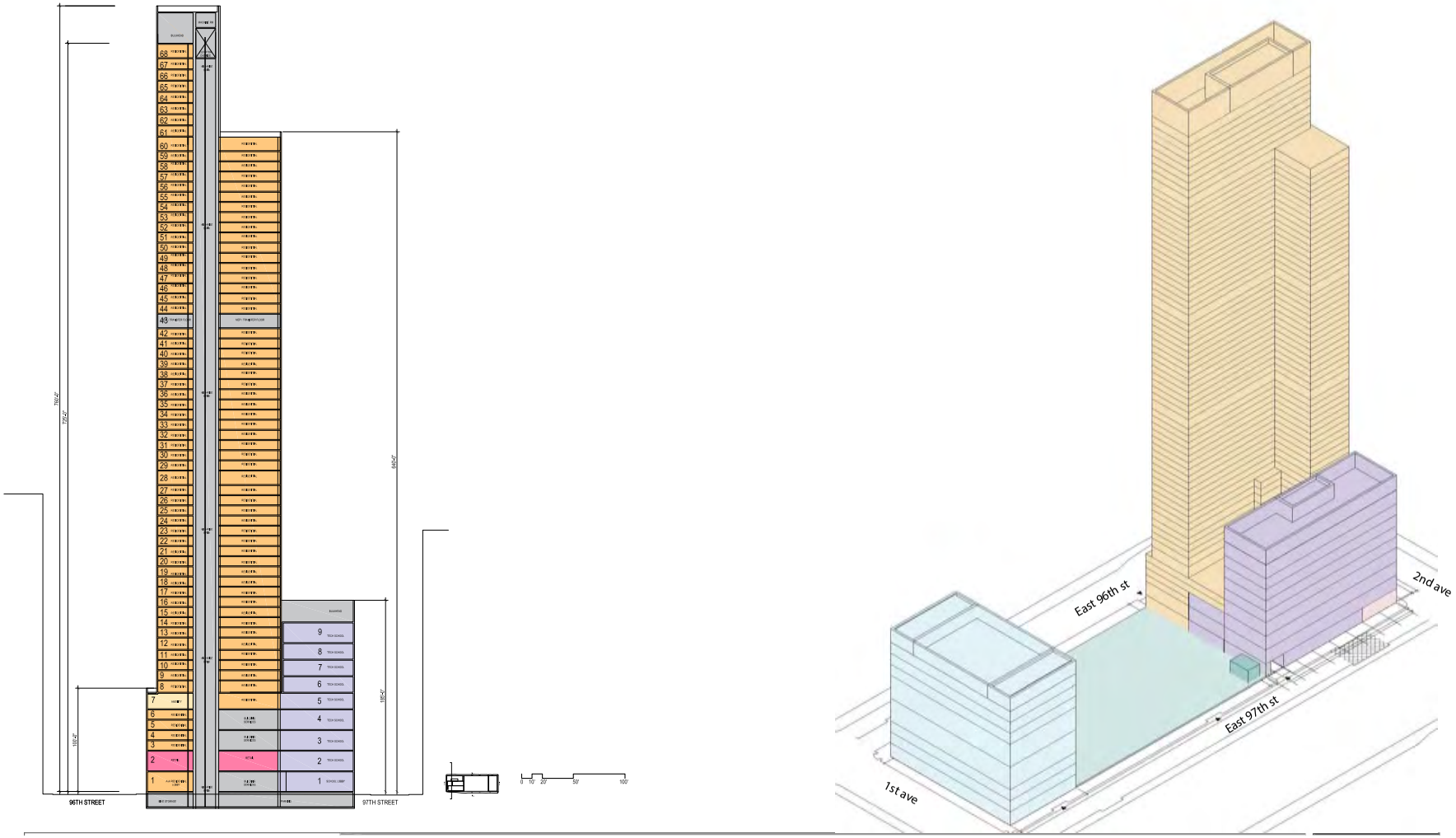


Site Plan

Figure 1-5

ECF EAST 96TH STREET



Proposed Massing and North-South Section

Figure 1-6

Proposed Massing and East-West Section

ECF EAST 96TH STREET

Figure 1-7

facilitating new mixed-use developments that feature new school facilities. ECF works with DOE and the New York City School Construction Authority (SCA) to identify schools and communities that need improved school facilities, and whose potential value can allow a private partnership to pay for and construct the buildings within a viable financial model.

BACKGROUND AND PROJECT PLANNING

In September 2013, ECF met with the staff of local elected officials and Community Board 11 to introduce a proposed new ECF project for three sites, including 321 East 96th Street. After consideration of competitive bidders and available locations to keep the schools active during construction, the decision was made to redevelop COOP Tech with AvalonBay.

NEW SCHOOL FACILITIES

The current school facilities on the site date to the early 1940s and are outmoded. COOP Tech, as well as the Heritage School and Park East High School—which would relocate to the project site in the future with the proposed project—all have cramped learning environments and lack available space for growth and/or appropriate facilities for high school achievement. At COOP Tech, additional shops for popular trades (e.g., welding, carpentry, automotive, culinary) cannot be accommodated in the current space; electrical and ventilation systems are inadequate to serve the needs of the technical training environment; and there is a lack of centralized, efficient storage facilities for trade equipment and supplies. The Heritage School lacks appropriate cafeteria, gym, and private counseling space, as well as storage facilities, and there is limited space for the growth of the Julia de Burgos Cultural Center, which occupies the same building. At the Park East High School, the gym serves as both gym and auditorium; the cafeteria doubles as an art room; and overall, the facility is not fully Americans with Disabilities Act (ADA)-accessible. There is no access to open space or playgrounds in the current high school locations. See **Figures 1-8 and 1-9** for photographs illustrating current constrained conditions at the three facilities.

The proposed actions would result in the replacement of the existing COOP Tech with a new state-of-the-art facility, as well as the relocation of the Heritage School and Park East High School to the site in new, larger facilities. These improvements will help achieve a better learning environment by alleviating over-crowded conditions and providing modern educational facilities adjacent to a new playground for enhanced physical education opportunities.

AFFORDABLE HOUSING

The proposed actions would facilitate the productive use of the project site by creating a new residential development of approximately 1,100 to 1,200 units, 30 percent of which would be designated as affordable, pursuant to the MIH program. This affordable housing would advance a City-wide initiative to build and preserve 200,000 affordable units over 10 years in order to support New Yorkers with a range of incomes, from the very lowest to those in the middle class.

PLAYGROUND IMPROVEMENTS

Since 2008, the western portion of the jointly-operated Marx Brothers Playground has been used for MTA's Second Avenue Subway staging. This section of the Second Avenue Subway opened at the end of 2016. Following its use of the site, MTA will reconstruct and restore the 23,000-sf portion of the site back to an open space use. As noted above, the proposed project would relocate the Marx Brothers Playground midblock—a move which is desired by NYC Parks in

Current COOP Tech Conditions

ECF EAST 96TH STREET

Figure 1-8

Current Conditions, High Schools to be Relocated

Figure 1-9

order to buffer the playground use from the active First Avenue and Second Avenue corridors—and would include improvements to the playground. It is anticipated that it will include a new comfort station and maintenance building, along with play equipment and courts and fields for active recreation. . The specific elements to be included and the overall design of the playground will reflect continued input from NYC Parks, DOE, Community Board 11, and the local community. The original size and dimensions of the playground would be maintained.

C. DISCRETIONARY AND OTHER APPROVALS

Implementation of the proposed project would require the following discretionary actions:

- Amendment to the zoning map to change (i) the northern half of the project site from an existing R7-2 district to a C2-8 district within 100 feet of Second Avenue and an R10 district over its remainder, and (ii) the southern half of the project site from an existing R10A district to a C2-8 district within 100 feet of Second Avenue and an R10 district over its remainder.
- A special permit pursuant to Section 74-75 of the Zoning Resolution to modify the following sections of the Zoning Resolution:
  - Sections 23-64 and 24-522 relating to height and setback and sky exposure regulations on First Avenue, Second Avenue and 96th Street (wide streets) and on 97th Street (narrow street);
  - 24-11 to authorize the distribution of lot coverage without regard for zoning lot lines, in connection with the proposed school building on First Avenue;
  - 23-651(a) to allow the tower of the mixed-use building on Second Avenue to occupy less than the minimum 30 percent required tower coverage, and to allow the tower coverage calculations to be made for the entire zoning lot;
  - 23-651(a) to allow the proposed building on Second Avenue to have less than the required 55 to 60 percent of the total floor area on the zoning lot located either partially or entirely below a height of 150 feet; and
  - 23-65(a)(2), 23-651 (a), and 23-651(b) to permit the proposed tower of the mixed-use building on Second Avenue to be located beyond 125 feet from Second Avenue, not provide the required setback above the base, and not occupy the entire street frontage of the zoning lot.
- Amendments to the Zoning Resolution to (i) modify Section 74-75 to allow distribution of allowable lot coverage without regard to zoning lot lines on a zoning lot containing the Co-op Tech School; and (ii) Appendix F of the Zoning Resolution to establish an MIH designated area over the project site.
- Special permit pursuant to ZR Section 74-533 to waive accessory off-street parking requirements for non-income restricted dwelling units.
- Certification pursuant to Section 95-04 of the Zoning Resolution from the MTA and the City Planning Commission (CPC) that a transit easement volume is not required on the project site.
- Certification pursuant to Section 26-15 to allow more than one curb cut on a narrow street.
- Certification pursuant to Section 26-17 to allow curb cuts on a wide street.

The proposed project also will require approval of a home rule request by the New York City Council and legislation by the New York State Legislature to authorize the alienation and disposition to ECF of the existing jointly-operated playground, and its replacement with an equivalent size and proportion of jointly-operated playground on the project site. The project also involves a transfer of the City-owned project site to ECF, who would lease the portion of the property on which the mixed-use building will be constructed to the designated developer, AvalonBay. ECF would hold title to the entire site, until it conveys the schools to the City (acting through DOE) and re-conveys control of the jointly-operated playground to DOE and NYC Parks. To facilitate construction of the schools, ECF would issue tax-exempt bonds.

D. ANALYSIS FRAMEWORK FOR ENVIRONMENTAL REVIEW

As noted above, the *CEQR Technical Review Manual* will serve as a general guide on the methodologies and impact criteria for evaluating the project's potential effects on the various environmental areas of analysis. In disclosing impacts, the EIS considers the proposed project's potential significant adverse impacts on the environmental setting. It is anticipated that the proposed project would be operational in 2023. Consequently, the environmental setting is not the current environment, but the future environment. Therefore, the technical analyses and consideration of alternatives first assess existing conditions and then forecast these conditions to 2023 ("Future Without the Proposed Actions") for the purposes of determining potential impacts in the future with the proposed project ("Probable Impacts of the Proposed Actions").

THE FUTURE WITHOUT THE PROPOSED ACTIONS

For the purposes of this EIS, it is assumed that in the future without the proposed project (the No Action condition), the project area will continue as in the existing condition, except that the MTA will vacate the western portion of the jointly-operated Marx Brothers Playground and will reconstruct and restore that 23,000-sf portion of the site back into open space. For each technical analysis in the EIS, the No Action condition will also incorporate approved or planned development projects within the appropriate study area that are likely to be completed by the analysis year.

PROBABLE IMPACTS OF THE PROPOSED ACTIONS

For each of the technical areas of analysis identified in the *CEQR Technical Manual*, conditions with the proposed project (the With Action condition) will be compared to the No Action condition (see **Table 1-1**).

ENVIRONMENTAL REVIEW PROCESS

The proposed project is subject to environmental review under SEQRA. ECF is the SEQRA lead agency for this proposal. This EIS has been prepared using the guidelines set forth in the 2014 *CEQR Technical Manual*, where applicable, as these are considered to be appropriate methodologies and guidelines for environmental impact assessment in New York City. The environmental review process allows decision-makers to systematically consider environmental effects of the proposed project, to evaluate reasonable alternatives, and to identify measures to mitigate significant adverse environmental effects. The SEQRA process facilitates public involvement in the process by providing the opportunity for public comment on this Draft EIS (DEIS).

Table 1-1
Comparison of No Action and With Action Scenarios

Use (GSF)	Existing Conditions/No Action Scenario	With Action Scenario	Increment
Use Group 2 (Residential)	0	1,015,000 gsf	+1,015,000 gsf
Residential Units	0	1,200[1]	+1,200
Affordable Unit Count	0	360[2]	+360
Use Group 6A/6C (Retail)	0	25,000 gsf	+25,000 gsf
Use Group 3A (Public School)	103,498 gsf (1 public technical school)	270,000 gsf (1 public technical school 2 public high schools)	+166,502 gsf 2 public high schools
Accessory Parking	34 *surface*[3]	0 *surface*[4]	(34)[4]
Jointly-Operated Playground	64,150 sf	64,150 sf	No change in size; change in location on site

Notes:
[1]Depending on unit sizing, the project could contain between 1,100 and 1,200 dwelling units. For the purposes of a reasonable worst-case analysis, the EIS will assess potential project impacts based on 1,200 units.
[2]Approximate number. Total number to be provided will be 30 percent of total built dwelling units.
[3]The loading area is used as informal staff parking for 34 cars.
[4]With the proposed special permit to waive accessory off-street parking requirements for non-income restricted dwelling units, no parking would be provided. It is possible that the proposed project would include an accessory parking facility with up to 120 enclosed parking spaces.

The lead agency's first charge is to determine whether the proposed project might have a significant adverse impact on the environment. To make this determination, an environmental assessment form (EAF) was prepared. Based on the information contained in the EAF and Draft Scope of Work for the EIS, ECF determined that the proposed project could have the potential to result in significant adverse environmental impacts. The EAF and Draft Scope of Work were made available to the general public, public agencies, and other interested groups, and a public scoping meeting was held on June 29, 2016 at 5:30 PM to 7:00 PM at the Park East High School, 230 East 105th Street, New York, New York 10029. Written comments on the Draft Scope of Work were accepted until 5:00 PM on July 11, 2016, and all oral comments received at the meeting as well as submitted written comments from the New York City Department of Transportation (DOT) were considered by the lead agency and summarized in the Final Scope of Work, dated January 13, 2017.

This DEIS has been prepared for review by the lead agency. Upon its determination that the DEIS document is complete and sufficiently analyzes the environmental effects of the proposed project pursuant to the Final Scope of Work, ECF has issued a Notice of Completion dated January 17, 2017. Publication of the DEIS and issuance of the Notice of Completion signal the beginning of the public review period. During this time, which must extend for a minimum of 30 days, the public may review and comment on the DEIS, either in writing or at a public hearing convened for the purpose of receiving such comments. A public hearing will be held to consider the DEIS. After the close of the public comment period on the DEIS, a Final EIS (FEIS) will be prepared. All substantive comments received on the DEIS, at the hearing or during the comment period, become part of the SEQRA record and are summarized and responded to in a new chapter of the EIS, "Response to Comments on the DEIS." The lead agency and each involved agency must adopt a formal set of written findings based on the FEIS, before making a decision on project approval. ✷

Chapter 2: Land Use

A. INTRODUCTION

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

As described in Chapter 1, "Project Description," the future with the proposed actions (the "With Action" condition) assumes the construction of a mixed use tower on Second Avenue containing a 135,000-gross-square-foot (gsf) public technical school—a replacement facility for the existing School of Cooperative Technical Education (COOP Tech) on the project site—as well as approximately 25,000 gsf of retail space, and approximately 1,015,000 gsf of residential floor area for up to 1,200 units (the proposed project). On First Avenue, a 135,000 gsf building will be constructed to house two public high schools that would relocate from nearby locations within Community Board 11. In the future without the proposed actions (the "No Action" condition), the project area will continue as in the existing condition, except that the MTA will vacate the western portion of the jointly-operated Marx Brothers Playground and reconstruct and restore that portion for open space uses. The increments between the No Action and With Action conditions, taken together with the proposed changes in land use and zoning, form the basis for the analysis presented in this chapter.

PRINCIPAL CONCLUSIONS

The detailed analysis presented in this chapter concludes that the proposed actions would not have a significant adverse impact on land use, zoning, or public policy.

LAND USE

The proposed actions would not adversely affect surrounding land uses, nor would the proposed actions generate land uses that would be incompatible with land uses, zoning, or public policy in either the primary or the secondary study areas. Furthermore, the proposed actions would not result in land uses that conflict with public policies applicable to the study area.

The proposed project would be compatible with and would support use of the Marx Brothers Playground. The redevelopment of the playground would contribute to the open space resources in the area and would improve the visual character of the area. Active ground-floor retail and other uses would enhance the pedestrian experience.

ZONING

As described in Chapter 1, "Project Description," zoning map amendment to change the northern half of the project site from an existing R7-2 district to a C2-8 district within 100 feet of Second Avenue and an R10 district over its remainder, and the southern half of the project site from an existing R10A district to a C2-8 district within 100 feet of Second Avenue and an R10 district over its remainder, amendments to the Zoning Resolution to allow modifications and waivers of lot coverage, height and setback, parking, and curb cut requirements and to establish a mandatory inclusionary housing designated area over the project site, and certification that a transit easement is not required. All of the proposed actions would be more consistent with the zoning in the study area and immediately beyond (the area ¼-mile from the boundary of the project area), and would reflect the trend to increased density in the study area. The proposed actions also would be consistent with the goals of the East Harlem rezoning effort.

PUBLIC POLICY

The proposed project would be consistent with the *Housing New York* and the *Zoning for Quality and Affordability* plans, as the project would result in a substantial amount of new permanently affordable housing at a variety of income levels, and would be supportive of this key public policy goal. The proposed project is also supportive of the *Upper Manhattan Empowerment Zone*, *Manhattan Community Board 11 197-A Plan*, and the *East Harlem Neighborhood Plan*; all of which are public policy initiatives in the area.

The proposed actions would be consistent with the city's sustainability goals, including those outlined in OneNYC by creating substantial new housing opportunities at a range of incomes; redeveloping underutilized sites along the waterfront with active uses; focusing development in areas served by mass transit; and fostering walkable retail destinations. The proposed project would also incorporate resiliency measures for future storm events. Overall, the proposed actions would be supportive of the applicable goals and objectives of OneNYC.

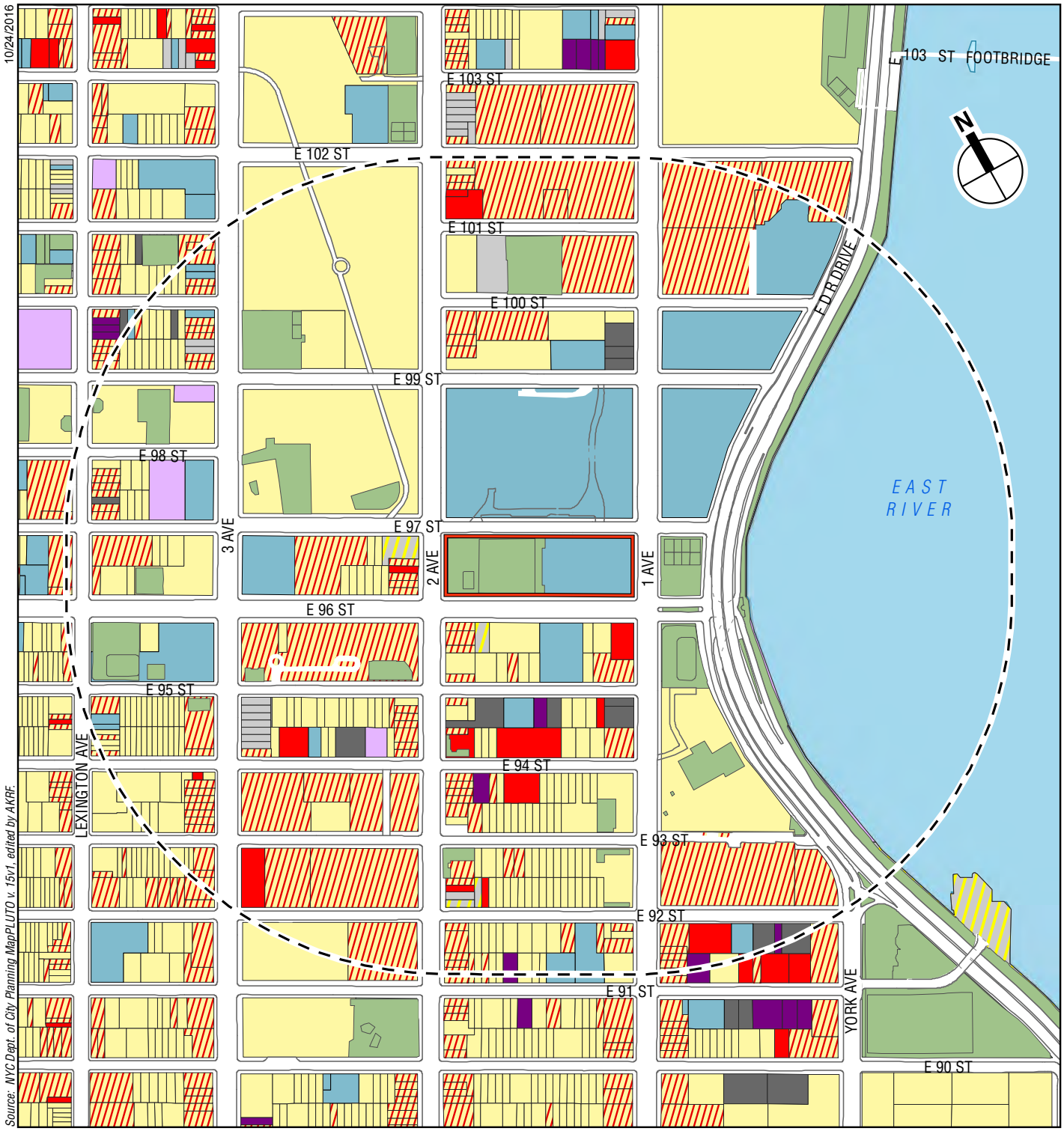
Located within the city's Coastal Zone, the proposed project is subject to review for consistency with the policies of the New York City Waterfront Revitalization Program (WRP) designed to maximize the benefits derived from economic development, environmental preservation, and public use of the waterfront, while minimizing the conflicts among those objectives. The proposed project is consistent with applicable WRP policies.

B. METHODOLOGY

Following the guidance of the 2014 *CEQR Technical Manual*, this analysis of land use, zoning, and public policy examines the area within ¼-mile of the project site (the study area). The project site is the full block bounded by East 96th and 97th Streets between First and Second Avenues. The land use study area is the area within which the proposed project could reasonably be expected to cause potential effects. The study area is generally bounded by: the FDR Drive to the east, East 91st Street to the south, Lexington Avenue to the west and East 102nd street to the north (see **Figure 2-1**). The project site and the study area are within Community District 11.

In the future with the proposed actions (the With Action condition), the development site is assumed to be redeveloped with the proposed project.

The analysis begins by considering existing conditions in the study area in terms of land use, zoning, and public policy. The analysis then considers land use, zoning, and public policy in the



ECF EAST 96TH STREET

Existing Land Use
Figure 2-1

No Action scenario in the 2023 analysis year by identifying developments and potential policy changes expected to occur within that time frame. Probable impacts of the proposed actions are then identified by comparing conditions in the With Action scenario with those conditions anticipated in the No Action scenario. Sources for this analysis include the New York City Department of City Planning (DCP), the New York City Department of Buildings (DOB) and recent environmental assessment and impact statements in the area, including the Environmental Assessment Statements: the Lexington Gardens II, EAS (CEQR No. 16HPD082M) and the 203-205 East 92nd Street Environmental Assessment Statement (CEQR No. 13DCP121M).

C. EXISTING CONDITIONS

LAND USE

PROJECT SITE

The project site is Block 1668, Lot 1, in the East Harlem neighborhood of Manhattan. As shown in **Figure 2-2**, the project site is the full block bounded by East 96th and 97th Streets and First and Second Avenues. The project site is currently owned by the City of New York. A portion of the project site is within the Special Transit Land Use District (TA), which relates development along Second Avenue to the future subway line. In place of sidewalk obstructions that impede pedestrian circulation, the special district requires builders of developments adjoining planned subway stations to reserve space in their projects, by providing an easement, for public access to the subway or other subway-related uses. The district is mapped at locations along Second Avenue between Chatham Square in Chinatown and East 126th Street in Harlem; the TA special district is mapped along Second Avenue from 94th Street to 97th Street.

The western portion of the project site (approximately 64,150 square feet) is currently occupied by the Marx Brothers Playground, which is jointly operated by DOE and NYC Parks. The playground includes a multi-purpose baseball and soccer field. The playground area facing Second Avenue (approximately 23,000 sf) is currently in use by MTA as a staging area for Second Avenue Subway construction. The eastern portion of the project site (approximately 66,396 sf) is occupied by a 4-story, 103,498-gsf school building, currently in use by COOP Tech, a public technical high school. The land use of the project site is public facilities and institutions.

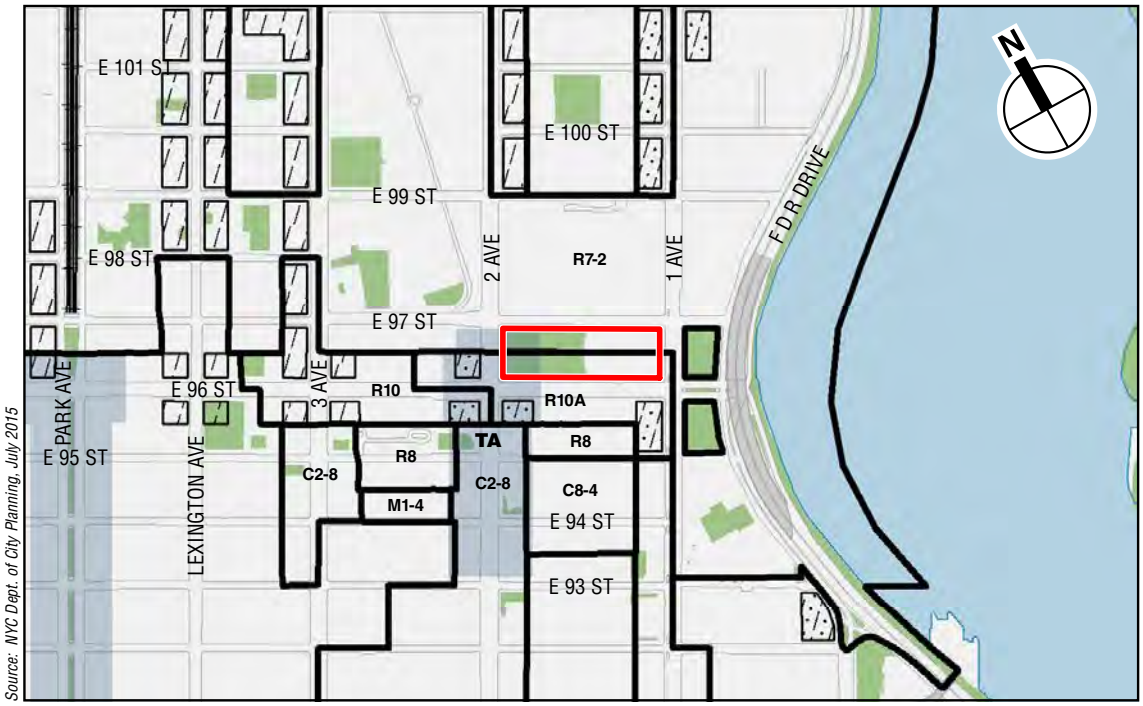
STUDY AREA

The study area comprises a ¼-mile radius drawn from the boundary of the project site, and includes portions of the Carnegie Hill and East Harlem neighborhoods. The study area contains a mix of residential, commercial, transportation and utility, parking, open space, and community facility uses (see **Figure 2-1**).

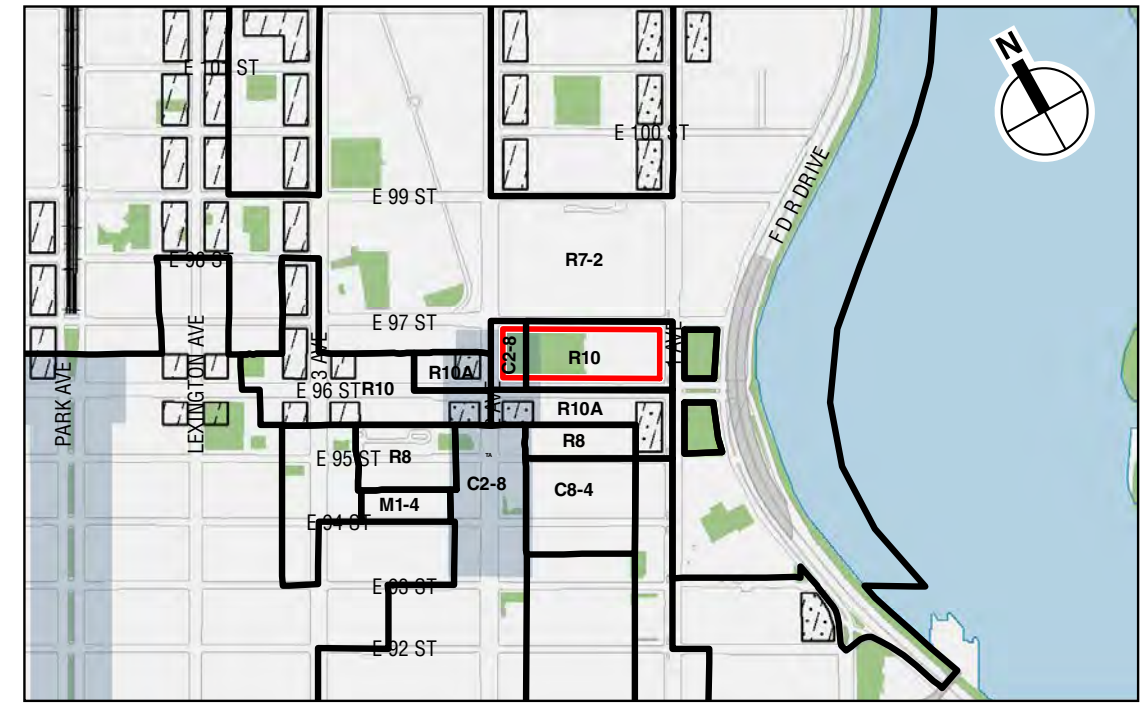
The area surrounding the project site includes public facilities and institutions, residential and mixed residential/commercial buildings, and open spaces. To the north and northeast of the project site is the Metropolitan Hospital Center complex, which occupies the area between East 97th and 99th Streets, Second Avenue, and the FDR Drive. To the east of the project site is the Stanley Isaacs Playground and beyond it the FDR Drive and the East River. The block directly south of the project site includes a gas station, a public school (Life Sciences Secondary School), and residential buildings from 4 to 20 stories tall, some with ground floor retail; further to the south are taller apartment towers, including the 43-story Ruppert Houses development. To the

10/25/2016

Existing



Proposed



ECF EAST 96TH STREET

Existing and Proposed Zoning
Figure 2-2

west of the project site and Second Avenue are two large apartment towers with ground floor retail—Normandie Court, and One Carnegie Hill, 35 and 41 stories tall respectively—as well as smaller residential buildings with ground floor retail facing Second Avenue. To the northwest of the project site is a multi-block New York City Housing Authority (NYCHA) development, the George Washington Houses.

The El Barrio Artspace at P.S. 109 is situated between the George Washington Houses and the Cherry Tree Playground. The Artspace transformed the abandoned public school building in East Harlem into and arts facility with 89 units of affordable live/work housing for artists and their families with 10,000 square feet (sf) of community facility space dedicated to the arts.

At 342 East 99th Street, is one of the garage locations for the Department of Sanitation (DSNY), the adjacent lots are dedicated parking facilities for the DSNY vehicles.

There are many schools in the area, north of the project site between Fist Avenue and the FDR Drive: The Renaissance Charter High School, Jr. High School 99, the M.S. 224 Manhattan East School for Arts & Academics, the New York Center for Autism Charter School, P.S. 109, and P.S. 50 Vito Marcantonio. South of the project site are the Life Sciences Secondary School (M655) and the Trevor Day School.

ZONING

PROJECT SITE

The project site consists of R7-2 and R10A zoning districts; see **Figure 2-2**.

R7-2 districts are medium-density apartment house districts, with height factor regulations that encourage lower apartment buildings on smaller zoning lots and taller apartment buildings on larger lots (with less lot coverage). Quality Housing regulations are also allowed within R7-2 districts.

R10A districts are Quality Housing contextual districts, which typically produce the substantial apartment buildings, set on the avenues and wide streets of Manhattan; towers are not permitted in R10A districts.

STUDY AREA

The study area contains various manufacturing, commercial, residential, and mixed-use districts (see **Table 2-1** and **Figure 2-2**). Zoning districts with a suffix, such as A and X, are contextual zoning districts that were created to produce buildings that are consistent with the existing neighborhood character.

The areas to the north of the project site and along the East River are zoned R7-2, with the exception of the Stanley Isaacs Playground, which is mapped parkland. R7-2 districts allow for medium-density apartments that comply with height factor regulations.

West of East 96th Street and First Avenue an R10A district is mapped, and further west is an R10 district; with C1-5 and C2-5 overlays along the avenues. R10A districts allow for substantial apartment buildings but do not allow towers, whereas R10 districts allow for substantial apartment buildings and towers.

Table 2-1
Zoning Districts Located in the Study Area

Zoning District	Maximum FAR[1]	Uses/Zone Type
Manufacturing Districts		
M1-4	4.2 Commercial or Manufacturing; 5.6 with Inclusionary Housing designated area bonus	Medium-density light industrial uses (high performance), commercial, and certain community facilities with special permit (houses of worship allowed as-of-right).
Commercial Districts		
C2-8	2.0 Commercial 10.0 Residential[3] R10 Residential District Equivalent	Medium/high-density; commercial, residential, parking is generally not required.
C8-4	5.0 Commercial	Heavy commercial uses that include manufacturing uses; typically uses are automobile related industries, some community facilities permitted; residential uses not permitted.
Residential Districts		
R7-2[4]	4.0 Wide Street 3.44 Narrow Street	Medium-density residential districts with height factor regulations which encourage lower apartment buildings on smaller zoning lots, R-7 2 districts have low parking requirements
R10	10.0 Residential[5]	High-density residential district; Quality Housing regulations or tower regulations apply; height factor limitations are not applicable.
R10A	10.0 Residential[5]	Towers are not permitted in R10A districts; Quality Housing contextual regulations apply.

Notes: [1] Floor area ratio (FAR) is a measure of density establishing the amount of development allowed in proportion to the lot area. For example, a lot of 10,000 square feet with a FAR of 1 has an allowable building area of 10,000 square feet. The same lot with an FAR of 10 has an allowable building area of 100,000 square feet.
[2] Use Group 4A by Special Permit only.
[3] Increase in FAR with Inclusionary Housing Program bonus
[4] 4.6 with Inclusionary Housing designated area bonus on wide street; 3.6 on narrow street.
[5] up to 12.0 FAR with Inclusionary Housing Program bonus

Source: *New York City Zoning Resolution.*

South of East 96th Street, the surrounding area is mapped R8, C2-8, and C8-4. R8 districts can range from mid-rise, eight- to ten-story buildings to much taller buildings set back from the street on large zoning lots. This high-density residential district allows for new buildings to be developed under either height factor regulations or optional Quality Housing regulations.

A C8-4 district is mapped between First and Second Avenues between 94th Street and 96th Street, and is comprised of residential, commercial and auto-related uses.

A small portion of the study area along 94th street is mapped M1-4. The M1-4 district is mapped along 94th Street between Second and Third Avenues, and comprised of residential, parking facility uses and an auto-body shop.

Also within the study area are the C1-5 and C2-5 commercial overlays mapped within residential districts. These overlays are mapped along streets that serve local retail needs, they are found extensively throughout the city's lower- and medium-density areas and sometimes in high-density residential districts such as is found in the study area. When commercial overlays are mapped in R1 through R5 districts, the maximum commercial floor area ratio (FAR) is 1.0; when mapped in R6 through R10 districts, the maximum commercial FAR is 2.0. Commercial buildings are subject to commercial bulk rules.

The ¼-mile study area extends into the Limited Height District No. 1A Upper East Side (LH-1A) limited height district. This district is superimposed on an area designated as an historic district by the Landmarks Preservation Commission. The maximum building height is 60 feet in a LH-1A district. The LH-1A district is approximately mapped south of 95th Street and south along Park Avenue and Madison Avenue.

EAST HARLEM REZONING

On October 18, 2016, DCP released its East Harlem Neighborhood Study, a draft zoning framework for the East Harlem neighborhood that builds off the community planning process that resulted in the East Harlem Neighborhood Plan (see below under "Public Policy"). This study contemplates the rezoning of East Harlem between roughly East 104th and 132nd Streets and Second and Madison Avenues, an area just north of the land use study area. The proposed zoning changes respond to the recommendations of the East Harlem Neighborhood Plan and are intended to meet the following goals:

- Creating new housing opportunities, with zoning that will allow construction of new affordable housing and preservation of existing housing;
- Emphasizing job creation and economic development that will benefit residents of the neighborhood;
- Improving streetscapes for pedestrians through enhanced urban design, commercial storefront guidelines, and zoning to maintain and strengthen the neighborhood's rich retail corridors;
- Guiding new development to corridors with rich transit access while ensuring that areas with cohesive low-scale character are respected; and
- Working in concert with other City agencies to identify and prioritize capital investments benefiting existing neighborhood residents.

The proposed rezoning area closes to the project site, Second Avenue between 104th and 112th Street, is intended to be rezoned to R9, a high-density residential district, with Mandatory Inclusionary Housing and a C2-5 overlay. This zoning will allow retail on the lower stories, and building heights are expected to range from 9 to 25 stories.

PUBLIC POLICY

Public policy initiatives from the mid-20th century on have been important in shaping development patterns in East Harlem. Public housing projects were developed on superblocks from the 1940s into the 1960s followed later by urban renewal efforts that cleared large parcels of land for redevelopment, but produced little housing. More recently, the New York City Department of Housing Preservation and Development (HPD), along with other agencies, such as the U.S. Department of Housing and Urban Development (HUD) and non-profit housing organizations like the New York City Housing Partnership, have completed and continue to produce thousands of rehabilitated and new housing units in East Harlem for various low- and moderate-income and special needs populations.

UPPER MANHATTAN EMPOWERMENT ZONE

Recent public initiatives are also focused on increasing the commercial uses in the area, since East Harlem currently has a far less visible retail and commercial presence than in the rest of

Manhattan's East Side. The most ambitious of these efforts was the creation in 1994 of the Upper Manhattan Empowerment Zone (UMEZ), a federal economic development initiative which uses public funds and tax incentives to encourage private investment in neighborhoods and offers new and expanding financial and technical assistance through the Business Resource and Investment Service Center. One of UMEZ's major development initiatives is Harlem USA, a large retail and entertainment complex located on West 125th Street, outside of the East Harlem study area. In the East Harlem area, UMEZ works with the East Harlem Chamber of Commerce, Union Settlement Association (one of the largest and oldest settlement houses in New York City), East Harlem Council for Community Improvement/El Faro JHS 45, East Harlem Neighborhood Based Alliance Corporation, Baked in the 'Hood, Local Development Corporation Del Barrio, Julia de Burgos Latino Cultural Center, and the Harbor Conservatory for the Performing Arts.

MANHATTAN COMMUNITY BOARD 11 197-A PLAN

The local community has also sought to achieve a greater mix of uses in East Harlem, as demonstrated by Manhattan Community Board 11's 1996 local "197-a" Plan to guide future growth and development. While not adopted by the City, the plan aimed to increase housing opportunities for all income groups; strengthen existing retail and business corridors; rehabilitate all vacant residential buildings; bolster educational and employment opportunities; upgrade cultural resources and recreational space; and improve the quality of life in the area.

HOUSING NEW YORK: A FIVE-BOROUGH, TEN-YEAR PLAN

On May 5, 2014, the de Blasio administration released *Housing New York: A Five-Borough, Ten-Year Housing Plan* ("*Housing New York*"), a plan to build or preserve 200,000 affordable residential units. To achieve this goal, the plan aims to double HPD's capital budget, target vacant and underused land for new development, protect tenants in rent-regulated apartments, streamline rules and processes to unlock new development opportunities, contain costs, and accelerate affordable construction. The plan details the key policies and programs for implementation, including developing affordable housing on underused public and private sites.

EAST HARLEM NEIGHBORHOOD PLAN

In 2014, the City announced that East Harlem was among the first neighborhoods targeted for zoning changes as part of *Housing New York*. In response, Council Speaker Mark-Viverito convened a steering committee to establish a process for community-based planning. The steering committee, composed of community organizations, the Council Speaker's Office, Manhattan Community Board 11, and Manhattan Borough President undertook the preparation of the East Harlem Neighborhood Plan (the "Plan"). The Plan is the culmination of eight large public meetings, approximately 40 smaller meetings to develop the objectives and recommendations around the 12 key themes, several smaller informal meetings to gather more feedback and to provide more information on the ideas being discussed, community surveys and online comments. The planning process also included meetings with City agencies to test and gather feedback on the objectives and recommendations made by the steering committee. Objectives and recommendations contained in the Plan include the following: preservation of important East Harlem buildings and the reinforcement of neighborhood character; allow for increased density in select places to increase affordable housing and space for jobs; improve and create more services and amenities for the East Harlem community through any new development on private and public sites. As described above, DCP recently released its East

Harlem Neighborhood Study, which builds off the community planning process that resulted in the East Harlem Neighborhood Plan.

ONENYC

In April 2007, the Mayor's Office of Long Term Planning and Sustainability released PlaNYC: A Greener, Greater New York (PlaNYC). Since that time, updates to PlaNYC have been issued that build upon the goals set forth in 2007 and provide new objectives and strategies. In 2015, One New York: The Plan for a Strong and Just City (OneNYC) was released by the Mayor's Office of Sustainability and the Mayor's Office of Recovery and Resiliency. OneNYC builds upon the sustainability goals established by PlaNYC and focuses on growth, equity, sustainability, and resiliency. Goals outlined in the report include those related to housing (ensuring access to affordable, high-quality housing) and thriving neighborhoods (ensuring that neighborhoods will be well-served by transit, affordable housing, retail, and City services).

THE WATERFRONT REVITALIZATION PLAN

The WRP is the City's principal coastal zone management tool. As originally adopted in 1982 and revised in 2016, it establishes the City's policies for development and use of the waterfront. Revisions to the WRP were adopted by the City Council in 2013, and were then approved by the New York State Secretary of State in February, 2016. All proposed actions subject to CEQR, Uniform Land Use Review Procedure (ULURP), or other local, state, or federal agency discretionary actions that are situated within New York City's designated Coastal Zone Boundary must be reviewed and assessed for their consistency with the WRP. The project site is within the coastal zone (see **Figure 2-3**). The WRP contains 10 major policies, each with several objectives focused on: improving public access to the waterfront; reducing damage from flooding and other water-related disasters; protecting water quality, sensitive habitats (such as wetlands), and the aquatic ecosystem; reusing abandoned waterfront structures; and promoting development with appropriate land uses.

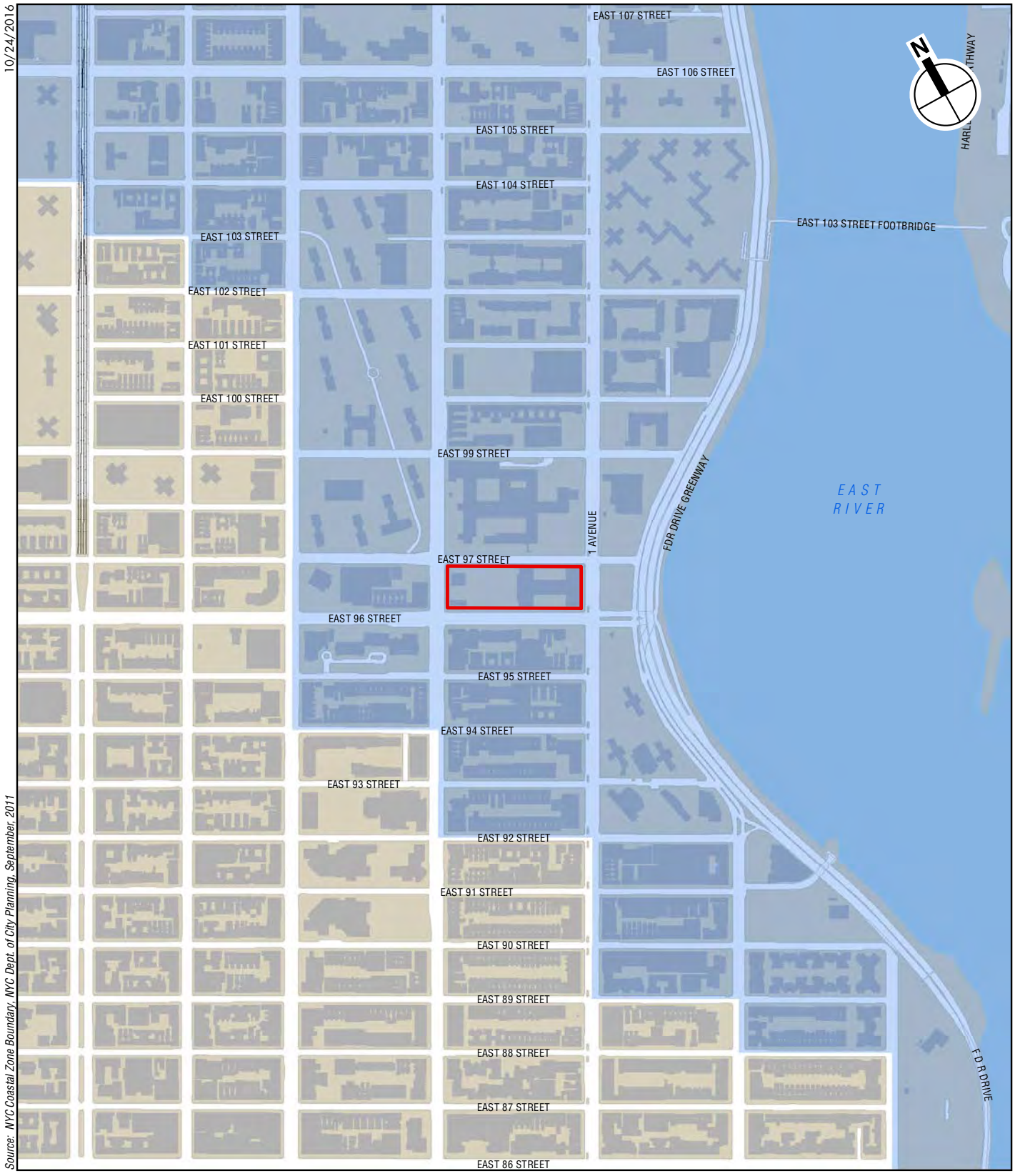
D. THE FUTURE WITHOUT THE PROPOSED ACTIONS

This section considers land use, zoning, and public policy conditions for the No Action condition in 2023. These conditions are projected by considering changes that are likely or expected to occur on the development site, the granting site, and within the study area.

LAND USE

PROJECT SITE

In the No Action condition, it is assumed that in the future without the proposed actions, the project site will continue as in the existing condition, except that the MTA will vacate the western portion of the jointly-operated Marx Brothers Playground and will reconstruct and restore that portion for open space uses. While expansion of the school facility or improvements to the playground could be undertaken pending availability of funding, no redevelopment could occur on this publicly-owned site without discretionary approvals.



ECF EAST 96TH STREET

New York City
Coastal Zone Boundary
Figure 2-3

STUDY AREA

Within the study area, which incorporates a ¼-mile radius from the project site, the No Action condition assumes that a number of No Build projects would be introduced to the study area by 2023 (see **Table 2-2** and **Figure 2-4**). These No Build projects would introduce a total of 1,147 residential units, which would introduce approximately 2,856 residents to the study area by 2023. These projects would range in size from 6-story to 36-story residential apartment buildings or large mixed use buildings.

Table 2-2
Projects Under Construction Within the 1/4-Mile Study Area by 2023

Ref. no.[1]	Name/Location	Program	Status/Build Year
2	1790 Third Avenue (Block 1627, Lot 35)	13-story, 55-unit building with 4,012 gsf retail and 246 zsf community facility	2016
6	168 East 100th Street (Block 1627, Lot 42)	8-story, 16-unit building	2017
7	302 East 96th Street (Block 1558, Lot 47)	21-story, 48-unit building	2023
8	1768 Second Avenue (Block 1555, Lot 1)	6-story, 5-unit building with 2,009 gsf retail	2017
9	1766 Second Avenue (Block 1555, Lot 1)	11-story, 20-unit building with 1,851 gsf retail	2023
10	1681 Third Avenue (Block 1540, Lot 2)	30-story, 104-unit building with 13,886 gsf retail and	2017
13	166 East 100th Street (Block 1627, Lot 43)	7-story, 12 unit building with 10,563 sf community facility	2017
14	1918 First Avenue (Block 1691, Lot 1)	Conversion of 14-story HHC dorm building to affordable housing (203 units)	2017
15	415 East 93rd Street (Block 1573, Lot 1)	NYCHA Holmes Tower infill, 300 units, 5,250 gsf community facility, playground replacement	2023
16	203 East 92nd Street (Block 1538, Lot 10)	36-story, 231-unit building with 35,138 gsf retail and 48,311 gsf private school	2016
19	1880 First Avenue (Block 1691, Lot 1)	16-story, 153-unit residential building on HHC former parking lot	2023

Note: [1] See **Figure 2-4** for project locations. Please note that numbering is non-sequential for consistency with Table 11-13 in Chapter 11, "Transportation."
Projects that are currently under construction are assumed to be complete by 2016/2017; projects for which an expected date of completion date is not available are assumed to be complete by the proposed development's Build year of 2023.
Sources: New York City Department of Buildings; media coverage; AKRF field visits, summer 2016.

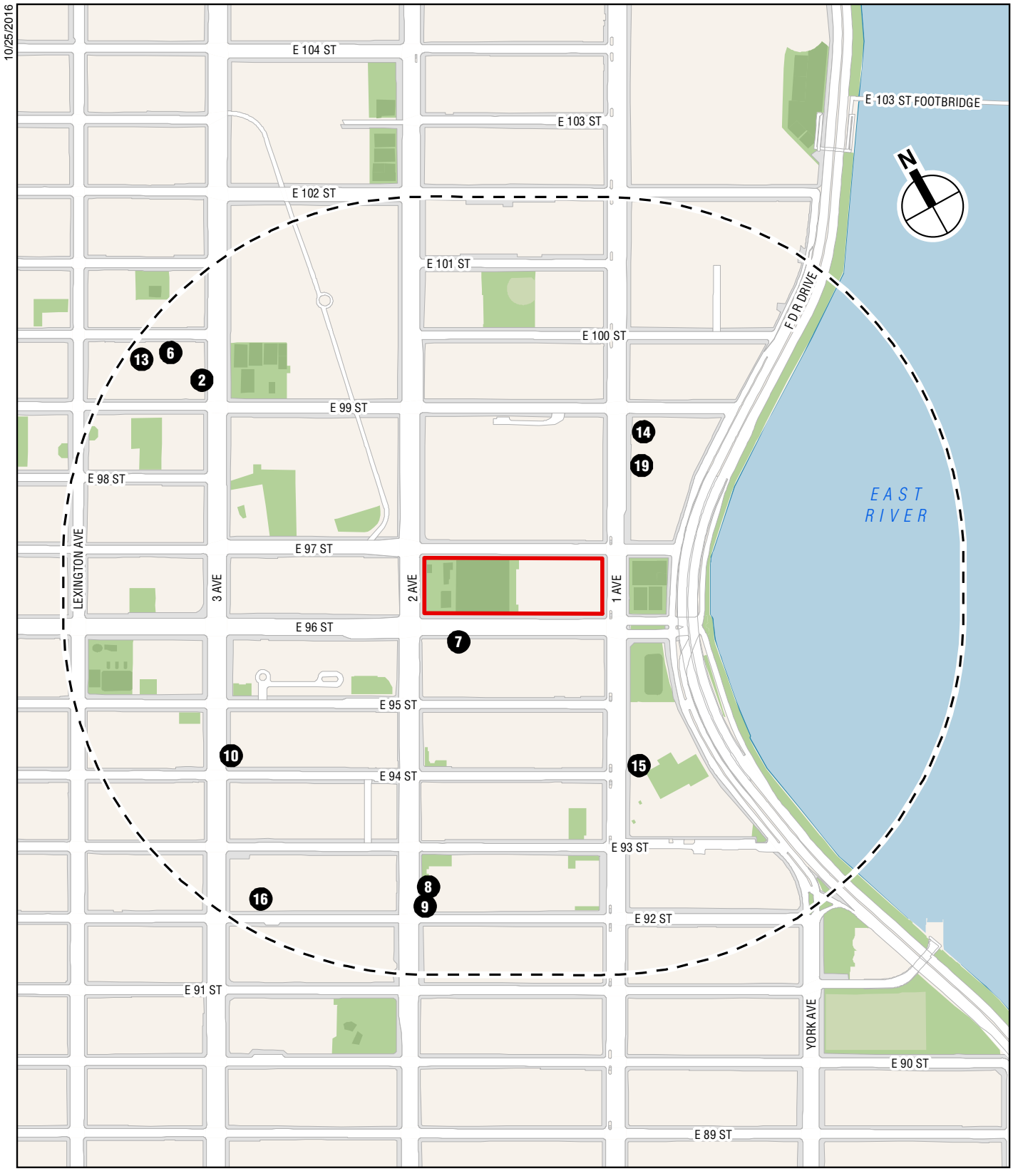
With the exception of the above-mentioned No Build projects, in the future without the proposed actions no changes to land use are anticipated within the study area.

ZONING

In the No Action condition, no changes to zoning are currently anticipated affecting the project site or study area; however, two city-wide zoning text amendments—Mandatory Inclusionary Housing and Zoning for Quality and Affordability—were recently approved. In addition, the Department of City Planning (DCP) is continuing work on the proposed rezoning of East Harlem in connection with *Housing New York*, the mayor's affordable housing plan.

PUBLIC POLICY

There are no changes to public policy expected in the study area in the No Action condition. Existing public policies are expected to remain in effect.



ECF EAST 96TH STREET

2023 No Build Projects
Figure 2-4

E. THE FUTURE WITH THE PROPOSED ACTIONS

LAND USE

PROJECT SITE

In the With Action condition, the project site is assumed to be redeveloped with the proposed project. As described in Chapter 1, "Project Description," the proposed project would develop a 68-story building (760 feet in height, including bulkhead and mechanical equipment) with approximately 1,175,000 gsf on the western side of the project block, facing Second Avenue, and an 8-story building (185 feet in height, including bulkhead and mechanical equipment) with approximately 135,000 gsf on the eastern side of the block, facing First Avenue. The western building would include approximately 1,015,000 gsf of residential use (approximately 1,200 residential units); approximately 25,000 gsf of commercial retail use (Use Groups 6A/6C); and approximately 135,000 gsf of public school use (Use Group 3A, a technical school to replace the existing COOP Tech). It is possible that the western building also could include an accessory parking facility with up to 120 parking spaces. The eastern building would house two additional public high schools that would relocate from nearby locations within Community District (CD) 11. In total, the development on the site would be approximately 1,310,000 gsf.

In the future With Action condition, several land use changes are anticipated to result from the proposed actions on the project site. The western portion of the Marx Brothers Playground would be replaced with a 68-story mixed-use building and the existing COOP Tech would be replaced with an 8-story high school building. Furthermore, the existing jointly-operated Marx Brothers Playground would be relocated to the middle of the block (Block 1668), between the two new buildings. The relocated jointly-operated playground would be of an equivalent size and proportion to the existing jointly-operated playground with enhancements and new programing responsive to community needs.

STUDY AREA

The proposed actions would only apply to the project site as set forth in the proposed zoning text amendment. The proposed actions would only facilitate development on the project site, and would not result in any other land use changes in the study area. The study area would continue to have a mix of uses and an ongoing trend of residential and commercial development. No Build projects would introduce 1,147 residential units to the study area, which would result in approximately 2,856 new residents.

The proposed actions would continue the existing trends toward increased density and mixed-use development and would be compatible with the surrounding area. In addition, the relocated and enhanced publicly-accessible open space and affordable housing created by the proposed project would provide important benefits to the study area and the City as a whole.

Overall, the proposed actions would be compatible with and in support of land uses in the surrounding area and would not result in significant adverse land use impacts.

ZONING

As described in Chapter 1, "Project Description," the proposed actions include the following discretionary actions:

- Amendment to the zoning map to change the (i) the northern half of the project site from an existing R7-2 district to a C2-8 district within 100 feet of Second Avenue and an R10 district over its remainder, and (ii) the southern half of the project site from an existing R10A district to a C2-8 district within 100 feet of Second Avenue and an R10 district over its remainder.
- A special permit pursuant to Section 74-75 of the Zoning Resolution to modify the following sections of the Zoning Resolution:
  - Sections 23-64 and 24-522 relating to height and setback and sky exposure regulations on First Avenue, Second Avenue and 96th Street (wide streets) and on 97th Street (narrow street);
  - 24-11 to authorize the distribution of lot coverage without regard for zoning lot lines, in connection with the proposed school building on First Avenue;23-651(a) to allow the tower of the mixed-use building on Second Avenue to occupy less than the minimum 30 percent required tower coverage, and to allow the tower coverage calculations to be made for the entire zoning lot;
  - 23-651(a) to allow the proposed building on Second Avenue to have less than the required 55 to 60 percent of the total floor area on the zoning lot located either partially or entirely below a height of 150 feet; and
  - 23-65(a)(2), 23-651 (a), and 23-651(b) to permit the proposed tower of the mixed-use building on Second Avenue to be located beyond 125 feet from Second Avenue, not provide the required setback above the base, and not occupy the entire street frontage of the zoning lot.
- Amendments to the Zoning Resolution to (i) modify Section 74-75 to allow distribution of allowable lot coverage without regard to zoning lot lines on a zoning lot containing the Co-op Tech School; and (ii) Appendix F of the Zoning Resolution to establish a Mandatory Inclusionary Housing (MIH) designated area over the project site.
- Special permit pursuant to ZR Section 74-533 to waive accessory off-street parking requirements for non-income restricted dwelling units.
- Certification pursuant to Section 95-04 of the Zoning Resolution from the Metropolitan Transit Authority (MTA) and the City Planning Commission (CPC) that a transit easement volume is not required on the project site.
- Certification pursuant to Section 26-15 to allow more than one curb cut on a narrow street.
- Certification pursuant to Section 26-17 to allow curb cuts on a wide street.

PROJECT SITE

The proposed actions would change the underlying zoning of the project site and map the new Special District. These actions would increase the permitted density of the project site and allow residential and commercial use on the project site. The special permits pursuant to Section 74-75 of the Zoning Resolution would modify lot coverage, floor area, and building height regulations; and would seek to establish a MIH designated area on the project site. The special permit pursuant to Section 74-533 of the Zoning Resolution would result in the reduction of required parking. Furthermore, the proposed actions seek to certify there is no requirement for a transit easement on the site.

STUDY AREA

The proposed actions would apply only to the project site and would have no effect on zoning in the surrounding area (representing the area ¼-miles from the project site). Existing zoning controls would continue to be in force. Therefore, the proposed actions would not result in a significant adverse impact to zoning in the surrounding study area.

EAST HARLEM REZONING

The proposed actions would be consistent with the goals of the East Harlem rezoning effort. The proposed actions would result in new housing opportunities, including up to 360 new units of affordable housing. It would result in new job creation during construction and operation of the proposed development. It would improve the streetscape and pedestrian experience of the surrounding area, by activating the Second Avenue portion of the site with new retail development and enhancing the existing jointly-operated playground. Finally, it would be new, dense development within a corridor that has excellent transit access following the opening of the 96th Street station of the Second Avenue Subway.

PUBLIC POLICY

UPPER MANHATTAN EMPOWERMENT ZONE

The Upper Manhattan Empowerment Zone is focused on increasing the commercial uses in the area, since East Harlem currently has a far less visible retail and commercial presence than in the rest of Manhattan's East Side. The proposed project would be consistent with this policy as it would introduce commercial use to the project site.

MANHATTAN COMMUNITY BOARD 11 197-A PLAN

The 197-a plan aims to increase housing opportunities for all income groups; strengthen existing retail and business corridors; rehabilitate all vacant residential buildings; bolster educational and employment opportunities; upgrade cultural resources and recreational space; and improve the quality of life in the area. As such, the proposed project is consistent with the goals of the plan especially since it would introduce educational and commercial space, as well as, affordable housing.

EAST HARLEM NEIGHBORHOOD PLAN

The proposed project would be consistent with the objectives outlined in the East Harlem Neighborhood Plan.

The proposed project would further seven of the Plan's 12 priority objectives:

- Arts & Culture: By creating a new, modern facility for the relocated the Heritage School, the project would allow the Julia de Burgos Latino Cultural Center to use the space formerly occupied by the school and expand its arts/cultural programs and services to the East Harlem community.
- Open Space & Recreation: The proposed actions would result in the relocation and enhancement of the Marx Brothers Playground. The project's planning for the renovation of the playground is underway with a series of community workshops sponsored by NYC Parks to solicit community input for recreational uses and amenities.

- Schools & Education: The proposed actions would create new, modern facilities and expanded capacity for COOP Tech, the Heritage School, and Park East High School. The proposed actions also would result in the expansion of COOP Tech's programming to serve more students and increase potential employment opportunities.
- Economic Development: The proposed project would create new on-site jobs, result in expanded COOP Tech training for future employment, and generate new residents who would create demand for local shops and services.
- Affordable Housing Development: The proposed project would increase affordable housing opportunities with varied levels of affordability in the East Harlem neighborhood.
- Zoning & Land Use: The project site is located in close proximity to multiple public transit options and thus is a suitable location for increased density to create much-needed affordable housing and new, modern facilities for area schools.
- Transportation/Environmental & Energy: The project site is in the 100 year floodplain. Current project planning incorporates design elements to address resiliency, energy efficiency, and minimize pollutant emissions. The proposed project is also incorporating sustainable LEED-equivalent design and SCA Green Design guidelines for the new school facilities.

HOUSING NEW YORK: A FIVE-BOROUGH, TEN-YEAR PLAN

The proposed project would be consistent with the Housing New York plan and would result in a substantial amount of new permanently affordable housing at a variety of income levels. As noted in Chapter 1, "Project Description," the creation of housing, including much-needed affordable housing, is a key goal of the proposed project. Thirty percent of the residential units in the proposed development would be affordable. Therefore, the proposed actions would be supportive of this key public policy goal.

ONENYC

The proposed actions would be consistent with the city's sustainability goals, including those outlined in OneNYC. In particular, the proposed project would support OneNYC's land use goals of creating substantial new housing opportunities at a range of incomes, including permanently affordable housing; redeveloping underutilized sites along the waterfront with active uses (including recreational space); focusing development in areas that are served by mass transit; and fostering walkable retail destinations. The proposed project would also incorporate measures to increase the resiliency of the project site to future storm events, which would be consistent with the City's resiliency goals. As described below, the proposed project would be consistent with WRP policies. Overall, the proposed actions would be supportive of the applicable goals and objectives of OneNYC.

WATERFRONT REVITALIZATION PROGRAM

As noted above, the project site is located within the city's Coastal Zone and, therefore, the proposed project is subject to review for consistency with the policies of the WRP. The WRP includes policies designed to maximize the benefits derived from economic development, environmental preservation, and public use of the waterfront, while minimizing the conflicts among those objectives. The WRP Consistency Assessment Form (see **Appendix B**) lists the WRP policies and indicates whether the proposed project would promote or hinder that policy, or if that policy would not be applicable. The section below provides additional information for

the policies that have been checked "promote" or "hinder" in the WRP Consistency Assessment Form.

Overall, the proposed actions would not result in any significant adverse public policy impacts.

F. NEW YORK CITY WATERFRONT REVITALIZATION PROGRAM CONSISTENCY

The project site is located in the designated Coastal Zone, and is therefore subject to the Coastal Zone Management policies of both the City and the State (see **Figure 2-3**). The New York City Waterfront Revitalization Program (WRP) is the City's primary coastal zone management tool and was developed in accordance with the Federal Coastal Zone Management Act of 1972 and New York State Executive Law Article 42: Waterfront Revitalization of Coastal Areas and Inland Waterway Act. The City's WRP is made up of 10 major policies focusing on the goals of improving public access to the waterfront; reducing damage from flooding and other water-related disasters; protecting water quality, sensitive habitats like wetlands and the aquatic ecosystem; reusing abandoned waterfront structures; and promoting development with appropriate land uses.

In 2011, revisions to the City's WRP were made to reflect policy elements included in the New York City Department of City Planning's (DCP's) 2011 "Vision 2020 New York City Comprehensive Waterfront Plan", including incorporation of climate change and sea level rise considerations to increase the resiliency of the waterfront area, promotion of waterfront industrial development and both commercial and recreational water-borne activities, increased restoration of ecologically significant areas, and creation of best practices for waterfront open spaces. These revisions to the New York City Waterfront Revitalization Plan (WRP) were approved by the City Council on October 30, 2013 and approved by the NYS Secretary of State on February 3, 2016. As of this writing, the revised WRP must be used for all local and state consistency reviews.

An assessment of the proposed project's consistency with the revised New York City Waterfront Revitalization Program is provided below for all questions answered "promote" or "hinder" on the revised, 2016 Coastal Assessment Form (CAF), contained in **Appendix B**. The studies and analyses undertaken for the proposed project and described in this EIS are the primary foundation for evaluating consistency with the applicable WRP policies.

CONSISTENCY OF PROPOSED PROJECT WITH THE WATERFRONT REVITALIZATION PROGRAM POLICIES

SUMMARY

In general terms, the goal of the City's WRP is to encourage and preserve those uses which require a waterfront location, such as recreation/commercial/industrial uses that rely or benefit from a waterfront location, while discouraging those land uses better suited to inland areas. At the same time, the WRP is meant to balance the needs of development with protection of coastal ecological resources such as wetlands and fisheries. The proposed project is in full conformity with the principal goals of the WRP and its federal/state enabling legislation in that it will provide for the redevelopment of an underutilized parcel within the coastal zone while providing new residential and commercial uses and relocated educational facilities in close proximity to the waterfront.

POLICY ANALYSIS

Policy 1: Support and facilitate commercial and residential development in areas well-suited to such development.

1.1: Encourage commercial and residential redevelopment in appropriate Coastal Zone areas.

The proposed project consists of a residential, institutional, and commercial development that is in keeping with the goals of this policy. The project site is located 400 feet from the East River at its closest point, and is separated from the waterfront by First Avenue and the FDR Drive. As such, it is an inland parcel well suited for redevelopment with a combination of residential, institutional, and commercial uses. As discussed above, the study area contains various manufacturing, commercial, residential, and mixed-use districts. The proposed project is in keeping with the surrounding patterns of development and will be well served by existing public transportation and other municipal services.

Therefore, the proposed project would be consistent with this policy.

1.3: Encourage redevelopment in the Coastal Zone where public facilities and infrastructure are adequate or will be developed.

Facilities and infrastructure are available and are adequate for the projected demand of the proposed project. The project site is currently served by public water, sewer and electric service. While the proposed project would generate 324,800 gallons-per-day (gpd) of sanitary sewage, an increase of 315,190 gbd above the No Action condition, this incremental increase in sewage generation would be approximately 0.16 percent of the average daily flow at the Wards Island Wastewater Treatment Plant (WWTP) and would not result in an exceedance of the plant's permitted capacity.

The closest subway station to the project site is at its southwest corner, at East 96th Street and Second Avenue, where the Second Avenue Subway is now operational. The next closest subway station is the 96th Street station (4/6 lines). The closest bus routes are the M36 and the M15, which run along Second and First Avenues, respectively.

Therefore, the proposed project would be consistent with this policy.

1.5: Integrate consideration of climate change and sea level rise into the planning and design of waterfront residential and commercial development, pursuant to WRP Policy 6.2.

All structures will comply with the flood protection requirements of the New York City Building Code and ASCE 24 with respect to the first floor elevation and additional requirements such as waterproofing/design criteria for portions of structures below the base flood elevation (BFE). For additional information, see discussion at Policy 6.2 below.

Therefore, the proposed project would be consistent with this policy.

Policy 5: Protect and improve water quality in the New York City coastal area.

5.1:Manage direct or indirect discharges to waterbodies.

Stormwater management measures will be designed in accordance with DEP's Guidelines for the Design and Construction of Stormwater Management Systems. These guidelines require onsite stormwater detention such that discharge rates to the City's combined sewer system do not exceed allowable rates. It is expected that post-construction stormwater runoff rates to the City's combined sewer system will be reduced as compared to the current condition. The overall

volume of stormwater runoff and the peak stormwater runoff rate from the project site is expected to slightly decrease in the future with the project, due to the reduction of pavement and walkways on the project site. Therefore, the proposed project would be consistent with this policy.

5.2: Protect the quality of New York City's waters by managing activities that generate nonpoint source pollution.

As discussed above, stormwater management measures will be designed in accordance with the DEP's Guidelines for the Design and Construction of Stormwater Management Systems, which will produce a net reduction in runoff rates and concomitant reduction in stormwater pollutants.

Therefore, the proposed project would be consistent with this policy.

***Policy 6**: Minimize loss of life, structures, infrastructure, and natural resources caused by flooding and erosion, and increase resilience to future conditions created by climate change.*

6.1: Minimize losses from flooding and erosion by employing non-structural and structural management measures appropriate to the condition and use of the property to be protected and the surrounding area.

The current COOP Tech building on the eastern portion of the project site has a first floor elevation that is non-compliant with the current New York City Building Code and ASCE 24 Flood Resistant Design and Construction standards, which require that a building's first floor elevation, termed the Design Flood Elevation (DFE), be at least 1 foot above the Base Flood Elevation (BFE). The project site is in the AE Zone, with a BFE of 12 feet on the western portion of the site and BFE of 13 feet on the eastern portion (See **Figure 2-5**). Therefore, in order to comply with the New York City Building Code the proposed building on Second Avenue must have a DFE at an elevation of 13 feet or greater and the proposed building on First Avenue must have a DFE of 14 feet. All proposed structures will comply with the flood protection requirements of the New York City Building Code and ASCE 24 with respect to the first floor elevation and additional requirements such as waterproofing/design criteria for portions of structures below the BFE.

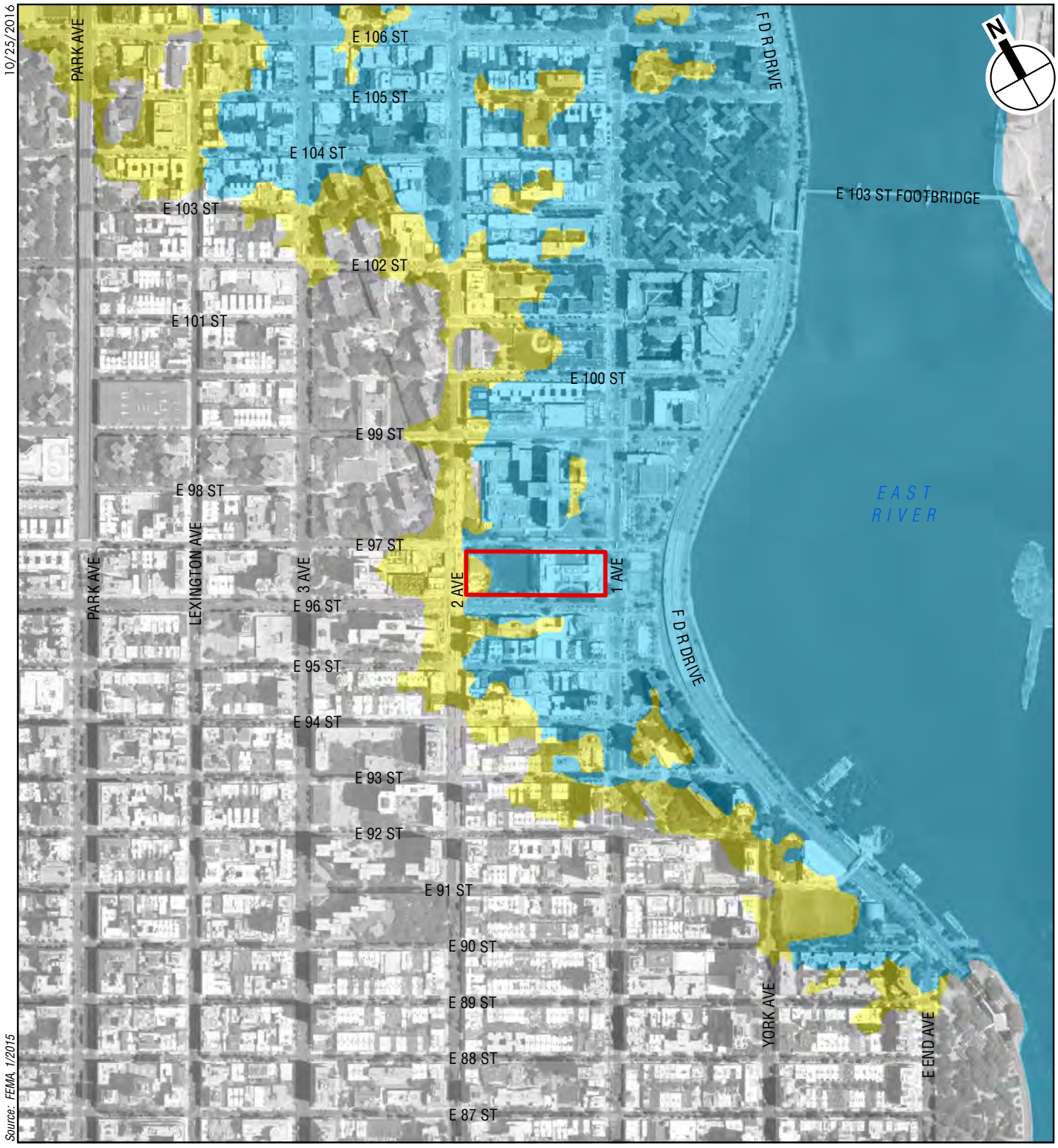
Therefore, the proposed project would be consistent with this policy.

Policy 6.2: Integrate consideration of the latest New York City projections of climate change and sea level rise (as published by the NPCC, or any successor thereof) into the planning and design of projects in the city's Coastal Zone.

The design flood elevations for the proposed buildings are one foot higher than the current BFE, per the current building code requirements, and the proposed project also would meet the requirements of the New York City Building Code. Since flood elevations are projected to increase in the future, the proposed site plan also integrates the consideration of sea level rise and would minimize the impacts of flooding on the proposed development. To ensure that the proposed project would be protected in future conditions, mitigation and resiliency measures will be implemented as described in Chapter 13, "Climate Change."

Policy 6.2 requires that the following elements are accounted for in a project's design and implementation:

- Consider potential risks related to coastal flooding to features specific to the project, including but not limited to critical electrical and mechanical systems, residential living areas, and public access areas;



FEMA Preliminary
Flood Hazard Areas
Figure 2-5

ECF EAST 96TH STREET

- Minimize losses from flooding and erosion by employing non-structural and structural management measures appropriate to the condition and site, the use of the property to be protected, and the surrounding area;
- Integrate consideration of the latest New York City projections of climate change and sea level rise (as published by the NPCC, or any successor thereof) into the planning and design of projects in the city's Coastal Zone;
- Incorporate design techniques in projects that address the potential risks identified and/or which enhance the capacity to incorporate adaptive techniques in the future. Climate resilience techniques should aim to protect lives, minimize damage to systems and natural resources, prevent loss of property, and, if practicable, promote economic growth and provide additional benefits such as provision of public space and intertidal habitat;
- The project should also provide a qualitative analysis of potential adverse impacts on existing resources (including ecological systems, public access, visual quality, water-dependent uses, infrastructure, and adjacent properties) as a result of the anticipated effects of climate change;
- Projects that involve construction of new structures directly in the water or at the water line should be designed to protect inland structures and uses from flooding and storm surge when appropriate and practicable;
- As appropriate and to the extent practicable, promote the greening of the waterfront with a variety of plant material for aesthetic and ecological benefit.

The proposed project does not involve construction of new structures directly in the water or at the water line, and as a result is not designed to protect inland structures and uses from flood and storm surge. Furthermore, the proposed project would not promote the greening of the waterfront as it is not located at the water line.

As described in detail in Chapter 13, "Climate Change," the proposed project accounts for the above-mentioned protective measures and design features, where appropriate, and is therefore consistent with the objectives of this policy.

Policy 7: Minimize environmental degradation and negative impacts on public health from solid waste, toxic pollutants, hazardous materials, and industrial materials that may pose risks to the environment and public health and safety.

7.1: Manage solid waste material, hazardous waste, toxic pollutants, and substances hazardous to the environment to protect health, control pollution, and prevent degradation of coastal ecosystems.

The project site is currently owned by the City of New York. There are no (E) designations for the project site. As described in Chapter 9, "Hazardous Materials," following completion of the EIS and prior to ground disturbance required for the proposed development, a subsurface (Phase II) investigation would be conducted that would include the collection of soil, groundwater, and soil vapor samples with laboratory analysis. Prior to such testing, a Work Plan for the investigation would be submitted to the New York City Department of Environmental Protection (DEP) for review and approval. Following receipt of the sampling results, a DEP-approved site-specific Remedial Action Plan and Construction Health and Safety Plan (RAP/CHASP) to be implemented during construction would be prepared based on the results of the Phase II Investigation. The RAP/CHASP would specify procedures for managing any encountered USTs and any encountered contamination (including procedures for stockpiling and off-site

transportation and disposal of soil). It would also identify any measures (e.g., vapor controls) required for the proposed buildings. The CHASP also would address appropriate health and safety procedures, such as the need for dust or organic vapor monitoring. Plans for remediation, including any vapor controls for the proposed school buildings, also would be provided to the New York City School Construction Authority (SCA) for review.

Therefore, the proposed project would be consistent with this policy.

7.2: Prevent and remediate discharge of petroleum products.

The potential for adverse impacts would be avoided since prior to any renovation or demolition a Construction Health and Safety Plan (CHASP) would be prepared and submitted for approval to DEP. Removal of all known and any unforeseen petroleum tanks encountered during redevelopment would be performed in accordance with applicable regulatory requirements including New York State Department of Environmental Conservation's (DEC's) requirements relating to spill reporting tank registration, and tank removal procedures, as warranted.

Therefore, the proposed project would be consistent with this policy.

7.3: Transport solid waste and hazardous materials and site solid and hazardous waste facilities in a manner that minimizes potential degradation of coastal resources.

Prior to demolition, the existing building would be surveyed for asbestos by a New York City-certified asbestos investigator and all asbestos containing materials (ACM) would be removed and disposed of prior to demolition in accordance with local, state and federal requirements prior to demolition. Demolition activities with the potential to disturb lead-based paint would be performed in accordance with applicable requirements (including federal Occupational Safety and Health Administration regulation 29 CFR 1926.62 - Lead Exposure in Construction, where applicable). Unless there is labeling or test data indicating that any suspect PCB-containing electrical equipment and fluorescent lighting fixtures do not contain PCBs, and that any fluorescent lighting bulbs do not contain mercury, disposal would be conducted in accordance with applicable federal, state and local requirements.

Demolition would be necessary for the removal of COOP Tech. Cranes, telehandlers, and boom lifts would be used during demolition. Construction vehicles would enter/exit the site at approved locations to minimize disturbance to traffic flow, including the ingress/egress to the FDR Drive at 96th Street.

All solid waste would be disposed of in accordance with applicable Federal, State and local requirements.

Therefore, the proposed project would be consistent with this policy.

Policy 9: Protect scenic resources that contribute to the visual quality of the New York City coastal area.

9.1: Protect and improve visual quality associated with New York City's urban context and the historic and working waterfront.

The project site will provide residents of the proposed building and students attending the new school facilities with views of the East River. This will afford the occupants of the new buildings an appreciation of the City's waterfront setting, including the historic and ongoing commercial and recreational use of the River and the waterfront's central role in the life of New York City. In addition, residents and students of the new buildings will have easy access via the East 96th

Street underpass to the East River Esplanade (Bobby Wagner Walk) for water-enhanced recreation, biking, walking, etc. Existing views to the East River from surrounding streets will not be obstructed by the proposed buildings. Incremental shadows from the proposed buildings would fall on a portion of the esplanade after 4:00 PM in the fall, winter, and spring. The new shadow would be limited in extent and would fall on a part of the esplanade that is only a walkway, with no seating, plantings or other features. Adjacent areas of this linear resource would continue to be in full sun during the late-afternoon period of incremental shadow. In addition, due to its location adjacent to the waterfront, it would continue to receive a lot of ambient light from the open sky over the river throughout the day, even during times when incremental shadow would fall on portions of it. The portion of the East River shoreline closest to the project site is not a working waterfront, but rather a bulkheaded shoreline visually separated from the neighborhood at ground level by the FDR Drive. No docks, boats, marinas, or other working waterfront facilities are located onsite or in the vicinity of the proposed project.

Therefore, the proposed project would be consistent with this policy.

9.2: Protect scenic values associated with natural resources.

The setting of the proposed project consists of developed urban land with a mix of residential, commercial and institutional uses. The East River is approximately 400 feet east of the project site's easternmost boundary. The river is an important natural and scenic feature of the City's coastal zone. Incremental shadows from the proposed project would fall on a small portion of the river after 4:00 PM in the fall, winter, and spring. The current flows swiftly in the East River and would move phytoplankton and other natural elements quickly through the shaded area. Therefore, project-generated shadows would not be expected to affect primary productivity. The areas that receive the new shadow would continue to receive direct sunlight for the vast majority of the day, because there are no structures to the east or south. Incremental shadows would therefore not be likely to significantly affect aquatic resources in these areas of the East River.

It is therefore concluded that the proposed project is consistent with this policy.

Policy 10: Protect, preserve, and enhance resources significant to the historical, archaeological, architectural, and cultural legacy of the New York City Coastal Area.

10.1: Retain and preserve historic resources, and enhance resources significant to the coastal culture of New York City.

As discussed in Chapter 7, "Historic and Cultural Resources," there are no known or potential architectural resources on the project site. In a comment letter dated June 24, 2016, LPC determined that the project site has no architectural significance. Furthermore, through implementation of a Construction Protection Plan (CPP), the proposed project would not have any direct, physical impacts on known or potential architectural resources within the 400-foot study area, including the State and National Register-eligible former P.S. 150 building (now known as Life Sciences M655). Nor would the proposed project result in the replication of aspects of any of the architectural resources in the study area so as to cause a false historical appearance, or the introduction of significant new shadows or significant lengthening of the duration of existing shadows over historic landscapes or structures.

In a comment letter dated June 24, 2016, LPC has determined that the project site does not possess archaeological sensitivity (see **Appendix A**).

Therefore, the proposed project would be consistent with this policy.

10.2: Protect and preserve archaeological resources and artifacts.

In a comment letter dated June 24, 2016, LPC has determined that the project site does not possess archaeological sensitivity (see **Appendix A**). Therefore, the proposed project would be consistent with this policy. ✷

Chapter 3: Socioeconomic Conditions

A. INTRODUCTION

This chapter assesses whether the proposed actions would result in significant adverse impacts to the socioeconomic character of the area surrounding the project site. As described in the 2014 *City Environmental Quality Review (CEQR) Technical Manual*, the socioeconomic character of an area includes its population, housing, and economic activities. Socioeconomic impacts may occur when a project directly or indirectly changes any of these elements.

In accordance with C*EQR Technical Manual* guidelines, this socioeconomic assessment considers whether development of the proposed actions could result in significant adverse socioeconomic impacts due to: (1) direct residential displacement; (2) direct business displacement; (3) indirect residential displacement; (4) indirect business displacement; and (5) adverse effects on a specific industry.

PRINCIPAL CONCLUSIONS

This analysis finds that the proposed actions would not result in significant adverse socioeconomic impacts. As there are no residents or existing businesses on the project site, the proposed actions would not result in direct residential or business displacement. While the proposed actions would likely add new population with a higher average household income as compared to existing households, the increase in population would not be large enough relative to the size of the No Action study area population to potentially affect real estate market conditions in the study area. Therefore, the proposed actions would not result in significant adverse impacts due to indirect residential displacement. The proposed actions would not introduce commercial development exceeding the *CEQR Technical Manual* threshold for an analysis of indirect business displacement. As the proposed actions would not directly displace any business or have significant adverse indirect effects on businesses in the study area, there would be no significant adverse impacts on specific industries with the proposed actions.

B. METHODOLOGY

BACKGROUND

Although socioeconomic changes may not result in impacts under CEQR, they are disclosed if they would affect land use patterns, low-income populations, the availability of goods and services, or economic investment in a way that changes the socioeconomic character of the area. In some cases, these changes may be substantial but not adverse. In other cases, these changes may be good for some groups but bad for others. The objective of the CEQR analysis is to disclose whether any changes created by the project would have a significant impact compared with what would happen in the No Action condition.

An assessment of socioeconomic conditions distinguishes between the socioeconomic conditions of an area's residents and businesses and separates these impacts into direct and indirect displacement for both of those segments. Direct displacement occurs when residents or businesses are involuntarily displaced from the actual site of the proposed actions or sites directly affected by it. For example, direct displacement would occur if a currently occupied site were redeveloped for new uses or structures or if a proposed easement or right-of-way encroached on a portion of a parcel and rendered it unfit for its current use. In these cases, the occupants of a particular structure to be displaced can usually be identified, and therefore the disclosure of direct displacement focuses on specific businesses and a known number of residents and workers.

Indirect or secondary displacement occurs when residents, business, or employees are involuntarily displaced due to a change in socioeconomic conditions in the area caused by the proposed actions. Examples include the displacement of lower-income residents who are forced to move due to rising rents caused by higher-income housing introduced by a proposed action. Examples of indirect business displacement include higher-paying commercial tenants replacing industrial uses when new uses introduced by a proposed action cause commercial rents to increase. Unlike direct displacement, the exact occupants to be indirectly displaced are not known. Therefore, an assessment of indirect displacement usually identifies the size and type of groups of residents, businesses, or employees potentially affected.

Some projects may affect the operation and viability of a specific industry not necessarily tied to a specific location. An example would be new regulations that prohibit or restrict the use of certain processes that are critical to certain industries. In these cases, the CEQR review process may involve an assessment of the economic impacts of the project on that specific industry.

DETERMINING WHETHER A SOCIOECONOMIC ASSESSMENT IS APPROPRIATE

According to the *CEQR Technical Manual*, a socioeconomic assessment should be conducted if a project may be reasonably expected to create socioeconomic changes in the area affected by the project that would not be expected to occur in the absence of the project. The following screening assessment considers threshold circumstances identified in the *CEQR Technical Manual* and enumerated below that can lead to socioeconomic changes warranting further assessment.

1. ***Direct Residential Displacement: Would the project directly displace residential population to the extent that the socioeconomic character of the neighborhood would be substantially altered? Displacement of fewer than 500 residents would not typically be expected to alter the socioeconomic character of a neighborhood.***

   The proposed actions would not displace any residential uses. Therefore, an assessment of direct residential displacement is not warranted.

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

   The proposed actions would not result in the displacement of any businesses on the project site. Therefore, the proposed actions would not result in significant adverse socioeconomic impacts due to direct business displacement.

3. ***Direct Business Displacement: Would the project directly displace a business whose products or services are uniquely dependent on its location, are the subject of policies or plans aimed at its preservation, or serve a population uniquely dependent on its services in its present location? If so, an assessment of direct business displacement is warranted.***

   As discussed above, the proposed actions would not result in the displacement of any businesses on the project site.

4. ***Indirect Displacement due to Increased Rents: Would the project result in substantial new development that is markedly different from existing uses, development, and activities within the neighborhood? Residential development of 200 units or less or commercial development of 200,000 sf or less would typically not result in significant socioeconomic impacts. For projects exceeding these thresholds, assessments of indirect residential displacement and indirect business displacement are appropriate.***

   The proposed actions would not introduce commercial development in excess of 200,000 sf; therefore, an assessment of potential indirect business displacement is not warranted. However, the proposed actions would introduce a residential population exceeding the 200-unit threshold. The With Action Scenario would result in up to 1,200 residential units, of which approximately 30 percent of the units would be affordable at income levels consistent with the Mandatory Inclusionary Housing (MIH) program. Since the proposed actions' increment exceeds the 200-residential unit threshold, a socioeconomic analysis of indirect residential displacement is warranted.

5. ***Indirect Business Displacement due to Retail Market Saturation: Would the project result in a total of 200,000 sf or more of retail on a single project site or 200,000 sf or more of region-serving retail across multiple sites? This type of development may have the potential to draw a substantial amount of sales from existing businesses within the study area, resulting in indirect business displacement due to market saturation.***

   The proposed actions would not introduce retail uses in excess of 200,000 sf on the project site; therefore, an assessment of potential indirect business displacement due to retail market saturation is not warranted.

6. ***Adverse Effects on Specific Industries: Is the project expected to affect conditions within a specific industry? This could affect socioeconomic conditions if a substantial number of workers or residents depend on the goods or services provided by the affected businesses, or if the project would result in the loss or substantial diminishment of a particularly important product or service within the City.***

   As the proposed actions would not result in direct or indirect business displacement on the project site and the potential for any indirect business displacement would be limited and not specific to any industry, an assessment of adverse effects on specific industries is not necessary.

Based on the screening assessment presented above, the proposed actions warrant a preliminary assessment of indirect residential displacement due to increased rents.

ANALYSIS FORMAT

Based on *CEQR Technical Manual* guidelines, the analysis of indirect residential displacement begins with a preliminary assessment. The objective of the preliminary assessment is to learn enough about the effects of the proposed actions to either rule out the possibility of significant

adverse impacts, or determine that a more detailed analysis is required to fully determine the extent of the impacts. A detailed analysis, when required, is framed in the context of existing conditions and evaluations of the future without the proposed actions, or No Action condition, and the future with the proposed actions by the project build year. In conjunction with the land use task, specific development projects that occur in the area in the future without the proposed actions are identified, and the possible changes in socioeconomic conditions that would result, such as potential increases in population, changes in the income characteristics of the study area, new residential developments, possible changes in rents or sales prices of residential units, new commercial or industrial uses, or changes in employment or retail sales. Those conditions are then compared with the future with the proposed actions to determine the potential for significant adverse impacts.

In this case, a preliminary assessment was sufficient to conclude that the proposed actions would not result in any significant adverse socioeconomic impacts resulting from indirect residential displacement as a result of the proposed actions.

PROJECT SITE

The project site is currently owned by the City of New York. The western portion of the project site is currently occupied by the Marx Brothers Playground, which is jointly operated by the Department of Education (DOE) and the New York City Department of Parks and Recreation (NYC Parks). The portion of the playground area facing Second Avenue is currently in use by MTA as a staging area for Second Avenue Subway construction. The eastern portion of the project site is occupied by a 4-story, 103,498 gsf school building, currently in use by the School of Cooperative Technical Education (COOP Tech), a public technical high school.

STUDY AREA

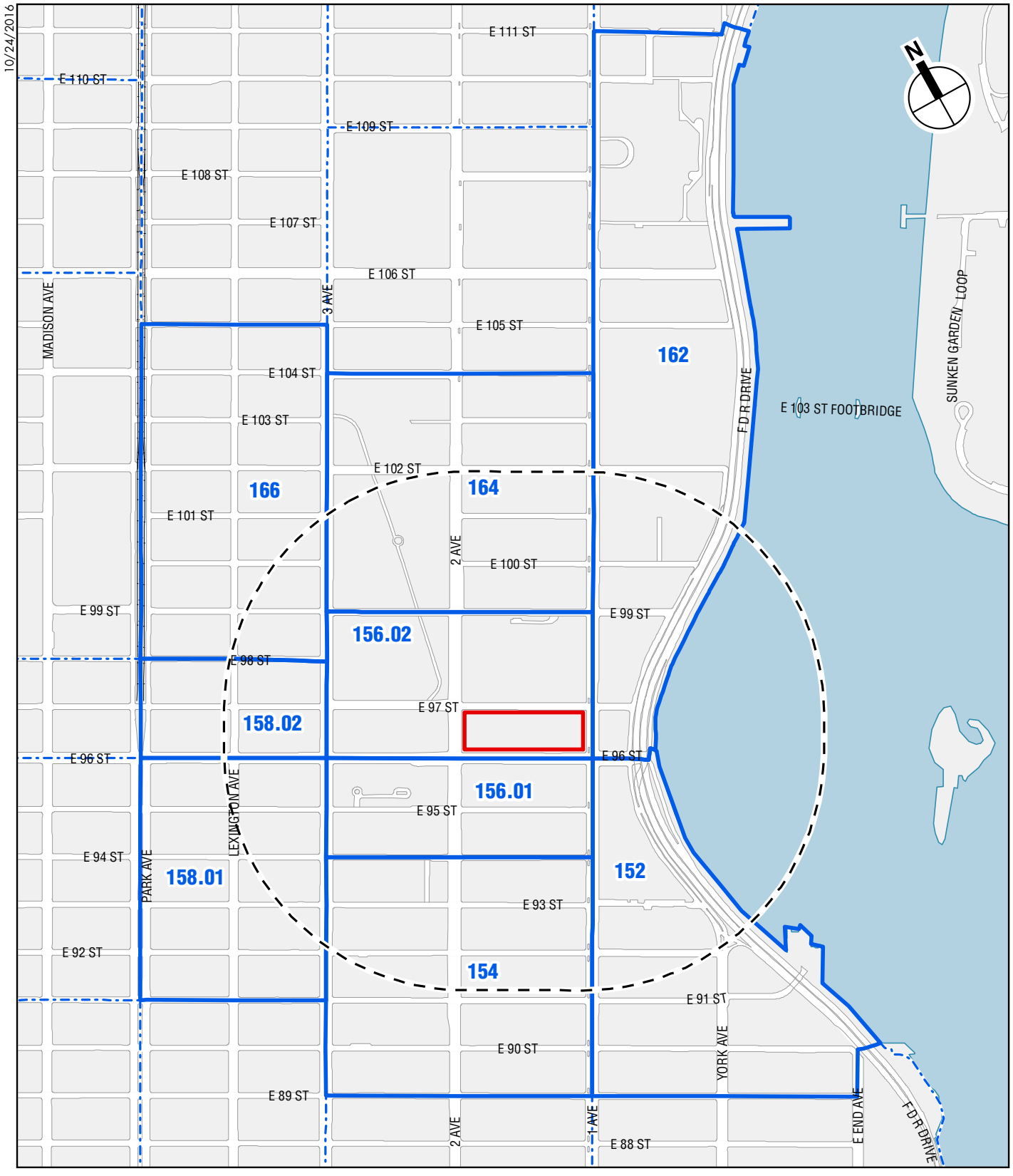
According to the *CEQR Technical Manual*, the socioeconomic study area typically reflects the land use study area, and should reflect the scale of the project relative to the area's population. A ½-mile study area is appropriate for projects that would result in a relatively large increase in population (5 percent or more) compared with the expected No Action condition population within a ¼ mile of the project site. The proposed actions would not result in a more than 5 percent increase in population within a ¼-mile radius of the project site. Therefore, the study area for this socioeconomic assessment includes the area within approximately ¼ mile from the project site boundaries. Consistent with the *CEQR Technical Manual* methodology, the size of the study area was adjusted to make its boundaries contiguous with those of the census tracts at least partially within the ¼-mile perimeter. Based on this methodology, the study area includes the following nine census tracts: Census Tract (CT) 152, 154, 156.01, 156.02, 158.01, 158.02, 162, 164, and 166 (see **Figure 3-1**).

Table 3-1 shows the existing (2010-2014), No Action (2023), and With Action (2023) population for the study area as a whole. As shown in the table, in 2010-2014 the study area had a population of 63,653 residents.

Table 3-1
¼-Mile Study Area Population

	Existing (2010-2014)	No Action (2023)	With Action (2023)	Percent Increase (No Action to With Action)
Total Population	63,653	66,058	69,046	4.5

Sources: U.S. Census Bureau, 2010-2014 American Community Survey, downloaded via Social Explorer, last accessed July 19, 2016; AKRF, July 2016.



Socioeconomic Study Area

ECF EAST 96TH STREET

Figure 3-1

It is assumed that in the future without the proposed actions (the "No Action" condition), the project area will continue as in the existing condition, except that the MTA will vacate the western portion of the jointly-operated Marx Brothers Playground and will reconstruct and restore that portion for open space uses. Including other known developments anticipated within a ¼-mile of the project site by 2023 (see Table 2-2 in Chapter 2, "Land Use, Zoning, and Public Policy"), approximately 2,405 new residents would be added to the study area population in the future without the proposed actions, based on the 2010-2014 average household size for CD11 from the American Community Survey (2.49 persons per household).[1]

The With Action Scenario would result in an increase of up to 1,200 residential units on the project site over the No Action condition. The new units would result in an additional 2,988 residents to the study area. Therefore, the total study area population in the future with the proposed actions would be approximately 69,046, or an approximately 4.5 percent increase over the No Action condition.

DATA SOURCES

Information used in the socioeconomic analysis includes data from the U.S. Census Bureau's 2000 and 2010 Census and 2010-2014 American Community Survey.

C. PRELIMINARY ASSESSMENT

INDIRECT RESIDENTIAL DISPLACEMENT

The concern with respect to indirect residential displacement is whether a proposed action could lead to increases in property values, and thus rents, making it difficult for some residents to afford their homes. The objective of the indirect residential displacement assessment is to determine whether the proposed actions would either introduce or accelerate a trend of changing socioeconomic conditions that may potentially displace a vulnerable population to the extent that the socioeconomic character of the neighborhood would change.

This preliminary assessment follows the step-by-step methodology described in Chapter 5 of the *CEQR Technical Manual* and listed in bold italics, below.

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

The With Action Scenario would introduce up to 840 market-rate housing units[2] to the study area over the No Action condition, increasing the population by an estimated 2,092 people, based on the 2010-2014 average household size for Manhattan Community District 11 (2.49 persons per household). In addition, the proposed actions would result in an additional approximately 360 affordable units to the project site. To be competitive with the market-rate housing in the study area, it is expected that the proposed market-rate rental units would be offered at prices similar to the other modern, newly constructed market-rate rental units in the surrounding area.

[1] New York City Department of City Planning, 2010-2014 PUMA Social Profile, Manhattan Community District 11.

[2] Market-rate units are not subject to rent or sale price regulations.

As shown in **Table 3-2**, according to 2010-2014 ACS data, the average household income for the study area was $113,069 (in 2016 dollars). This was less than the average household income in Manhattan as a whole ($133,819) and more than in New York City overall ($84,614).[3] As indicated in the table, the study area's average household income over the last 10 years or so increased slightly (approximately 1.5 percent), similar to the increase that was seen in Manhattan (approximately 1.8 percent) and greater than the change that occurred in New York City overall (an approximately 3 percent decrease).

Table 3-2
Average Household Income (1999, 2010-2014)

	1999	2010-2014	% Change
Study Area[1]	$111,435	$113,069	1.5
Manhattan	$131,441	$133,819	1.8
New York City	$87,229	$84,614	-3.0

Notes: [1]Average household income for the study area was estimated by Social Explorer based on a weighted average of average household incomes for the census tracts in the study area.
[2]According to the U.S. Census Bureau, generally, American Community Survey (ACS) 5-year estimates may be compared with Census 2000 data. The ACS collects data throughout the period on an ongoing, monthly basis and asks for a respondent's income over the "past 12 months." The 2010-2014 ACS data reflects average incomes over the period 2010 through 2014. Census 2000, however, reflects income data for the prior calendar year (1999). The average household income is presented in 2016 dollars using the U.S. Department of Labor's First Half 2016 Consumer Price Indexes for the "New York-Northern New Jersey-Long Island Area."
Sources: Social Explorer and U.S. Census Bureau, 2000 Census, Summary Files 1 and 3, and 2010-2014 American Community Survey, downloaded via Social Explorer, last accessed July 19, 2016; AKRF, Inc.

Given that the proposed units would mostly be market rate, it is likely that the average income of new population will be above the average household income in the study area. Because it is anticipated that the proposed actions' residents would have higher average incomes than the study area population as a whole, Step 2 of the preliminary assessment was conducted in accordance with *CEQR Technical Manual* guidelines.

Step 2: Would the project's increase in population be large enough relative to the size of the population expected to reside in the study area without the project to affect real estate market conditions in the study area?

According to the *CEQR Technical Manual*, if a project would result in a more than 5 percent increase in the study area population in the future without the proposed actions, Step 3 of the preliminary assessment should be conducted. As discussed earlier and presented in **Table 3-1**, the proposed actions would result in a less than 5 percent increase over the study area population in the future without the proposed actions. Therefore, it is reasonable to conclude that the project-generated population would not be large enough relative to the size of the population expected to reside in the study area without the project to potentially affect real estate market conditions in the study area, and no socioeconomic impacts are expected.

Moreover, 30 percent of the proposed units would be affordable, which would help to retain the existing demographic mix in the study area. ✷

[3] Average household incomes are presented in constant 2016 dollars using the U.S. Department of Labor's First Half 2016 Consumer Price Index for the "New York-Northern New Jersey-Long Island" area.

Chapter 4: Community Facilities and Services

A. INTRODUCTION

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

Because the proposed actions would physically alter a community facility (a public specialized high school) and would introduce a new residential population which could result in increased demand for community facilities and services, an assessment was conducted to determine whether the proposed actions would result in any significant adverse impacts to community facilities.

PRINCIPAL CONCLUSIONS

Based on a preliminary screening, the proposed actions would not exceed the thresholds for analysis of health care facilities, fire and police protection services, and public high schools. Therefore, no significant impacts on these facilities would occur. However, the proposed actions would exceed the thresholds for analysis of elementary and intermediate schools, libraries and child care facilities, and detailed analyses were undertaken. As described below, the detailed analyses concluded that the proposed actions would not result in significant adverse impacts on public schools, libraries, or child care facilities.

B. PRELIMINARY SCREENING ANALYSIS

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

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

on the size, income characteristics, and age distribution of the new population, there may be effects on public schools, libraries, or child care centers.

DIRECT EFFECTS

PUBLIC SCHOOLS

The *CEQR Technical Manual* recommends conducting a detailed direct effects analysis of public schools if a project would physically alter a community facility, whether by displacement of the facility or other physical change, this "direct" effect triggers the need to assess the service delivery of the facility and the potential effect that the physical change may have on that service delivery.

The proposed actions would replace the existing school facility on the project site—a specialized public high school—with a new facility within the proposed development, and would construct a separate facility to house two additional public high schools that would relocate from nearby locations within Community Board 11. These new school facilities are anticipated to be improvements over existing conditions, and the existing school on the project site would not be demolished until the replacement facility is operational. As a result, a direct effects analysis for public schools is not warranted. However, as a conservative measure a discussion of the current and replacement facilities has been included in the analysis.

INDIRECT EFFECTS

The *CEQR Technical Manual* provides thresholds for guidance in making an initial determination of whether a detailed analysis is necessary to determine potential impacts due to indirect effects on community facilities resulting from the proposed buildings on the development site. **Table 4-1** lists those analysis thresholds for each community facility type. If a project exceeds the threshold for a specific facility type, a more detailed analysis is warranted. A preliminary screening analysis was conducted to determine if the proposed actions would exceed any of the analysis thresholds. Based on that screening, it was determined that a detailed analysis is warranted for potential indirect effects on child care centers, public elementary and intermediate schools, and libraries.

Table 4-1
Preliminary Screening Analysis Criteria

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

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

PUBLIC SCHOOLS

The *CEQR Technical Manual* recommends conducting a detailed indirect effects analysis if a proposed action would generate more than 50 elementary/intermediate school students and/or more than 150 high school students.

The proposed actions would introduce approximately 1,200 residential units to the development site. Based on the student generation rates provided in the *CEQR Technical Manual* (0.12 elementary, 0.04 intermediate, and 0.06 high school students per housing unit in Manhattan), the proposed actions' 1,200 residential units would generate approximately 144 elementary school students, 48 intermediate school students and 72 high school students. The number of students introduced by the proposed actions would exceed the *CEQR Technical Manual* threshold warranting a detailed analysis of elementary and intermediate schools, and therefore a detailed indirect effects analysis is included below. The proposed actions would not exceed the *CEQR Technical Manual* threshold for high school students; therefore, a detailed indirect effects analysis has not been included for this school level.

LIBRARIES

Potential impacts on libraries can result from an increased user population. According to the *CEQR Technical Manual*, a proposed action that results in a 5 percent increase in the average number of residential units served per branch, which is 901 residential units in Manhattan, may cause a significant impact on library services and require further analysis. The proposed actions would introduce approximately 1,200 residential units, 299 residential units above the threshold outlined by the *CEQR Technical Manual.* Therefore, the proposed actions would exceed the *CEQR Technical Manual* threshold warranting an analysis of potential effects on libraries.

CHILD CARE CENTERS

According to the *CEQR Technical Manual*, if a proposed action would add more than 20 children eligible for child care to the study area's child care facilities, a detailed analysis of its impact on publicly funded child care facilities is warranted. This threshold is based on the number of low-income and low/moderate-income units introduced by a proposed action. Low-income and low/moderate-income affordability levels are intended to approximate the financial eligibility criteria established by the Administration for Children's Services, which generally corresponds to 200 percent of the Federal Poverty Level or 80 percent of area median income (AMI). In Manhattan, projects introducing 170 or more low-to moderate-income units would introduce 20 or more children eligible for child care services. The proposed actions would introduce approximately 1,200 residential units to the area, of which 30 percent or approximately 360 units would be affordable. As a result, a detailed assessment on potential impacts to child care facilities is warranted.

HEALTH CARE FACILITIES

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

According to the *CEQR Technical Manual,* if a proposed action would create a sizeable new neighborhood where none existed before, there may be increased demand on local public health

care facilities, which may warrant further analysis of the potential for indirect impacts on outpatient health care facilities. The proposed actions would not result in the creation of a sizeable new neighborhood where none existed before, as the proposed project is located within the well-established East Harlem neighborhood and would only result in approximately 840 new market rate units. Therefore, a detailed analysis of indirect effects on health care facilities is not warranted.

POLICE AND FIRE SERVICES

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

C. POTENTIAL INDIRECT EFFECTS ON CHILD CARE CENTERS

METHODOLOGY

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

As described in the *CEQR Technical Manual*, the City's affordable housing market is pegged to the AMI rather than FPL. Lower-income units must be affordable to households at or below 80 percent AMI. Since family incomes at or below 200 percent FPL fall under 80 percent AMI, for the purposes of CEQR analysis, the number of housing units expected to be subsidized and targeted for incomes of 80 percent AMI or below should be used as a proxy for eligibility for publicly-funded child care services.

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

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

Since there are no locational requirements for enrollment in child care centers, and some parents or guardians choose a child care center close to their employment rather than their residence, the service areas of these facilities can be quite large and are not subject to strict delineation in order to identify a study area. According to the current methodology for child care analyses in the *CEQR Technical Manual*, in general, the locations of publicly-funded group child care centers within 1½ miles of a development site should be shown, reflecting the fact that the centers closest to a given site are more likely to be subject to increased demand. Current enrollment data for the child care centers closest to the project area were gathered from ACS.

The child care enrollment in the future without the proposed actions was estimated by multiplying the number of new affordable housing units expected in the study area by the CEQR multipliers for estimating the number of children under age six eligible for publicly-funded child care services. For Manhattan, the multiplier estimates 0.115 public child-care-eligible children under age 6 per affordable housing unit.[1] Approximately 30 percent of the units to be provided by the proposed actions are expected to be affordable.

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

EXISTING CONDITIONS

There are 38 publicly-funded child care facilities within or adjacent to the 1½-mile study area (see **Figure 4-1**). The child care and Head Start facilities have a total capacity of 2,343 slots and have 286 available slots (87.8 percent utilization). **Table 4-2** shows the current capacity and enrollment for these facilities. Family-based child care facilities and informal care arrangements provide additional slots in the study area, but these slots are not included in the quantitative analysis.

[1] See Table 6-1b of the 2014 *CEQR Technical Manual*.

Publicly Funded Group Child Care and Head Start Centers Serving the Study Area

ECF EAST 96TH STREET

Figure 4-1

Table 4-2
Publicly Funded Child Care Facilities Serving the Study Area

Map ID	Contractor Name	Address	Enrollment	Capacity	Available Slots	Utilization Rate
1	Addie Mae Collins Comm. SVCS	2322 Third Avenue	113	128	15	88%
2	Addie Mae Collins Comm. SVCS	345 East 101st Street	27	30	3	90%
3	Bloomingdale Family Program, Inc.	987 Columbus Avenue	71	88	17	81%
4	Bloomingdale Family Program, Inc.	125 West 109th Street	26	29	3	90%
5	Boys & Girls Harbor, Inc.	1 East 104th Street	57	85	28	67%
6	Children's Aid Society, Inc	14-32 West 118th Street	12	15	3	80%
7	Children's Aid Society, Inc	433 East 100th Street	54	62	8	87%
8	Children's Aid Society, Inc	885 Columbus Avenue	51	69	18	74%
9	Children's Aid Society, Inc	1724-26 Madison Avenue	46	49	3	94%
10	Children's Aid Society, Inc	130 East 101st Street	28	28	0	100%
11	Citizens Care Day Care Center, Inc.	131 Saint Nicholas Avenue	30	40	10	75%
12	Community Life Center, Inc. Head Start	15 Mount Morris Park West	114	116	2	98%
13	Community Life Center, Inc. Head Start	221 East 122nd Street	137	148	11	93%
14	East Calvary Day Care, Inc.	1 West 112th Street	47	55	8	85%
15	East Harlem Block Nursery, Inc.	215 East 106th Street	42	50	8	84%
16	East Harlem Council for Human Services, Inc.	30 East 111th Street	65	77	12	84%
17	East Harlem Council for Human Services, Inc.	440 East 116th Street	142	151	9	94%
18	Goddard Riverside Community Center, Inc.	128 West 83rd Street	38	46	8	83%
19	Goddard Riverside Community Center, Inc.	114 West 91st Street	51	74	23	69%
20	Goddard Riverside Community Center, Inc.	70 West 95th Street	30	32	2	94%
21	Goddard Riverside Community Center, Inc.	26 West 84th Street	18	35	17	51%
22	Harlem Children's Zone	60 West 117th Street	57	57	0	100%
23	Lexington Childrens Center, Inc.	115 East 98th Street	37	40	3	93%
24	Northside Center for Child Development, Inc.	1301 Fifth Avenue	24	24	0	100%
25	Northside Center for Child Development, Inc.	302-306 East 111th Street	57	57	0	100%
26	Open Door Associates, Inc.	820 Columbus Avenue	76	85	9	89%
27	SCAN-NY	1794 First Avenue	32	32	0	100%
28	SCAN-NY	414 East 105th Street	46	60	14	77%
29	The Child Center of New York #3 - Escalera	169 West 87th Street	47	47	0	100%
30	Union Settlement Association, Inc.	114-34 East 122nd Street	50	59	9	85%
31	Union Settlement Association, Inc.	1565 Madison Avenue	76	82	6	93%
32	Union Settlement Association, Inc.	237 East 104th Street	69	81	12	85%
33	Union Settlement Association, Inc.	1893 Second Avenue	62	74	12	84%
34	Union Settlement Association, Inc.	304 East 102nd Street	44	44	0	100%
35	Union Settlement Association, Inc.	2081 2nd Avenue	53	53	0	100%
36	Union Settlement Association, Inc.	1839 Lexington Avenue	50	51	1	98%
37	Bloomingdale Family Program, Inc.	171 West 107th Street	32	40	8	80%
38	Dawning Village Inc.	2090 First Avenue	46	50	4	92%
Child Care Total			***2,057***	***2,343***	***286***	***87.8%***

Sources: ACS, June 2016. See **Figure 4-1**.

THE FUTURE WITHOUT THE PROPOSED ACTIONS

Planned or proposed development projects in the child care study area will introduce approximately 2,050 new affordable housing units.[2] Based on the CEQR generation rates for the projection of children eligible for publicly-funded child care multipliers, this amount of development would introduce approximately 236 new children under the age of six who would be eligible for publicly-funded child care programs.

Based on these assumptions, the number of available slots will decrease. As described above in the existing conditions, there are 286 available slots, and utilization is 87.8 percent. When the estimated 236 children under age six introduced by planned development projects are added to this total, child care facilities in the study area will operate under capacity (97.9 percent utilization) with a surplus of 50 slots.

THE FUTURE WITH THE PROPOSED ACTIONS

The proposed project is estimated to introduce approximately 1,200 housing units by 2023. To provide a conservative analysis, it is assumed that 30 percent of these units would meet the financial and social eligibility criteria for publicly-funded child care, resulting in approximately 360 affordable housing units. Based on *CEQR Technical Manual* child care multipliers, this development would result in approximately 41 children under the age of six who would be eligible for publicly-funded child care programs.

With the addition of these children, child care facilities in the study area would operate at 99.6 percent utilization with a surplus of 9 slots (see **Table 4-3**). Total enrollment in the study area would increase to 2,334 children, compared to a capacity of 2,243 slots, which represents an increase in the utilization rate of 1.8 percentage points over the future without the proposed actions.

Table 4-3
Future with the Proposed Actions:
Estimated Public Child Care Facility Enrollment, Capacity, and Utilization

	Enrollment	Capacity	Available Slots	Utilization Rate	Change in Utilization
Future Without the Proposed Actions	2,293	2,343	50	97.9%	N/A
Future With the Proposed Actions	2,334	2,343	9	99.6%	1.8%
Source: ACS June 2016.					

As noted above, the *CEQR Technical Manual* guidelines indicate that a demand for slots greater than the remaining capacity of child care facilities and an increase in demand of five percentage points of the study area capacity could result in a significant adverse impact. In the future with the proposed actions, the utilization of child care facilities in the study area would increase to 99.6 percent, and would operate under capacity with a surplus of 9 slots. Although the overall utilization would increase to 99.6 percent, the increase in utilization rate attributable to the proposed actions would be well under five percent (1.8 percentage points). Therefore, the proposed actions would not result in a significant adverse impact on child care facilities.

[2] In instances where the amount of affordable units in study area No Action developments was unknown, the estimate assumes that 20 percent of units in developments of 20 or more units would be occupied by low- or low/moderate-income households meeting the financial and social criteria for publicly-funded child care.

D. POTENTIAL EFFECTS ON PUBLIC ELEMENTARY AND INTERMEDIATE SCHOOLS

DIRECT EFFECTS

According to the *CEQR Technical Manual,* direct effects on community facilities should be assessed for projects that would permanently or temporarily physically alter or displace a community facility. The following assessment considers whether the proposed relocation and improvement of public high schools would have the potential to result in significant adverse impacts to public schools.

The existing school facilities on the site date to the early 1940s and are outmoded. COOP Tech has a cramped learning environment and lacks available space for growth and/or appropriate facilities for high school achievement. Additional shops for popular trades (e.g. welding, carpentry, automotive, culinary) cannot be accommodated in the current space; electrical and ventilation systems are inadequate to serve the needs of the technical training environment; and there is a lack of centralized, efficient storage facilities for trade equipment and supplies. In the future without the proposed actions, the project area will remain as in existing conditions. The existing school facilities will continue to be outmoded.

The Heritage School and Park East High School, current located at 1680 Lexington Avenue and 230 East 105th Street, respectively, also have cramped learning environments and lack available space for growth and/or appropriate facilities for high school achievement. The Heritage School lacks appropriate cafeteria, gym, and private counseling space, as well as storage facilities, and there is limited space for the growth of the Julia de Burgos Cultural Center. At the Park East High School, the gym serves as both gym and auditorium; the cafeteria doubles as an art room; and overall, the facility is not fully ADA-accessible. There is no access to open space or playgrounds in the current high school locations. See Figures 1-8 and 1-9 in Chapter 1, "Project Description," for photographs illustrating current conditions at the three facilities.

The proposed actions would construct two buildings on the project site, one fronting on Second Avenue and one fronting on First Avenue. The building fronting on Second Avenue would include residential and commercial retail uses, as well as approximately 135,000 gsf of public school use. This public school would serve as the replacement facility for the existing School of Cooperative Technical Education. The building fronting on First Avenue, approximately 135,000 gsf in size, would house two additional public high schools that would relocate from nearby locations within Community Board 11: The Heritage School and Park East High School.

The proposed actions would result in the replacement of the existing COOP Tech with a new state-of-the-art facility, and the relocation of two neighborhood public high schools to the site in new, larger facilities. These improvements will help achieve a better learning environment by alleviating over-crowded conditions and providing modern educational facilities adjacent to a new playground for enhanced physical education opportunities. The existing school on the project site would not be demolished until the replacement facility is fully constructed and operational. Because the proposed actions would be providing an upgraded facility and would not close the existing school until the new facility would be open, the proposed actions are not anticipated to result in a direct impact to public schools.

Once Heritage School and Park East High School are relocated to their new facilities on the project site, the space vacated by these high schools would likely be re-occupied with some other community facility use. Because the Heritage School is currently located within the Julia de

Burgos Cultural Center, that space would revert back for programming use by the cultural center. At this time, DOE has not proposed any programming for the vacated space at the Park East High School facility; future re-occupation of that space will be determined at a later time depending on DOE needs and discussions with the community, which could include a school annex, a pre-K facility, or some other educational use.

INDIRECT EFFECTS

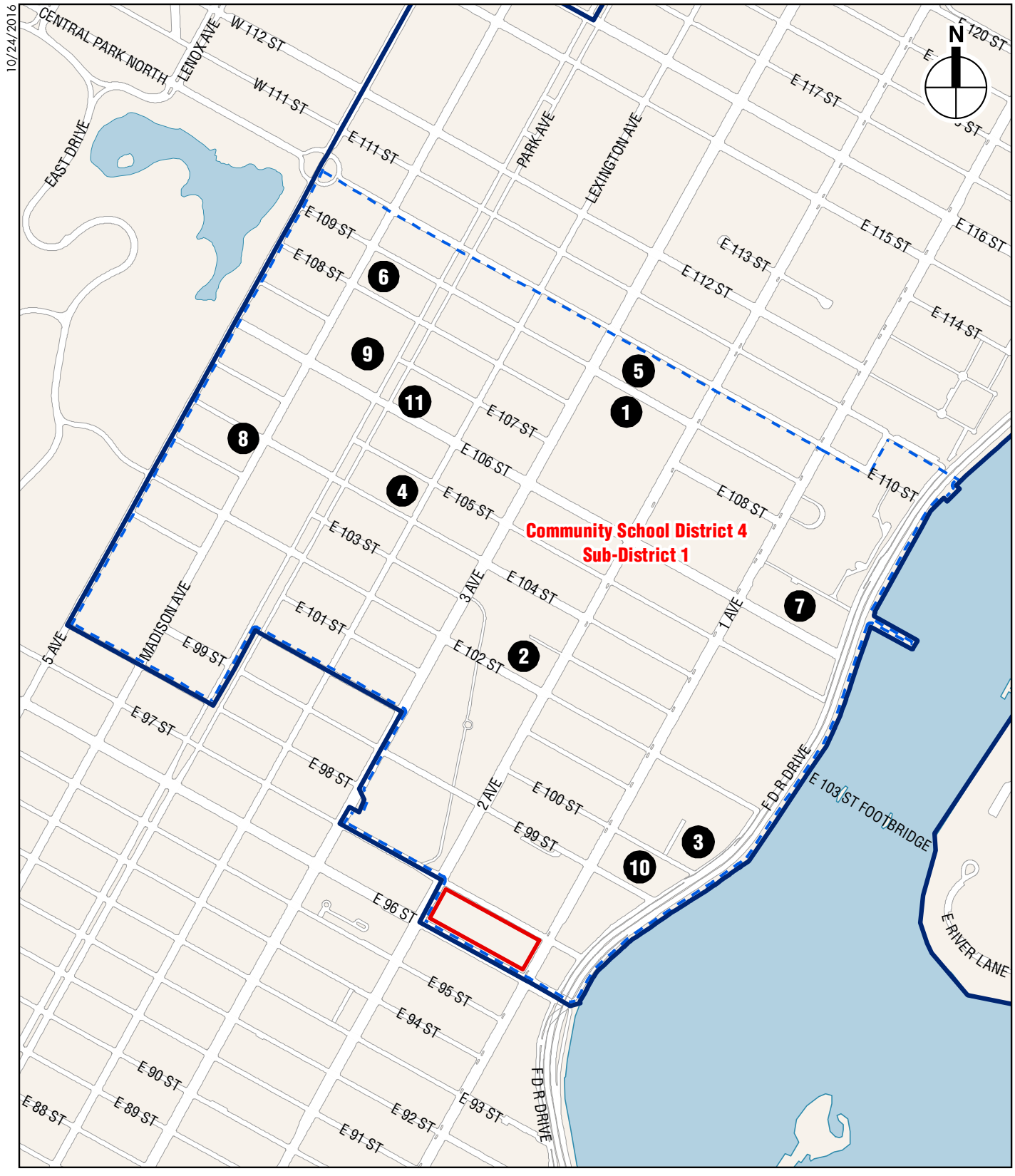
METHODOLOGY

This section presents an assessment of the potential effects of the proposed actions on public elementary and intermediate schools serving the project site. Following the methodologies in the *CEQR Technical Manual*, the study area for the analysis of elementary and intermediate schools is the school district's "sub-district" (also known as "regions" or "school planning zones") in which the project is located. The project site is located in Sub-district 1 of Community School District (CSD) 4 (see **Figure 4-2**).

In accordance with the *CEQR Technical Manual*, this schools analysis uses the most recent DOE data on school capacity, enrollment, and utilization rates for elementary and intermediate schools in the sub-district study area and New York City School Construction Authority (SCA) projections of future enrollment. Specifically, the existing conditions analysis uses data provided in the DOE's *Utilization Profiles: Enrollment/Capacity/Utilization, 2015-2016* edition. Future conditions are then predicted based on SCA enrollment projections and data obtained from SCA's Capital Planning Division on the number of new housing units and students expected at the sub-district level. The future utilization rate for school facilities is calculated by adding the estimated enrollment from proposed residential projects in the schools' study area to DOE's projected enrollment, and then comparing that number with projected capacity. DOE does not include charter school enrollment in its enrollment projections. DOE's enrollment projections for years 2015 through 2024, the most recent data currently available, were obtained from DCP. These enrollment projections are based on broad demographic trends and do not explicitly account for discrete new residential projects planned for the study area. Therefore, the estimated student population from the other new projects expected to be completed within the study area, as calculated by SCA's Capital Planning Division, have been obtained from DCP, and are added to the projected enrollment to ensure a more conservative prediction of future enrollment and utilization. In addition, new capacity from any new school projects identified in the DOE Five-Year Capital Plan are included if construction has begun or if deemed appropriate to include in the analysis by the lead agency and the SCA.

The effect of the new students introduced by the proposed project on the capacity of schools within the study areas is then evaluated. According to the *CEQR Technical Manual*, a significant adverse impact may occur if a proposed project would result in both of the following conditions:

1. A 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 percentage points or more in the collective utilization rate between the No Action and With Action conditions.



Project Site

Community School District (CSD) Boundary

CSD Sub-District Boundary

1 *Public School*

0 1,000 FEET

Public Elementary and Intermediate Schools Serving the Study Area

Figure 4-2

ECF EAST 96TH STREET

EXISTING CONDITIONS

As shown in **Table 4-4**, there are eleven elementary schools and nine middle schools in Sub-district 1/CSD 4. Elementary schools in the sub-district are currently operating at 99.3 percent utilization, with a surplus of 25 seats. Intermediate schools are currently operating at 80.9 percent utilization, with a surplus of 384 seats.

Table 4-4
Public Elementary and Intermediate Schools Serving the Study Area, Enrollment and Capacity Data, 2015-2016 School Year

Map No.[1]	Name	Address	Enrollment	Capacity	Available Seats	Utilization
Elementary Schools						
Sub-district 1 of CSD 4						
1	I.S. 12 – Tag Young Scholars (PS component)	240 East 109 Street	391	374	-17	104.5%
2	P.S. 38 – Roberto Clemente	232 East 103 Street	252	345	93	73.0%
3	P.S. 50 – Vito Marcantonio (PS Component)*	433 East 100 Street	196	285	89	68.8%
4	P.S. 72 – The Lexington Academy (PS Component)	131 East 104 Street	468	505	37	92.7%
5	P.S. 83 – Luis Munoz Rivera	219 East 109 Street	439	296	-143	148.3%
5	P.S. 182 – The Biligual Bicultural School	219 East 109 Street	352	319	-33	110.3%
6	P.S. 108 – Assemblyman Angelo Del Toro Education Complex (PS Component)	1615 Madison Avenue	306	429	123	71.3%
7	P.S. 146 – Ann M. Short	421 East 106 Street	379	458	79	82.8%
8	P.S. 171 – Patrick Henry (PS Component)	19 East 103 Street	444	420	-24	105.7%
8	P.S. 964 – Central Park East II	19 East 103 Street	312	170	-142	183.5%
9	P.S. 497 – Central Park East	1573 Madison Avenue	201	164	-37	122.6%
Sub-district 1 of CSD 4 Total			**3,740**	**3,765**	**25**	**99.3%**
Intermediate Schools						
Sub-district 1 of CSD 4						
1	I.S. 12 – Tag Young Scholars (IS Component)	240 East 109 Street	170	163	-7	104.3%
1	I.S. 372 – Esperanza Preparatory Academy (IS Component)	240 East 109 Street	251	397	146	63.2%
3	P.S. 50 – Vito Marcantonio (IS Component)	433 East 100 Street	92	134	42	68.7%
4	P.S. 72 – The Lexington Academy (IS component)	131 East 104 Street	170	183	13	92.9%
6	P.S. 108 –Assemblyman Angelo Del toro Educational Complex (IS Component)	1615 Madison Avenue	288	404	116	71.3%
8	P.S. 171 – Patrick Henry (IS Component)	19 East 103 Street	290	274	-16	105.8%
9	J.H.S. 13 – Jackie Robinson	1573 Madison Avenue	34	19	-15	178.9%
10	I.S. 224 – Manhattan East School for Arts and Academics	410 East 100 Street	166	270	104	61.5%
11	Young Women's Leadership HS (IS Component)	105 East 106th Street	161	162	1	99.4%
Sub-district 1 of CSD 4 Total			**1,622**	**2,006**	**384**	**80.9**

Notes: [1]. See **Figure 4-2**.
*Elementary school zoned for the project site.
Sources: DOE *Utilization Profiles: Enrollment/Capacity/Utilization, 2015-2016*.

P.S. 50 Vito Marcantonio is the elementary school zoned for the project site. Sub-district 1/CSD 4 does not have a zoned intermediate school, but instead has a program of middle school choice.

FUTURE WITHOUT THE PROPOSED ACTIONS

In the future without the proposed actions (the No Action condition), enrollment at elementary and intermediate schools in the study area is expected to decrease. As described above, this analysis accounts for enrollment predicted in the DOE enrollment projections. DOE's enrollment projections are based on broad demographic trends and do not explicitly account for discrete new residential projects planned for the study area. Therefore, the estimated student populations

from the other new projects expected to be completed within the study area as calculated by SCA's Capital Planning Division, have been obtained from DCP, and are added to the projected enrollment to ensure a more conservative prediction of future enrollment and utilization.

The latest available DOE enrollment projections for Sub-district 1/CSD 4 project elementary and intermediate enrollment through 2024. Since the build year is 2023, this analysis uses the data associated with 2023. These enrollment projections are used to form the baseline projected enrollment in the No Action condition, shown in **Table 4-5** in the column titled "Projected Enrollment in 2023." The students introduced by other specific No Action projects are added to this baseline projected enrollment.

Table 4-5
Estimated Public Elementary and Intermediate School Enrollment, Capacity, and Utilization: Future Without the Proposed Actions

Study Area	Projected Enrollment in 2023[1]	Students Introduced by Residential Projects in the Future Without the Proposed Actions[2]	Total No Action Condition Enrollment	Capacity	Available Seats	Utilization
Elementary Schools						
Sub-district 1 of CSD 4	3,661	20	3,681	3,765	84	97.8%
Intermediate Schools						
Sub-district 1 of CSD 4	1,372	12	1,384	2,006	622	69.0%

Notes: [1.] Elementary and intermediate school enrollment in the sub-district study area in 2023 was calculated by applying SCA supplied percentages for the sub-district to the relevant district enrollment projections. For Sub-district 1/CSD 4, the district's 2023 elementary enrollment projection of 6,477 was multiplied by 56.53 percent. The sub-district's intermediate enrollment projection of 2,614 was multiplied by 52.48 percent.
[2.] SCA *Projected New Housing Starts as Used in 2015-2024 Enrollment Projection 2015-2019 Capital Plan*.

Sources: DOE Enrollment Projections 2015-2024*; DOE, Utilization Profiles: Enrollment/Capacity/Utilization, 2015-2016*, DOE *2015-2019 Proposed Five-Year Capital Plan, Amended November 2016;* School Construction Authority.

To estimate enrollment from specific No Action projects, the SCA No Action student numbers for Sub-district 1/CSD 4 (derived from the SCA's "Projected New Housing Starts") were used. As shown in the column titled "Students Introduced by Residential Projects in the Future Without the Proposed Actions" in **Table 4-5**, approximately 20 elementary and 12 intermediate school students are expected to be added to the sub-district by 2023.[3]

DOE's *2015-2019 Proposed Five-Year Capital Plan—Amended November 2016* does not identify or fund the creation of any additional seats in CSD 4.

As shown in **Table 4-5**, in the future without the proposed actions elementary schools in the sub-district study area would operate under capacity (97.8 percent utilization) with a surplus of 84 seats. Intermediate schools would operate under capacity with a surplus of 622 seats (69.0 percent utilization).

[3] SCA Projected New Housing Starts as Used in 2015-2024 Enrollment Projection 2015-2024 Capital Plan, sub-district level data obtained from DCP.

FUTURE WITH THE PROPOSED ACTIONS

The proposed actions would introduce approximately 1,200 residential units to the project site. Based on public school student generation rates in the *CEQR Technical Manual*, these units would introduce approximately 144 elementary students and 48 intermediate school students to Sub-district 1/CSD 4. With those students, the total elementary school enrollment of Sub-district 1/CSD 4 would increase to 3,825 with a deficit of 60 seats (see **Table 4-6**). The total intermediate school enrollment of Sub-district 1/CSD 4 would increase to 1,432 with a surplus of 574 seats. Elementary schools in sub-district 1/CSD 4 would increase to 101.6 percent utilization, and intermediate schools in sub-district 1/CSD 4 would increase to 71.4 percent utilization.

Table 4-6
Estimated Public Elementary and Intermediate School Enrollment, Capacity, and Utilization:
Future With the Proposed Actions

Study Area	No Action Enrollment	Students Introduced by the Proposed Actions	Total With Action Enrollment	Capacity	Available Seats	Utilization	Change in Utilization Compared with No Action
Elementary Schools							
Sub-district 1 of CSD 4	3,681	144	3,825	3,765	-60	101.6%	**3.8%**
Intermediate Schools							
Sub-district 1 of CSD 4	1,384	48	1,432	2,006	574	71.4%	**2.4%**

Sources: DOE Enrollment Projections 2015-2024*; DOE, Utilization Profiles: Enrollment/Capacity/Utilization, 2015-2016*, DOE *2015-2019 Proposed Five-Year Capital Plan, Amended November 2016;* School Construction Authority.

As noted above, a significant adverse impact may occur if a proposed project would result in both of the following conditions: (1) a utilization rate of the elementary or intermediate schools in the sub-district study area that is equal to or greater than 100 percent in the future with the proposed project; and (2) an increase of five percentage points or more in the collective utilization rate between the future without and the future with the proposed project conditions.

Although elementary school utilization would be above 100 percent, the increase in utilization in elementary schools attributable to the proposed actions would be approximately 3.8 percentage points. Intermediate schools in the sub-district would continue to operate with a surplus of seats in the future with the proposed actions and the increase in utilization in intermediate schools attributable to the proposed actions would be approximately 2.4 percentage points. The increases to elementary and intermediate schools would fall below the 5 percent *CEQR Technical Manual* threshold for a significant adverse impact. Therefore, the proposed actions would not result in a significant adverse impact on elementary or intermediate schools.

E. POTENTIAL INDIRECT EFFECTS ON LIBRARIES

METHODOLOGY

According to the *CEQR Technical Manual*, a libraries analysis should focus on branch libraries and not on the major research or specialty libraries that may fall within the study area. Service areas for neighborhood branch libraries are based on the distance that residents would travel to use library services, typically not more than ¾ mile (the library's "catchment area"). This libraries analysis compares the population generated by the proposed actions with the catchment area population of libraries available within an approximately ¾-mile area around the project site.

To determine the existing population of each library's catchment area, 2010-2014 American Community Survey 5-Year Estimates data were assembled for all census tracts that fall primarily within ¾ mile of each library. The catchment area population in the future without the proposed actions was estimated by multiplying the number of new residential units in projects located within the ¾-mile catchment area that are expected to be complete by 2023 by an average household size of 2.49 persons (the average household size for Manhattan Community District 11 according to 2010-2014 American Community Survey 5-Year Estimates). The catchment area population in the future with the proposed actions was estimated by adding the anticipated population that would result from the proposed actions.

New population in the future without the proposed actions and future with the proposed actions was added to the existing catchment area population. According to the *CEQR Technical Manual,* if a project would increase the libraries' catchment area population by 5 percent or more, and this increase would impair the delivery of library services in the study area, a significant impact could occur.

EXISTING CONDITIONS

The proposed project is served by the New York Public Library (NYPL) system, which includes 85 neighborhood branches and four research libraries located in Manhattan, the Bronx, and Staten Island (Queens and Brooklyn have separate library systems).

There are two existing NYPL branches that serve the project site. These branches are located within ¾ miles of the project site, the distance generally used to determine the catchment area of library services and the distance residents can be expected to travel to visit a library branch (see **Figure 4-3**). The 96th Street Library is located to the west at East 96th Street between Park and Lexington Avenues. The Aguilar Library is located to the north at East 110th Street between Lexington and Third Avenues. **Table 4-7** provides the number of holdings at each branch and the total catchment area population served by each library. The branch libraries offer a wide selection of reading materials for people of all ages as well as computers with free internet access. The public libraries serving the study area is described in more detail below.

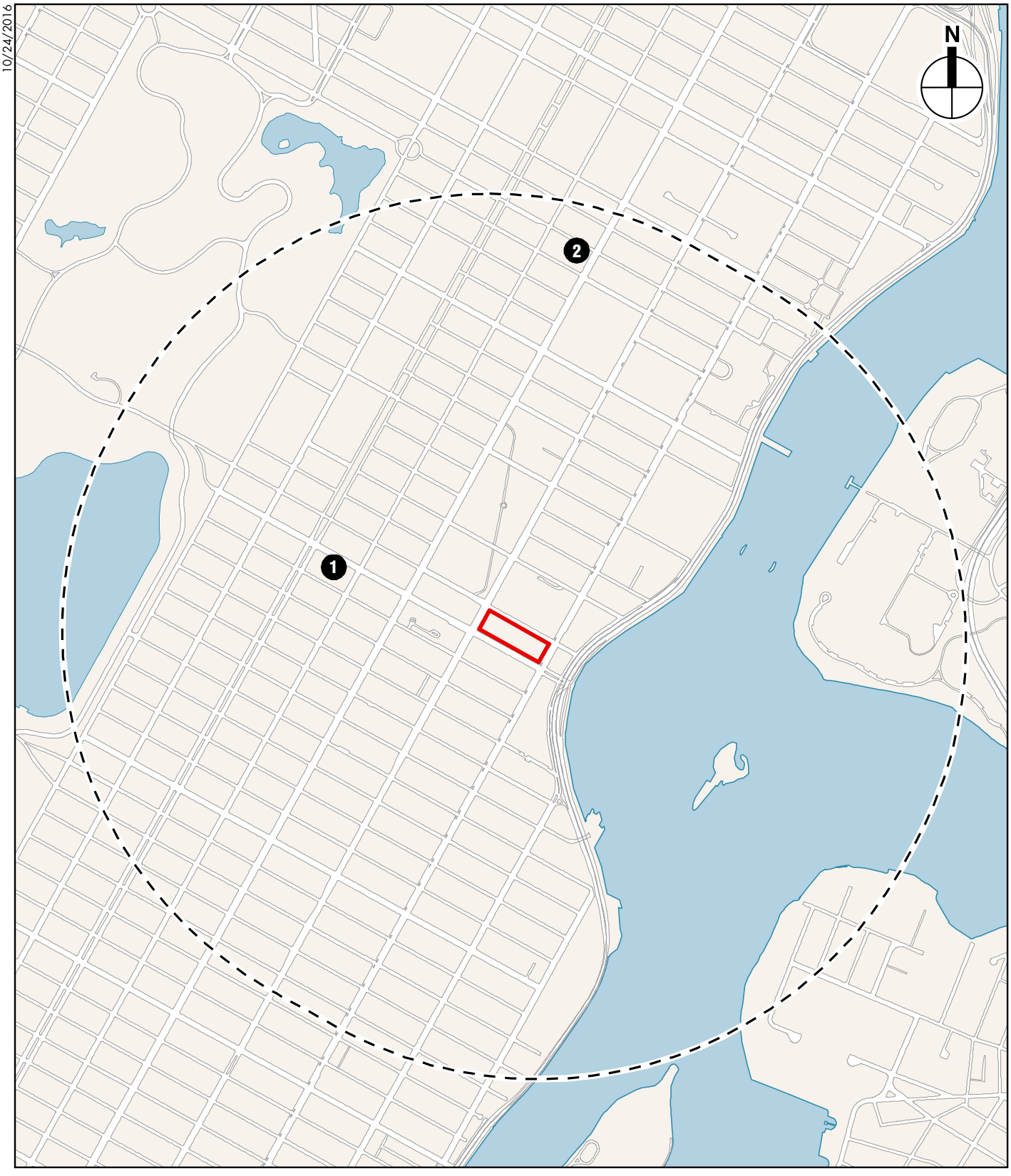
Table 4-7
Public Libraries Serving the Proposed Project

Map Ref. No.[1]	Library Name	Address	Holdings	Catchment Area Population	Holdings per Resident
1	96th Street Library	112 East 96 St	54,659	130,556	0.42
2	Aguilar Library	174 East 110 St	75,357	126,846	0.59

Notes: [1] See **Figure 4-3**.
Sources: NYPL (2014); 2010-2014 American Community Survey 5-Year Estimates, NYC Department of City Planning Selected Facilities and Program Sites.

The 96th Street branch opened in 1905 and was also built with funds donated by Andrew Carnegie. The library was expanded and modernized during a renovation in 1991. The library features an adult reading room, children's room, reference center, conference room, and auditorium. The branch serves a catchment area population of 130,556 with approximately 54,659 holdings, and therefore has a ratio of 0.42 holdings per resident. The 96th Street Library is currently undergoing renovations that are anticipated to be complete by the fall of 2016.

The Aguilar Library has served the neighborhood at its current location since 1903 and was built with funds donated by Andrew Carnegie. The library was renovated under the Library's Adopt-



Public Libraries Serving Study Area

Figure 4-3

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a-Branch program in 1996. The library has adult and young adult collections, a children's room, and a multiuse room. The branch also has an Adult Learning Center. The branch library serves a catchment area population of 126,846 with approximately 75,357 holdings, and therefore has a ratio of 0.59 holdings per resident.

THE FUTURE WITHOUT THE PROPOSED ACTIONS

In the future without the proposed actions, the existing libraries will continue to serve the study area. No changes to the holdings of these facilities are expected for the purpose of this analysis. The catchment area population of each library will increase as a result of new projects completed in the study area by 2023.

As shown in **Table 4-8**, approximately 5,102 new residents will be added to the 96th Street Library catchment area, increasing its population to 135,658. In the future without the proposed actions, the holdings-per-resident ratio will decrease to 0.40 for the 96th Street Library catchment area.

Table 4-8
Future Without the Proposed Actions: Catchment Area Population

Library Name	Existing Catchment Area Population	New Residents	New Catchment Area Population	New Holdings per Resident
96th Street Library	130,556	5,102	135,658	0.40
Aguilar Library	126,846	9,875	136,721	0.55

Sources: NYPL; 2010-2014 American Community Survey 5-Year Estimates, AKRF, Inc.

Approximately 9,875 new residents will be added to the Aguilar Library catchment area, increasing its population to 136,721. In the future without the proposed actions, the holdings-per-resident ratio will decrease to 0.55 for the Aguilar Library catchment area.

FUTURE WITH THE PROPOSED ACTIONS

According to the *CEQR Technical Manual*, if a project increases the study area population by 5 percent or more as compared to the future without the proposed actions, this increase may impair the delivery of library services in the study area, and a significant adverse impact could occur.

As noted above, the proposed project would result in approximately 1,200 residential units or approximately 2,988 new residents, based on the average household size of 2.49.[4] **Table 4-9** provides the population increase and the change in the holding-per-resident ratio for the catchment areas. With this additional population, the 96th Street Library would serve 138,646 residents (approximately a 2.20 percent increase). The holdings per resident ratio for the 96th Street Library catchment area would decrease to approximately 0.39 from 0.40.

[4] It should be noted that this average household size is larger than the average at existing, comparable residential buildings by the same developer.

Table 4-9
Future with the Proposed Actions: Catchment Area Population

Library Name	Catchment Area Population – Future Without the Proposed Project	Population Increase due to the Proposed Project	Catchment Area Population with the Proposed Project	Population Increase	Holdings per Resident
96th Street Library	135,658	2,988	138,646	2.20%	0.39
Aguilar Library	136,721	2,988	139,709	2.19%	0.54

Sources: NYPL; 2010-2014 American Community Survey 5-Year Estimates, AKRF, Inc.

With the additional 2,988 residents, the Aguilar Library would serve 139,709 residents (approximately a 2.19 percent increase). The holdings per resident ratio for the Aguilar Library catchment area would decrease from 0.55 in the future without the proposed project to 0.54 with the proposed project.

For each library, the catchment area population increases attributable to the proposed project are below the five percent threshold cited in the *CEQR Technical Manual*. Therefore, the proposed project would not result in a noticeable change in the delivery of library services. In addition, residents of the study area would have access to the entire NYPL system through the inter-library loan system and could have volumes delivered directly to their nearest library branch. Residents would also have access to libraries near their place of work. Therefore, the population introduced by the proposed project would not impair the delivery of library services in the study area, and the proposed project would not result in any significant adverse impacts on public libraries. ✷

Chapter 5: Open Space

A. INTRODUCTION

This chapter assesses the potential impacts of the proposed actions on open space resources. As described in Chapter 1, "Project Description," the applicants are seeking a rezoning and other actions to allow the construction of a mixed-use building, a replacement facility for an existing school, a new facility for the relocation of two existing neighborhood public high schools, and relocation of an existing jointly-operated playground (JOP) on Block 1668, Lot 1, in the East Harlem neighborhood of Manhattan (the proposed project).

Open space is defined by the 2014 *City Environmental Quality Review (CEQR) Technical Manual* as publicly accessible, publicly or privately owned land that operates or is available for leisure, play, or sport, or serves to protect or enhance the natural environment. According to the *CEQR Technical Manual*, an open space assessment should be conducted if a project would have a direct effect on open space, such as eliminating or altering a public open space, or an indirect effect, such as when new population overburdens available open space.

The proposed actions would directly affect the existing public open space on the project site, the Marx Brothers Playground (JOP). The proposed project will require approval of a home rule request by the New York City Council and legislation by the New York State Legislature to authorize the alienation and disposition to ECF of the existing JOP, and its replacement with an equivalent size and proportion of JOP on the project site. The project also involves a transfer of the City-owned property (the site) to ECF, which would lease a portion of the property to the designated developer, AvalonBay. ECF would convey the schools to the City (acting through DOE) and re-convey control of the jointly-operated playground to DOE and DPR. In addition, the proposed actions could have direct effects on open space related to air quality, noise, and shadows that may affect the use of those spaces.

The proposed project also would introduce a substantial new population of approximately 2,988 residents, as well as student and worker populations from COOP Tech, Park East High School, and the Heritage School. Increases in populations have the potential to diminish the capacity of open spaces in the area to serve the future population; however, the student and worker populations from these three schools would be relocating from their present locations which are already within the open space study area, and therefore would not result in an increase to the study area's non-residential population Furthermore, the students are anticipated to only use the playground on the project site during the school day, and would depart from the neighborhood after school hours.

Therefore, an assessment of the proposed actions' potential to have direct and indirect effects on open space was performed.

PRINCIPAL CONCLUSIONS

The proposed project would not have any direct, significant adverse impacts on existing open space in terms of air quality, noise, odors, or shadows. As described in detail in Chapter 6, "Shadows," new shadows from the proposed buildings would fall on several sunlight-sensitive open space resources at certain times of day in certain seasons, but in no case would the new shadows significantly impact the use or usability of the resource or any vegetation within the resource.

The proposed project would limit public access to the Marx Brothers Playground throughout the duration of construction; the temporary displacement of the playground is discussed in more detail in Chapter 16, "Construction." Upon completion of the project, the playground would be reconstructed in its new location and its overall condition would be enhanced in comparison to the No Action condition.

The analysis of indirect effects provided below concludes that the proposed project would not result in a significant adverse open space impact as a result of reduced open space ratios. While the open space ratios for the study area are, and would continue to be, below the City's open space goals and the median community district ratios, the proposed project would not result in a decrease of more than five percent in the total, active, and passive open space ratios. In addition, the proposed project would enhance open spaces options within the study area by reconstructing the Marx Brothers Playground. The private rooftop open spaces that would be created on the proposed residential tower would be for use by building residents and would help to serve the open space needs of the residents to be generated by the proposed project. There would also rooftop access on COOP Tech, specifically for students enrolled in the school's solar panel program.

B. METHODOLOGY

The methodology of the *CEQR Technical Manual* includes a consideration of both direct and indirect effects of a proposed action. A direct effects analysis should be performed if a proposed action would directly affect open space conditions by causing the loss of public open space, changing the use of an open space so that it no longer serves the same user population, limiting public access to an open space, or increasing noise or air pollutant emissions, odor, or shadows that would temporarily or permanently affect the usefulness of a public open space. A proposed action can also directly affect an open space by enhancing its design or increasing its accessibility to the public. In addition, according to the *CEQR Technical Manual*, an indirect effects analysis should be performed if a project would add sufficient population, either residents or non-residents, to noticeably diminish the capacity of open space in an area to serve the future population. The project site is in an area identified as neither well-served nor under-served by existing open space resources, as defined by the *CEQR Technical Manual*. As described further below, analyses of the potential direct and indirect effects of the proposed actions were performed. The increment between the No Action and With Action conditions forms the basis for this analysis.

DIRECT EFFECTS ANALYSIS

Following *CEQR Technical Manual* guidelines, this chapter uses information from Chapter 6, "Shadows," Chapter 15, "Air Quality," Chapter 14, "Noise," and Chapter 17, "Construction," to

determine whether the proposed project would directly affect any publicly accessible open space resources.

INDIRECT EFFECTS ANALYSIS

The *CEQR Technical Manual* suggests that for areas of the city that have been identified as neither underserved or well-served by open space, an indirect effects analysis is necessary when a project would introduce 200 or more residents or 500 or more workers to an area. In comparison to the No Action condition, the proposed actions are anticipated to introduce approximately 2,988 new residents and approximately 100 workers (i.e. teachers and staff) to the project site. As described above, the student and school worker populations are not included in the quantitative analysis. The students and school workers would be relocating from their present locations, which are already within the study area, and therefore, would not result in an increase to the study area's non-residential population. Their open space demands could be met with through the use of renovated JOP, whose use would be limited to school use when school is in session. The proposed actions would be above the 200-resident threshold for analysis, but would not exceed the 500-worker threshold for analysis. Therefore, following *CEQR Technical Manual* guidance, a detailed indirect effects open space analysis was conducted, as described below.

STUDY AREA

The *CEQR Technical Manual* recommends establishing a study area as the first step in a detailed open space assessment. The study area is based on the distance that users are likely to walk to an open space. According to the C*EQR Technical Manual*, residents are assumed to walk approximately 20 minutes, or ½-mile, to an open space. Because the proposed actions would introduce a new residential population to the area, the adequacy of open space resources was assessed for a ½-mile (residential) study area. This study area was adjusted to include all census tracts with at least 50 percent of their area within the ½-mile boundary. This adjustment to the study area allows analysis of both the open spaces in the area as well as population data.

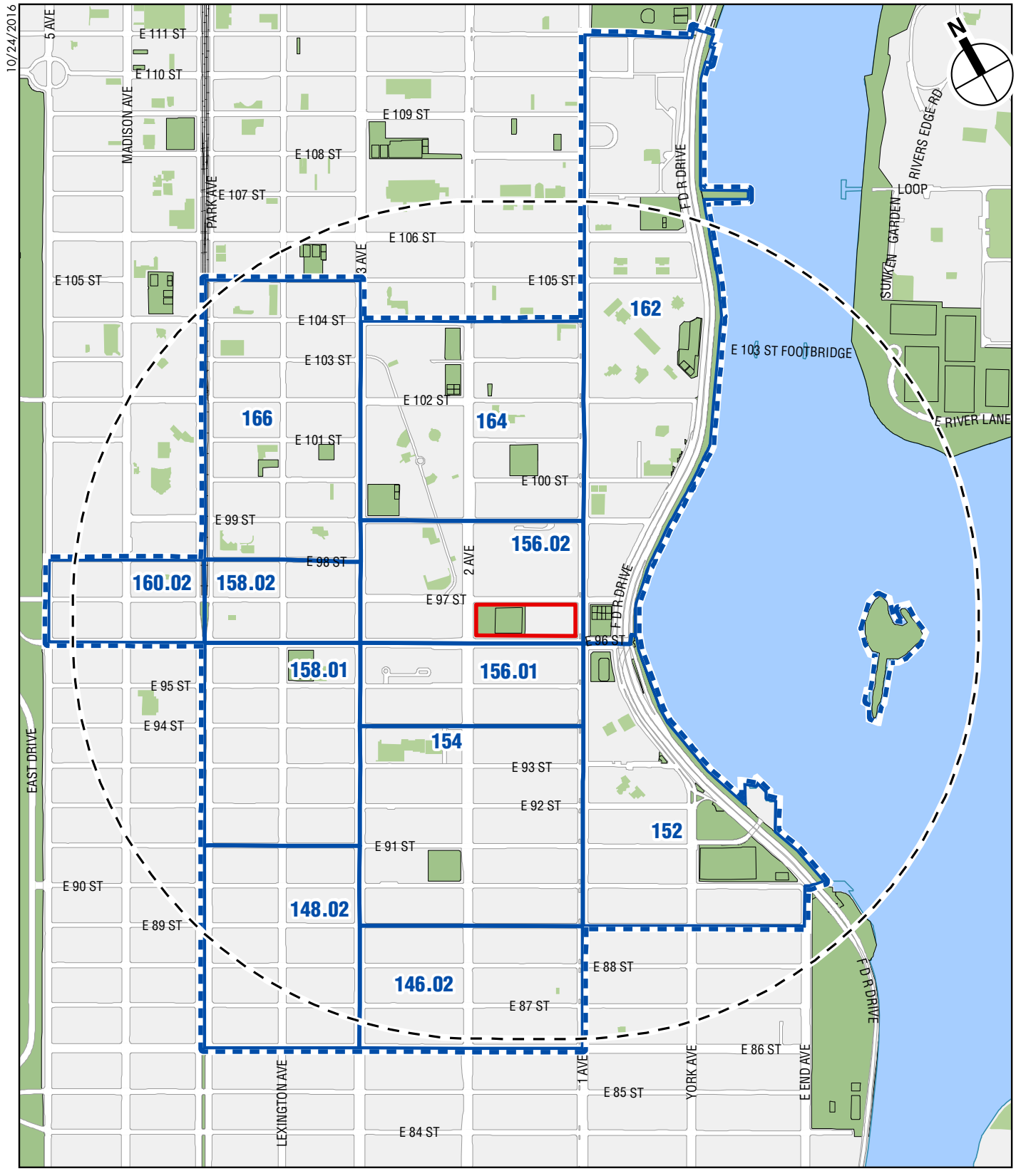
The ½-mile open space study area for this assessment contains 12 census tracts according to the 2010 U.S. Census: tracts 146.02, 148.02, 152, 154, 156.01, 156.02, 158.01, 158.02, 160.02, 162, 164, 166 in Manhattan, covering an area roughly bounded by 105th Street to the north, the FDR Drive to the east, 86th Street to the south, and Park Avenue to the west (see **Figure 5-1**). These Census tracts are mapped over portions of Manhattan Community District 11, and according to the *CEQR Technical Manual*, the project site is located in an area that is neither underserved nor well-served by open space.

As noted above, the proposed project would exceed the 200-resident CEQR threshold requiring a residential open space analysis of indirect effects, but not the 500-worker threshold requiring a non-residential open space analysis of indirect effects.

STUDY AREA POPULATION

Existing Conditions

The existing residential population in the study area was calculated using 2010-2014 American Community Survey (ACS) data.



Project Site

Study Area (Half-mile boundary)

Residential Study Area Boundary

Census Tracts

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Open Space Study Area

Figure 5-1

The Future without the Proposed Actions

As described in detail in Chapter 2, "Land Use, Zoning, and Public Policy," there are several residential developments anticipated to be completed in the residential study area by 2023 in the future without the proposed actions (the No Action condition). The residential population anticipated to be introduced to the study area by these projects was estimated by applying an average household size of 2.49 persons per household (the average household size of Community District 11, as of the 2010-2014 ACS) to the number of dwelling units included in the projects.

The Future with the Proposed Actions

The population introduced by the proposed actions was estimated by applying an average household size of 2.49 persons per household (the average household size of Community District 11, as of the 2010-2014 ACS) to the number of dwelling units included in the proposed project, including all market-rate and affordable units.

INVENTORY OF OPEN SPACE RESOURCES

The *CEQR Technical Manual* defines public open space as open space that is publicly or privately owned and is accessible to the public on a regular basis, either constantly or for designated daily periods of time. Open spaces that are only available for limited users or are not available to the public on a regular or constant basis are not considered public open space, but are considered in a qualitative assessment of open space impacts.

All publicly accessible open space resources in the study area were inventoried through field visits conducted in July 2016. Additional data were obtained from the New York City Department of Parks and Recreation (DPR), and published environmental impact statements for projects in or near the study area.

Information was gathered about the types of facilities, levels of utilization, accessibility, and condition of each of the open space resources. According to CEQR guidelines, open spaces were also described in terms of the amount of active and passive facilities present. Active open space is used for exercise, sports, or active children's play. Examples of active open space include playgrounds, athletic fields or courts, pools, and greenways. Passive open spaces allow for activities such as strolling, reading, sunbathing, and people watching. Examples of passive open space include plazas, walking paths, gardens, and certain lawns with restricted uses. Open space may be characterized as passive, active, or a mixture of active and passive. Esplanades are an example of open space that may be used for active uses such as running and biking or passive uses such as dog walking. In addition to the open spaces located in the study area, open spaces located just outside of the study area were considered in the qualitative analysis as they are available for use by residents living within the study area.

The replacement open space that would be created in the With Action condition was accounted for in the analysis. Additional open space improvements that would be facilitated by the proposed actions are considered qualitatively.

ADEQUACY OF OPEN SPACE RESOURCES

Comparison to City Guidelines

The adequacy of open space in the study area was quantitatively and qualitatively assessed for existing conditions, the No Action condition, and the With Action condition. According to

CEQR guidelines, the quantitative assessment is based on ratios of usable open space acreage to the study area populations (the "open space ratios"). These ratios were then compared with the City's open space guidelines for residential populations. For residential populations, there is a citywide median open space ratio of 1.5 acres per 1,000 residents, which is used as a guideline. In addition to this median ratio, the city has set an open space ratio planning goal of 2.5 acres per 1,000 residents, which includes 0.50 acres of passive space and 2.0 acres of active space per 1,000 residents. It should be noted that the City's open space planning goals are often not feasible for many areas of the city, and they are not considered an impact threshold. Rather, they are used as benchmarks to represent how well an area is served by its open space resources.

Impact Assessment

The determination of significant adverse impacts is based on how a project would change the open space ratios in the study area, as well as qualitative factors not reflected in the quantitative assessment. According to the *CEQR Technical Manual*, if a proposed project would reduce an open space ratio and consequently result in overburdening existing facilities, or if it would substantially exacerbate an existing deficiency in open space, it may result in a significant impact on open space resources. In general, if a study area's open space ratios fall below City guidelines, and a proposed project would result in a decrease in the open space ratio of more than five percent, it could be considered a substantial change. However, in areas which have been determined to be extremely lacking in open space, a reduction as small as one percent may be considered significant.

In addition to the quantitative factors cited above, the *CEQR Technical Manual* recommends consideration of qualitative factors in assessing the potential for open space impacts. These include the availability of nearby destination resources, the beneficial effects of new open space and recreational resources and improvements provided by the project, and the comparison of projected open space ratios with established City guidelines.

C. EXISTING CONDITIONS

STUDY AREA POPULATION

Based on the 2010-2014 ACS data, the 12 Census tracts that make up the study area have a total residential population of 81,782 (see **Table 5-1**).

Table 5-1
Study Area Residentail Population

Census Tract	2010-2014 ACS Pop.
146.02	7,728
148.02	7,125
152	7,162
154	14969
156.01	5,719
156.02	2,286
158.01	5,585
158.02	4,524
160.02	3,276
162	8,993
164	6,722
166	7,693
Total	**81,782**

Source: U.S. Census, 2010-2014 ACS.

Table 5-2 summarizes the age distribution of the study area population with a comparison to Manhattan and New York City as a whole. As shown in **Table 5-2**, the study area has relatively similar age distribution as compared with the borough of Manhattan and the City as a whole.

Table 5-2
Study Area Residential Population Age Distribution

Age Category	Study Area		Manhattan		New York City	
	Persons	Percent	Persons	Percent	Persons	Percent
Under 5 Years	4,262	5.2%	81,666	5.1%	546,292	6.5%
5 to 9 Years	3,333	4.1%	61,291	3.8%	479,015	5.7%
10 to 14 Years	3,529	4.3%	58,975	3.6%	467,094	5.6%
15 to 17 Years	2,061	2.5%	35,990	2.2%	292,943	3.5%
18 to 64 Years	57,882	70.7%	1,155,199	71.4%	5,522,874	66.1%
65 Years and over	10,715	13.2%	2,25,277	13.9%	1,046,671	12.5%
Total	**81,782**	**100%**	**1,618,398**	**100%**	**8,354,889**	**100%**

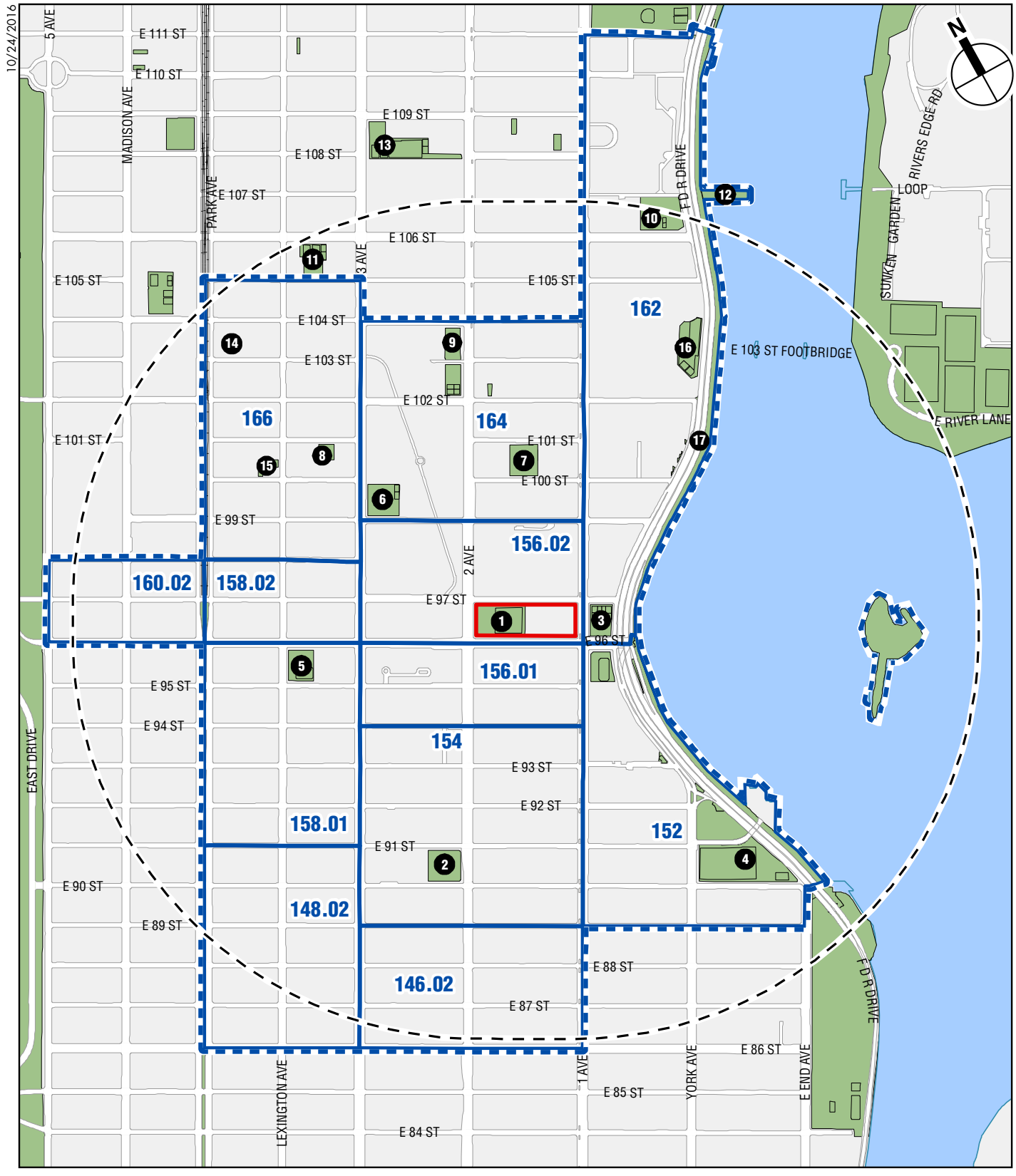
Source: U.S. Census, 2010-2014 ACS.

Given the range of age groups present in the study area population, the study area has a need for various kinds of active and passive recreation facilities, including open space features that can be used by children and adults. Within a given area, the age distribution of a population affects the way open spaces are used and the need for various types of recreational facilities. Typically, children 5 years old or younger use traditional playgrounds that have play equipment for toddlers and preschool children. Children ages 5 through 9 typically use traditional playgrounds as well as grassy and hard-surfaced open spaces, which are important for activities such as ball playing, running, and skipping rope. Children ages 10 through 14 typically use playground equipment, court spaces, and ball fields. Teenagers' and young adults' needs tend toward court game facilities such as basketball and field sports. Adults (ages 18 to 64) continue to use court game facilities and sports fields, along with more individualized recreation such as rollerblading, biking, and jogging that require bike paths, promenades, and vehicle-free roadways. Adults also gather with families for picnicking, active informal sports such as Frisbee, and recreational activities in which all ages can participate. Senior citizens (65 years and older) engage in active recreation such as handball, tennis, gardening, fishing, walking and swimming, as well as recreational activities that require passive facilities.

STUDY AREA OPEN SPACES

There are 17 publicly accessible open spaces within the ½-mile study area, including the Marx Brothers Playground on the western portion of the project site, which is jointly operated by DOE and DPR. The playground currently includes a multi-purpose baseball and soccer field. The playground area facing Second Avenue (approximately 23,000 sf) is currently in use by MTA as a staging area for Second Avenue Subway construction. The study area's open spaces also include a large portion of the East River Esplanade along the length of the East River between East 86th Street and East 106th Street. The East River Esplanade generally contains a waterfront esplanade with small portions of the upland areas improved with landscaping, seating and some fitness equipment. Within the study area, and accessible by the East River Esplanade, is Pier 107 CVIII, a restored historic pier that now serves as a passive recreation area.

The remaining open spaces within the study area are a mix of publicly and privately owned parks, playgrounds and community gardens. **Table 5-3** summarizes the open spaces within the study area, and **Figure 5-2** shows their locations. In total, the study area contains approximately



Open Space Resources

Figure 5-2

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20.56 acres of open space, with 17.45 acres of active open space and 3.11 acres of passive open space.

Table 5-3
Existing Residential Study Area Open Spaces

Ref. No[1]	Name	Features	Total Acres	Active Acres	Passive Acres	Condition/ Utilization
		Project Site				
1	Marx Brothers Playground	Multi-purpose baseball and soccer field	0.94[2]	0.94	0.00	Good/Medium
		Study Area				
2	Ruppert Park	Playground	1.00	0.50	0.50	Good/Medium
3	Stanley Issacs Playground	Basketball; bathrooms; handball; playground; roller hockey	1.23	1.23	0.00	Good/Medium
4	Asphalt Green	Fitness equipment, playground	0.7[3]	0.7	0.00	Good/Low
5	Samuel Seabury Playground	Basketball; playground; spray shower	0.79	0.79	0.00	Good/High
6	Cherry Tree Park	Basketball; playground; bathrooms; handball; spray shower	0.95	0.71	0.24	Good/High
7	Harlem RBI	Baseball Field	0.90	0.90	0.00	Good/High
8	Sunshine Playground	Playground	0.24	0.12	0.12	Good/Medium
9	Blake Hobbs Playground	Basketball; playground; handball courts	1.00	0.50	0.50	Excellent/High
10	East River Playground	Basketball; bathrooms; handball; playground; spray shower	1.28	1.28	0.00	Good/High
11	White Park	Basketball; handball; playground	0.68	0.51	0.17	Excellent/High
12	Pier 107 CVII	Pier	0.36	0.00	0.36	Good/Low
13	Poor Richard's Playground	Basketball; bathrooms; handball; playground; spray shower	1.58	1.58	0.00	Good/High
14	103rd Street Community Garden	Community Garden	0.35	0.18	0.18	Excellent/High
15	Maggie's Magic Garden	Community Garden	0.11	0.00	0.11	Good/Low
16	Playground 103 CIII	Basketball; playground	1.05	1.05	0.00	Good/Medium
17	East River Esplanade	Esplanade	3.75	2.81	0.94	Good/High
		TOTAL	**16.91**	**13.80**	**3.11**	

Notes: [1] See **Figure 5-2.**
[2] This acreage reflects the current usable open space. The 23,000 sf (0.528 acres) that is currently in use by MTA as a staging area for Second Avenue Subway construction is not included.
[3] The Asphalt Green resource comprises 4.35 acres, of which 3.65 acres (including the aqua center, basketball courts, and turf field) are privately managed with limited public access. This portion of the open space is not included in the quantitative analysis. Only the 0.7-acre playground provides full public access and is included in this quantitative analysis.
Sources: NYC Department of Parks and Recreation; AKRF field visits, July 2016.

ADEQUACY OF OPEN SPACES

QUANTIFIED ASSESSMENT

As shown in **Table 5-4**, with a residential population of 81,782, the residential study area has a total open space ratio of 0.207 acres per 1,000 residents, which is lower than the City's median of 1.5 acres per 1,000 residents. **Table 5-4** also compares the existing open space ratios to the City's planning goal of 2.5 acres of open space per 1,000 residents (with 2.0 acres of active open

space and 0.5 acres of passive open space per 1,000 residents). The study area currently has 0.169 acres of active open space per 1,000 residents, which is below the City's goal of 2.0 acres per 1,000 residents, and 0.038 acres of passive open space per 1,000 residents which is below the City's goal of 0.5 acres per 1,000 residents.

Table 5-4
Existing Conditions: Adequacy of Open Space Resources

Total Population		Open Space Acreage			Open Space Ratios			Open Space Goals		
		Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
Residential (1/2-Mile) Study Area										
Residents	81,782	16.91	13.80	3.11	0.207	0.169	0.038	2.5	2.0	0.5

Notes: Ratios in acres per 1,000 people.
Sources: 2010-2014 ACS U.S. Census; DPR; AKRF field visits July 2016.

QUALITATIVE DISCUSSION

As described above, one of the major open spaces in the study area—the East River Esplanade—extends beyond the study area boundaries to the north and the south. The portions of this open space that lie outside of the study area offer a variety of active and passive facilities that study area residents are likely to use. These include a shared use path for biking, running, and walking and connected upland areas along the esplanade that are landscaped and provide passive open space.

In addition, just outside of the study area is Central Park, an 840-acre flagship park. Also outside of the study area, but connected by a pedestrian bridge at 102nd Street and the FDR Drive, are Ward's Island Park and Randall's Island Park, which collectively provide over 400 acres of open space (176 acres and 256 acres, respectively). These open space resources that fall just outside of the study area boundary are likely to be utilized by residents in the study area.

As shown in **Table 5-2**, children 5 years of age and younger in the residential study area comprise approximately 5.2 percent of the residential population. This proportion is slightly more than that of Manhattan (5.1 percent) and less than that of New York City (6.5 percent). Children in this cohort typically use traditional playground that have play equipment for toddlers and preschool-aged children. Facilities in the study area offering such amenities include the 103rd Street Community Garden and the Cherry Tree Park.

Children between the ages of 5 and 9 account for approximately 4.1 percent of the residential population in the residential study area (see **Table 5-2**); this percentage is slightly more than the percentage for this age cohort in Manhattan (3.8 percent) and less than New York City (5.7 percent). Children ages 5 to 9 use traditional playgrounds with play equipment suitable for school-aged children, as well as grassy and hard-surfaced open spaces which are important for ball playing, running, skipping rope, and other active play. Within the study area, various playgrounds such as Cherry Tree Park, Asphalt Green, Stanley Issacs Playground, Sunshine Playground and Ruppert Park include amenities appropriate for this age cohort.

Approximately 4.3 percent of residents in the residential study area are children between the ages 10 and 14 (see **Table 5-2**). This proportion is slightly more than the percentage represented by this age cohort in Manhattan (3.6 percent) and less than New York City (5.6 percent). Children between the ages of 10 and 14 tend to use playground equipment, court spaces, little league fields, and ball fields. Facilities in the study area offering such amenities include Marx

Brothers Playground, Harlem RBI, Blake Hobs Playground, East River Playground, White Park, and Poor Richard's Playground.

Teenagers and young adults between the ages of 15 and 19 account for approximately 2.5 percent of the residential study area population—again, a proportion slightly higher than that in Manhattan (2.2 percent) and lower than New York City (3.5 percent). Teenagers and young adults tend to utilize court facilities and active fields. Within the study area, Marx Brothers Playground, Harlem RBI, Blake Hobs Playground, East River Playground, White Park, and Poor Richard's Playground serve this age cohort.

The working-age population (ages 20 to 64) accounts for the largest percentage of the population in the residential study area (approximately 70.7 percent). This is a slightly lower proportion than that for this age cohort in Manhattan (71.4 percent), and higher than New York City's proportion of 66.1 percent. This age cohort tends to use facilities for sports and active fields, as well as paths and other facilities that encourage individualized recreation. In addition to the courts mentioned above for teenagers and young adults, the tennis courts at the East River Esplanade provide amenities that serve the working-age population.

The senior population (ages 65 and above) comprises approximately 13.2 percent of the residential study area's population. This is a lower percentage than that of Manhattan (13.9 percent) and slightly higher than New York City's proportion of 12.5 percent. Senior citizens tend to utilize facilities for active recreation like handball, tennis, gardening, and swimming, as well as passive recreational facilities. Within the study area, the senior population is served by various facilities for active recreation and also passive areas like Maggie's Magic Garden and the103rd Community Garden.

D. THE FUTURE WITHOUT THE PROPOSED ACTIONS

As described in Chapter 1, "Project Description," absent the proposed actions (the No Action condition), the project area is anticipated to continue as in the existing condition, except that the MTA would vacate the western portion of the jointly-operated Marx Brothers Playground and that portion of the playground will be reconstructed (for an additional 23,000 sf of active open space). The analysis assumes the reconstruction in kind of the playground and comfort station that existed on site prior to its use by MTA; in addition, the playground reconstruction would be slightly updated to include resiliency design standards.[1] It is anticipated that the reconstructed playground will include a multi-purpose field as in existing conditions.

For the No Action condition, the capacity of open space resources to serve future populations in the study area is examined using quantitative and qualitative factors.

STUDY AREA POPULATION

The assessment of the No Action condition examines conditions that are expected to occur in the study area by the 2023 build year, absent the proposed actions.

In the No Action condition, there would be no direct or indirect effects on open space. However, the study area would continue to experience residential, commercial, and institutional

[1] Of the 23,000 sf of reconstructed playground, for analysis purposes, it is assumed that 80 percent would be paved playground (18,400 sf) and 20 percent would be landscaped (to include tree pits and fenced vegetation [4,600 sf]).

development. As described in detail in Chapter 2, "Land Use, Zoning, and Public Policy," by 2023, 19 No Action development projects (No Build projects) will be built in the study area.

These known development projects would result in an estimated 5,050 new residents to the study area. Based on these No Build projects and the existing population, the residential study area would have an estimated 86,832 residents by 2023.

STUDY AREA OPEN SPACES

Under the No Action scenario, no other open space improvements are anticipated with the residential study area. The project site is anticipated to continue as in the existing condition, except that the MTA would vacate the western portion of the jointly-operated Marx Brothers Playground and the entire playground will be reconstructed. As a result, the remaining 23,000 sf (0.528 acres) of active open space on Marx Brothers Playground would be returned to the study area inventory.

ADEQUACY OF OPEN SPACES

QUANTITATIVE ASSESSMENT

Absent the proposed actions, the increase in residents to the study area would result in a decrease the total open space ratio, to 0.201 acres per 1,000 residents (see **Table 5-5**). The active open space ratio would be 0.165 acres per 1,000 residents. The passive open space ratio would decrease slightly to 0.036 acres per 1,000 residents. Overall, the passive open space ratios for the residential study area would remain below the City guidelines.

Table 5-5
No Action Condition: Adequacy of Open Space Resources

Total Population		Open Space Acreage			Open Space Ratios[2]			Open Space Goals		
		Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
Residential (1/2-Mile) Study Area										
Residents	86,832	17.44[1]	14.33	3.11	0.201	0.165	0.036	2.5	2.0	0.5

Note: [1]Total acreage includes the additional 0.528 acres of open space, made available when the MTA vacates its staging area.
[2]Ratios in acres per 1,000 people.
Sources: 2010-2014 ACS, US Census; DPR; AKRF field visits, July 2016.

QUALITATIVE ASSESSMENT

In the No Action condition, MTA would vacate the western portion of the Marx Brothers Playground, returning this active open space acreage for use by residents within the study area. However, with the addition of the 5,050 projected residents within the study area, open space ratios would decrease overall.

The age distribution of the study area not anticipated to change from that under the existing condition.

E. THE FUTURE WITH THE PROPOSED ACTIONS

The assessment of the future with the proposed actions (With Action condition) examines conditions that are expected to occur as a result of the proposed actions by the 2023 build year. The capacity of open space resources to serve future populations in the study area is examined

using quantitative and qualitative factors. The potential for direct effects on open space is also considered.

DIRECT EFECTS ON OPEN SPACE

Direct effects occur when a project results in the loss of public open space, changes the use of an open space so that it no longer serves the same user population, limits public access to an open space, or results in increased noise, air pollutant emissions, odor, or shadows that would temporarily or permanently affect the usefulness of a public open space.

The proposed actions would not have any direct, significant adverse impacts on existing open space in terms of air quality, noise, odors, or shadows.. The proposed project would limit public access to the Marx Brothers Playground throughout the duration of construction; the temporary displacement of the playground is discussed in more detail in Chapter 17, "Construction." Upon completion of the project, the playground would be reconstructed and its overall condition would be enhanced in comparison to the No Action condition. It is anticipated that it will include a new comfort station and maintenance building, along with play equipment and courts and fields for active recreation. The specific elements to be included and the overall design of the playground would reflect continued input from DPR, DOE, Community Board 11, and the local community. In addition, the proposed project would relocate the Marx Brothers Playground to the midblock—a move which was requested by DPR in order to buffer the playground use from the active First Avenue and Second Avenue corridors.

In addition, the proposed project would include the creation of private open spaces at the 7th and 61st floors of the building facing Second Avenue, for use by residents. These are anticipated to include an approximately 6,000 sf terrace at the 7th floor, and an approximately 3,900 sf "terrace" at the 61st floor.

INDIRECT EFFECTS ON OPEN SPACES

STUDY AREA POPULATION

The proposed project would create approximately 1,200 new residential units. Applying the Community District 11 average household size of 2.49 persons per household (2010-2014 ACS), the proposed project would introduce an estimated 2,988 new residents to the study area. As a result, in the With Action condition the study area's residential population would increase to 89,820.

ADEQUACY OF OPEN SPACES

In the With Action condition, with the additional residents introduced by the proposed project, the total open space ratio in the study area would decrease to 0.194 acres per 1,000 residents (from 0.201 in the No Action condition). The active open space ratio would decrease to 0.160 acres per 1,000 residents (from 0.165 in the No Action condition), and the passive open space ratio would decrease to 0.035 acres per 1,000 residents (from 0.036 in the No Action condition). **Table 5-6** summarizes the open space ratios in the With Action condition.

Table 5-6
With Action Condition: Adequacy of Open Space Resources

Total Population		Open Space Acreage			Open Space Ratios			Open Space Goals		
		Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
Residential (1/2-Mile) Study Area										
Residents	89,820	17.44	14.33	3.11	0.194	0.160	0.035	2.5	2.0	0.5

Note: Ratios in acres per 1,000 people.
Sources: 2010-2014 ACS, U.S. Census; DPR; AKRF field visits, July 2016.

Quantitative Assessment

As in the No Action condition, in the With Action condition the total open space would remain below the City's median of 1.5 acres of total open space per 1,000 residents and the City's planning goal of 2.5 acres of total open space per 1,000 residents. Similarly, the study area would remain below the City's planning goal of 2.0 acres of active open space per 1,000 residents, and the planning goal of 0.5 acres of passive open space per 1,000 residents. As noted in the *CEQR Technical Manual*, these ratios are not feasible for many areas of the City and are not considered impact thresholds.

As shown in **Table 5-7**, the study area's total open space ratio would decrease by 3.48 percent between the No Action condition and the With Action condition. The study areas' active open space ratio would decrease by 3.03 percent between the No Action and With Action conditions, and the passive open space ratio would decrease by 2.78 percent between the No Action and With Action conditions.

Table 5-7
Open Space Ratios Summary

Ratio	City Goal (acres per 1,000 non-residents)	No Action Condition	With Action Condition	Percent Change
Total	2.5	0.201	0.194	-3.48%
Active	2.0	0.165	0.160	-3.03%
Passive	0.5	0.036	0.035	-2.78%

According to the *CEQR Technical Manual*, an action may result in a significant adverse open space impact if it would reduce the open space ratio by more than 5 percent in areas that are currently below the City's median community district open space ratio of 1.5 acres per 1,000 residents. As noted in **Table 5-7**, the open space ratios for the study area are below the City's open space goal and the median community district ratio. However, the proposed actions would not result in a decrease of more than 5 percent in the total, active, and passive open space ratios. Therefore, based on the *CEQR Technical Manual* guidelines, the proposed actions would not result in a significant adverse open space impact.

In addition to the quantitative assessment approach to determine overall impact significance, a qualitative assessment of the proposed project is provided below.

Qualitative Assessment

Following *CEQR Technical Manual* guidelines, in addition to a quantitative analysis, a qualitative assessment of a project's effects on open space should be considered. Furthermore, the age distribution of the study area not anticipated to change from that under the existing condition.

Although the total and active open space ratios in the study area would remain below the City's planning goals in both the No Action and With Action conditions, residents in the study area would have access to other open space resources located just outside of the study area. As noted above, additional portions of the East River Esplanade, as well as Wards Island Park/Randall's Island Park and Central Park, all lie just outside of the study area boundaries. These open spaces are destinations that serve local residents in the study area as well as visitors from throughout the city, and provide extensive areas for passive recreation and active recreation (such as jogging, biking, boating, and other courts and fields). In addition, the proposed actions would enhance open spaces options within the study area by reconstructing the Marx Brothers Playground in a process that would reflect continued input from DPR, Community Board 11, and the local community. The private open spaces that would be created at the 7th and 61st floors of the building facing Second Avenue would help to serve the open space needs of the residents to be generated by the proposed project.

Overall, in accordance with the guidelines of the *CEQR Technical Manual*, the proposed actions would not result in a significant adverse open space impact. ✷

Chapter 6: Shadows

A. INTRODUCTION

This chapter examines the potential for the proposed project to cast new shadows on sunlight-sensitive resources, including publicly-accessible parks, plazas and playgrounds, sunlight-dependent features of historic resources, and natural resources.

PRINCIPAL CONCLUSIONS

The assessment found that new shadows would fall on several sunlight-sensitive resources at certain times of day in certain seasons, but in no case would the new shadows significantly impact the use or usability of the resource or any vegetation within the resource.

B. DEFINITIONS AND METHODOLOGY

This analysis has been prepared in accordance with New York City CEQR procedures and follows the guidelines of the 2014 *CEQR Technical Manual*.

DEFINITIONS

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

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

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

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

- *City streets and sidewalks* (except Greenstreets);
- *Private open space* (e.g., front and back yards, stoops, vacant lots, and any private, non-publicly accessible open space);
- *Project-generated open space* cannot experience a significant adverse shadow impact from the project, according to CEQR, because without the project the open space would not exist. However, if the condition of project-generated open space is included in the qualitative analysis presented in the Open Space chapter of the EIS, a discussion of how shadows would affect the new space may be warranted.

A significant adverse shadow impact occurs when the incremental shadow added by a proposed project falls on a sunlight-sensitive resource and substantially reduces or completely eliminates direct sunlight, thereby significantly altering the public's use of the resource or threatening the viability of vegetation or other resources. Each case must be considered on its own merits based on the extent and duration of new shadow and an analysis of the resource's sensitivity to reduced sunlight.

METHODOLOGY

Following the guidelines of the *CEQR Technical Manual*, a preliminary screening assessment must first be conducted to ascertain whether a project's shadow could reach any sunlight-sensitive resources at any time of year. The preliminary screening assessment consists of three tiers of analysis. The first tier determines a simple radius around the proposed building representing the longest shadow that could be cast. If there are sunlight-sensitive resources within this radius, the analysis proceeds to the second tier, which reduces the area that could be affected by project shadow by accounting for the fact that shadows can never be cast between a certain range of angles south of the project site due to the path of the sun through the sky at the latitude of New York City.

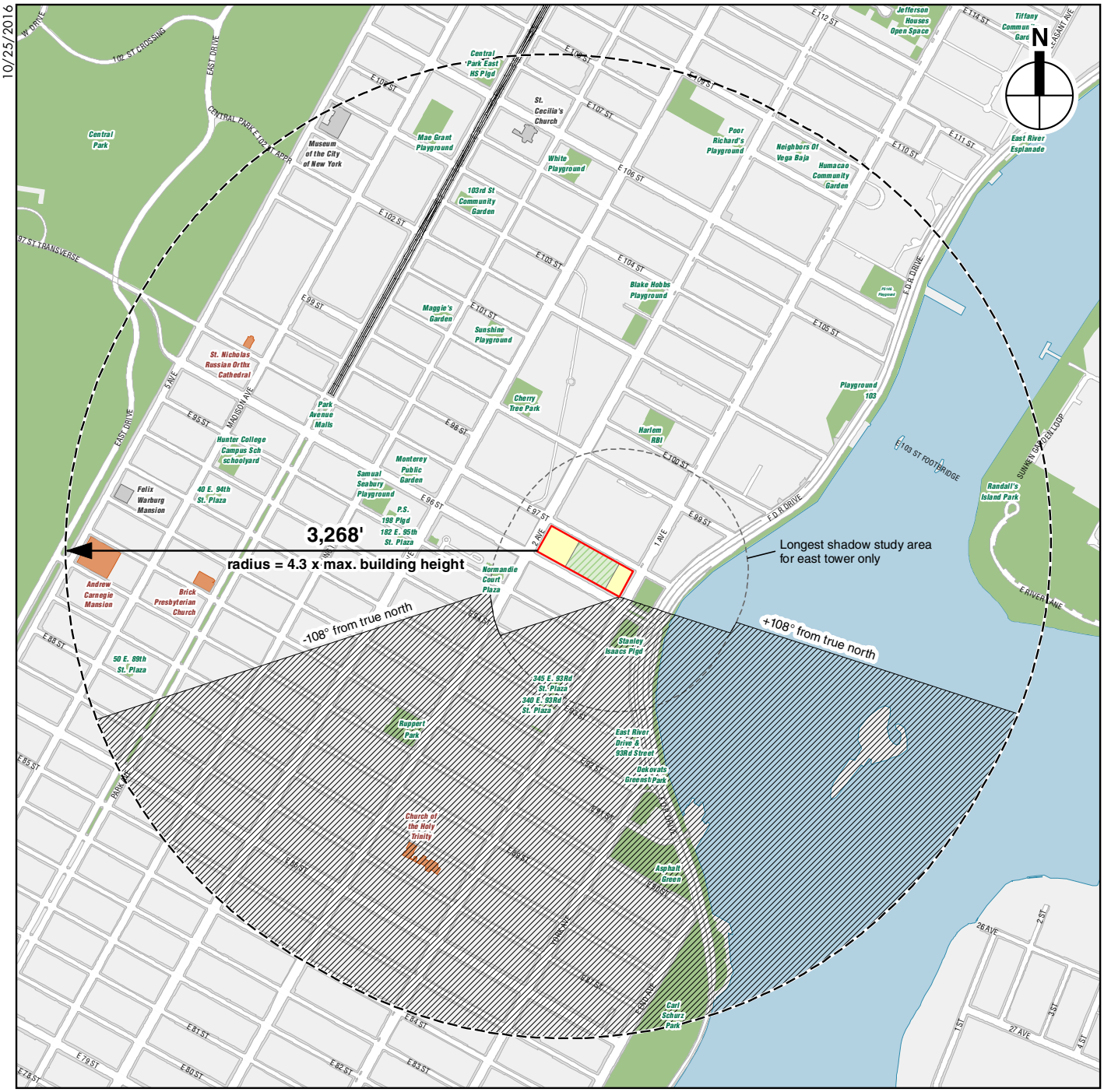
If the second tier of analysis does not eliminate the possibility of new shadows on sunlight-sensitive resources, a third tier of screening analysis further refines the area that could be reached by project shadow by looking at specific representative days in each season and determining the maximum extent of shadow over the course of each representative day.

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

C. PRELIMINARY SCREENING ASSESSMENT

A base map was developed using Geographic Information Systems (GIS)[1] showing the location of the proposed project and the surrounding street layout (see **Figure 6-1**). In coordination with

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



Project Site

Proposed Buildings

Tier 1: Longest shadow study area boundary

Tier 2: Area south of site that could never be shaded by proposed building

Publicly-Accessible Open Space

Open space to be redeveloped as part of project

Historic Resources with Sun-Sensitive Features Facing Towards Project

Historic Resources with Sun-Sensitive Features Facing Away from Project

ECF EAST 96TH STREET

Tier 1 and Tier 2 Assessments

Figure 6-1

the land use, open space, and historic and cultural resources assessments presented in other chapters of this EIS, potential sunlight-sensitive resources were identified and shown on the map.[2]

TIER 1 SCREENING ASSESSMENT

For the Tier 1 assessment, the longest shadow that the proposed buildings could cast is calculated, and, using this length as the radius, a perimeter is drawn around the project site. Anything outside this perimeter representing the longest possible shadow could never be affected by project generated shadow, while anything inside the perimeter needs additional assessment.

According to the *CEQR Technical Manual*, the longest shadow that a structure can cast at the latitude of New York City occurs on December 21, the winter solstice, at the start of the analysis day at 8:51 AM, and is equal to 4.3 times the height of the structure.

Therefore, at a maximum height of 760 feet above curb level, including rooftop mechanical structures, the proposed tower on the western end of the project block could cast a shadow up to 3,268 feet in length (760 x 4.3). Using this length as the radius, a perimeter was drawn around the project site (see **Figure 6-1**). The 185-foot-tall building on the eastern end of the project block could cast a shadow up to approximately 796 feet, and its Tier 1 study area falls entirely within the study area of the taller western tower. Since a number of sun-sensitive resources lay within the perimeter or longest shadow study area of the proposed project, the next tier of screening assessment was conducted.

TIER 2 SCREENING ASSESSMENT

Because of the path that the sun travels across the sky in the northern hemisphere, no shadow can be cast in a triangular area south of any given project site. In New York City this area lies between -108 and +108 degrees from true north. **Figure 6-1** illustrates this triangular area south of each project site. The complementary area to the north within the longest shadow study area represents the remaining area that could potentially experience new project generated shadow. A number of sun-sensitive resources lay within this remaining longest shadow study area, and therefore the next tier of screening assessment was conducted.

TIER 3 SCREENING ASSESSMENT

The direction and length of shadows vary throughout the course of the day and also differ depending on the season. In order to determine whether project-generated shadow could fall on a

[2] In regards to historic resources with sunlight-sensitive features, CEQR methodology advises that only the sunlight-sensitive features, such as stained-glass windows or highly carved ornamentation, rather than the entire resource, should be assessed for new shadows. Further, additional analysis was conducted for each historic resource of concern in the study area to determine whether it had sunlight-sensitive features that were facing toward, or open to, the project. Four of the resources of concern did, and were included in the analysis, while the other three did not, and were not included. Of the latter, the Felix Warburg Mansion (now the Jewish Museum) has deeply carved detail that could potentially be sunlight-sensitive on the south and west facades; the Museum of the City of New York has two loggias, a portico and a landscaped court on the west façade; and St. Cecelia's Church has stained glass windows on its north façade. See Figure 6-1 for the location and orientation of these resources.

sunlight-sensitive resource, three-dimensional (3D) computer mapping software[3] is used in the Tier 3 assessment to calculate and display the proposed project's shadows on individual representative days of the year. A computer model was developed containing three-dimensional representations of the elements in the base map used in the preceding assessments, the topographic information of the study area, and a reasonable worst-case three-dimensional representation of the proposed project.

REPRESENTATIVE DAYS FOR ANALYSIS

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

TIMEFRAME WINDOW OF ANALYSIS

The shadow assessment considers shadows occurring between one and a half hours after sunrise and one and a half hours before sunset. At times earlier or later than this timeframe window of analysis, the sun is down near the horizon and the sun's rays reach the Earth at very tangential angles, diminishing the amount of solar energy and producing shadows that are very long, move fast, and generally blend with shadows from existing structures until the sun reaches the horizon and sets. Consequently, shadows occurring outside the timeframe window of analysis are not considered significant under CEQR, and their assessment is not required.

TIER 3 SCREENING ASSESSMENT RESULTS

Figures 6-2 and 6-3 illustrate the range of shadows that would occur, in the absence of intervening buildings, from the proposed buildings on the four representative days for analysis. As they move east and clockwise over the landscape, the shadows are shown occurring approximately every 60 minutes from the start of the analysis day (one and a half hours after sunrise) to the end of the analysis day (one and a half hours before sunset). The analysis showed that, without accounting for existing intervening buildings, the proposed buildings' shadows could potentially move across several publicly-accessible open spaces on each analysis day, as follows:

December 21 (see Figure 6-2)

Central Park, Maggie's Garden, Sunshine Playground, Cherry Tree Park, Blake Hobbs Playground, and the Harlem RBI open space.

March 21 / September 21 (see Figure 6-2)

Park Avenue Malls, Samuel Seabury Playground and the adjacent P.S. 198 schoolyard, Monterey Public Garden, Stanley Isaacs Playground, East River Esplanade, and the East River.

[3] Bentley MicroStation.

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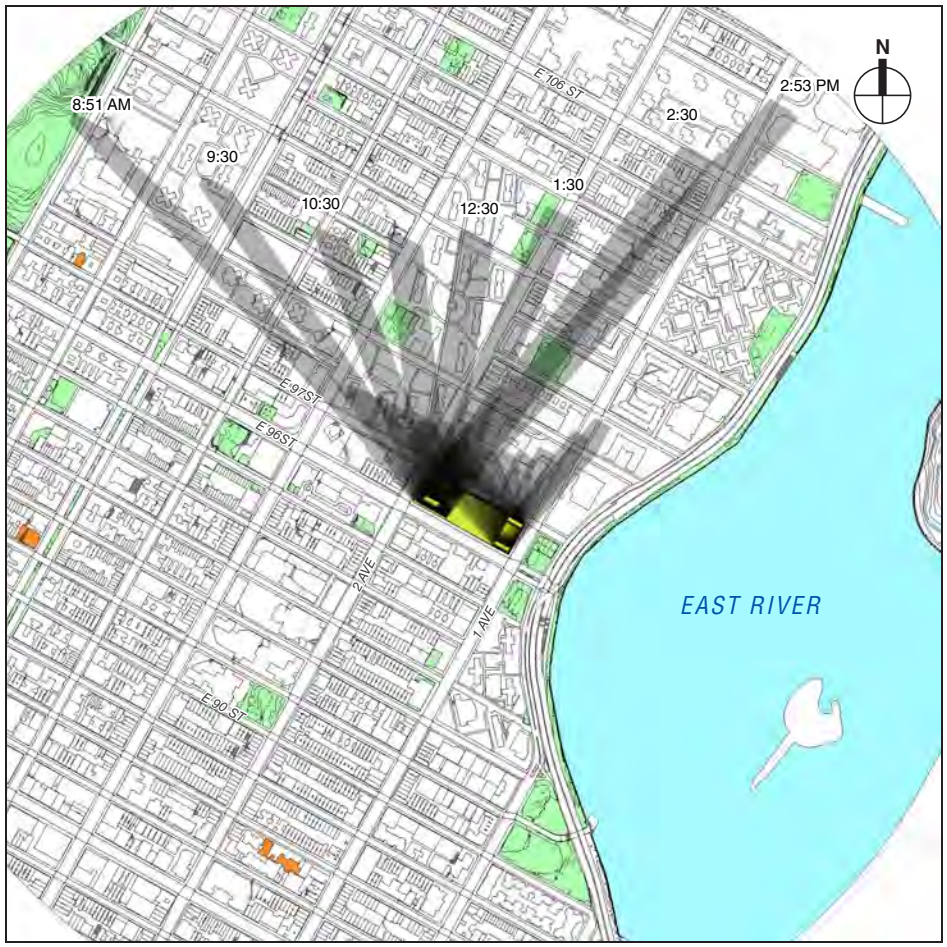
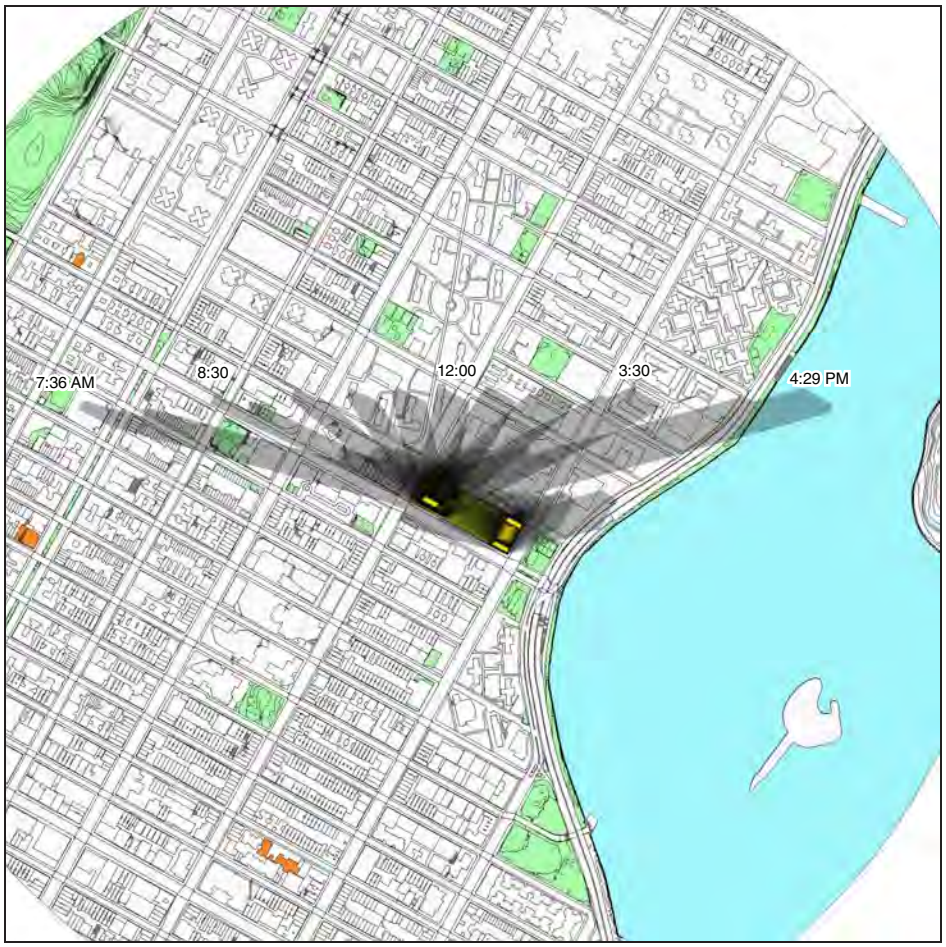


December 21



March 21 / September 21

Proposed buildings

Open space to be redeveloped as part of project

Publicly-accessible open space (see Figure 6-1)

Historic resources of concern (see Figure 6-1)

This figure illustrates the range of shadows that would occur, absent intervening structures, from the proposed buildings on the winter solstice and spring and fall equinox analysis days. The shadows are shown occurring approximately every 60 minutes from the start of the analysis day (one and a half hours after sunrise) to the end of the analysis day (one and a half hours before sunset). The Tier 3 assessment serves to illustrate the daily path or "sweep" of the proposed building's shadows across the landscape, indicating which resources could potentially be affected on that analysis day, absent intervening buildings, by project-generated shadow. Daylight Saving Time was not used, per *CEQR Technical Manual* guidelines.

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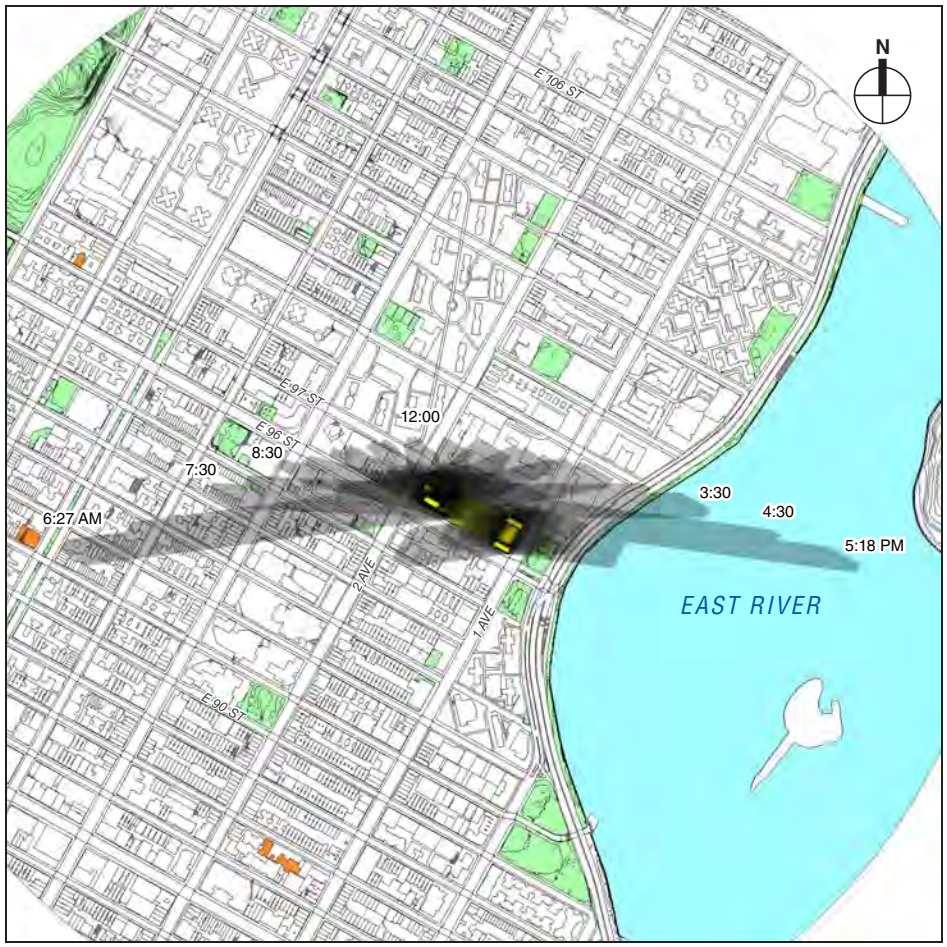


May 6 / August 6

June 21

Proposed buildings

Open space to be redeveloped as part of project

Publicly-accessible open space (see Figure 6-1)

Historic resources of concern (see Figure 6-1)

This figure illustrates the range of shadows that would occur, absent intervening structures, from the proposed buildings on the summer solstice and May 6 / August 6 analysis days. The shadows are shown occurring approximately every 60 minutes from the start of the analysis day (one and a half hours after sunrise) to the end of the analysis day (one and a half hours before sunset). The Tier 3 assessment serves to illustrate the daily path or "sweep" of the proposed building's shadows across the landscape, indicating which resources could potentially be affected on that analysis day, absent intervening buildings, by project-generated shadow. Daylight Saving Time was not used, per *CEQR Technical Manual* guidelines.

May 6 / August 6 (see Figure 6-3)

Normandie Court Plaza, a small plaza at 182 East 95th Street, Stanley Isaacs Playground, East River Esplanade, and the East River.

June 21 (see Figure 6-3)

Normandie Court Plaza, Stanley Isaacs Playground, East River Esplanade, and the East River.

A detailed analysis was therefore warranted for each of the four analysis days to determine to what extent and duration, if existing intervening and surrounding buildings were added to the model, new project-generated shadow would fall on these sunlight-sensitive resources.

In addition, a qualitative assessment of potential shadow effects on the open space that would be reconstructed and enhanced as part of the proposed project is also warranted.

D. DETAILED ANALYSIS

The purpose of the detailed analysis is to determine the extent and duration of new incremental shadows that fall on sunlight-sensitive resources as a result of the project, and to assess their potential effects. A future No Action condition is established, containing existing buildings and any future developments planned in the area, to illustrate the baseline shadows. The future condition with the proposed actions and its shadows can then be compared to the baseline condition to determine the incremental shadows that would result with the proposed project.

Three-dimensional representations of the existing buildings in the study area were developed using data obtained from the New York City Department of Information Technology (NYC DoITT) and photos taken during project site visits, and were added to the three-dimensional model used in the Tier 3 assessment. **Figure 6-4** shows a view of the computer model used in the analysis.

Shadows are in constant movement. The computer simulation software produces an animation showing the movement of shadows over the course of each analysis period. The analysis determines the time when incremental shadow would enter each resource, and the time it would exit.

Following the analysis framework described in Chapter 1, "Project Description," the shadows assessment was performed for the analysis year of 2023, comparing the proposed development with the future No Action condition in which the site would remain as in the existing condition.

Shadow analyses were performed for each of the representative days and analysis periods indicated in the Tier 3 assessment.

Table 6-1 summarizes the entry and exit times and total duration of incremental shadows on each affected sun-sensitive resource. **Figures 6-5 to 6-16** document the results of the analysis by providing graphic representations from the computer animation of times when incremental shadow would fall on a sun-sensitive resource. The figures illustrate the extent of additional, incremental shadow at that moment in time, highlighted in red, and also show existing shadow and remaining areas of sunlight.

9.28.16

No Action

Proposed

Overview of Computer Model

Figure 6-4

10.4.16

11:00 AM

Publicly-Accessible Open Space

Project-Generated Open Space

Incremental Shadow on Sun-Sensitive Resources

NOTE: *All times are Eastern Standard Time.*

10.4.16

1:00 PM

Publicly-Accessible Open Space

Project-Generated Open Space

Incremental Shadow on Sun-Sensitive Resources

NOTE: *All times are Eastern Standard Time.*

10.4.16

2:30 PM

Publicly-Accessible Open Space

Project-Generated Open Space

Incremental Shadow on Sun-Sensitive Resources

NOTE: *All times are Eastern Standard Time.*

10.10.16

8:00 AM

Publicly-Accessible Open Space

Project-Generated Open Space

Incremental Shadow on Sun-Sensitive Resources

NOTE: *All times are Eastern Standard Time.*

March 21/September 21

10.10.16

4:29 PM

Publicly-Accessible Open Space

Project-Generated Open Space

Incremental Shadow on Sun-Sensitive Resources

NOTE: *All times are Eastern Standard Time.*

March 21/September 21

ECF EAST 96TH STREET

Figure 6-9

10.10.16

3:00 PM

Publicly-Accessible Open Space

Project-Generated Open Space

Incremental Shadow on Sun-Sensitive Resources

NOTE: *All times are Eastern Standard Time.*

ECF EAST 96TH STREET

May 6/August 6
Figure 6-10

10.10.16

4:15 PM

Publicly-Accessible Open Space

Project-Generated Open Space

Incremental Shadow on Sun-Sensitive Resources

NOTE: *All times are Eastern Standard Time.*

ECF EAST 96TH STREET

May 6/August 6
Figure 6-11

10.10.16

5:18 PM

Publicly-Accessible Open Space

Project-Generated Open Space

Incremental Shadow on Sun-Sensitive Resources

NOTE: *All times are Eastern Standard Time.*

ECF EAST 96TH STREET

May 6/August 6
Figure 6-12

10.4.16

7:00 AM

Publicly-Accessible Open Space

Project-Generated Open Space

Incremental Shadow on Sun-Sensitive Resources

NOTE: *All times are Eastern Standard Time.*

10.10.16

3:00 PM

Publicly-Accessible Open Space

Project-Generated Open Space

Incremental Shadow on Sun-Sensitive Resources

NOTE: *All times are Eastern Standard Time.*

June 21

ECF EAST 96TH STREET

Figure 6-14

10.10.16

4:30 PM

Publicly-Accessible Open Space

Project-Generated Open Space

Incremental Shadow on Sun-Sensitive Resources

NOTE: *All times are Eastern Standard Time.*

June 21

ECF EAST 96TH STREET

Figure 6-15

10.10.16

6:00 PM

Publicly-Accessible Open Space

Project-Generated Open Space

Incremental Shadow on Sun-Sensitive Resources

NOTE: *All times are Eastern Standard Time.*

June 21

ECF EAST 96TH STREET

Figure 6-16

Table 6-1
Incremental Shadow Durations

Analysis day and timeframe window	December 21 8:51 AM-2:53 PM	March 21 / Sept. 21 7:36 AM-4:29 PM	May 6 / August 6 6:27 AM-5:18 PM	June 21 5:57 AM-6:01 PM
Open Spaces				
Normandie Court Plaza	—	—	6:27 AM–6:40 AM Total: 13 min	5:57 AM–7:20 AM Total: 1 hr 23 min
Park Avenue Mall (at E. 95th St.)	—	7:36 AM–7:45 AM Total: 9 min	—	—
Samuel Seabury Playground	—	7:36 AM–7:45 AM 8:00 AM–8:20 AM Total: 29 min	—	—
Sunshine Playground	10:45 AM–11:10 AM Total: 25 min	—	—	—
Cherry Tree Park	10:25 AM–11:35 AM Total: 1 hr 10 min	—	—	—
Blake Hobbs Playground	12:50 PM–1:35 PM Total: 45 min	—	—	—
Harlem RBI	2:10 PM–2:35 PM Total: 25 min	—	—	—
Stanley Isaacs Playground	—	3:05 PM–4:29 PM Total: 1 hr 24 min	2:35 PM–5:18 PM Total: 2 hr 43 min	2:40 PM–6:01 PM Total: 3 hr 21 min
East River Esplanade		4:10 PM–4:29 PM Total: 19 min	4:00 PM–5:18 PM Total: 1 hr 18 min	4:05 PM–6:01 PM Total: 1 hr 56 min
Natural Resources				
East River	—	4:15 PM–4:29 PM Total: 19 min	4:05 PM–5:18 PM Total: 1 hr 13 min	4:10 PM–6:01 PM Total: 1 hr 51 min

Notes:
Table indicates entry and exit times and total duration of incremental shadow for each sunlight-sensitive resource. Daylight saving time is not used—times are Eastern Standard Time, per *CEQR Technical Manual* guidelines. However, as Eastern Daylight Time is in effect for the March/September, May/August and June analysis periods, add one hour to the given times to determine the actual clock time.

DECEMBER 21

December 21, representing the winter months, does not fall within New York's growing season, according to the *CEQR Technical Manual*. Shadow falling on vegetation in winter is not generally considered to cause a significant adverse impact. However, winter shadow can adversely impact users of open space who may rely on sunlight for warmth. In winter, shadows generally move more quickly but are of greater length than in other seasons.

Incremental shadow from the proposed project would not fall on Central Park, because the area where the proposed building's shadow would otherwise fall would be in existing shadows. Similarly, no new shadow would fall on Maggie's Garden, a community garden located on the west side of Lexington Avenue between East 100th and 101st Streets, due to existing shadows.

The Sunshine Playground, located on the south side of East 101st Street, between Lexington and Third Avenues, is partially or mostly in existing shadow for much of the winter analysis day. Project-generated incremental shadow would move across the playground from 10:45 AM to 11:10 AM, eliminating the remaining sunlight for about five minutes at 11:00 AM (see **Figure 6-5**) but otherwise leaving some areas in sun during the 25 minute period that it passes across the space.

Project-generated incremental shadow would move across Cherry Tree Park, a space containing a playground with seating and basketball courts located at East 99th Street and Third Avenue, over the course of an hour and ten minutes, from 10:25 AM to 11:35 AM. The incremental

shadow would eliminate the remaining sun briefly around 11:00 AM, for five to ten minutes (see **Figure 6-5**). At other times during the affected period, sunlit areas would remain in both the playground and basketball court areas.

In the early afternoon, incremental shadow would pass across portions of Blake Hobbs Playground, which extends along the west side of Second Avenue on two consecutive blocks between East 102nd and 104th Streets. The southern block is entirely hard-surface ball courts, and the northern block is also primarily hard surface but contains playground equipment, seating areas and some plantings. Incremental shadow would move across the southern block and a small portion of the northern block between 12:50 PM and 1:35 PM, but sunlit areas would remain throughout the 45 minute period (see **Figure 6-6**).

A very small incremental shadow from the proposed project would move across the northern edge of the Harlem RBI space, a through-block open space located between East 100th and 101st Streets and First and Second Avenues, for 25 minutes between 2:10 PM and 2:35 PM. This incremental shadow would eliminate the very small area of remaining sunlight in the northeast corner of the open space for five to ten minutes at 2:30 PM (see **Figure 6-7**). Small sunlit areas would remain at other times of the affected period.

MARCH 21 / SEPTEMBER 21

March is considered the beginning of the growing season in New York City, and September 21, which has the same shadow patterns as March 21, is also within the growing season. Shadows on March 21 and September 21 are of moderate length.

For the first nine minutes of this analysis day there would be a small incremental shadow on a portion of the Park Avenue Mall (planted median) on the south side of East 95th Street. No incremental shadow would occur on the Park Avenue Malls after that.

Incremental shadow would fall on Samuel Seabury Playground, located on the east side of Lexington Avenue between East 95th and 96th Streets, from 7:36 AM to 7:45 AM and again from 8:00 AM to 8:20 AM, for a total of 29 minutes (see **Figure 6-8**). The new shadow would eliminate the narrow band of remaining sunlight during those 29 minutes. No new shadow would fall on the adjacent P.S. 198 schoolyard, because it would be in existing shadow when new shadow would otherwise fall there.

New shadow would also fall on Monterey Public Garden, located on the north side of East 96th Street between Lexington and Third Avenues, for five minutes from 8:40 AM to 8:45 AM.

In the late afternoon, new shadow from the proposed building on the east side of the project block would fall onto the northern portion of Stanley Isaacs Playground, which is located on two adjacent blocks, between East 95th and 97th Streets and between First Avenue and the FDR Drive. The northern of the two blocks is located directly across First Avenue from the project site and contains handball courts on its northern half and basketball courts on its southern half. The southern block has a playground and a hockey rink and is too far south to ever receive project-generated shadow. Incremental shadow would move onto the northwest corner of the handball courts from 3:05 and would remain limited to a small area of the handball courts until the end of the analysis day at 4:29 PM (see **Figure 6-9**). Sunlit areas would remain on the handball courts and elsewhere in the playground throughout this period.

Incremental shadow would fall on a small section of the East River Esplanade between East 101st and 102nd Streets for the final 19 minutes of the analysis day (see **Figure 6-9**). To the north and south of this limited area of new shadow, the esplanade would remain in sun.

There would also be incremental shadow on the East River for final 19 minutes of this analysis day, limited to a small area of the river near the shore north of roughly East 100th Street (see **Figure 6-9**).

MAY 6 / AUGUST 6

May 6 falls halfway between the March 21 equinox and the June 21 summer solstice. August 6 falls halfway between the June 21 solstice and the September 21 equinox, and has the same shadow patterns as May 6. The May 6/August 6 analysis day is representative of the growing season in the city. Shadows on this day are shorter than on the equinoxes, and the length of the day is longer.

Normandie Court Plaza is a residential plaza associated with 235 East 95th Street. The main portion of this plaza, and the only one affected by incremental shadows, is a fairly large, mostly featureless space at Second Avenue and East 95th Street. It would receive a narrow band of incremental shadow from 6:27 AM to 6:40 AM on this analysis day.

The small residential plaza at 182 East 95th Street would not receive any incremental shadow on this analysis day due to existing shadows.

In the afternoon, the northern block of Stanley Isaacs Playground would receive incremental shadows from 2:35 PM to 5:18 PM. Despite the long duration, only a portion of the space would be affected, primarily the handball courts, and the new shadow would not eliminate the remaining sun at any time (see **Figures 6-10 to 6-12**). There is no vegetation in this space.

New shadow would fall on the East River Esplanade from 4:00 to 5:18 PM, mostly between East 98th and 99th Streets (see **Figures 6-11 and 6-12**). This section of the esplanade is only a walkway between the highway and the river, with no seating or other features. Portions of this linear space to the north and south of the affected area are in full sun during this time.

Incremental shadow would fall on an area of the East River from 4:05 PM to 5:18 PM on this analysis day (see **Figures 6-11 and 6-12**). The new shadow would remain limited to an area near shore, adjacent to roughly East 98th Street, until near the end of the analysis day when it would extend further east.

JUNE 21

June 21 has the longest amount of daylight of the year, with an analysis period of 12 hours. Shadows fall to the southwest early in the morning and to the southeast late in the afternoon, and shadows at midday on June 21 are shorter than at any other time of year. June 21 is also in the growing season.

New shadow would fall on Normandie Court Plaza for the first hour and 23 minutes of this analysis day, from 5:57 AM to 7:20 AM. Most of the plaza would be in existing shadows at this time, early in the morning when shadows are long, and the incremental shadow would eliminate the remaining band of sun for most of this duration (see **Figure 6-13**). It would fall primarily across a featureless, paved part of the plaza, and partially on one section of a large planter with trees.

In the afternoon, incremental shadow would move onto the corner of the handball courts in Stanley Isaacs Playground at 2:40 PM and gradually extend farther across the handball courts over the remaining part of the afternoon (see **Figure 6-14** showing 3:00 PM). At 4:30 PM all the handball courts would be in incremental shadow but most of the adjacent basketball courts would still be in sun (see **Figure 6-15**). From 5:40 PM to 6:01 PM, the end of the analysis day, the incremental shadow would be small but would eliminate the remaining sun on this open space, because most of the handball courts and all of the basketball courts would be in existing shadow by that time (see **Figure 6-16**).

New shadow would fall on the East River Esplanade from 4:05 PM to 6:01 PM, mostly between East 97th and 98th Streets (see **Figures 6-15 and 6-16**). This section of the esplanade is only a walkway between the highway and the river, with no seating or other features. Nearby portions of this linear space to the north and south of the affected area are in full sun during this time.

Incremental shadow would fall on an area of the East River from 4:10 PM to 5:18 PM. The new shadow would remain limited to an area near shore, adjacent to roughly East 98th Street, until near the end of the analysis day when it would extend further east (see **Figures 6-15 and 6-16**).

E. CONCLUSIONS BY RESOURCE

NORMANDIE COURT PLAZA

This resource is primarily an open, featureless plaza paved with red brick. There is a waterfall and seating ledge at the northern end of the resource, but this area would not receive any incremental shadow from the proposed project. There is a wide planter with trees between the main, central open plaza area and the sidewalk along East 95th Street, and some benches on both the interior plaza side and the sidewalk side.

This resource would receive a brief 23 minutes of early morning shadow on the May 6/August 6 analysis day, and an hour and 23 minutes of new shadow from 5:57 AM to 7:20 AM on June 21. Given the early hour, when use of the space would likely be light the limited size of the incremental shadow, and most notably the lack of amenities where the incremental shadow would fall—primarily open paved area in front of retail frontages that are in the ground floor of the residential building—the new shadow would not substantially alter the use or usability of this resource. The limited duration and extent of the incremental shadow also would not significantly impact the trees in the planter at this resource.

PARK AVENUE MALL (AT EAST 95TH STREET)

Nine minutes of new shadow on the March 21/September 21 analysis day only would not significantly impact this resource.

SAMUEL SEABURY PLAYGROUND

The proposed project would result in 29 minutes of new shadow early on the March 21/September 21 analysis day, from 7:36 AM to 7:45 AM and from 8:00 AM to 8:20 AM. The playground would be almost entirely in existing shadows at this early hour with only a narrow band of sunlight remaining, and the incremental shadow would eliminate this narrow band for those 29 minutes. However, after 9:00 AM and until late afternoon the playground would be mostly in sunlight. The limited extent and duration of new shadow, occurring early in the morning, would not significantly impact the use of this space or its vegetation.

SUNSHINE PLAYGROUND

Twenty-five minutes of new shadow on the December 21 analysis day only would not significantly impact this resource. No new shadow would fall on this playground in the spring, summer or fall. Given its limited duration, the new winter shadow would not substantially change the usability of this playground.

CHERRY TREE PARK

This playground would receive an hour and ten minutes of new shadow in the late morning on the December 21 analysis day. The new shadow would not eliminate all the remaining sunlight on the resource during this time, with the exception of five to ten minutes around 11:00 AM. No new shadow would fall on this playground in the spring, summer or fall. Given its limited duration, the new winter shadow would not substantially change the usability of this playground.

BLAKE HOBBS PLAYGORUND

New shadow would pass across a portion of this playground over the course of 45 minutes on the December 21 analysis day. Sunlit areas would remain in the park throughout the 45-minute period. No new shadow would fall on this playground in the spring, summer or fall. Given its limited duration, the new winter shadow would not substantially change the usability of this playground.

HARLEM RBI

Twenty-five minutes of very small new shadow on the winter (December 21) analysis day only would not significantly impact this resource.

STANLEY ISAACS PLAYGROUND

The northern section of this playground contains handball and basketball courts and no seating, plantings or other features. Devoted entirely to active recreation, its use would not be significantly affected by new late afternoon shadows from the proposed project in the late spring and summer. The playground would continue to receive direct sunlight all morning and into the early afternoon. Even during the late afternoon period when incremental shadow and existing shadows would fall on it, its location adjacent to the waterfront ensures that it would continue to receive a lot of ambient light from the open sky over the East River directly to the east.

EAST RIVER ESPLANADE

Incremental shadows would fall on a portion of the esplanade after 4:00 PM in the fall, winter, and spring. The new shadow would be limited in extent and would fall on a part of the esplanade that is only a walkway, with no seating, plantings or other features. Adjacent areas of this linear resource would continue to be in full sun during the late-afternoon period of incremental shadow. Due to its location adjacent to the waterfront, it would continue to receive a lot of ambient light from the open sky over the river throughout the day, even during times when incremental shadow would fall on portions of it. Therefore the project would not significantly impact this resource or its use.

EAST RIVER

Incremental shadows would fall on a small portion of the river after 4:00 PM in the fall, winter, and spring. The current flows swiftly in the East River and would move phytoplankton and other natural elements quickly through the shaded area. Therefore, project-generated shadows would not be expected to affect primary productivity. The areas that receive the new shadow would continue to receive direct sunlight for the vast majority of the day, because there are no structures to the east or south. Incremental shadows would therefore not be likely to significantly affect aquatic resources (plankton or fish) in these areas of the East River.

F. PROJECT-GENERATED OPEN SPACE

As described in Chapter 1, "Project Description," the proposed project would relocate the existing Marx Brothers Playground, a jointly operated playground, to the center of the project block. The playground would be reconstructed as part of the proposed project, and its overall condition would be enhanced in comparison to the No Action condition. It is anticipated that it will include a new comfort station and maintenance building, along with play equipment and courts and fields for active recreation. The specific elements to be included and the overall design of the playground would reflect continued input from NYC Parks, DOE, Community Board 11, and the local community. In addition, the relocation of the playground to the midblock would buffer the playground use from the active First Avenue and Second Avenue corridors.

DECEMBER 21

On the analysis day representing the winter months, the open space would be partially in sun and partially in shadow throughout the day. Large areas of the open space would be in sun throughout the morning and early afternoon (see **Figures 6-5 to 6-7**). After approximately 2:00 PM, most of the open space would be in shadow, but some sunlit areas would remain until the end of the analysis day at 2:53 PM.

MARCH 21 / SEPTEMBER 21

On this analysis day, most of the open space would be in shadow from the proposed First Avenue building until around 10:00 AM (see **Figure 6-8**). Between 10:00 AM and approximately 3:30 PM, most of the open space would be in sun. For the final hour of the analysis day, much of the open space would be in shadow, from a combination of the building across East 96th Street to the south of the project site and the proposed Second Avenue building (see Figure 6-9).

MAY 6/AUGUST 6

On the May 6/August 6 analysis day, the open space would be mostly in sun throughout the morning and almost entirely in sun through the early afternoon. Large areas of sun would remain on the open space until around 4:00 PM (see **Figure 6-10** showing 3:00 PM). After 4:00 PM the available sunlit area would be smaller, approximately a quarter of the space or less (see Figures 6-11 and 6-12).

JUNE 21

The open space would be mostly in sun throughout the morning and almost entirely in sun through the early afternoon on the June 21 analysis day. Large areas of sun would remain on the

open space until around 4:00 PM (see **Figure 6-14** showing 3:00 PM). By 4:30 PM a little less than half the park space would remain in sun (see **Figure 6-15**). The park would be mostly in shadow for the final hour of the analysis day, from 5:00 PM to 6:01 PM (see **Figure 6-16**).

CONCLUSION

Most of the open space would be in sun for a minimum of five and a half hours throughout the growing season months. In winter, the open space would be partially in sun throughout the analysis day. Therefore, in the future with the proposed actions the open space would be an attractive resource for users seeking sun throughout the year, particularly during the middle of the day. ✷

Chapter 7: Historic and Cultural Resources

A. INTRODUCTION

This chapter considers the potential of the proposed ECF East 96th Street project to affect architectural and archaeological resources. The proposed project would construct a new mixed-use tower on Second Avenue containing a replacement facility for the existing School of Cooperative Technical Education (COOP Tech) as well as residential and retail uses; a new building on First Avenue that would house two public high schools; and would relocate the jointly-operated playground currently on the western portion of the project site to the center of the block.

The analysis characterizes existing conditions, evaluates changes to historic and cultural resources that are expected to occur independent of the proposed actions, and identifies and addresses any potential impacts to historic and cultural resources associated with the proposed actions. As described in detail below, the proposed actions would not be anticipated to result in significant adverse impacts to historic and cultural resources.

B. METHODOLOGY

Consistent with the guidance of the 2014 *CEQR Technical Manual*, in order to determine whether the proposed project could potentially affect architectural resources, this attachment considers whether the proposed project would result in a physical change to any resource, a physical change to the setting of any resource (such as context or visual prominence), and, if so, whether the change is likely to alter or eliminate the significant characteristics of the resource that make it important. More specifically, as set forth in the *CEQR Technical Manual*, potential impacts to architectural resources may include the following:

- Physical destruction, demolition, damage, alteration, or neglect of all or part of an historic property;
- Changes to an architectural resource that cause it to become a different visual entity;
- Isolation of the property from, or alteration of, its setting or visual relationships with the streetscape, including changes to the resource's visual prominence;
- Introduction of incompatible visual, audible, or atmospheric elements to a resource's setting;
- Replication of aspects of the resource so as to create a false historical appearance;
- Elimination or screening of publicly-accessible views of the resource;
- Construction-related impacts, such as falling objects, vibration, dewatering, flooding, subsidence, or collapse; and
- Introduction of significant new shadows, or significant lengthening of the duration of existing shadows, over an historic landscape or on an historic structure (if the features that

make the resource significant depend on sunlight) to the extent that the architectural details that distinguish that resource as significant are obscured.

The study area for archaeological resources is defined as the area where subsurface disturbance would occur. In a comment letter dated June 24, 2016, the New York City Landmark Preservation Commission (LPC) has determined that the project site does not possess archaeological sensitivity (see **Appendix A)**. As LPC has determined that the project site is not archaeologically sensitive, this chapter focuses on standing structures only.

To evaluate potential effects due to on-site construction activities, and also to account for visual or contextual impacts, the study area for architectural resources is defined as extending 400 feet from the project site (see **Figure 7-1**). As defined in the New York City Department of Building's (DOB) *Technical Policy and Procedure Notice (TPPN) #10/88,* adjacent construction is defined as any construction activity that would occur within 90 feet of an architectural resource.[1] Consistent with the guidance of the 2014 *CEQR Technical Manual*, designated architectural resources that were analyzed include: New York City Landmarks (NYCL), Interior Landmarks, Scenic Landmarks, New York City Historic Districts (NYCHD); resources calendared for consideration as one of the above by LPC; resources listed on or formally determined eligible for inclusion on the State and National Registers of Historic Places (S/NR), or contained within a district listed on or formally determined eligible for listing on the Registers; resources recommended by the New York State Board for listing on the Registers; and National Historic Landmarks (NHL).

C. EXISTING CONDITIONS

PROJECT SITE

The project site is approximately 130,546 sf in size and includes a jointly-operated playground, a portion of which is currently in use by MTA as a staging area for Second Avenue Subway construction. The eastern portion of the project site is occupied by a 4-story, 103,498 gsf school building, currently in use by the COOP Tech (see **Figure 7-2**). The school building was designed by Eric Kebbon and constructed ca. 1941-1942 as the Machine and Metal Trades High School.

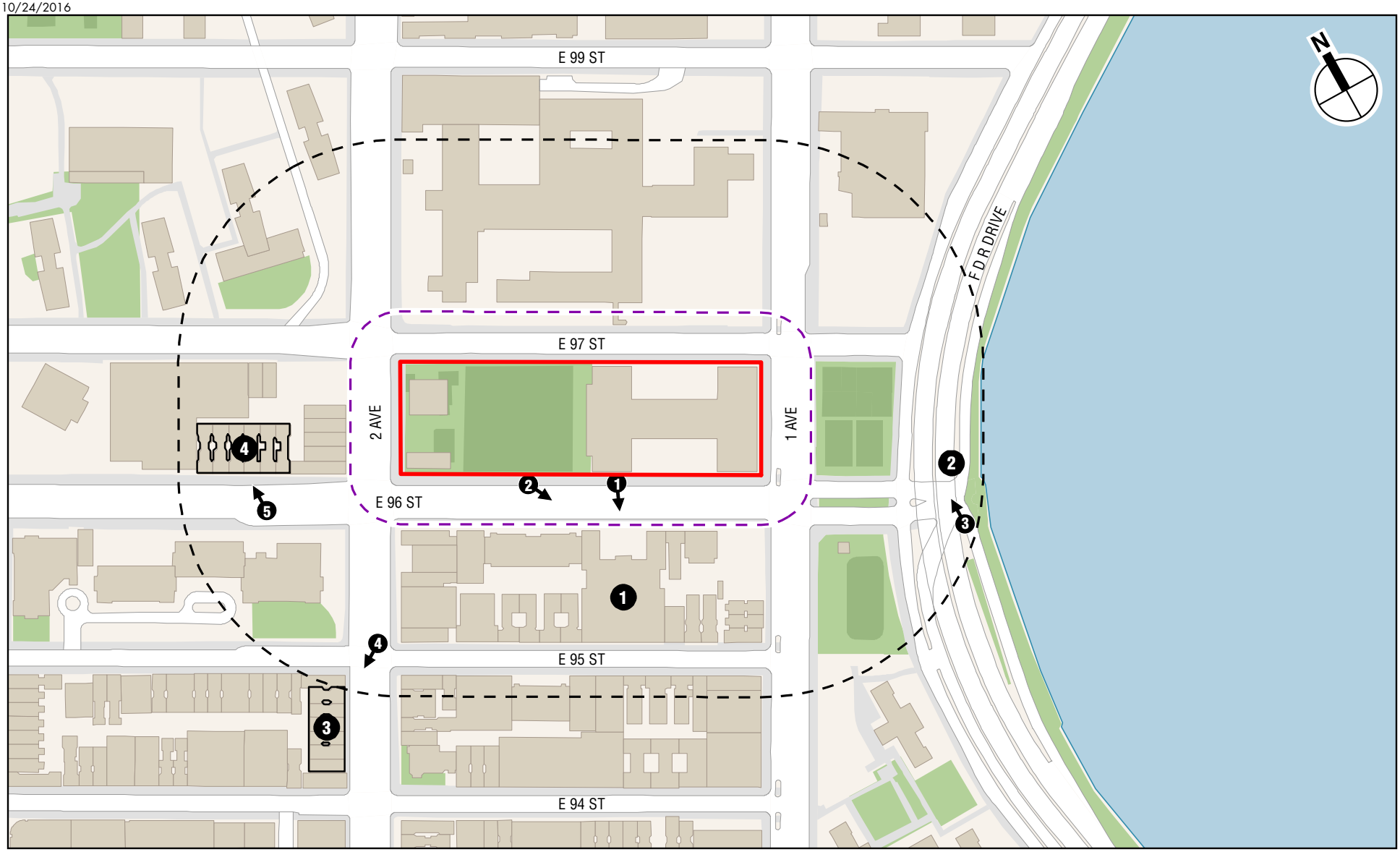
There are no known or potential architectural resources within the project site. In a comment letter dated June 24, 2016, LPC determined that the project site has no architectural significance.

STUDY AREA

There are four known architectural resources located within the study area. These resources are described below and mapped on **Figure 7-1**. No potential architectural resources were identified within the study area.

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

10/24/2016



Project Site

Study Area (90-foot boundary)

Study Area (400-foot boundary)

ECF EAST 96TH STREET

Historic Resources

Figure 7-1

FORMER P.S. 150 (S/NR-ELIGIBLE)

The former P.S. 150—now the Life Sciences Secondary School, M655—is located at 320 East 96th Street, on the south side of East 96th Street opposite the project site (see View 1 of **Figure 7-2**). The H-plan building was constructed in 1903-1904 and designed by C.B.J. Snyder, the architect who was responsible for the reform of New York City school design and construction and was responsible for the design of a large number of New York City schools in the last years of the 19th century and first decades of the 20th century. In 1927, the building became the home of Hunter Model School (today known as Hunter Elementary School), as well as the exclusive Hunter College High School, which was then open only to girls. After Hunter left in 1940, the building was used by Machine and Metal Trades High School. The school is significant under National Register Criterion A as a representative example of the large number of school buildings that were erected in New York City in the late 19th and early 20th centuries in immigrant neighborhoods. The school is also significant under Criterion C as an example of school architecture in New York City, with a distinctive façade featuring Dutch Renaissance and Collegiate Gothic details.

FRANKLIN DELANO ROOSEVELT (FDR) DRIVE (S/NR-ELIGIBLE)

The FDR Drive is 9.44 miles long, beginning at the end of the Battery Park underpass and running north along the East River to the 125th Street/Triborough Bridge exit (see View 3 of **Figure 7-3**). Originally known as the East River Drive, the FDR Drive meets National Register Criterion A in the fields of transportation and community/regional planning as an important link in New York City's transportation infrastructure. The FDR Drive, the West Side Highway, the Henry Hudson Parkway, the Harlem River Drive, and the Triborough Bridge approach form a crucial highway loop around Manhattan. Construction began on the FDR in 1934 under the direction of Robert Moses and was largely completed by 1967. Though segments of the structure have undergone alterations through the years, this linear resource has been determined to retain sufficient integrity overall to convey its historic significance.

1817-1829 SECOND AVENUE (S/NR-ELIGIBLE)

The six 5-story brick tenements located at 1817-1829 Second Avenue were constructed circa 1888 and designed by John C. Burne. The buildings have alternating patterns of building arches, varying types of decorative terra cotta panels located beneath most windows, corbelling beneath the cornices, and corbelled piers that extend from the fifth story between the windows to the cornice (see View 4 of **Figure 7-3**). The buildings also have bracketed cornices, embellished by dentils. The building at 1819 Second Avenue is missing its cornice. This group of tenements is significant under National Register Criterion C as an example of late 19th century Neo-Greg multiple dwelling design.

223-233 EAST 96TH STREET (S/NR-ELIGIBLE)

This six 5-story brick flats were built circa 1889 and all appear to have been designed by the noted New York architecture firm of J.C. Cady & Co. They meet Criterion C as a distinguished group of Romanesque Revival residential architecture with a relatively high degree of integrity of design, materials, and craftsmanship. Of special interest are the stepped, gabled parapets at 229-233 East 96th Street (see View 5 of **Figure 7-4**).

Former P.S. 150, view south on East 96th Street **1**

Former P.S. 150, view southeast from East 96th Street **2**

F.D.R. Drive, view north from East River Esplanade **3**

1817-1829 Second Avenue **4**

223-233 East 96th Street **5**

Historic Resources in Study Area
Figure 7-4

D. THE FUTURE WITHOUT THE PROPOSED ACTIONS

Absent the proposed actions, it is assumed that the project site will continue as in the existing condition, except that the MTA will vacate the western portion of the jointly-operated Marx Brothers Playground and will reconstruct that portion for open space uses.

There are three planned development projects are expected to be completed within the 400-foot study area by the 2023 analysis year. On East 96th Street directly south of the project site, Block 1558, Lot 47 (302 East 96th Street) will be redeveloped with a 21-story, 48-unit residential building. To the northeast of the project site, the existing building at 1918 First Avenue is being converted from dormitory use to affordable housing for seniors, and the parking lot adjacent to this building also will be developed for new housing. None of the projects appear to be located within 90 feet of architectural resources, and thus would not be expected to have the potential to directly (physically) affect historic resources during construction activities.

In the future without the proposed actions, the condition of other architectural resources within the study areas could change. Architectural resources that are listed on the National Register or that have been found eligible for listing are given a measure of protection from the effects of federally sponsored or assisted projects under Section 106 of the National Historic Preservation Act. Although preservation is not mandated, federal agencies must attempt to avoid adverse impacts on such resources through a notice, review, and consultation process. Properties listed on the State Register are similarly protected against impacts resulting from state-sponsored or state-assisted projects under the State Historic Preservation Act. Private property owners using private funds can, however, alter or demolish their properties without such a review process. Privately owned sites that are NYCLs or within New York City Historic Districts are protected under the New York City Landmarks Law, which requires LPC review and approval before any alteration or demolition can occur.

E. FUTURE WITH THE PROPOSED ACTIONS

PROJECT SITE

The proposed project would redevelop the project site with a 68-story, approximately 1,175,000 gsf building on the western side of the project block facing Second Avenue, and an 8-story, approximately 135,000 gsf building on the eastern side of the block. The western building would include approximately 1,015,000 gsf of residential use (approximately 1,200 residential units); approximately 25,000 gsf of commercial retail use, and approximately 135,000 gsf of public school use to replace the existing COOP Tech, as well as potentially up to 120 accessory parking spaces. The eastern building would house two additional public high schools that would relocate from nearby locations within Community Board 11. The jointly-operated playground currently on the western portion of the project site would be relocated to the center of the project block.

The proposed construction on the project site would not entail the demolition of any known or potential architectural resources. Furthermore, as discussed below, the proposed project would not have any direct, physical impacts on known or potential architectural resources in the study area, as a result of the implementation of a Construction Protection Plan (CPP).

STUDY AREA

DIRECT IMPACTS

Using the *CEQR Technical Manual* direct impact criteria noted above, the proposed development within the project site would not result in the replication of aspects of any of the architectural resources in the study area so as to cause a false historical appearance, or the introduction of significant new shadows or significant lengthening of the duration of existing shadows over historic landscapes or structures. There would be no physical changes to any of the architectural resources identified above.

The former P.S. 150 is located slightly more than 90 feet from the project site (see **Figure 7-1**). Therefore, to avoid inadvertent demolition and/or construction-related damage to this resource from ground-borne construction-period vibrations, falling debris, collapse, etc.—and consistent with LPC's letter dated June 24, 2016—the school would be included in a CPP for historic structures that would be prepared in coordination with LPC and implemented in consultation with a licensed professional engineer. The CPP would be prepared as set forth in Section 523 of the *CEQR Technical Manual* and in compliance with the procedures included in the DOB's TPPN #10/88 and LPC's *Guidelines for Construction Adjacent to a Historic Landmark* and *Protection Programs for Landmark Buildings*. Provisions of the 2014 New York City Building Code also provide protection measures for all properties against accidental damage from adjacent construction by requiring that all buildings, lots, and service facilities adjacent to foundation and earthwork areas be protected and supported. Further, Building Code Chapter 3309.4.4 requires that "historic structures that are contiguous to or within a lateral distance of 90 feet…from the edge of the lot where an excavation is occurring" be monitored during the course of excavation work. The CPP would be prepared and implemented prior to demolition and construction activities on the project site and project-related demolition and construction activities would be monitored as specified in the CPP. None of the other architectural resources in the 400-foot study area are located within 90 feet of the project site, and thus would not be included in the CPP.

INDIRECT IMPACTS

The proposed project would not isolate any architectural resource from its setting or visual relationship with the streetscape, or otherwise adversely alter a historic property's setting or visual prominence. At 68 stories, the proposed building fronting on Second Avenue would be taller than the buildings in the surrounding area, but there are tall buildings up to 43 stories in height in the surrounding area, particularly to the south. The proposed building fronting on First Avenue would be of a comparable height and footprint to other buildings in the study area. The proposed new buildings on the project site would not introduce incompatible visual, audible, or atmospheric elements to a resource's setting. The proposed residential, school, and retail uses of the development are comparable with the use of many of the historic and modern buildings in the study area. The proposed project would not eliminate or screen significant publicly accessible views of any architectural resource.

In summary, the proposed project would not be anticipated to have any significant adverse impacts on historic and cultural resources with the preparation and implementation of a CPP for the former P.S. 150. ✷

Chapter 8: Urban Design and Visual Resources

A. INTRODUCTION

This chapter considers the effects of the proposed project on urban design and visual resources. The proposed project would construct a new mixed-use tower on Second Avenue containing a replacement facility for the existing School of Cooperative Technical Education (COOP Tech) as well as residential and retail uses; a new building on First Avenue that would house two public high schools; and would relocate the jointly-operated playground currently on the western portion of the project site to the center of the block.

Under the 2014 *City Environmental Quality Review (CEQR) Technical Manual*, urban design is defined as the totality of components that may affect a pedestrian's experience of public space. These components include streets, buildings, visual resources, open spaces, natural resources, and wind. An urban design assessment under CEQR must consider whether and how a project may change the experience of a pedestrian. The *CEQR Technical Manual* guidelines recommend the preparation of a preliminary assessment of urban design and visual resources followed by a detailed analysis, if warranted, based on the conclusions of the preliminary assessment. The analysis provided below addresses urban design characteristics and visual resources for existing conditions and the future without and with the proposed actions.

As described in detail below, the proposed actions would not be anticipated to result in significant adverse impacts to urban design and visual resources.

B. PRELIMINARY ASSESSMENT

Based on the *CEQR Technical Manual*, a preliminary assessment of urban design and visual resources is appropriate when there is the potential for a pedestrian to observe from the street level a physical alteration beyond that allowed by existing zoning. Examples include projects that permit the modification of yard, height, and setback requirements, and projects that result in an increase in built floor area beyond what would be allowed "as-of-right" or in the future without the proposed project.

The proposed project would require a rezoning as well as height and setback waivers. Therefore, as the proposed project would result in physical alterations beyond that allowed by existing zoning, it would meet the threshold for a preliminary assessment of urban design and visual resources.

C. METHODOLOGY

According to the *CEQR Technical Manual*, the study area for urban design is the area where the project may influence land use patterns and the built environment, and is generally consistent with that used for the land use analysis. For visual resources, the view corridors within the study area from which such resources are publicly viewable should be identified. The land use study

area may serve as the initial basis for analysis; however, in many cases where significant visual resources exist, it may be appropriate to look beyond the land use study area to encompass views outside of this area, as is often the case with waterfront sites or sites within or near historic districts.

Consistent with the analysis of land use, zoning, and public policy, the study area for the urban design and visual resources analysis has been defined as the area within ¼-mile of the project site. This study area roughly extends from East 102nd Street to the north, the East River to the east, East 91st Street to the south, and Lexington Avenue to the west (see **Figures 8-1 and 8-2**).

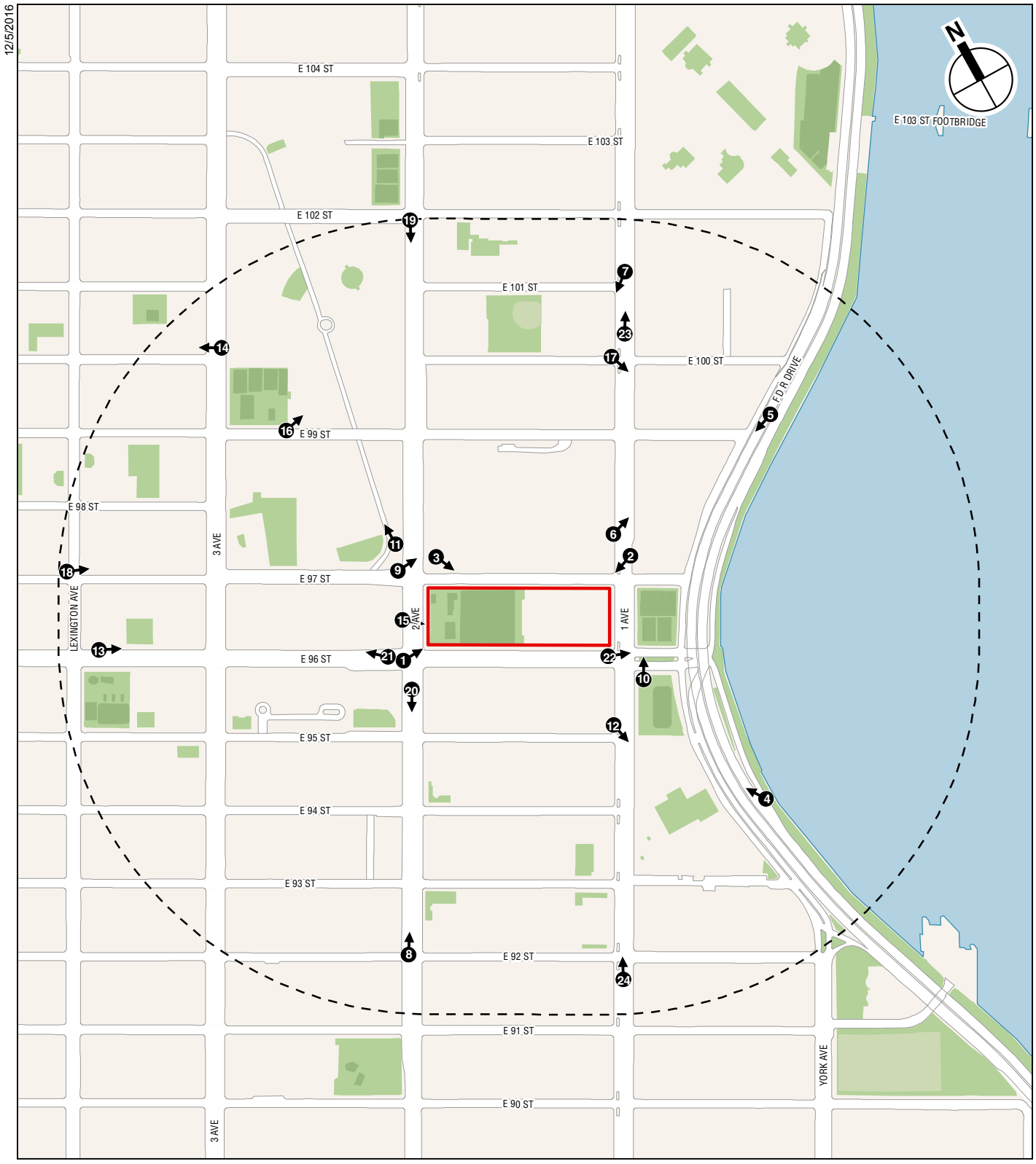
The *CEQR Technical Manual* recommends an analysis of pedestrian wind conditions in the urban design and visual resources assessment, for projects that would result in the construction of large buildings at locations that experience high-wind conditions (such as along the waterfront, or other locations where winds from the waterfront are not attenuated by buildings or natural features), which may result in an exacerbation of wind conditions due to "channelization" or "downwash" effects that may affect pedestrian safety. Factors to be considered in determining whether such a study should be conducted include locations that could experience high-wind conditions, such as along the waterfront; size, and orientation of the proposed buildings; the number of proposed buildings to be constructed; and the site plan and surrounding pedestrian context of the proposed project. The project site is not on the waterfront or in a location that could experience high-wind conditions. Therefore, an analysis of wind conditions and their effect on pedestrian level safety is not warranted under CEQR.

D. EXISTING CONDITIONS

URBAN DESIGN

PROJECT SITE

The project site is Block 1668, Lot 1, in the East Harlem neighborhood of Manhattan. As shown in **Figures 8-1 through 8-3**, the project site is the full block bounded by East 96th and 97th Streets and First and Second Avenues. The western portion of the project site (approximately 64,150 square feet) is currently occupied by the Marx Brothers Playground, which is jointly operated by DOE and NYC Parks. The playground includes a multi-purpose baseball and soccer field and is enclosed by a high chain link fence. The portion of the playground area facing Second Avenue (approximately 23,000 sf) is currently paved and fenced, and in use by MTA as a staging area for Second Avenue Subway construction. The eastern portion of the project site (approximately 66,396 sf) is occupied by a 4-story (approximately 60-foot-tall), 103,498 gsf school building, currently in use by COOP Tech, a public technical high school. The school is set back from the street behind a circular driveway and landscaped area with trees on East 96th Street, and paved area used for informal staff parking on the north side of the site. There are street trees at the perimeter of the site, and seven curb cuts providing vehicular access to COOP Tech and the playground. The built floor area ratio (FAR) of the project site is approximately 1.48, compared to the maximum FARs allowable in the two zoning districts mapped on the site (4.0 and 10.0, respectively). As the only existing development on the project site is the COOP Tech structure, the lot coverage of the project site is low.



ECF EAST 96TH STREET

Urban Design and Visual Resources

Figure 8-1

10/24/2016

0 1,000 FEET

Project Site

Study Area (Quarter-mile boundary)

ECF EAST 96TH STREET

Aerial of Study Area
Figure 8-2

Project site, view northeast from East 96th Street and Second Avenue. MTA staging for Second Avenue Subway in foreground **1**

Project site, view southwest from East 97th Street and First Avenue. School of Cooperative Technical Education in foreground **2**

Project site, view southeast to Marx Brothers Playground from East 97th Street **3**

Photographs of Project Site
Figure 8-3

STUDY AREA

The main streets in the study area are the avenues and East 96th Street, as well as the FDR Drive. Pedestrian traffic appears heaviest along these streets, with the exception of the FDR Drive; the East River Esplanade, which extends along the waterfront east of the FDR Drive, is also well used by pedestrians, runners, and bicyclists (see views 4 and 5 of **Figure 8-4**). The other streets in the study area are mainly one-way and are less busy. Several are discontinuous, due to the presence of the superblocks described below. The blocks in the study area are mainly roughly rectangular, except along the East River waterfront, which curves inland near the project site, and outward to the north and south. There are several superblocks in the area, mostly related to NYCHA housing developments. These include the Washington Houses development, located on three superblocks between East 97th and 102nd Streets and Second and Third Avenues; the Holmes Towers development, located on the block bounded by East 92nd and 93rd Streets, First Avenue and the FDR Drive service road; and the Isaacs development, on the superblock bounded by East 93rd and 96th Streets, First Avenue and the FDR Drive service road. Two other superblocks contain the River Crossing residential development, on the superblock bounded by East 100th and 102nd Streets, First Avenue and the FDR Drive service road, and the Metropolitan Hospital complex, which is located on the superblocks bounded by East 97th and 99th Streets and Second Avenue and the FDR Drive service road. The topography of the study area slopes downward from west to east, sloping particularly between Lexington and Second Avenues.

The study area is urban in character, with streets flanked by concrete sidewalks. Parallel parking spaces are available on most streets; there are bus shelters on the avenues and East 96th and 97th Streets; and there are subway station entrances at Lexington Avenue and East 96th Street, as well as at the southwest corner of Second Avenue and East 96th Street for the new Second Avenue Subway. There is also a dedicated bus lane on the east side of First Avenue, and a dedicated bike line on the west side of the avenue, separated from vehicular traffic by parked cars (see views 6 and 7 of **Figures 8-4 and 8-5**). On Second Avenue, there is a dedicated bus lane on the west side of the avenue, and a dedicated bike lane on the east side of the avenue (see view 8 of **Figure 8-5**). There is transportation signage on gantries above the FDR Drive, as well as on First Avenue for the dedicated bus lane. There are street trees throughout the study area, primarily along the east-west oriented streets and at the larger residential developments described above. Street furniture in the study area is mainly standard, including cobra-head lampposts. There are large surface parking areas north of project site, on the Metropolitan Hospital campus (described below), adjacent to a Department of Sanitation garage facility on East 99th Street and First Avenue, and east of MS244 facing the FDR Drive service road (described below).

Immediately north and northeast of the project site is the Metropolitan Hospital complex, which as noted above occupies the area between East 97th and 99th Streets, Second Avenue, and the FDR Drive. The hospital buildings, which are rectilinear in massing and up to 15 stories tall, are generally set back from the street behind chain link fencing, with driveways for patient drop-offs and surface parking areas (see view 9 of **Figure 8-5**). There are some landscaped areas along the perimeter of the complex. The portion of the complex east of First Avenue is currently being redeveloped, see discussion below under "Future Without the Proposed Actions." East and southeast of the project site is the Stanley Isaacs Playground. The playground includes the block bounded by East 96th and 97th Streets, First Avenue and the FDR Drive, as well as the northern portion of the block directly south. The northern portion of the playground includes handball and basketball courts, and is surrounded by a tall chain link fence and street trees; the southern

East River Esplanade,
view north towards project site **4**

East River Esplanade,
view south towards project site **5**

First Avenue, view north from East 97th Street **6**

Study Area Photographs
Figure 8-4

First Avenue, view south from East 101st Street **7**

Second Avenue, view north from East 92nd Street **8**

Metropolitan Hospital, view from
Second Avenue and East 97th Street **9**

Study Area Photographs
Figure 8-5

portion includes a playground and a roller hockey rink, and is surrounded by a low metal fence (see view 10 of **Figure 8-6**).

The areas to the northwest and southeast of the project site include three NYCHA housing developments. The Washington Houses development between East 97th and 102nd Streets and Second and Third Avenues includes 15 buildings, up to 14 stories tall, roughly rectangular in their footprint, and clad in red brick, as well as three playgrounds managed by DPR. The buildings are set back from and at an angle to the surrounding streets. The perimeter of the complex is defined with low metal fences. The buildings are surrounded by landscaped areas with trees, as well as surface parking areas and some open spaces with benches and play equipment (see view 11 of **Figure 8-6**). Pedestrian paths and private streets extend through the complex. The Holmes Towers and Isaacs developments are located on the blocks bounded by East 92nd and 96th Streets, First Avenue and the FDR Drive service road, and collectively include six buildings (see view 12 of **Figure 8-6**). The Holmes Towers and Isaacs buildings are taller than those in the Washington Houses development—up to 25 stories in height—but are otherwise similar; they are rectilinear in their massing, clad in red brick, and are set back from and at an angle to the surrounding streets. At the periphery of the study area north of the project site are three other NYCHA housing developments: Lexington, a development with four 14-story X-plan buildings on the blocks bounded by East 98th and 99th Streets and Third and Park Avenues; Metro North Plaza, a development with three 7-story rectangular-plan buildings on the block bounded by East 101nd and 102nd Streets and First and Second Avenues; and the East River houses, a development with 11 buildings between six and 11 stories tall, on the block bounded by East 102nd and 105th Streets, First Avenue and the FDR Drive service road.

Other large residential developments in the study area include Normandie Court, Ruppert Yorkville Towers, and Carnegie Park—all of which are located between Second and Third Avenues south of East 96th Street—and the River Crossing development at the northeast corner of the study area. Normandie Court is located directly southwest of the project site. It is a four tower, 34-story development that occupies the entire block between Second and Third Avenues and East 95th and 96th Streets. The buildings in this development are rectangular, with their long sides parallel to the street. They are built generally to the lot line along East 96th Street and Third Avenue, and set back on East 95th Street, where there is a driveway entrance to the complex and a low one-story commercial wing, and Second Avenue, where an entrance to the new Second Avenue Subway has been created. At the southwest corner of the development, at East 96th Street and Third Avenue, there is a landscaped plaza with benches.

The Ruppert Yorkville Towers development, which is located on the two blocks bounded by East 90th and 92nd Streets and Second and Third Avenues, comprise a 42-story (422-foot-tall) tower and a 32-story (342-foot-tall) tower on the western end of the northern block, as well as two matching 32-story towers on the southern block, separated by the East 91st Street pedestrian plaza. These two sets of towers are oriented diagonally on their lots, forming two triangular plazas that face Third Avenue. The Ruppert Yorkville Towers contain retail on the ground floors, and match the architectural style of the adjacent 40-story Knickerbocker Plaza at the eastern end of the East 91st-92nd Street block. The buildings are red brick and modern in style, with vertical strips of windows and chamfered corners with cantilevers at various heights. The Knickerbocker Plaza and Ruppert Yorkville Towers developments both have low lot coverage with ample private open space. The eastern portion of the block containing the south tower of the Ruppert Yorkville Towers development is occupied by Ruppert Park.

Stanley Isaacs Playground,
view north from East 96th Street **10**

Washington Houses, view northwest from
East 97th Street and Second Avenue **11**

Isaacs NYCHA development,
view southeast from First Avenue
and East 95th Street **12**

Study Area Photographs
Figure 8-6

Carnegie Park, a 30-story (282-foot-tall) residential building, is located on Third Avenue between East 93rd and 94th Streets. The L-shaped building has horizontal bands of windows and a curved northern facade, where its tower is located. The building is faced in red brick and built to the lot line, with a nine-story base on the southern portion extending along Third Avenue to East 93rd Street and containing ground floor retail. The eastern portion of this block is occupied by Astor Terrace, a residential development that comprises a 32-story (329-foot-tall) tower fronting Second Avenue and three-story townhouses fronting East 93rd and 94th Streets. The tower and the townhouses are both clad in dark brick. The two components of the development are separated by a through-block driveway that provides access to a split-level, two-story parking garage topped with an above-grade private open space.

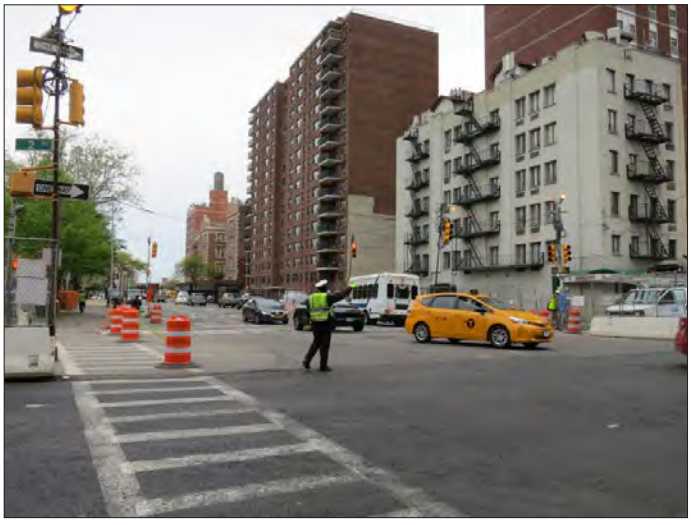
The River Crossing development is located on the superblock bounded by East 100th and 102nd Streets, First Avenue and the FDR Drive service road. The development includes 13-story buildings built to the street line along East 100th and 102nd Streets and First Avenue, with 3-story segments in the interior of the site, forming two quads with central courtyards. On the east side of the development is a 3-story parking garage facing the FDR Drive, and a 4-story school building, built at the same time as the rest of the development and of similar design.

There are other tall, modern apartment buildings within the southern portion of the study area, along Second and First Avenues. These include: One Carnegie Hill, an 41-story, 425-foot-tall development on the north side of East 96th Street between Second and Third Avenues (see view 13 of **Figure 8-7**); the Waterford, a 45-story, 447-foot-tall building on East 93rd Street and Second Avenue; the 43- and 18-story Ruppert Houses and the Easton, a newly-constructed 36-story (427-foot-tall) building, on the block bounded by East 92nd and 93rd Streets and Second and Third Avenues; and 32-story buildings at East 92nd and 93rd Streets and First Avenue. The other residential buildings in the study area include 4- and 5-story tenement buildings—including the historic resources on Second Avenue and East 96th Street (see Chapter 7, "Historic and Cultural Resources")—and lower-scale apartment buildings, primarily on the east-west streets (see views 14 and 15 of **Figure 8-7**). In comparison to the large residential and NYCHA complexes described above, these smaller residential buildings are typically built to the lot line and occupy the majority of their lots. In general, the residential buildings in the study area are taller south of the project site, and shorter to the north.

As described in Chapter 2, "Land Use, Zoning and Public Policy," there are a number of school and community facility uses in the study area, many of which are housed in historic buildings. The El Barrio Artspace, on the NYCHA Washington Houses campus at 213 East 99th Street, is located in the historic 5-story, H-plan Collegiate Gothic-style former P.S. 109 building, built in 1899 (see view 16 of **Figure 8-7**). The Life Sciences Secondary School, M655, is located on the south side of East 96th Street opposite the project site, in the historic Dutch Renaissance/Collegiate Gothic style former P.S. 150 building (see Chapter 7, "Historic and Cultural Resources"). P.S. 198, on Third Avenue between East 95th and 96th Streets, has been determined eligible for listing on the State and National Registers of Historic Places for its mid-century Modern design. M.S. 244, the Manhattan East School for Arts and Academics, the Renaissance Charter High School, and Success Academy Harlem 3 (lower school) are co-located in a historic red brick, U-plan, 4-story building on East 100th Street between First Avenue and the FDR Drive service road. In general, although these buildings are visually interesting, they are not highly visible except along adjacent streets. There are ground-floor retail uses generally along the avenues and East 96th Street, as well as a few commercial developments, and a gas station directly southeast of the project site.

East 96th Street, view east from west of Third Avenue **13**

View west on East 100th Street from Third Avenue **14**



View east on East 96th Street from Second Avenue **15**

Study Area Photographs
Figure 8-7

Open spaces in the study area include the parks and playgrounds noted above, notably the Stanley Isaacs Playground directly east of the project site and the Samuel Seabury Playground at East 96th Street and Lexington Avenue; sitting areas and playgrounds on the grounds of the various NYCHA developments; and public and private plazas associated with the large residential developments noted above. These include the Monterey Public Garden, a large, landscaped public plaza west-adjacent to the Monterey residential tower, on the north side of East 96th Street west of Third Avenue; Ruppert Park, at the southeast corner of the Ruppert Yorkville Towers development; the private open space associated with the Carnegie Park development, on East 93rd Street east of Third Avenue; and public plazas at the southwest and northeast corners of Third Avenue and East 95th Street, associated with large residential developments at those locations. There is a running track and sports field facing First Avenue, adjacent to the shared school building on East 100th Street, and a paved play area south-adjacent to the school on East 101st Street (see view 17 of **Figure 8-8)**. As described above, the East River Esplanade extends along the waterfront east of the FDR Drive throughout the study area; however, it has limited access points. The esplanade, which can be accessed only at East 96th Street within the study area, is a paved path with lighting, benches, and some landscaping.

In general, the buildings in the study area appear to be consistent with existing zoning, which allows for larger FARs along the avenues and south of East 97th Street, and smaller FARs in the mid-blocks and north of East 97th Street. Some buildings have large lot coverage, while others—generally the larger residential and NYCHA developments—do not. Streetwalls in the study area are mixed, with weaker streetwalls in the areas around the larger residential and NYCHA developments, where buildings are set back and/or at an angle to the street, and stronger streetwalls particularly along the side streets with smaller-scale buildings.

VISUAL RESOURCES

Visual resources are an area's unique or important public view corridors, vistas, or natural or built features. These can include historic structures, parks, natural features (such as rivers), or important views.

PROJECT SITE

There are no visual resources on the project site. Views from the project site include the former P.S. 150—now the Life Sciences Secondary School, M655—on the south side of East 96th Street. From the sidewalks adjacent to the east side of the project site, limited views to the East River are available, beyond the elevated FDR Drive.

STUDY AREA

Within the study area, First, Second, Third, and Lexington Avenues and the East River Esplanade provide the most extensive view corridors. Views along the avenues generally extend for long distances, but without any notable focus or visual resources within those views (see views 18 through 24 of **Figures 8-8 through 8-10**). There are a few exceptions, including, on Third Avenue near East 96th and 97th Streets, views to the oxidized copper dome and landscaped grounds of the Islamic Cultural Center of New York. The mature trees and landscaping of some open spaces fronting on the avenues, including the Samuel Seabury Playground at Lexington Avenue and East 96th Street and Ruppert Park at Second Avenue and East 91st Street, also provide visual relief within these dense corridors. Views along the avenues are generally more constrained by tall development in the southern portion of the study area; in

El Barrio Artspace, view from East 99th Street **16**

Sports field adjacent to M.S. 244, on First Avenue **17**

View east on East 97th Street from near Lexington Avenue **18**

View south on Second Avenue from East 102nd Street **19**

View south on Second Avenue from East 96th Street **20**

View west on East 96th Street from Second Avenue **21**

Study Area View Corridors
Figure 8-9

View east on East 96th Street from First Avenue **22**

View north on First Avenue from East 100th Street **23**

Proposed Project in Context, Illustrative
View looking South on Second Avenue
Figure 8-10

the northern portion of the study area, particularly along First Avenue, lower-scale development provides more expansive views to the surrounding area.

Views from the East River Esplanade within the study area include the river, the Robert F. Kennedy (Triborough) Bridge, the Wards Island Bridge, and the Queens waterfront (see **Figure 8-4** above). Close-up views of the project site from the esplanade are limited due to the FDR Drive, which is elevated on a viaduct from roughly East 93rd Street to East 98th Street within the study area. At the southern end of the study area, views from the esplanade include the historic parabolic arch of Asphalt Green (the former municipal asphalt plant) and a pedestrian bridge crossing the FDR Drive. As noted above, views to the East River and the East River Esplanade from within the study area are constrained by the elevated FDR Drive (see view 22 of **Figure 8-10**).

Views east on East 94th and 95th Streets end at the Holmes Tower superblock; views east on East 98th Street, and east/west on East 100th and 101st Streets, end with the Washington Towers superblocks; however, views east on East 100th Street also include a portion of the top of the Triborough Bridge anchorage. As described above, the historic resources in the surrounding area, including several school buildings, are visually interesting, but are not highly visible except along adjacent streets. From within the study area, views to the project site are mostly limited to Second and First Avenues and East 96th and 97th Streets. Views from First Avenue are more expansive due to the lower scale of development in this portion of the study area.

E. THE FUTURE WITHOUT THE PROPOSED ACTIONS

Absent the proposed actions, it is assumed that the project site will continue as in the existing condition, except that the MTA will vacate the western portion of the jointly-operated Marx Brothers Playground and will reconstruct that portion for open space uses.

As described in more detail in Chapter 2, "Land Use, Zoning and Public Policy," the No Action condition assumes that 11 No Build projects would be introduced to the study area by 2023 (see Table 2-2 and Figure 2-4). These projects would range in size from 6-story to 36-story residential apartment buildings or large mixed use buildings. Consistent with the pattern of existing development, the taller proposed developments will be located generally south of the project site. The projects nearest the project site—the redevelopment of the eastern block of the Metropolitan Hospital complex, and the development of a new 21-story building on the south side of East 96th Street, would be expected to change the context of this site, bringing even more density to the surrounding area and, on First Avenue, creating stronger streetwalls. By bringing new uses and buildings to sites that are currently vacant or underdeveloped, and by adapting existing buildings for future uses, the No Build projects would be expected to activate the pedestrian experience on surrounding streets.

F. THE FUTURE WITH THE PROPOSED ACTIONS

URBAN DESIGN

PROJECT SITE

In the future with the proposed actions, the project site is assumed to be redeveloped with the proposed project. The proposed project would develop a 68-story building (760 feet in height, including bulkhead and mechanical equipment) with approximately 1,175,000 gsf on the western

side of the project block, facing Second Avenue, and an 8-story building (185 feet in height, including bulkhead and mechanical equipment) with approximately 135,000 gsf on the eastern side of the block, facing First Avenue. The western building would include approximately 1,015,000 gsf of residential use, approximately 25,000 gsf of retail use, and approximately 135,000 gsf of replacement technical school use. It is possible that the western building also could include up to 120 accessory parking spaces in a below-grade facility. The eastern building would house two public high schools that would relocate from nearby locations within Community District (CD) 11. In total, the development on the site would be approximately 1,310,000 gsf. The existing jointly-operated Marx Brothers Playground would be relocated to the middle of the block (Block 1668), between the two new buildings. The relocated jointly-operated playground would be of an equivalent size and proportion to the existing jointly-operated playground, with enhancements and new programing responsive to community needs. See Figures 1-4 through 1-9 for site and ground floor plans and massing diagrams showing the proposed development, and **Figures 8-11 through 8-16** for illustrative renderings of the proposed development in context.

In general, the urban design of the project site in the future with the proposed actions would differ from the current/No-Action condition in several ways. The new buildings on the project site would be built closer to the lot line on First Avenue than the existing COOP Tech, and would be built to the lot line on Second Avenue, and thus would create cohesive street frontages and stronger streetwalls throughout the site. These stronger streetwalls would be expected to enhance the pedestrian experience along adjacent sidewalks. At 68 stories, the height of the new residential tower would be considerably taller than the existing school facility; the 8-story (185 foot) building also would be approximately 125 feet taller than the existing COOP Tech structure. While the proposed buildings would be taller than the existing building on the site, they would be compatible with other tower developments in the southern portion of the study area, as described below. The school use of the proposed buildings would remain the same as in existing/No-Action conditions, with the addition of retail and residential space along Second Avenue. In addition, the relocated open space would be improved in comparison to the existing/No Action condition, and its new mid-block location would provide a buffer from the busy Second Avenue corridor. The curb cuts serving the project site would be reduced, from seven to four, which would also be expected to enhance the pedestrian experience.

The proposed project would require a rezoning to allow for the development of additional floor area on the site, as well as a special permit to allow distribution of lot coverage and allow modification of height and setback restrictions, a special permit to reduce parking requirements, and certifications to modify restrictions on location of curb cuts, and a certification that a transit easement is not required. These actions are driven by the programmatic needs of the project. The relocation of the playground at its current size and the square footage requirements of the public high school and technical school facilities—the proposed school buildings must contain 270,000 sf of floor area in order to adequately satisfy the spatial needs of the schools to be relocated—dictate the size and location of the residential tower. The height and setback waivers requested in connection with the development of the building on Second Avenue would not facilitate an increase in the overall height of the building, but rather would primarily allow for the base of the building to exceed the maximum base height of 85 feet, in order to provide a sufficiently sized facility to house COOP Tech. Similarly, the waiver of lot coverage regulations applicable to the development of the building on First Avenue would not result in any additional height to the building, but rather would have the effect of compressing the overall height of the building. The

Existing/No Action Condition

With Action Condition

Proposed Project in Context, Illustrative
View looking South on Second Avenue
Figure 8-11

Existing/No Action Condition

With Action Condition

Proposed Project in Context, Illustrative
View looking South on First Avenue

Figure 8-12

Existing/No Action Condition

With Action Condition

Proposed Project in Context, Illustrative
View looking North on First Avenue
Figure 8-13

Existing/No Action Condition

With Action Condition

Proposed Project in Context, Illustrative
View looking North on Second Avenue
Figure 8-14

Existing/No Action Condition

With Action Condition

Proposed Project in Context,
Illustrative View looking East on East 96th Street
Figure 8-15

Existing/No Action Condition

With Action Condition

Proposed Project in Context, Illustrative
View looking Northwest from East River

size of the floor plates included in the proposed school buildings is the minimum necessary to meet the operational requirements of the schools.

STUDY AREA

The proposed project would not result in any changes to buildings, natural features, open spaces, or streets in the study area. In comparison with the No Action condition, the proposed project would alter the visual character of the surrounding area, but this character is already changing through the buildings currently under construction. The proposed project also would enhance the visual character of the project site as compared to existing/No Action conditions, and thus would enhance the pedestrian experience of the neighborhood. The proposed residential, institutional, and retail uses are consistent with the predominant land uses in the study area, and the proposed lot coverage is more consistent with the surrounding area than the lot coverage in existing/No Action conditions.

The new buildings on the project site would be built closer to the lot line on First and Second Avenues than the existing COOP Tech and would be built to the lot line on Second Avenue, and thus would create cohesive street frontages and stronger streetwalls along these corridors. These stronger streetwalls would be expected to enhance the pedestrian experience along adjacent sidewalks. The proposed retail and school uses also would be expected to activate the streetscape along Second Avenue.

As described above, the project site is currently underdeveloped, with less floor area than even the current zoning districts allow, and less density than much of the surrounding neighborhood, which has maximum allowable FARs ranging from 4.66 to 12.0 for residential use with the Mandatory Inclusionary Housing (MIH) program. The proposed rezoning would provide maximum allowable FARs of up to 12.0, subject to the requirements of the MIH program. The proposed project would have a built FAR of approximately 9.69, less than the maximum allowable FAR of 12.0. At this built FAR, the density of the new development on the project site would not be out of scale with other tower developments in the surrounding area. The height of the proposed Second Avenue building would be taller than existing buildings in the study area; however, the sloping topography of the study area would serve to somewhat lessen the perceived height in east-west views. The placement of the residential tower along the Second Avenue corridor is also consistent with the generally taller development along this street, in comparison to the First Avenue corridor.

VISUAL RESOURCES

PROJECT SITE

As described above, there are no visual resources within the project site. In the future with the proposed actions, views from the project site would continue to include the former P.S. 150—now the Life Sciences Secondary School, M655—on the south side of East 96th Street. From the sidewalks adjacent to the east side of the project site, limited views to the East River would continue to be available, beyond the elevated FDR Drive.

STUDY AREA

In the future with the proposed actions, the proposed buildings would be prominent in views along surrounding streets, particularly along Second Avenue and East 96th Street, as well as from the East River Esplanade. In views looking south, the proposed development on the project

site would be more consistent with residential towers to the south of East 96th Street. The height of the development on First Avenue would be visually consistent with surrounding buildings in views to the north and south on this corridor, and the proposed Second Avenue building would not be notable in these views except those nearest the project site. As described above, the height of the proposed Second Avenue building would be taller than existing buildings in the study area; however, the sloping topography of the study area would serve to somewhat lessen the perceived height in east-west views.

The proposed buildings would not obstruct or eliminate views to other visual landmarks in the surrounding area, including, on Third Avenue near East 96th and 97th Streets, views to the oxidized copper dome and landscaped grounds of the Islamic Cultural Center of New York. The expansive views from the East River Esplanade within the study area would continue to include the river, the Robert F. Kennedy (Triborough) Bridge, the Wards Island Bridge, and the Queens waterfront, as well as the project site development. The new buildings on the project site would be visible in close-up views of the project site from the esplanade; however, the lower portions of the development would be limited due to the elevated FDR Drive. Views along the esplanade from south of the project site would not include the proposed development, and would continue to include the historic parabolic arch of Asphalt Green (the former municipal asphalt plant) and a pedestrian bridge crossing the FDR Drive. The proposed buildings would change the immediate context of the former P.S. 150 building (now the Life Sciences Secondary School, M655), but this change in context is not considered to be a significant adverse effect on this visual resource, and the school building would continue to be visible from existing nearby vantage points. As described above, other historic resources in the surrounding area, including several school buildings, are visually interesting, but are not highly visible except along adjacent streets, and thus the proposed buildings would not be anticipated to adversely affect views to those resources.

The proposed project would not partially or totally block a view corridor or a natural or built visual resource. Therefore, the proposed project would not be expected to significantly adversely affect the context of natural or built visual resources, or any view corridors.

In conclusion, the proposed project would not significantly adversely affect urban design or visual resources. ✷

Chapter 9: Hazardous Materials

A. INTRODUCTION

This chapter presents the findings of the hazardous materials assessment and identifies potential areas of concern that could pose a hazard to workers, the community, and/or the environment during or after development of the proposed project. The proposed project would involve demolition of the existing School of Cooperative Technical Education (COOP Tech) building on the project site; excavation and construction related to the new mixed-use tower on Second Avenue; limited excavation and construction related to the proposed school building on First Avenue (no basement is planned for this structure), and the relocation of the existing jointly operated playground (currently partially occupied by staging/temporary offices used by the Metropolitan Transit Authority [MTA]) to the center of the project block.

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

The potential for hazardous material conditions was evaluated based on a Phase I Environmental Site Assessment (ESA) of the project site conducted by AKRF in November 2015. The ESA included the findings of a reconnaissance of the project site (from public rights-of-way), an evaluation of readily available historical information, and selected environmental databases and electronic records in accordance with American Society for Testing and Materials (ASTM) E1527-13.

PRINCIPAL CONCLUSIONS

The proposed project would entail demolition of the existing structure and excavation for the new development. As discussed below, the November 2015 Phase I ESA identified Recognized Environmental Conditions (the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property related to a release). Although excavation activities could increase pathways for human exposure, impacts would be avoided by performing the project in accordance with the following:

- Following completion of the EIS and prior to ground disturbance required for the proposed development, a subsurface (Phase II) investigation would be conducted that would include the collection of soil, groundwater, and soil vapor samples with laboratory analysis. Prior to such testing, a Work Plan for the investigation would be submitted to New York City

Department of Environmental Protection (DEP) for review and approval. Following receipt of the sampling results, a DEP-approved site-specific Remedial Action Plan and Construction Health and Safety Plan (RAP/CHASP) to be implemented during construction would be prepared based on the results of the Phase II Investigation. The RAP/CHASP would specify procedures for managing any encountered underground storage tanks (USTs) and any encountered contamination (including procedures for stockpiling and off-site transportation and disposal of soil). It would also identify any measures (e.g., vapor controls) required for the proposed buildings. The CHASP also would address appropriate health and safety procedures, such as the need for dust or organic vapor monitoring. Plans for remediation, including any vapor controls for the proposed school buildings, also would be provided to the New York City School Construction Authority (SCA) for review.

- Removal of all known and any unforeseen petroleum tanks encountered during redevelopment would be performed in accordance with applicable regulatory requirements including New York State Department of Environmental Conservation's (DEC's) requirements relating to spill reporting tank registration, and tank removal procedures, as warranted.
- Prior to demolition, the existing building would be surveyed for asbestos by a NYC-certified asbestos investigator and all asbestos-containing materials (ACM)would be removed and disposed of prior to demolition in accordance with local, state, and federal requirements.
- Demolition activities with the potential to disturb lead-based paint would be performed in accordance with applicable requirements (including federal Occupational Safety and Health Administration regulation 29 CFR 1926.62 - Lead Exposure in Construction, where applicable).
- Unless there is labeling or test data indicating that any suspect PCB-containing electrical equipment and fluorescent lighting fixtures do not contain PCBs, and that any fluorescent lighting bulbs do not contain mercury, disposal would be conducted in accordance with applicable federal, state, and local requirements.
- If dewatering were to be necessary for the proposed construction, water would be discharged to sewers in accordance with DEP requirements.

ECF would require, through the terms incorporated into the Development Agreement, that AvalonBay comply with and implement all measures outlined above into the proposed project with review and oversight by the appropriate regulatory agencies/authorities. With the measures outlined above, no significant adverse impacts related to hazardous materials would be expected to occur as a result of the proposed project.

B. EXISTING CONDITIONS

TOPOGRAPHY AND SUBSURFACE CONDITIONS

Topography at the project site slopes slightly downward to the east. Based on the U.S. Geological Survey (Central Park, NY Quadrangle) the elevation of the project site is approximately 10 to 20 feet above mean sea level (amsl). Groundwater is anticipated between approximately 10 and 15 feet below ground surface (bgs) and is assumed to flow in an east to southeasterly direction toward the East River, located approximately 560 feet to the east. However, actual groundwater depth/flow can be affected by many factors including past filling activities, underground utilities and other subsurface opening or obstructions such as basements,

subway tunnels, and other factors. Groundwater in Manhattan is not used as a source of potable water.

PHASE I ESA

The November 2015 Phase I ESA identified the following Recognized Environmental Conditions (RECs), i.e., the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property:

- Historical fire insurance maps indicated prior industrial and automotive uses at the project site, including a railroad company and car house, a Machine and Metal Trades High School, an automobile storage, an auto repair shop, and an auto auction house between circa 1896 and 2007.
- The project site (school) was registered with the DEC Petroleum Bulk Storage (PBS) database program (Facility ID No. 2-353639) with two 6,000-gallon No. 6 fuel oil USTs listed as closed and removed, one active 7,500-gallon No. 2 fuel UST, two active diesel fuel aboveground storage tanks (ASTs) (275 and 250-gallons in capacity, respectively); and one 280-gallon waste oil AST (MTA staging).
- The project site was listed in the DEC SPILLS database with numerous closed status spills on the eastern (school) and western (MTA staging) portions of the property.
- The project site (school) was listed as a RCRA Small Quantity Generator (SQG) of hazardous wastes including: solid waste that exhibited characteristics of either ignitability, corrosivity, or reactivity; barium; spent non-halogenated solvents; ethanamine; benzene, acetone; and tetrachloroethylene (TCE) between 1996 and 2014.
- Regulatory database information identified nearby facilities, including: a former Manufacturing Gas Plant (MGP) listed in the DEC Voluntary Cleanup Program with documented coal tar contamination at the Metropolitan Hospital (located on the north-adjacent block), and an active gasoline filling station located on south-adjacent block listed in the SPILLS, RCRA, PBS and Civil Enforcement Docket and ADF databases.

The Phase I ESA also identified other potential environmental concerns including: the potential presence (typical of older buildings) of ACM, polychlorinated biphenyls (PCBs), mercury, and lead-based paint (LBP) at the existing school facility.

C. THE FUTURE WITHOUT THE PROPOSED ACTIONS

In the future without the proposed actions, the existing COOP Tech building on the eastern portion of the project block would remain in operation, the western portion of the jointly-operated Marx Brothers Playground would be vacated by the MTA, and would be reconstructed and restored for open space uses, which might entail limited shallow ground disturbance. Unlike in the With Action condition (discussed below), there would be no requirement for subsurface investigation prior to excavation or a Remedial Action Plan (RAP) and associated Construction Health and Safety Plan (CHASP) during disturbance.

D. FUTURE WITH THE PROPOSED ACTIONS

The proposed project would involve demolition of the existing COOP Tech building; excavation and construction related to the proposed mixed-use tower on the western portion of the project site, which would include one below-grade level; limited excavation and construction related to

the proposed school building on the eastern portion of the site (no basement is planned for this structure); and relocation of the existing playground to the center of the project block.

Although both the demolition and excavation activities could increase pathways for human exposure, impacts would be avoided by performing the project in accordance with the following:

- Following completion of the EIS and prior to ground disturbance required for the proposed development, a subsurface (Phase II) investigation would be conducted that would include the collection of soil, groundwater, and soil vapor samples with laboratory analysis. Prior to such testing, a Work Plan for the investigation would be submitted to New York City Department of Environmental Protection (DEP) for review and approval. Following receipt of the sampling results, a DEP-approved site-specific Remedial Action Plan and Construction Health and Safety Plan (RAP/CHASP) to be implemented during construction would be prepared based on the results of the Phase II Investigation. The RAP/CHASP would specify procedures for managing any encountered USTs and any encountered contamination (including procedures for stockpiling and off-site transportation and disposal of soil). It would also identify any measures (e.g., vapor controls) required for the proposed buildings. The CHASP also would address appropriate health and safety procedures, such as the need for dust or organic vapor monitoring. Plans for remediation, including any vapor controls for the proposed school buildings, also would be provided to the New York City School Construction Authority (SCA) for review.
- Removal of all known and any unforeseen petroleum tanks encountered during redevelopment would be performed in accordance with applicable regulatory requirements including DEC's requirements relating to spill reporting tank registration, and tank removal procedures, as warranted.
- Prior to demolition, the existing building would be surveyed for asbestos by a NYC-certified asbestos investigator and all ACM would be removed and disposed of prior to demolition in accordance with local, state, and federal requirements.
- Demolition activities with the potential to disturb lead-based paint would be performed in accordance with applicable requirements (including federal Occupational Safety and Health Administration regulation 29 CFR 1926.62 - Lead Exposure in Construction, where applicable).
- Unless there is labeling or test data indicating that any suspect PCB-containing electrical equipment and fluorescent lighting fixtures do not contain PCBs, and that any fluorescent lighting bulbs do not contain mercury, disposal would be conducted in accordance with applicable federal, state and local requirements.
- If dewatering were to be necessary for the proposed construction, water would be discharged to sewers in accordance with DEP requirements.

ECF would require, through the terms incorporated into the Development Agreement provisions, that AvalonBay comply with and implement all measures outlined above into the proposed project with review and oversight by the appropriate regulatory agencies/authorities. With the measures outlined above, no significant adverse impacts related to hazardous materials would be expected to occur as a result of the proposed project. ✷

Chapter 10: Water and Sewer Infrastructure

A. INTRODUCTION

This chapter considers the potential for the proposed actions to result in a significant adverse impact to the City's sanitary sewage conveyance and treatment system. As described in Chapter 1, "Project Description," the co-applicants, the New York City Educational Construction Fund (ECF) and AvalonBay Communities (AvalonBay), are proposing several discretionary actions to allow the construction of a mixed-use building, a replacement facility for an existing school, a new facility for the relocation of two existing neighborhood public high schools, and relocation of an existing jointly-operated playground on Block 1668, Lot 1 (the project site), in the East Harlem neighborhood of Manhattan. According to the 2014 *City Environmental Quality Review (CEQR) Technical Manual*, projects that increase density or change drainage conditions on a large site require a water and sewer infrastructure analysis. Developments in a combined sewer area in Manhattan exceeding incremental development thresholds of 1,000 residential units or 250,000 square feet (sf) of commercial, public facility, institutional and/or community facility space require an analysis of potential impacts on the wastewater and stormwater conveyance and treatment system. The project site is in an area of Manhattan that is served by a combined sewer system, and the proposed actions would result in the construction of approximately 1,200 new residential units on the project site. Following the guidelines of the *CEQR Technical Manual*, an analysis of the proposed actions' potential impacts on the wastewater and stormwater conveyance and treatment system was performed. As described below, the proposed actions do not warrant an analysis of water supply.

PRINCIPAL CONCLUSIONS

The analysis finds that the proposed project would not result in any significant adverse impacts on the City's water supply or wastewater and stormwater conveyance and treatment infrastructure. The proposed project would result in an increase in water consumption and sewage generation on the project site as compared with the No Action condition. While the proposed project would result in an incremental water demand of 520,295 gallons per day (gpd), this would not represent a significant increase in demand on the New York City water supply system. An analysis of water supply is not warranted since it is expected that there would be adequate water service to meet the incremental demand, and there would be no significant adverse impacts on the City's water supply.

While the proposed project would generate 324,800 gpd of sanitary sewage, an increase of 315,190 gbd above the No Action condition, this incremental increase in sewage generation would be approximately 0.16 percent of the average daily flow at the Wards Island Wastewater Treatment Plant (WWTP) and would not result in an exceedance of the plant's permitted capacity. The proposed project would not require the rerouting of the existing conveyance system, except for the removal of the 8-inch pipe that was installed in 2013 to serve the MTA staging area on the western portion of the project site. In addition, the New York City Department of Environmental Protection's (DEP's) approval and sign-off would be required to obtain building permits. The Final

Environmental Impact Statement will include any additional information that may become available. Therefore, the proposed project would not result in a significant adverse impact to the City's sanitary sewage conveyance and treatment system.

With the incorporation of selected stormwater source control best management practices (BMPs) that would be required as part of the site connection approval process, subject to the review and approval by DEP, the peak stormwater runoff rates would be reduced.

B. METHODOLOGY

WATER SUPPLY

The *CEQR Technical Manual* recommends a preliminary water analysis if a project would result in an exceptionally large demand of water (over one million gpd), or is located in an area that experiences low water pressure (i.e., in an area at the end of the water supply distribution system such as the Rockaway Peninsula or Coney Island). The project site is not in an area that experiences low water pressure. While the proposed project would result in an incremental water demand of 520,295 gpd,[1] this would not represent a significant increase in demand on the New York City water supply system. Therefore, an analysis of water supply is not warranted since it is expected that there would be adequate water service to meet the incremental demand, and there would be no significant adverse impacts on the City's water supply.

WASTEWATER AND STORMWATER CONVEYANCE AND TREATMENT

As described above, the project site is in a combined sewer area in Manhattan, and the proposed project would exceed the *CEQR Technical Manual* threshold of 1,000 residential units. Therefore, this chapter includes an analysis of the proposed project's potential impacts on the wastewater and stormwater conveyance and treatment system. Existing and future water demand and sanitary sewage generation are calculated based on use rates set by the *CEQR Technical Manual*.[2] The DEP Flow Volume Calculation Matrix is used to calculate the overall combined sanitary sewage and stormwater runoff volume discharged to the combined sewer system for four rainfall volume scenarios with varying durations. The ability of the City's sewer infrastructure to handle the anticipated demand from the proposed project is assessed by estimating existing sewage generation rates and comparing these existing rates with the With Action condition, per *CEQR Technical Manual* methodology.

C. EXISTING CONDITIONS

CONVEYANCE SYSTEM

The project site is in a part of New York City served by a combined sewer system that collects both sanitary sewage and stormwater. In periods of dry weather, the combined sewers (sized to convey an amount of sanitary sewage that is based on density levels according to zoning regulations) in the adjacent streets convey only sanitary sewage. The project site is served by sewer lines adjacent to the project site running along East 97th Street, East 96th Street, and First

[1] See Table 10-4, which include calculations of the project site's total water demand in the With Action condition (547,500 gpd)
[2] *CEQR Technical Manual*, March 2014, Table 13-2.

Avenue. These sewer lines connect to Regulator WI-16, located east of First Avenue at East 96th Street. Regulators are structures that control the flow of sewage to interceptors, i.e., larger sewers that connect the combined sewer system to the City's sewage treatment system. From Regulator WI-16, the flow is conveyed to an interceptor that connects to Wards Island WWTP. On the western portion of the project site, in the MTA staging area, there is an 8-inch pipe that was installed in 2013; the pipe leads to a manhole at the north-western corner of the project site and was likely installed as part of MTA construction activities in the area.

At the Wards Island WWTP, wastewater is fully treated by physical and biological processes before it is discharged into the East River. The quality of the treated wastewater (effluent) is regulated by a State Pollutant Discharge Elimination System (SPDES) permit issued by the New York State Department of Environmental Conservation (DEC), which establishes limits for effluent parameters (i.e., suspended solids, fecal coliform bacteria, and other pollutants). Since the volume of flow to a WWTP affects the level of treatment a plant can provide, the maximum permitted capacity for the Wards Island WWTP is 275 million gallons per day (mgd). The average monthly flow to the WWTP over the past 12 months is 200 mgd,[3] which is below the maximum permitted capacity of 275.

During and immediately after wet weather, combined sewers can experience a much larger flow due to stormwater runoff collection. To control flooding at the Wards Island WWTP, the regulators built into the system allow only approximately two times the amount of design dry weather flow into the interceptors. The interceptor then takes the allowable flow to the WWTP, while the excess flow is discharged to the nearest waterbody as combined sewer overflow (CSO). The project site is located within one CSO drainage area: in wet weather, sanitary flow and stormwater runoff is conveyed to a CSO outfall located at East 96th Street, where it is discharged into the East River.

SANITARY FLOWS

As described in Chapter 1, "Project Description," the project site currently contains the Marx Brothers Playground, the MTA staging area along Second Avenue for subway construction, and a 4-story, 103,498 gsf School of Cooperative Technical Education (COOP Tech). For purposes of analysis, the amount of sanitary sewage is estimated as all water demand generated by the occupied portions of the project site, except water used by air conditioning, which is typically not discharged to the sewer system. It is conservatively estimated that the current school tenant offers approximately 961 seats. Utilizing the demand and sewage generation rates as outlined in the *CEQR Technical Manual,* as shown on **Table 10-1**, the project site currently generates an estimated 9,610 gpd of sanitary sewage with a total water demand of 27,205 gpd.

Table 10-1
Existing Water Consumption and Sewage Generation

Use	Floor Area	Rate*	Consumption (gpd)
School Space			
Domestic	961 seats	10 gpd/seat	9,610
Air Conditioning	103,498 gsf	0.17 gpd/sf	17,595
Total Water Supply Demand			**27,205**
Total Sewage Generation			**9,610**
Notes: * Rates are from the *CEQR Technical Manual*, Table 13-2.			

[3] 12-month period through July 2016

STORMWATER FLOWS

The project site has a total area of approximately 3 acres. As noted above, a portion of the western half of the project site (approximately 41,150 sf) is currently occupied by the Marx Brothers Playground, which includes a multi-purpose artificial turf baseball and soccer field. The portion of the project site facing Second Avenue (approximately 23,000 sf), is currently in use by MTA as a staging area for Second Avenue Subway construction. For analysis purposes, it is assumed that the staging area is fully paved. The eastern portion of the project site (approximately 46,437 sf) is occupied by the 4-story School of Cooperative Technical Education building. Therefore, the surface area of the project site is comprised of paved areas, artificial turf, and buildings. **Table 10-2** summarizes the existing surface coverage of the project site, as well as the weighted runoff coefficient (the fraction of precipitation that becomes surface runoff).

Table 10-2
Existing Surface Coverage

Affected CSO Outfall	Surface Type	Roof	Pavement and Walkways	Other	Grass and Soft Scape	Total
WI-16	Area (percent)	36%	33%	31%	0%	**100%**
	Surface Area (acres)	1.07	0.99	0.94	0.00	**3.00**
	Runoff Coefficient[1]	1.00	0.85	0.70[2]	0.20	**0.86**

Notes: 1. Weighted Runoff Coefficient calculations based on the DEP Flow Volume Calculation Matrix provided in the *CEQR Technical Manual*, retrieved September 2016.
2. Runoff coefficient for the artificial turf field (Marx Brother's Playground) from 'Guidelines for the Design and Construction of Stormwater Management Systems,' NYC DEP; July 2012.

D. THE FUTURE WITHOUT THE PROPOSED ACTIONS

As described in Chapter 1, "Project Description," in the future without the proposed actions (the No Action condition), the project area will continue as in the existing condition, except that the MTA will vacate the western portion of the Marx Brothers Playground and this area will be reconstructed for open space use.

CONVEYANCE SYSTEM

In the No Action condition, there would be no changes to the wastewater conveyance system serving the project site. However, the 8-inch pipe that was installed in 2013 to serve the MTA staging area on the western portion of the project site would be removed from the project site. Wastewater would continue to be conveyed to Regulator WI-16 and the Wards Island WWTP, and CSO would continue to be discharged to the East River through the outfall at East 96th Street.

SANITARY FLOWS

In the No Action condition, the project site would continue to generate an estimated 9,610 gpd of sanitary sewage with a total water demand of 27,205 gpd, as in existing conditions.

STORMWATER FLOWS

The No Action condition is expected to include the completion of MTA's use of the 23,000 sf Second Avenue staging area, and the reconstruction of this area for use as open space. This

change is anticipated to result in the introduction of paved playground area and a small portion of landscaped in the area that is currently paved for MTA Staging. The analysis assumes the reconstruction, in kind, of the playground and comfort station that existed on site prior to MTA Staging; the playground reconstruction would be slightly updated to include resiliency design standards.[4] As a result, the weighted runoff coefficient of the project site, currently 0.86 (in the existing condition), is expected to decrease in the No Action condition to 0.83. Although the DEP Flow Volume Calculation Matrix considers changes from the existing surface coverage and does not account for changes that may occur in the No Action scenario, for informational purposes the estimated surface area coverage and the resulting stormwater runoff coefficient in the No Action scenario are presented in **Table 10-3**.

Table 10-3
No Action Surface Coverage

Affected CSO Outfall	Surface Type	Roof	Pavement and Walkways	Other	Grass and Soft Scape	Total
WI-16	Area (percent)	36%	29%	31%	4%	**100%**
	Surface Area (acres)	1.07	0.88	0.94	0.11	**3.00**
	Runoff Coefficient[1]	1.00	0.85	0.70[2]	0.20	**0.83**
Notes:	1. Weighted Runoff Coefficient calculations based on the DEP Flow Volume Calculation Matrix provided in the *CEQR Technical Manual*, retrieved September 2016. 2. Runoff coefficient for the artificial turf field (Marx Brother's Playground) from 'Guidelines for the Design and Construction of Stormwater Management Systems,' NYC DEP; July 2012.					

E. THE FUTURE WITH THE PROPOSED ACTIONS

As described in Chapter 1, "Project Description," in the future with the proposed actions (the With Action condition), the project site would be redeveloped with a mix of uses including approximately 1,200 residential units, approximately 25,000 gsf of retail use, approximately 270,000 gsf of public school use (comprising COOP Tech and two public high schools relocated from other sites), the 64,150 sf Marx Brothers Playground, and possibly up to 120 enclosed parking spaces.

CONVEYANCE SYSTEM

In the With Action condition, there would be no changes to the wastewater conveyance system serving the project site, except for the removal of the 8-inch pipe that was installed in 2013 to serve the MTA staging area on the western portion of the project site. Wastewater would continue to be conveyed to Regulator WI-16 and the Wards Island WWTP, and CSO would continue to be discharged to the East River through the outfall at East 96th Street.

SANITARY FLOWS

As shown in **Table 10-4**, the proposed project is expected to generate an estimated 324,800 gpd of daily sanitary sewage with a total water demand of 547,500 gpd.

[4] Of the 23,000 sf of reconstructed playground, for analysis purposes, it is assumed that 80 percent would be paved playground (18,400 sf) and 20 percent would be landscaped (to include, tree pits and fenced vegetation [4,600 sf]).

Table 10-4
Proposed Project Water Consumption and Sewage Generation

Use	Floor Area/Units/Persons	Rate[1]	Consumption (gpd)
Residential			
Domestic	2,988 persons[2]	100 gpd/person	298,800
Air Conditioning	1,015,000 gsf	0.17 gpd/sf	172,550
Retail			
Domestic	25,000	0.24 gpd/sf	6,000
Air Conditioning	25,000	0.17 gpd/sf	4,250
School Space			
Domestic	2,000[3]	10 gpd/sf	20,000
Air Conditioning	270,000	0.17 gpd/sf	45,900
Total Water Supply Demand			**547,500**
Total Sewage Generation			**324,800**

Notes: 1. Rates are from the *CEQR Technical Manual*, Table 13-2.
2. Residential population based on Community District 11 average household size of 2.49 persons per household (as of the 2010-2014 ACS), applied to the total number of proposed residential units (1,200 units).
3. Number of students at School of Cooperative Technical Education would be approximately 1,100; students at Park East High School would be approximately 450; students at Heritage School would be approximately 450.

The incremental sanitary sewage generated by the proposed project, as compared with the No Action condition, would be 315,190 gpd. This incremental increase in sewage generation is approximately 0.16 percent of the average daily flow at the Wards Island WWTP (200 mgd) and would not result in an exceedance of the plant's permitted capacity of 275 mgd.

In accordance with the New York City Plumbing Code (Local Law 33 of 2007), the proposed project would be required to utilize low-flow plumbing fixtures, which would reduce sanitary flows to the plant. Therefore, the proposed project would not result in a significant adverse impact to the City's sanitary sewage conveyance and treatment system.

STORMWATER FLOWS

The proposed project would include approximately 66,393 sf (1.52 acres) of impervious building rooftop surfaces, 18,400 sf (0.42 acres) of pavement and walkways, 41,150 sf (.94 acres) of semi-pervious artificial turf field and 4,600 sf (0.11 acres) of landscaping. Compared to the No Action condition, the proposed project would result in a slight increase in fully impervious rooftop area and a reduction of pavement and walkways on the project site. The weighted runoff coefficient in the With Action condition would be 0.86. The proposed project would include the addition of 18,400 sf of paved playground area, equipped with resiliency measures and a drainage system, and 4,600 sf of landscaped area in the proposed playground (to include landscaping such as, tree pits and fenced vegetation).

The proposed project's changes in surface coverage would not substantially increase the runoff coefficient as compared to the No Action runoff coefficient of 0.83. **Table 10-5** summarizes the proposed project's surface coverage and the weighted runoff coefficient.

Using the sanitary and stormwater flow calculations, the DEP Flow Volume Calculation Matrix was completed for the existing conditions and the proposed project (the With Action condition). The calculations from the Flow Volume Calculation Matrix help to determine the change in wastewater flow volumes to the combined sewer system from existing to With Action conditions, and include four rainfall volume scenarios with varying durations. The summary tables of the Flow Volume Calculation Matrix are included in **Table 10-6**.

Table 10-5
Proposed Project Surface Coverage

Affected CSO Outfall	Surface Type	Roof	Pavement and Walkways	Other[2]	Grass and Soft Scape	Total[3]
WI-16	Area (percent)	51%	14%	31%	4%	**100%**
	Surface Area (acres)	1.52	0.42	0.94	0.11	**3.0**
	Runoff Coefficient[1]	1.00	0.85	0.70	0.20	**0.86**

Notes:
1. Weighted Runoff Coefficient calculations based on the DEP Flow Volume Calculation Matrix provided in the *CEQR Technical Manual*, retrieved September 2015.
2. Runoff coefficient for artificial turf field (Marx Brother's Playground) from 'Guidelines for the Design and Construction of Stormwater Management Systems,' NYC DEP; July 2012.
3. Totals may not sum due to rounding.

Table 10-6
DEP Flow Volume Matrix: Existing and Build Volume Comparison

Rainfall Volume (in.)	Rainfall Duration (hr.)	Runoff Volume to Direct Drainage (MG)	Runoff Volume to CSS (MG)*	Sanitary Volume to CSS (MG)	Total Volume to CSS (MG)	Runoff Volume to River (MG)	Runoff Volume to CSS (MG)*	Sanitary Volume to CSS (MG)	Total Volume to CSS (MG)	Increased Total Volume to CSS (MG)*
WI-16		Existing				With Action				**WI-16 Increment**
		130,543 square feet (3.00 acres)				130,543 square feet (3.00 acres)				
0.00	3.80	0.00	0.00	0.00	**0.00**	0.00	0.00	0.05	**0.05**	0.05
0.40	3.80	0.00	0.03	0.03	**0.03**	0.00	0.03	0.05	**0.08**	0.05
1.20	11.30	0.00	0.08	0.09	**0.09**	0.00	0.08	0.15	**0.24**	0.15
2.50	19.50	0.00	0.17	0.18	**0.18**	0.00	0.17	0.26	**0.44**	0.26

Notes: * Assumes no on-site detention or BMPs for purposes of calculations
CSS = Combined Sewer System; MG = Million Gallons
Totals may not sum due to rounding

As shown in **Table 10-6**, in all rainfall volume scenarios flow to the CSO outfall on East 96th Street would increase. The increase in flow is attributable to the increase in sanitary flow resulting from the proposed project.

The Flow Volume Matrix calculations do not reflect the use of any sanitary and stormwater source control best management practices (BMPs) to reduce sanitary flow and stormwater runoff volumes to the combined sewer system. As noted above, the proposed project would incorporate low-flow plumbing fixtures to reduce sanitary flow in accordance with the New York City Plumbing Code. In addition, stormwater BMPs would be required as part of the DEP site connection approval process in order to bring the east and west buildings into compliance with the required stormwater release rate. Specific BMP methods will be determined for each building with further refinement of the building design and in consultation with DEP, but may include on-site stormwater detention systems such as planted rooftop spaces ("green roofs") and/or vaults.

The incorporation of the appropriate sanitary flow and stormwater source control BMPs that would be required as part of the site connection approval process, with the review and approval of DEP, would reduce the overall volume of sanitary sewer discharge and stormwater runoff as well as the peak stormwater runoff rate from the project site. Sewer conveyance near the project site and the treatment capacity at the Wards Island WWTP is sufficient to handle wastewater flow resulting from the proposed project; therefore, there would be no significant adverse impacts on wastewater treatment or stormwater conveyance infrastructure. ✷

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