Chapter 22: CUMULATIVE EFFECTS

22.1 Introduction

Cumulative effects may result when effects of one action occur all together or when the effects of an action occur in combination with effects of other recent, ongoing, and reasonably foreseeable future actions. Cumulative effects may be undetectable when considered specifically in the context of one action, and may result from effects that do not, in themselves, constitute significant adverse impacts; however, combined effects may eventually lead to measurable environmental change.

The Proposed Project does not involve two or more related actions undertaken, funded, or approved by an agency (such as series of projects on various sites). However, per the guidance of the New York City Environmental Quality Review (“CEQR”) Technical Manual, when applicable and significant, the lead agency (in this case, Empire State Development [“ESD”]) should, for the technical areas outlined in the Final Scope of Work analyze and disclose cumulative impacts of the Proposed Project with other projects in the study area, as described below. Thus, all potential environmental effects associated with the Proposed Actions, as described in the respective technical analyses presented in this Environmental Impact Statement (“EIS”), including those effects that do not, themselves, represent significant adverse impacts, are considered together for their potential to lead to significant adverse cumulative impacts.

This chapter also provides a summary of past, present, and reasonably foreseeable future actions that may affect the same environs as the Proposed Project. The potential for combined effects associated with these actions and the Proposed Actions, considered for those technical areas wherein potential effects are expected with the Proposed Actions, specifically include: transportation, air quality, noise, and community facilities (public elementary schools, early childhood programs and public libraries). In addition, potential construction-period effects expected with the Proposed Actions are also considered in the context of construction associated with other actions in the vicinity.

Finally, certain technical areas, such as open space, natural resources, and neighborhood character, as reported in the respective chapters of this EIS, consider the findings of other technical analyses in a cumulative manner in order to determine whether any potential for increased traffic or changes to pedestrian safety, noise, and air quality may affect the use of publicly accessible parks and open spaces, or may generally affect the character of the neighborhood. The potential for cumulative effects associated with the Proposed Actions in this manner are discussed in Chapter 5, “Open Space,” and
Chapter 19, “Neighborhood Character.” In addition, Chapter 9, “Natural Resources,” also considers the potential for cumulative effects to water resources, in particular, given the location of the Project Site within the Jamaica Bay Watershed. The cumulative findings of these three analyses are summarized in this chapter, as well.

22.2 Summary of Cumulative Effects

OTHER DEVELOPMENT ACTIONS IN VICINITY
Four development projects are either currently under construction or are expected to be under construction in the foreseeable future in the vicinity of the Project Site. Given the results of other technical analyses presented in this EIS, other developments and actions that are located within approximately ½-mile of the Project Site may have the potential to affect the same study areas as the Proposed Project. However, as certain projects affecting relatively large areas have the potential to affect areas greater than within a ½-mile radius, a survey of such larger projects was done within approximately 1 mile of the Project Site, which resulted in the Innovative Urban Village being identified for consideration in the analysis of cumulative effects.

The remaining three development projects identified within ½-mile of the Project Site include the Fountain Avenue Land Use Improvement and Residential Project (“Fountain Avenue Project”), the Gateway Estates II residential development, and the Last Mile Industrial Warehouse (see Figure 22-1, “Other Development / Actions in Vicinity”). (Please refer to Chapter 2, “Land Use, Zoning, and Public Policy,” for a discussion of the existing and No Action conditions of these developments.)

The following inventory of development actions in the vicinity of the Project Site is inclusive of all significant current and future No Action projects identified within either ½-mile or 1 mile of the Project Site; as described below, all of these actions have been assumed throughout all applicable analyses prepared for this EIS as components to existing or future No Action conditions, as appropriate. Other smaller, as-of-right development may also occur in the future within the ½-mile study area; such development is accounted for in additional background growth projections in various technical analyses.
The Fountain Avenue Project

As described in Chapter 2, “Land Use, Zoning, and Public Policy,” the Fountain Avenue Land Use Improvements and Residential Project (“Fountain Avenue Project”), which will provide approximately 1,169 units of affordable housing (of which approximately 200 will be dedicated to low-income senior citizens and approximately 234 units will be designated as supportive housing) and up to approximately 122,500 square feet (“sf”) of commercial space across two lots on the same block as the Project Site. The expected completion date is 2021.

As described in all the respective sections of this EIS, and summarized in this chapter, the Fountain Avenue Project is fully considered in the existing conditions and No Action conditions of all technical analyses. It is included as a No Action condition considered within transportation analyses, and thus also as a No Action condition for mobile-source air quality and noise analyses. Further, because it directly affects lands within the Proposed Project’s study areas for land use, zoning, and public policy, socioeconomic conditions, community facilities, shadows, and open space, it is specifically considered in the existing and No Action conditions of those analyses.

Therefore, the potential for cumulative effects associated with the Fountain Avenue Project is fully considered in all technical analyses prepared for this EIS, and to the extent that potential effects to transportation, air quality, and noise, and indirect effects to community facilities are predicted in other analyses prepared for this EIS and summarized in this chapter, cumulative effects related to the Fountain Avenue Project are fully evaluated.

Gateway Estates II Residential Development

As described in Chapter 2, “Land Use, Zoning, and Public Policy,” development of the Gateway Estates II residential project is underway, and when completed (with the construction of approximately 1,040 additional units of affordable housing, approximately 80 of which will be dedicated to senior citizens), it will result in the full implementation of the Fresh Creek Urban Renewal Plan (“FCURP”). The housing dedicated to senior citizens, known as the proposed East Brooklyn Congregation Senior Development project, will be located at 516 Schroeders Avenue and will result in the construction of a standalone approximately 70,000 sf, seven-story building. It is evaluated as a No Action condition within the transportation analyses, and thus also as a No Action condition for mobile-source air quality and noise analyses. Further, because it directly affects lands within the Proposed Project’s study areas for land

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1 Of the total 2,477 units to be developed as part of the Gateway Estates II residential development, it is estimated that approximately 1,437 units have already been completed with a remaining 1,040 to be completed.
use, zoning, public policy, socioeconomic conditions, community facilities, and open space, it is specifically considered in the existing and No Action conditions of those analyses.

Therefore, the potential for cumulative effects associated with the Gateway Estates II residential development is fully considered in all technical analyses prepared for this EIS, and to the extent that potential effects to transportation, air quality, and noise, and indirect effects to community facilities are predicted in other analyses prepared for this EIS and summarized in this chapter, cumulative effects related to the Gateway Estates II residential development are fully evaluated.

**The Last Mile Industrial Warehouse Project**

As described in Chapter 2, “Land Use, Zoning, and Public Policy,” the Last Mile Industrial Warehouse, which will be located at 554, 578, and 553 Cozine Avenue, will result in the demolition of two industrial warehouse buildings and the construction of “last-mile” industrial warehouse space for e-commerce companies. (A “last-mile” facility is the last location in an e-commerce supply chain from which final deliveries of products to purchasers are made.) It is included as a No Action condition considered within transportation analyses, and thus also as a No Action condition for mobile-source air quality and noise analyses. Further, because it directly affects lands within the Proposed Project’s study areas for land use, zoning, and public policy, socioeconomic conditions, community facilities, and open space, it is specifically considered in the existing and No Action conditions of those analyses.

Therefore, the potential for cumulative effects associated with the Last Mile Industrial Warehouse is fully considered in all technical analyses prepared for this EIS, and to the extent that potential effects to transportation, air quality, and noise, and indirect effects to community facilities are predicted in other analyses prepared for this EIS and summarized in this chapter, cumulative effects related to the Last Mile Industrial Warehouse are fully evaluated.

**The Innovative Urban Village**

As described in Chapter 2, “Land Use, Zoning, and Public Policy,” the Innovative Urban Village will be a large-scale development in East New York on a portion of the site currently occupied by the Christian Cultural Center (“CCC”) facility. It is expected to contain approximately 2.4 million gross square feet (“gsf”) of development to be constructed in phases over 10 years with approximately 1,980,000 gsf for residential space (approximately 2,118 units of affordable housing); approximately 82,000 gsf for retail space; approximately 10,000 gsf of day care space; approximately 55,000 gsf of educational/school space; an approximately 16,500-gsf performing arts/cultural center; approximately 170,000 gsf of structured parking for the existing CCC facility and other community facility uses; and an approximately 15,000-gsf trade school. The existing CCC facility would also remain on the site. The project is expected to be complete and operational by 2031. It is included as a No Action condition considered within
transportation analyses, and thus also as a No Action condition for mobile-source air quality and noise analyses. Further, because the Innovative Urban Village project directly affects lands within the Proposed Project’s study areas for land use, zoning, and public policy, socioeconomic conditions, community facilities, and open space, it is specifically considered in the existing and No Action conditions of those analyses.

Therefore, the potential for cumulative effects associated with the Innovative Urban Village is fully considered in all technical analyses prepared for this EIS, and to the extent that potential effects to transportation, air quality, and noise, and indirect effects to community facilities are predicted in other analyses prepared for this EIS and summarized in this chapter, cumulative effects related to that project are fully evaluated.

POTENTIAL EFFECTS ATTRIBUTABLE TO THE PROPOSED ACTIONS
The following represents a summary of analyses presented in detail in the respective chapters of this EIS for which impacts or effects have been identified, in order to facilitate consideration of these findings in the context of the other projects in the vicinity.

Transportation

Traffic
As described in Chapter 14, “Transportation,” traffic conditions were evaluated for the weekday 8-9 AM, 1-2 PM, 4-5 PM, and Saturday 1-2 PM peak hours at 24 intersections in the traffic study area where additional traffic resulting from the Proposed Project would be most heavily concentrated.

As summarized in Table 14-12, “2031 With Action Conditions,” of Chapter 14, “Transportation,” which incorporates consideration of the effects of all four other development actions described previously as part of the No Action condition, the traffic impact analysis indicates the potential for significant adverse impacts at ten intersections during one or more analyzed peak hours. At the intersection of Erskine Street and Gateway Drive/Seaview Avenue, the westbound left-turn movement would deteriorate to level of service ("LOS") F conditions during all four analysis periods. The eastbound right-turn movement would worsen to LOS D during the Saturday midday peak hour. The northbound Fountain Avenue approach to Vandalia Avenue would deteriorate to LOS E and F conditions during the weekday AM and Saturday midday periods, respectively. The northbound Fountain Avenue approach to Flatlands Avenue would deteriorate within LOS D conditions during the Saturday midday period. The westbound Linden Boulevard left-turn movement at Fountain Avenue would deteriorate within LOS E during the weekday AM, midday, and PM peak hours. The southbound Fountain Avenue approach at Linden Boulevard would deteriorate within LOS F during the weekday PM peak hour. The northbound Fountain Avenue approach to Dumont Avenue would deteriorate to LOS E during the weekday PM peak hour. The northbound Elton Street approach to Flatlands Avenue would deteriorate from LOS E to F during the
weekday AM and PM peak hours. The eastbound Pennsylvania Avenue through movement at Flatlands Avenue would experience a deterioration within LOS D during the weekday midday and Saturday midday peak hours. The eastbound left-turn movement would deteriorate to LOS F during all time periods and the westbound left turn would deteriorate within LOS E during the weekday AM peak hour. These left-turn impacts would result from increased through traffic volumes conflicting with the turn movements. The northbound Erskine Street left turn at North Gateway Center Mall driveway would deteriorate to LOS F during the Saturday midday peak hour. The southbound Erskine Street right turn at South Gateway Center Mall driveway would deteriorate to LOS E during the Saturday midday peak hour. The southbound approach of Erskine Street at Schroeders Avenue would deteriorate to LOS E and F during the weekday PM and Saturday midday peak hours, respectively.

Potential mitigation measures to address these significant adverse impacts are discussed in Chapter 23, “Mitigation Measures,” and include the modification of traffic signal phasing and/or timing. Many of these impacts could be mitigated through the implementation of traffic engineering improvements, including modification of traffic signal phasing/timing and/or intersection approach lane reconfiguration. Projected traffic impacts at six intersections could not be mitigated and could remain unmitigated.

The highway analysis indicated the potential for a significant adverse impact for the westbound Belt Parkway weaving segment between Erskine Street and Pennsylvania Avenue. Geometric improvements, such as lengthening the weaving area by adjusting ramp locations or widening the highway, to mitigate the highway impact may not be practicable. This option would also require coordination and approval from New York State Department of Transportation (“NYSDOT”). An alternative mitigation option would include travel demand management (“TDM”) measures to reduce the vehicle trip demand to the Belt Parkway. TDM mitigation would require a binding commitment to implement proposed measures to reduce vehicle trip demand. No practicable TDM measures that would effectively mitigate this impact have been identified. In the absence of such mitigation strategies, the significant highway impact could remain unmitigated.

**Transit**

**Bus**

As described in Chapter 14, “Transportation,” the study area is served by a total of four Metropolitan Transportation Authority (“MTA”) local bus routes—the B13, B83, and B84, operated by New York City Transit (“NYCT”), and the Q8, operated by MTA Bus. The Proposed Project is projected to generate a total of approximately 1,206, 924, 1,235, and 1,326 incremental bus trips on these routes during the weekday AM, midday, PM and Saturday midday peak hours, respectively. Based on projected levels of bus service in the No Action conditions (which incorporates consideration of the effects of the other development actions described previously, as well as the addition of bus service to mitigate service shortfalls identified as potentially resulting from those projects), in combination with bus trips that the
Proposed Project is expected to generate in the future with the Proposed Actions, there would be a capacity shortfall for the B13, B83, and Q8 bus routes during the weekday AM, PM, and Saturday midday peak hours. As a result, each of the bus routes would experience a significant adverse impact based on CEQR Technical Manual criteria, except for the westbound Q8 during the AM peak hour and eastbound Q8 during the PM peak hour. As discussed in Chapter 23, “Mitigation Measures,” the significant adverse impact to these bus services could be mitigated by increasing the number of buses in the peak hours. The general policy of the MTA is to provide additional bus service where demand warrants, taking into account financial and operational constraints. With these mitigation measures in place, transit-related effects would not contribute to significant adverse cumulative effects.

Subway

As described in Chapter 14, “Transportation,” the subway station analysis focuses on the Euclid Avenue (A/C) Station. Incremental demand from the Proposed Project would exceed the 200-trip CEQR Technical Manual analysis threshold during AM and PM weekday and Saturday midday peak hours. The Proposed Project is projected to generate a net increment of approximately 814, 824, and 900 new subway trips during the weekday AM, PM, and Saturday midday peak hours, respectively. The highest number of peak hour subway trips are expected to occur at the Euclid Avenue station on the A and C line, which is projected to experience approximately 497 incremental trips (in and out combined) in the weekday AM peak hour, approximately 502 in the PM peak hour, and 549 trips in the Saturday midday peak hour.

This increment, when also accounting for the effects of the other development projects described above, would result in a significant adverse impact to platform stair P6 during the AM peak hour as the stair is projected to exceed the significant impact threshold. Note that actual stair widening is planned using NYCT guidance and that stair widths are usually considered in terms of 30-inch pedestrian lanes. Thus, the existing 53-inch-wide platform stair P6 would need to be widened from two to three pedestrian aisles for a total width of approximately 90 inches.

As described in Chapter 23, “Mitigation Measures,” a Transit Monitoring Plan would be developed in coordination with NYCT to collect future station passenger counts and perform stair analyses at the Euclid Avenue Manhattan bound platform stairs to determine if station mitigation is needed and, if yes, identify the appropriate mitigation. The proposed mitigation measures are estimated to be needed after Phase 5 of the Proposed Project is completed and occupied. Therefore, this monitoring program and assessment would be performed prior to the completion of Phase 5 and allowing for time such that any proposed mitigation needed can be designed and implemented before completion and occupancy of the first Phase 5 building. If data collected as part of the monitoring program leads to the conclusion that a significant impact could occur, the Developer would consult and coordinate with NYCT, ESD and New York State Homes and Community Renewal (“HCR”) to determine the extent that potential
mitigation improvements are practicable and feasible. If stair widening is deemed impracticable or infeasible, the impact to stair P6 would remain unmitigated. However, affected passengers would have the option to use stairs P4 or P2 as an alternative.

Pedestrians
As described in Chapter 14, “Transportation,” the Proposed Project is expected to generate a net total of approximately 503 walk-only trips in the weekday AM peak hour, approximately 1,148 in the midday peak hour, approximately 931 in the PM peak hour, and approximately 999 walk trips during the Saturday midday peak hour. Persons en route to and from bus stops are projected to add approximately 1,206, 924, 1,235, and 1,326 additional pedestrian trips to area sidewalks and crosswalks during these same periods, respectively. These pedestrian volumes are added to the projected No Action volumes to generate the With Action pedestrian volumes for analysis. The No Action conditions for all transportation analyses incorporate consideration of the effects of all four other development actions described previously as part of the No Action condition, though the Fountain Avenue Project is the nearest action with the greatest potential for combined pedestrian effects. As reported in Chapter 14, the Proposed Project would create three new public streets through the Project Site: North Street, South Street, and Field Drive. All sidewalks internal to the Project Site would operate at an acceptable LOS condition with minimum effective sidewalk clear widths of five feet provided (i.e., a minimum unobstructed sidewalk clear width of eight feet as per the New York City Department of Transportation (“NYCDOT”) Street Design Manual), as would be required by the ESD Environmental Controls. The Proposed Project would generate an increased number of pedestrian trips, with overall operations at LOS C or better. One exception is the intersection of Erskine Street and Vandalia Avenue where the east crosswalk would deteriorate to LOS E during the weekday midday peak hour and to LOS D during the weekday PM and Saturday midday peak hours. The south crosswalk would deteriorate to LOS D during the weekday midday peak hour. These elements would experience a significant adverse traffic impact based on a deteriorating LOS from the No Action conditions. However, Chapter 23, “Mitigation Measures,” identifies measures that could mitigate these significant adverse impacts. Thus, with the mitigation measures proposed as part of the Proposed Project, the Proposed Project would not contribute to significant adverse cumulative effects.

Air Quality
As described in Chapter 15, “Air Quality,” increases in mobile source emissions of carbon monoxide (“CO”), particulate matter less than 2.5 microns in diameter (“PM_{2.5}”) and particulate matter less than 10 microns in diameter (“PM_{10}”) related to project-induced traffic changes would not result in any exceedances of the National Ambient Air Quality Standards (“NAAQS”) or the New York City Department of Environmental Protection / New York State Department of Environmental Conservation (“NYCDEP/NYSDEC”) de minimis impact criteria at existing or future project-related sensitive receptors.
In addition, the cumulative effect of emissions from project-induced traffic and parking facilities associated with the Proposed Project would not result in any significant adverse air quality impacts. As described previously, the traffic and parking analyses incorporate consideration of the effects of all four other development actions described previously as part of the No Action condition and, consequently, the With Action results. Therefore, the air quality analyses, which rely on the findings of the traffic and parking analyses, also consider the potential cumulative effects associated with the Proposed Project in combination with all four other development actions in the vicinity.

Applying fuel type, stack placement and low-nitrogen oxide (“NOx”) burner restrictions that would be required in the ESD Environmental Controls, pollutant emissions of nitrogen dioxide (“NO2”), sulfur dioxide (“SO2”), PM2.5 and PM10 related to the use of natural gas for the heating, ventilation, and air conditioning (“HVAC”) systems of the Proposed Project would not result in any violations of applicable NAAQS or exceed the NYCDEP/NYSDEC de minimis impact criteria. The analysis performed determined that all buildings would be required to use natural gas in any fossil fuel-fired heating or hot water equipment and stack placement and/or boiler efficiency restrictions would be required for Buildings A1, B2, B3, C3, D2, D3, E2, and E3. There would be no setback requirements for Buildings A2, A3, B1, C1, C2, D1, E1, F, H, or K.

Following the release of the DEIS, a supplemental dispersion analysis of the heating and hot water systems was performed to account for the potential use of electric or low NOx burners in some buildings. Specifically, the supplemental analysis assumes the following building volumes would be combined: A1 and A2; C1 and C2; D1 and D2; and E1 and E2. This analysis determined that restrictions would be required for Buildings A1, A2, B3, C1, C2, C3, D1, D2, D3, E1, E2, E3. Under this scenario, there would be no setback distance or boiler type requirements for Buildings A3, B1, B2, F, G, H, I, J and K; however, these buildings would also be required to use natural gas in any fossil fuel-fired heating and hot water equipment. Based on the assumptions used to prepare the supplemental dispersion analysis of the Proposed Project’s heating and hot water systems, and the resulting fuel type, boiler type and/or stack placement restrictions, the Proposed Project would not result in a significant adverse impact to air quality.

This analysis accounts for the combined conditions of the Proposed Project, and to the extent there would be effects, the four identified developments. Therefore, as all air quality analyses account for the potential for combined effects that may be attributable to the Proposed Project and the other four development actions, and no significant adverse impacts to air quality would result with the Proposed Project, there would be no potential for cumulative effects associated with air quality.
Noise
As described in Chapter 17, “Noise,” with the incorporation of window-wall attenuation requirements within certain Proposed Project buildings, the Proposed Project would not result in significant adverse impacts related to mobile or stationary source noise. As described previously, the traffic analyses incorporate consideration of the effects of all four other development actions described previously as part of the No Action condition and, consequently, the With Action results. Therefore, the noise analyses, which rely on the findings of the traffic analyses, also consider the potential cumulative effects associated with the Proposed Project in combination with all four other development actions in the vicinity. None of the studied locations would experience perceptible increases to exterior noise levels related to a doubling of traffic volumes, and window-wall attenuation could achieve acceptable interior noise levels in Proposed Project buildings accounting for forecast traffic noise levels. Therefore, no significant adverse cumulative impacts related to noise would occur with the Proposed Project.

Construction
As described in Chapter 20, “Construction,” construction activities associated with the Proposed Project could result in significant adverse impacts related to traffic, transit, and noise, as well as a parking shortfall. The Proposed Project is projected to result in significant adverse traffic impacts at two study area intersections during the 6-7 AM and 3-4 PM construction peak hours. The impact at the intersection of Fountain Avenue at Linden Boulevard could be mitigated through the implementation of traffic engineering improvements, including modification of traffic signal phasing/timing and/or intersection approach lane reconfiguration. However, traffic impacts at the intersection of Erskine Street and Gateway Drive/Seaview Avenue could remain unmitigated. Potential traffic mitigation measures examined included reconfiguring the westbound approach from one left-turn lane and two shared through/right-turn lanes to two left-turn lanes and one shared through/right-turn lane. This westbound double left-turn lane would require adjusting the signal phasing to include a protected westbound left-turn phase. The eastbound approach would be reconfigured from one left-turn lane, two through lanes, and one right-turn lane to one left-turn lane, one through lane, and two right-turn lanes. These lane reconfigurations plus traffic signal timing adjustments would be necessary to mitigate projected significant adverse traffic impacts. However, signal timing adjustments are not feasible at this intersection without affecting the minimum pedestrian clearance time crossing the street; consequently, significant impacts projected for this intersection could remain unmitigated during each analysis period. Traffic monitoring of this intersection will be undertaken as part of the TMP for consideration of future implementation of mitigation measures.

As described in Chapter 20, “Construction,” the Project’s significant adverse bus impact is also less likely to occur during construction than with full build-out of the Project in 2031, as incremental demand will be lower during construction and will mostly not occur during the peak hours of commuter demand. It is
expected that the mitigation measures identified for 2031 operational transit impacts in Chapter 23, “Mitigation Measures,” namely addition of buses to the affected routes, would also be effective at mitigating any potential impacts from construction transit trips during the 2027 (Q2) construction periods.

Although during construction periods 90 parking spaces would be located on portions of the site that are not under construction and/or on the southeast corner of the Project Site, which is owned by the State, the Proposed Project would result in construction-related parking shortfalls. Drivers experiencing a parking shortfall may search beyond the typical ¼-mile walk radius from the Proposed Project, which would likely result in residents searching for available on-street parking spaces within the light manufacturing neighborhood north of Flatlands Avenue.

As described in Chapter 20, “Construction,” the Proposed Project would result in substantially fewer pedestrian trips during the peak construction phase in 2027 as compared with the full build-out of the Proposed Project in 2031. A traffic and pedestrian monitoring program would be prepared and implemented in 2025 in coordination with NYC DOT to evaluate and confirm that pedestrian conditions would be acceptable during the 2027 construction year.

Construction-related noise would occur during certain times of construction activity and with use of certain equipment. However, while significant adverse impacts could occur, the main source of construction noise (pile driving) would migrate throughout the construction areas, such that the effects of construction noise on any particular sensitive receiver would change depending on the location of the noise source and the height of the receiver. Once pile driving activities are completed, noise levels from other construction activities and equipment would decrease significantly. In addition, noise control measures that would partially mitigate significant adverse construction noise impacts, would be included as a requirement in the ESD Environmental Controls.

As indicated in Chapter 20, “Construction,” emissions and pollutant concentrations resulting from the construction of the Proposed Project are not anticipated to exceed NAAQS and/or CEQR air quality impact thresholds. Certain measures required by code and best management practices would be employed to minimize or avoid any potential adverse effects related to air quality during construction periods. Further, construction-period effects would be limited primarily to the Project Site, and various construction activities would occur for limited durations and would occur at times allowable according to appropriate construction activity codes and regulations, described in Chapter 20.

The only identified construction activity near the Project Site, and not associated with the Proposed Project, would be the construction of the Fountain Avenue Project, north and southwest of the Project Site, on the same block. Construction of the Fountain Avenue Project is expected to be complete by 2021, prior to the beginning of construction for the Proposed Project in 2022.
Community Facilities and Services

Public Schools
As described in Chapter 4, “Community Facilities and Services,” the Proposed Project would generate approximately 354 elementary students and approximately 157 intermediate students. The New York City School Construction Authority (“SCA”) provides future enrollment projections by community school district for up to ten years. The latest available enrollment projections to 2028 have been used in this analysis to project student enrollment in the 2031 build year. Based on the most current data available from the New York City Department of Education (“NYCDOE”), the Proposed Project would limit the number of available seats in the future with the Proposed Actions, and is projected to result in a deficit of 219 seats in Community School District (“CSD”) 19, Sub-District 3. Sub-District 3 elementary school utilization is projected to increase from approximately 94.92 percent to approximately 108.24 percent with the Proposed Actions, resulting in an increase in utilization of approximately 13.32 percent. Therefore, as described in Chapter 4, a significant adverse impact to public elementary schools could result from the Proposed Project.

As discussed in Chapter 23, “Mitigation Measures,” mitigation measures to address the identified significant adverse impact to public elementary schools would be explored in consultation with the NYCDOE and SCA. The mitigation measures would reflect the nature and scope of the elementary school impact, taking into account the assessment in Chapter 4, “Community Facilities and Services.” The NYCDOE and SCA would continue to monitor trends in demand for school seats in the area. The CEQR Technical Manual lists potential mitigation measures for public school impacts. These measures may include, but are not limited to, relocating administrative functions to another site, thereby freeing up space for classrooms; making space within the buildings in the school study area available to the NYCDOE; restructuring or reprogramming existing school space within a district; and/or providing for new capacity (seats) by constructing a new school or an addition to an existing school. ESD will acquire and retain title to the southeast corner of the former Brooklyn Developmental Center (“BDC”) campus and hold the site in reserve for a potential new school that could be constructed there if NYCDOE and SCA determine in the future that demand in the sub-district requires the construction of a new school at this location, at which time the new school construction would be subject to a separate New York State Environmental Quality Review Act (“SEQRA”) review. ESD will consult with the NYCDOE and SCA prior to the construction of Phase 2 concerning the need for mitigation. If it is determined at the time that mitigation is not needed, ESD will consult again with the NYCDOE and SCA prior to construction of each subsequent Project phase concerning the need for mitigation. With ESD’s land banking of the southeast corner site and the implementation of the foregoing mitigation measure, the potentially significant adverse impact on public elementary schools will be mitigated.
Early Childhood Programs
As described in Chapter 4, “Community Facilities and Services,” the Proposed Project is projected to generate approximately 349 children who would be eligible for publicly funded early childhood services. Based on the most current data available from the NYCDOE, these approximately 349 children would further limit the number of available slots in the future with the Proposed Actions, accounting for No Action developments, and result in a total shortfall of approximately 1,085 slots in the study area, and the collective demand for early childhood programs in the study area is projected to increase approximately 28.6 percent from approximately 160.4 percent of capacity in the future without the Proposed Actions to approximately 189.0 percent with the Proposed Project. Therefore, as described in Chapter 4, a significant adverse impact to publicly funded early childhood programs in the study area would result with the Proposed Project.

As discussed in Chapter 23, “Mitigation Measures,” required mitigation measures to address the identified significant adverse impact to publicly funded early childhood programs will be developed in consultation with the NYCDOE. Such measures may include, but are not limited to, the provision of suitable space on-site for an early childhood program, provision of a suitable location off-site and within a reasonable distance, or funding or making program or physical improvements to support additional capacity. If it is deemed appropriate by the NYCDOE, the Proposed Project could include space that could be used for early childhood programming within certain building groups. In this case, approximately 14,500 square feet (“sf”) could be designated for early childhood programming. The early childhood space would be provided across two building groups (Building Groups A and E). Building Group A would provide approximately 10,000 sf of early childhood space if deemed appropriate by the NYCDOE; the Developer would consult with the NYCDOE beginning prior to the design phase for this building group and would hold the space open for an early childhood provider tenant for six months following issuance of a temporary certificate of occupancy (“TCO”) for the building containing the offered space before leasing the space to a non-childcare tenant. Building Group E would provide approximately 4,500 sf of early childhood space if determined necessary by the NYCDOE; the Developer would consult with the NYCDOE prior to the design phase for this building group in order to determine need and identify an early childhood provider tenant. Using an assumption of 50 square feet per slot, this 14,500 sf of space in Building Groups A and E could offer approximately 290 slots for early childhood programming, which would reduce the increase in the utilization rate resulting from the Proposed Project to less than 5 percent and thereby fully mitigate the significant adverse impact if the designated spaces are tenanted by early childhood providers in consultation with the NYCDOE. The ESD Environmental Controls governing the use of the Project Site would require that the developer consult with the NYCDOE for guidance on implementing mitigation, including providing on-site space, at specific phases throughout development as described above.
As noted previously, parents of eligible children are not restricted to enrolling their children in early childhood programs in a specific geographic area and could use public and private providers beyond the study area. In addition, several factors may limit the number of children in need of publicly funded early childhood programs in NYCDOE facilities. For example, families in the study area could make use of alternatives; there are slots at private homes licensed to provide family child care that families of eligible children could elect to use instead of publicly funded early childhood programs. Parents of eligible children may also use NYCDOE vouchers to finance care at private early childhood programs in the study area. Finally, the voucher system could spur the development of new early childhood programs to meet the need of eligible children that would result from the increase in the low-income and low- to moderate-income housing units in the area in the future with the Proposed Actions.

As described in Chapter 24, “Unavoidable Adverse Impacts,” if mitigation measures are not fully effective in addressing the significant adverse impact to early childhood programs, then there may be a potentially unavoidable adverse impact. The implementation of the mitigation measures would rely upon the direction of the NYCDOE and the ongoing monitoring that the NYCDOE must undertake to determine the appropriate mitigation measures. If, after exploring all possible mitigation measures, it is determined that the significant adverse impact on publicly funded early childhood programs would not be completely mitigated, an unavoidable significant adverse impact would result.

Libraries
As described in Chapter 4, “Community Facilities and Services,” the Proposed Project is projected to increase the study area population from approximately 81,728 in the future without the Proposed Actions to approximately 89,151 residents in the future with the Proposed Actions, an approximately 9 percent increase. Accordingly, the future without the Proposed Actions volume-to-resident ratio of approximately 0.34 is projected to decrease to a ratio of approximately 0.31. Per the guidance of the CEQR Technical Manual, since the Spring Creek Library catchment area population would increase by approximately 9 percent and the Proposed Project could be expected to impair the delivery of library services, a significant adverse impact to public libraries could result from the Proposed Project.

Residents of the Spring Creek Library catchment area and the Proposed Project would have access to the holdings of the entire Brooklyn Public Library ("BPL") system and could have volumes delivered directly to their nearest library. There are also three other nearby BPL branches - the New Lots Branch and the Cypress Hills Branch, each located approximately 1.15 miles from the Project Site, and the Canarsie Branch located approximately 2 miles from the Project Site. These libraries’ catchment areas overlap with the Spring Creek Library catchment area. Although these libraries are not accounted for in the quantitative analysis, they serve portions of the study area population, and thus there are additional library resources for study area residents than reflected in this analysis. In addition, BPL offers over 400,000 books, magazines, and audiobooks that can be accessed electronically. Therefore, there are more library resources available to the study area than are reflected in this quantitative analysis.
Nonetheless, since the Spring Creek Library catchment area population would increase by approximately 9 percent, exceeding the 5 percent threshold cited in the *CEQR Technical Manual*, a significant adverse impact to public libraries could result from the Proposed Project.

As discussed in Chapter 23, “Mitigation Measures,” required mitigation measures to address the identified significant adverse impact to public libraries will be developed in consultation with BPL. Based on a meeting held on July 13, 2021, BPL indicated the Proposed Project could increase the catchment area population and alter the demographics such that Spring Creek Library’s programming space and staffing could be impaired. Mitigation measures should be targeted to alleviate the impact created and may include, but are not limited to, providing indoor/outdoor space on the Project Site to accommodate BPL programming, creating programs to accommodate new users, or alleviating staffing constraints through funding one or more new program staff positions. In addition, the Developer has committed to provide Project residents with access to low cost or free internet as well as computer lab/reading areas within the Proposed Project, a measure that BPL agreed would avoid impairment of its provision of public computer access at the Spring Creek Branch. The full range of mitigation measures ultimately implemented would rely upon input from BPL, which will undertake ongoing monitoring to determine the appropriate mitigation measures as the Proposed Project is occupied. As well as providing internet access and computer lab/reading areas within the Proposed Project, the Developer would consult and coordinate with BPL, ESD, and HCR beginning prior to the design of Phase 3, when the significant adverse impact to public libraries is first expected to occur, to determine the need, practicality, and feasibility for on-site space, programming, and staffing. The ESD Environmental Controls governing the use of the Project Site would require that the Developer engage in such consultation prior to the design of Phase 3. Additionally, the ESD Environmental Controls would require that all residents of the Proposed Project would have access to low-cost or free internet as well as computer lab/reading areas within the Proposed Project.

As described in Chapter 24, “Unavoidable Adverse Impacts,” if mitigation measures are not fully effective in addressing the significant adverse impact to public libraries, then there may be a potentially unavoidable adverse impact. Mitigation measures would rely upon the direction of BPL, and the ongoing monitoring that BPL must undertake to determine the appropriate mitigation measures. If, after exploring all possible mitigation measures, it is determined that the significant adverse impact on public libraries would not be completely mitigated, an unavoidable significant adverse impact would result.

**OTHER TECHNICAL AREAS**

The following represents a summary of analyses presented in detail in the respective chapters of this EIS that inherently consider the potential for cumulative impacts that result from the interrelated effects that are analyzed in other EIS technical areas.
Open Space

As described in Chapter 5, “Open Space,” the preliminary open space assessment finds that the Proposed Project is projected to result in a passive open space ratio of approximately 11.5 acres per 1,000 combined workers and residents in the worker ¼-mile study area, which is well above the planning guideline of 0.15 acres of passive open space per 1,000 non-residents. The residential ½-mile study area is projected to have an overall open space ratio of approximately 12.2 acres per 1,000 combined workers and residents, which is well above the planning guideline of 2.5 acres of combined active and passive open space per 1,000 residents. The residential ½-mile study area also has a passive open space ratio of approximately 7 acres per 1,000 workers and residents and an active space ratio of approximately 5.2 acres per 1,000 workers and residents, both of which are well above the planning guidelines of 0.5 acres per 1,000 residents and 2.0 acres per 1,000 residents, respectively. Therefore, the Proposed Project would not cause a significant adverse impact to open space.

This consideration of indirect effects to open space resources with the Proposed Project accounts for the future utilization of open spaces within approximately ¼-mile of the Project Site for the worker study area and ½-mile of the Project Site for the residential study area, per the study areas defined in Chapter 5, “Open Space,” and illustrated on Figure 5-1, “Open Space Resources.” As explained in Chapter 5, the No Action conditions assume that Gateway Estates II residential development, the Fountain Avenue Project, and the Last Mile Industrial Warehouse are complete and fully occupied and, as such, the open space ratios include consideration of the combined effects of these developments, as well as general population increases expected in the study area. No significant adverse impacts are predicted and, therefore, no cumulative indirect effects to open space attributable to the combined effects of the Gateway Estates II residential development, the Fountain Avenue Project, and the Proposed Project would be expected.

Further, the last of the future developments, the Innovative Urban Village, would be located outside of either the ¼-mile worker or ½-mile residential open space study areas, and so there would be no cumulative effects associated with this development project.

Finally, the air quality and noise analyses do not predict significant adverse impacts, and so the effects of the Proposed Project with regard to air quality and noise would not affect the use of open space in the study area or on the Project Site.

Natural Resources

As described in Chapter 9, “Natural Resources,” few natural resources are present on the Project Site, which comprises an institutional campus with several buildings, paved walkways, maintained lawn, driveways, and surface parking areas. The Proposed Project, which is limited to the Project Site, would not result in direct impacts to natural resources, either during construction or occupancy. The Proposed
Project would be consistent with applicable federal, state, and city policies with regard to the management of wetlands, water bodies, and natural resources, and the Proposed Project would not result in significant adverse impacts to any natural resources, including water quality, wetlands, aquatic and terrestrial resources, or threatened, endangered, or special concern species.

Specifically related to the consideration of cumulative effects, as described in Chapter 9, “Natural Resources,” and Chapter 11, “Water and Sewer Infrastructure,” the Project Site is located within the Jamaica Bay Watershed, and as such the Proposed Project would be undertaken in accordance with an approved NYCDEP Amended Drainage Plan for the sanitary and stormwater management. Further, as documented in the Jamaica Bay Watershed Protection Plan Project Tracking Form, which provides for the combined consideration of construction and occupancy, and ongoing City oversight of development activities that occur, cumulatively, in the watershed, the Proposed Project would not result in activities that would cause significant adverse impacts to the watershed; namely, no natural habitat would be directly affected with the Proposed Project, and sanitary sewers and stormwater management would be undertaken in accordance with the approved NYCDEP Master Plan. Therefore, as there are no other effects to natural resources identified in Chapter 9, and no significant adverse impacts identified in other technical areas for locations in proximity to natural resources, no significant adverse cumulative impacts to natural resources would be expected with the Proposed Project.

**Neighborhood Character**

As described in Chapter 19, “Neighborhood Character,” the Proposed Project would result in no unmitigated significant adverse impacts in the future with the Proposed Actions, including no significant adverse impacts related to key components of neighborhood character (i.e., land use and open space, urban design and visual resources, historic and cultural resources, socioeconomic conditions, pedestrian safety, and noise). The consideration of potential impacts to neighborhood character is the consideration of how a proposed action, based on the results of the other technical analyses conducted for this EIS, may affect the amalgam of various elements that give neighborhoods their distinctive character. Such elements considered in Chapter 19 include land use, open space, urban design and visual resources, historic and cultural resources, socioeconomic conditions, traffic, transit, pedestrian safety, and noise. As described in each of these respective chapters and summarized in Chapter 19, the Proposed Project would not result in effects that would combine to result in a significant adverse impact to neighborhood character. Further, as described previously in this chapter, the potential for effects predicted in this EIS for these technical areas account for combined effects that would be attributable to the Proposed Project in combination with other development projects in the vicinity. Therefore, the Proposed Project would not result in any significant adverse cumulative impacts to neighborhood character.