A. INTRODUCTION

As described in the 2021~~0~~ *City Environmental Quality Review* (CEQR) *Technical Manual*, alternatives selected for consideration in an environmental impact statement are generally those that are feasible and have the potential to reduce, eliminate, or avoid significant adverse impacts of a proposed project while meeting some or all of the goals and objectives of this project. The purpose of an analysis of alternatives to a proposed project is to provide the decision makers with the opportunity to consider practicable alternatives that are consistent with the project's purpose, and that could potentially reduce or eliminate significant adverse environmental impacts identified in the Environmental Impact Statement (EIS). As described in **Chapter 1, "Project Description,"** the Proposed Actions would facilitate a proposal by the Applicant to develop a new approximately 1,154,987 gross square foot (gsf) mixed-use development ("Proposed Project") on approximately 164,392 sf of lot area ("Projected Development Site 1"). The Proposed Project would be comprised of approximately 1,400 dwelling units (DUs) (approximately 1,130,462 gsf of residential area), of which 350 DU s would be affordable; approximately 1,887 gsf of local retail space; approximately 22,638 gsf of community facility space; 525 accessory parking spaces; and 41,363 sf of publicly accessible open space. The proposed zoning map amendment would rezone Projected Development Site 1 (Block 911, Lot 1) and one additional site not under the control of the Applicant (Block 911, Lot 49). Together, these lots comprise approximately 199,245 sf (the "Project Area").

Under the reasonable worst-case development scenario (RWCDS), Projected Development Site 1 would be developed with an approximately 1,154,987 gsf development containing 1,400 DUs, 1,887 gsf of retail space, 22,638 gsf of community facility space, and 525 accessory parking spaces. The Proposed Project would also contain 41,363 sf of publicly accessible open space along the waterfront that would run along the entire length of Projected Development Site 1. Projected Development Site 2 would be developed with a 219,296 gsf building containing 265 DUs, approximately 15,000 gsf of commercial retail uses, and 115 accessory parking spaces.

This chapter considers three alternatives to the Proposed Project: (1) a No-Action Alternative, which contemplates a new as-of-right development is anticipated to be developed pursuant to existing M1-1 zoning at the Projected Development Sites; (2) a No Unmitigated Significant Adverse Impacts Alternative, which considers a development scenario that would not result in any identified significant unmitigated adverse impacts; ~~and~~ (3) a Lower Density Alternative, which considers a Proposed Project with less density compared to the Proposed Actions, resulting in reduced residential development; and (4) a new alternative known as the Potential City Planning Commission (CPC) Modification Alternative, which considers a modification to the proposed building massing on Projected Development Site 1 that would shift the proposed Tower 3 approximately 15 feet to the south.

B. PRINCIPAL CONCLUSIONS

No-Action Alternative

The No-Action Alternative examines future conditions on the Projected Development Sites 1 and 2, but assumes the absence of the Proposed Actions (i.e., none of the discretionary approvals proposed as part of the Proposed Actions would be adopted). Under the No-Action Alternative by 2031, it is anticipated that an as-of-right warehouse would be constructed on both Projected Development Sites 1 and 2 pursuant to the existing M1-1 zoning.

The M1-1 zoning permits a 1.0 FAR for manufacturing and commercial uses. Under the No-Action condition, Projected Development Site 1 would be developed with a 2-story 172,612 gsf warehouse and 82 accessory parking spaces. Under the No-Action condition, it is assumed that the existing vacant warehouse building on Projected Development 2 would be re-occupied with 28,750 gsf of warehouse uses and 14 accessory parking spaces. The technical chapters of this EIS have described the No-Action Alternative as "the Future Without the Proposed Actions."

The significant adverse impacts related to community facilities, open space, ~~and~~ transportation, noise, and construction anticipated for the Proposed Actions would not occur under the No-Action Alternative. However, the No-Action Alternative would not meet the goals of the Proposed Project. The benefits expected to result from the Proposed Project as intended by the Applicant – including promoting affordable and market-rate housing development through the introduction of increased residential density on-site, introducing new publicly accessible waterfront open space – would not be realized under this alternative, and the No-Action Alternative would fall short of the objectives of the Proposed Actions.

No Unmitigated Significant Adverse Impacts Alternative

The No Unmitigated Significant Adverse Impacts Alternative examines a scenario in which the density and other components of the Proposed Development are changed specifically to avoid the unmitigated significant adverse impacts associated with the Proposed Development. As presented in **Chapter 18, "Mitigation,"** and **Chapter 20 "Unavoidable Adverse Impacts,"** there is the potential for the Proposed Actions to result in unmitigated significant adverse impacts related to community facilities (public elementary schools and publicly funded early childhood programs), open space, transportation, noise, and construction noise. Overall, in order to eliminate all unmitigated significant adverse impacts, the RWCDS would have to be modified to a point where the principal goals and objectives would not be realized.

Lower Density Alternative

A Lower Density Alternative to the Proposed Actions was developed to determine whether the impacts to community facilities, open space, transportation, and construction could be reduced or eliminated while accomplishing the purpose and need established for the Proposed Actions. The Lower Density Alternative would result in 213 fewer DUs compared to the Proposed Actions, including 53 fewer affordable DUs; the same amount of commercial and community facility square footage (1,887 gsf and 22,638 gsf, respectively) and open space (0.95 acres) would be developed under both scenarios.

As outlined below, the Lower Density Alternative would still result in significant adverse impacts on community facilities, active open space, transportation, noise, and construction noise. The Lower Density Alternative is expected to result in the same or a slightly lower number of significant adverse traffic

impacts than the Proposed Actions. In addition, both the Lower Density Alternative and the Proposed Actions would result in significant adverse bus line haul and subway station element impacts. As the Lower Density Alternative would not substantially alter the anticipated construction schedule, similar or slightly lesser construction noise impacts are anticipated under this alternative. These impacts could be mitigated and/or partially mitigated using the same mitigation measures identified for the Proposed Actions, with slightly lesser mitigation needed to mitigate the child care impact.

Overall, although the Lower Density Alternative would meet a number of the goals and objective of the Proposed Actions, this Alternative would meet these goals to a lesser degree than the Proposed Actions. Specifically, as the Lower Density Alternative would result in fewer residential units, it would be less supportive of the objective of the Proposed Actions to create opportunities for new housing development, including affordable housing, while continuing to result in significant adverse impacts on child care facilities, active open space, transportation, and construction noise.

Potential CPC Modification Alternative

Under the Potential CPC Modification Alternative, the Proposed Project would be modified to shift Tower 3 approximately 15 feet to the south and Tower 2 approximately 6 to 10 feet to the east, and shift the terminus of the turnaround drive extending beyond 3rd Street north of 26th Avenue approximately 35 feet closer to 26th Street, thus creating additional open space areas along the waterfront as compared to the Proposed Actions. The modification is being considered by the CPC in response to questions raised during the public review process. The development program and building bulk under this alternative is identical to the Reasonable Worst-Case Development Scenario (RWCDS) prepared for the Proposed Actions, with exception to the massing configuration of Towers 2 and 3, which will be shifted approximately 6 to 10 feet to the east and 15 feet to the south, respectively. Accordingly, the Potential CPC Modification Alternative would result in the same or similar significant adverse impacts as the Proposed Actions, requiring the same or similar mitigation measures, while still meeting the objectives of the Proposed Actions.

C. NO-ACTION ALTERNATIVE

The No-Action Alternative examines future conditions on the Projected Development Sites 1 and 2, but assumes the absence of the Proposed Actions (i.e., none of the discretionary approvals proposed as part of the Proposed Actions would be adopted). Conditions under this alternative are similar to the "Future without the Proposed Actions" described in the preceding chapters, which are compared in the following sections to conditions under the Proposed Actions. The No-Action Alternative incorporates known development projects in the surrounding area that are likely to be built by the analysis year of 2031.

Under the No-Action Alternative, it is anticipated that as-of-right developments on Projected Development Sites 1 and 2 would be constructed pursuant to the existing M1-1 zoning under future No-Action conditions. The M1-1 zoning district permits 1.0 FAR for commercial and manufacturing uses.

As described above, Projected Development Site 1 would be developed with a 2-story 172,612 gsf warehouse and 82 accessory parking spaces. Under the No-Action condition, it is assumed that the existing vacant warehouse building on Projected Development 2 would be re-occupied with 28,750 gsf of warehouse uses and 14 accessory parking spaces.

The effects of the No-Action Alternative in comparison to those of the Proposed Actions are provided

below.

Land Use, Zoning, and Public Policy

Under the No-Action Alternative, it is anticipated that Projected Development Site 1 would be redeveloped as a warehouse and Projected Development Site 2 would be re-occupied as a warehouse pursuant to existing zoning. The No-Action development would re-introduce previous land uses to the Project Area. As such, the No-Action Alternative would not result in a change of land use on the Project Area.

No changes to zoning or public policy are anticipated to the Project Area under the No-Action Alternative. Under this alternative, the existing M1-1 zoning classification of the Project Area would remain and no zoning special permits or other land use actions would be required. In addition, the zoning text amendment to establish the Project Area as a Mandatory Inclusionary Housing (MIH) area would not be established and no mandatory affordable housing would be developed.

It is the Applicant's opinion that unlike the Proposed Project, the No-Action Alternative would not improve land use conditions in the study area by expanding housing opportunities and mandating the creation of affordable housing and introducing local retail, and community facility uses to the area, nor would it provide new publicly accessible open space. Further, the Applicant believes that the pedestrian experience would not be enhanced with active retail or publicly accessible open space uses. In addition, the Applicant believes that the No-Action Alternative would be less supportive of public policies articulated in *Housing New York 2.0*, PlaNYC, and *OneNYC* that aim toward increasing the supply of housing in the city, reclaiming underutilized land, and expanding access to affordable housing.

While the Applicant believes that the No-Action Alternative does not achieve the beneficial land use changes that would result with the Proposed Project, neither the Proposed Actions nor the No-Action Alternative would result in significant adverse impacts related to land use, zoning, and public policy, as described in **Chapter 2, "Land Use, Zoning, and Public Policy."**

Socioeconomic Conditions

Neither the No-Action Alternative nor the Proposed Actions would be expected to have a significant adverse impact on socioeconomic conditions. Similar to the Proposed Actions, the No-Action Alternative would not result in direct residential or business displacement.

New residential developments are anticipated in the socioeconomic conditions study area in both the future with the Proposed Actions and under the No-Action Alternative, and demand for residential development in Astoria is expected to continue to rise. Unlike the Proposed Actions, under the No-Action Alternative, the Project Area would not be designated an MIH area, and no units of affordable housing would be constructed. As a result, the benefits of the Proposed Actions, in which the Applicant intends to provide new affordable housing to the area that would help maintain deeper affordability in Astoria's housing stock, would not be realized under the No-Action Alternative as described in **Chapter 3, "Socioeconomic Conditions."**

Community Facilities and Services

Under the No-Action Alternative, no affordable housing would be constructed within the Project Area, and, therefore, no additional publicly funded child care-eligible children would be added to the study area. Therefore, unlike the Proposed Actions, the No-Action Alternative would not result in significant adverse impacts to publicly funded early childhood programs. Unlike the Proposed Actions, under the No-Action Alternative, the Project Area would not be designated an MIH area, and no units of affordable housing would be constructed.

Neither the No-Action Alternative nor the Proposed Actions would ~~not~~ result in direct impacts to community facilities and services or indirect impacts to ~~elementary,~~ intermediate~~,~~ and high schools, library services, or police, fire, and emergency medical services. Under the Proposed Actions, indirect impacts to public elementary schools and publicly funded early childhood programs would occur.

Open Space

Under the No-Action Alternative, it is anticipated that Projected Development Site 1 would be redeveloped as a warehouse and Projected Development Site 2 would be re-occupied as a warehouse pursuant to existing zoning. The No-Action development would re-introduce previous land uses to the Project Area. As such, the No-Action Alternative would not result in a change of land use on the Project Area. Approximately 201 workers would be introduced to the area as a result of the as-of-right development on the Projected Development Sites. Unlike the Proposed Actions, the No-Action Alternative would not result in the creation of a new publicly accessible waterfront open space. Similar to existing conditions, the total and passive open space ratios under the No-Action alternative would remain above the City's community district median and the City's optimal planning guidelines, while the active open space ratio would remain below the City's community district median and the City's optimal planning guidelines. The workers generated by the No-Action development would not place additional demand on the study area's active open space uses as worker population tends to place demands on passive open space. As such, under the No-Action Alternative, no significant adverse active open space impacts would occur. However, the open space benefits associated with the Proposed Actions would not occur under the No-Action Alternative.

Shadows/Natural Resources

Under the No-Action Alternative, it is anticipated that Projected Development Site 1 would be redeveloped as a warehouse and Projected Development Site 2 would be re-occupied as a warehouse pursuant to existing zoning. It is assumed that the as-of-right buildings would each rise to two stories in height. Shadows from the as-of-right No-Action structures would be significantly less than under the Proposed Actions, and neither alternative would result in significant adverse shadow impacts.

Urban Design and Visual Resources

In the No-Action Alternative manufacturing buildings with parking would be constructed on Projected Development Sites 1 and 2. Absent the proposed C2-4 commercial overlay, no ground floor retail would be developed within the Project Area. Absent the proposed City map amendment and the development of Third Street, access to Projected Development Site 1 and the proposed publically accessible open space and waterfront esplanade would not occur.

Unlike the Proposed Actions, which would redevelop the Project Area with residential and ground floor retail uses, as well as developing a new street and waterfront open space, the Project Area would retain its existing industrial uses with no public access to the waterfront. The No-Action Alternative industrial uses along the waterfront would be out of context with known and anticipated development in the surrounding area, including the Astoria Cove development to the east and the Halletts Point development to the southwest. In addition, certain benefits to the pedestrian realm associated with the Proposed Actions, including the reactivation of the pedestrian realm through ground floor retail and the connection of the Project Area to surrounding open space resources, would not be realized under the No-Action Alternative.

Hazardous Materials

Projected Development Site 1 has received a Certificate of Completion from the New York State Department of Environmental Conservation (DEC) for participation in the Brownfield Cleanup Program. Therefore, as under the Proposed Actions, the No-Action Alternative would not result in significant adverse hazardous materials impacts on Projected Development Site 1.

Absent the Proposed Actions, Projected Development Site 2 would not be rezoned and would not be assigned with a hazardous materials (E) designation. Compared with development anticipated on the Projected Development Site 2 as a result of the Proposed Actions, the No-Action Alternative would result in the reoccupation of the existing vacant warehouse building on the site. However, any construction involving soil disturbance or renovation of the existing building on the Projected Development Site 2 could potentially increase pathways for human exposure to any subsurface hazardous materials present. Thus, the amount of soil disturbance would be reduced, but the controls on its performance would not be as thorough as under the Proposed Actions. In addition, the continued use of the waterfront buildings for warehouse and storage uses in the No-Action Alternative could lead to possible opportunities for potential exposure to petroleum and non-petroleum compounds. Legal requirements pertaining to petroleum tank maintenance, spill reporting, worker exposure to chemicals, etc., would be followed under the No-Action Alternative.

Water and Sewer Infrastructure

As with the Proposed Actions, the No-Action Alternative would not result in significant adverse impacts to the City's water supply, wastewater and stormwater conveyance, and treatment infrastructure. However, absent the Proposed Actions, no new stormwater outfalls, storm sewers, or sanitary sewers would be constructed on or adjacent to the Project Area and a new amended drainage plan (ADP) would not be developed absent the Proposed Actions' City map amendment.

As described in **Chapter 10, "Water and Sewer Infrastructure,"** under the No-Action Alternative, anticipated growth in the vicinity of Queens CD 1 and as-of-right development that would occur within the Project Area would result in additional demand for water, wastewater production, and stormwater runoff. Water consumption within the Project Area would increase as a result of the No-Action Development. Given the resultant level of consumption (a net increment of less than 0.04 million gallons per day [mgd]), incremental demand would not be large enough to significantly affect the ability of the City's water system to deliver water in the No-Action Alternative. As additional sanitary discharges would be well within the 40 mgd average available capacity of the Bowery Bay Water Pollution Control Plant (WPCP), the facility would continue to operate within its design capacity under the No-Action Alternative. Furthermore, assuming that the area of impermeable surface within the Project Area increase, and since there would only be small increases in sanitary flow to the combined sewer resulting from increased

detention measures, it is anticipated that no significant change in the frequency or duration of combined sewer overflow (CSO) events would occur under the No-Action Alternative, as compared to existing conditions.

Transportation

As discussed below, unlike the Proposed Actions, the No-Action Alternative would not result in any significant adverse impacts with respect to transportation. Unlike the Proposed Actions, the No-Action Alternative would not result in the potential for significant adverse traffic impacts to 1~~8~~9, 1~~0~~3, 17, and 1~~2~~3 intersections in the weekday AM, midday and PM, and Saturday peak hours, respectively. The Proposed Actions' significant adverse impacts to four street stairs at the 30th Avenue (N/W) subway would not occur under the No-Action Alternative. Furthermore, the Proposed Actions' significant adverse impacts to two sidewalks, three crosswalks, and one corner in one or more peak hours would not occur under the No-Action Alternative. Like the Proposed Actions, demand for off-street and on-street parking spaces within the parking study area would exceed capacity during the analyzed weekday midday and overnight periods. In the No-Action Alternative, traffic, parking, transit, and pedestrian demand in the study area would increase as a result of background growth, development that could occur pursuant to existing zoning (i. e., as-of-right development), and other development projects likely to occur within and in the vicinity of the Project Area.

Traffic

Independent of the Proposed Actions, traffic levels of service (LOS) at many locations in the study area would experience congested conditions in the future. Under the No-Action Alternative, a total of 1~~7~~6 intersections (1~~1~~0 signalized and 6 unsignalized) would have at least one congested lane group in one or more peak hours; this is compared with a total of 2~~0~~1 intersections (1~~3~~2 signalized and ~~7~~9 unsignalized) with at least one congested lane group in one or more peak hours under the Proposed Actions. There would be no intersections with significant adverse traffic impacts under the No-Action Alternative compared with 1~~8~~9, 1~~0~~3, 17, and 1~~2~~3 impacted intersections during the weekday AM, midday and PM, and Saturday peak hours, respectively.

Transit

Subway

Under the No-Action Alternative, the 30th Avenue (N/W) subway station would experience an increase in demand as a result of background growth and future developments anticipated within and in the vicinity of the Project Area. No pedestrian elements (stairs, escalators and fare arrays) at this station would experience significant adverse impacts under this alternative. By comparison, under the Proposed Actions, four street stairs at the 30th Avenue station would be significantly adversely impacted by With-Action demand in either the AM or PM peak hour.

Bus

Under the No-Action Alternative, demands on the local bus services operating in the vicinity of the Project Area are expected to increase compared with existing ridership as a result of background growth and new development. The existing level of bus service would not be sufficient to provide adequate supply to meet projected demand under the No-Action Alternative on the eastbound Q18, westbound Q18, eastbound Q19, westbound Q19, northbound Q103, and southbound Q10~~3~~2 services in the AM peak hour. Based on

a loading guideline of 54 passengers per standard bus, ten, one, one, one, four, and ~~nine~~17 additional buses would be needed for the eastbound Q18, westbound Q18, eastbound Q19, westbound Q19, northbound Q103, and southbound Q103~~2~~ services, respectively, in the AM peak hour in order to accommodate projected demand. ~~—~~The existing level of bus service would not be sufficient to provide adequate supply to meet projected demand under the No-Action Alternative on the westbound Q18, northbound Q103, and southbound Q103~~2~~ services in the PM peak hour. Based on a loading guideline of 54 passengers per standard bus, eight, 13, and eight additional buses would be needed for ~~each of~~ the westbound Q18, ~~and~~ northbound Q103~~2~~, and southbound Q103 services in the PM peak hour, respectively, in order to accommodate projected demand. By comparison, under the Proposed Actions, the eastbound Q18, northbound Q103, and southbound Q103~~2~~ buses would be significantly adversely impacted in the AM peak hour, as well as the ~~westbound Q18~~southbound Q103 and northbound Q103~~2~~ buses in the PM peak hour.

Pedestrians

Under the No-Action Alternative, pedestrian volumes along analyzed sidewalks, crosswalks and corner areas are expected to increase compared with existing levels as a result of background growth as well as demand from new development.

Sidewalks

Under the No-Action Alternative, all analyzed sidewalks are expected to operate at an acceptable LOS C or better in all peak hours, with the exception of the north sidewalk of 27th Avenue between 3rd and 4th Streets which would operate at marginally acceptable LOS D in the weekday midday peak hour. The Proposed Actions' significant adverse impacts to two of the 11 analyzed sidewalks in one or more peak hours would not occur under this alternative.

Crosswalks

Under the No-Action Alternative, all analyzed crosswalks are expected to operate at an acceptable LOS C or better in all peak hours~~, with the exception of the north and east crosswalk at 27th Avenue and 4th Street which would operate at LOS D during the weekday midday peak hour~~. The Proposed Actions' significant adverse impacts to all three of the analyzed crosswalks would not occur under this alternative.

Corners

Under the No-Action Alternative all analyzed corner areas are expected to operate at an uncongested LOS C or better in all peak hours. The Proposed Actions' significant adverse impacts to one of the five analyzed corners would not occur under this alternative.

Parking

Under the No-Action Alternative, it is expected that parking demand in the vicinity of the Project Area would increase as a result of background growth and new development. However, the parking demand generated by the No-Action Alternative would be substantially less than for the proposed developments', and off-street parking requirements for new developments would provide sufficient capacity to accommodate the additional parking demand anticipated under the No-Action Alternative. Therefore, the No-Action Alternative would not result in significant adverse parking impacts.

Air Quality

Under the No-Action Alternative, Projected Development Site 1 would be developed with a 2-story 172,612 gsf warehouse and 82 accessory parking spaces. Under the No-Action condition, it is assumed that the existing vacant warehouse building on Projected Development 2 would be re-occupied with 28,750 gsf of warehouse uses and 14 accessory parking spaces.

While some development would occur under the No-Action Alternative, the Proposed Actions would result in more development and therefore the emissions from heat and hot water systems associated with the Proposed Actions would cumulatively be greater than the emissions from heat and hot water systems in the No-Action Alternative. However, unlike the Proposed Actions, the as-of-right development on the Projected Development Sites would not have an environmental assessment of air quality exposure as conducted for the Proposed Actions; thus, such development would not be subject to any air quality E designations. Specifically, they would not have the restrictions specified in **Chapter 12, "Air Quality,"** for the control of emissions for fossil-fuel-fired heating, ventilation, and air conditioning (HVAC) systems, which would be designed to ensure that there would be no significant adverse air quality impacts at nearby receptor locations.

Additionally, mobile source emissions from traffic on surrounding roadways would increase as a result of general background traffic growth and new development in the surrounding area, when compared to existing conditions. As presented in **Chapter 12,** no exceedances of the National Ambient Air Quality Standards (NAAQS) would occur and the Proposed Development's combustion systems would not cause any significant adverse air quality impacts under the With-Action Condition. As the No-Action Alternative would result in less mobile source emissions (i.e., less incremental vehicle trips) than the Proposed Actions, significant adverse impacts are unlikely under the No-Action Alternative.

Greenhouse Gas Emissions and Climate Change

As the No-Action Alternative would result in no residential development, compared to the residential development under the With-Action conditions. Overall, the developments on Projected Development Sites 1 and 2 would be smaller than the No-Action alternative. As such, it would use less energy than the proposed development under the Proposed Actions and would, therefore, result in fewer carbon dioxide equivalent (CO_2e) emissions per year. Neither the Proposed Actions nor the No-Action Alternative would result in significant greenhouse gas (GHG) emission or climate change impacts.

Noise

In the No-Action Alternative, traffic volumes would increase in the area due to general background growth and trips associated with new development that would be independent of the Proposed Actions. Largely due to the anticipated developments in the vicinity of the Project Area, including large projects such as nearby Astoria Cove and Halletts Point, these increases in traffic would in general result in significant changes in noise levels; as outlined in **Chapter 14, "Noise,"** the increases in Leq noise levels would exceed 3.0 dBA at Receptor Locations 1 and 3. Specifically, under the No-Action Alternative, the increases in L_{eq} noise levels would range from 0.8~~1~~8 dBA to 7.40~~11.30~~ dBA at the three receptor locations during all four analysis peak periods over existing conditions. According to *CEQR Technical Manual* guidelines, increases of less than 3.0 dBA would be barely perceptible. Therefore, the increase in noise levels under the No-Action Alternative at ~~Receptor Location 1 (maximum L_{eq} increase of 6.60 dBA) and~~ Receptor Location 3 (maximum L_{eq} increase of 7.40~~11.30~~ dBA) ~~would~~ would be readily noticeable.

However, noise impacts are generally defined in two: impacts at surrounding receptors from noise increased by the Proposed Actions, and impacts at receptors introduced by the Proposed Actions from surrounding noise sources. Therefore, as noise increases from the No-Action Alternative is not considered a noise increase created by the Proposed Actions and as the No-Action Alternative would not constitute receptors created by the Proposed Actions, the No-Action Alternative would not have any potential to cause any significant adverse noise impacts.

Public Health

Similar to the Proposed Actions, the No-Action Alternative would not result in any unmitigated significant adverse impacts in any of the technical areas related to public health. According to the *CEQR Technical Manual*, actions that do not result in unmitigated significant adverse impacts related to air quality, water quality, hazardous materials, or noise typically do not warrant a public health analysis. As the No-Action Alternative does not have the potential to cause any significant adverse impacts in those areas, it would not have any significant adverse impacts on public health.

Neighborhood Character

According to the *CEQR Technical Manual*, a proposed project could have a significant adverse neighborhood character impact if it would have the potential to affect the defining features of the neighborhood, either through the potential for a significant adverse impact in any relevant technical area, or through a combination of moderate effects in those technical areas. Similar to Proposed Actions, the No-Action Alternative would not cause significant adverse impacts in the areas of land use, zoning, and public policy; socioeconomic conditions; urban design and visual resources; or noise. Further, no significant adverse transportation impacts are anticipated as a consequence of the No-Action Alternative. As such, the No-Action Alternative would not affect any defining feature of neighborhood character, nor would a combination of moderately adverse effects affect such a defining feature. New as-of-right industrial development would occur under the No-Action Alternative. The study area would continue to be characterized by its evolving mix of land uses and building types, and its location in an area with low pedestrian volumes. Neither the Proposed Actions nor the No-Action Alternative would result in significant adverse impacts to neighborhood character.

Construction

As discussed above, the No-Action Alternative would result in new as-of-right industrial development and, therefore would result in temporary increases in construction worker demand on the transportation network of the surrounding area, and new sources of construction-related air quality or noise emissions. As compared to the Proposed Actions, the No-Action Alternative would result in a shorter overall construction schedule and would have less construction noise and less on-site construction equipment and construction-related traffic generating emissions. Therefore, the No-Action Alternative would not result in any significant adverse construction impacts.

D. NO UNMITIGATED SIGNIFICANT ADVERSE IMPACTS ALTERNATIVE

According to the *CEQR Technical Manual*, when a project would result in unmitigated significant adverse impacts, it is often CEQR practice to include an assessment of an alternative to the project that would result in no unmitigated impacts. Based on the analyses presented in other chapters of this EIS, there is

the potential for the Proposed Actions to result in unmitigated impacts with respect to community facilities (publicly funded early childhood programs), open space, and transportation (traffic). This alternative demonstrates those measures that would have to be taken to eliminate all of the Proposed Actions' unmitigated significant adverse impacts. As detailed below, in order to result in no unmitigated significant adverse impacts, the proposed development resulting from the Proposed Actions would have to be modified to a point where the principal goals and objectives would not be fully realized.

Community Facilities and Services

Elementary Schools

The Proposed Actions would result in a significant adverse impact to public elementary schools. As described in **Chapter 4, "Community Facilities,"** the demand for elementary school seats within CSD 30, Sub-district 3 would increase to 141.06 percent utilization compared to No-Action conditions of 136.4 percent. The 181 elementary school students generated by the Proposed Actions would increase the shortfall of available seats to 1,596 in CSD 30, Sub-district 3. This would constitute a significant adverse impact on public elementary schools. Mitigation measures ~~will be~~were explored with the New York City Department of City Planning (DCP), the New York City Department of Education (DOE), and the New York City School Construction Authority (SCA) between the DEIS and FEIS, as is described in greater detail in **Chapter 18, "Mitigation."** ~~Should practical and feasible mitigation measures not be found~~As described in **Chapter 18**, in order to address the Proposed Actions' potential significant adverse impact on public elementary schools, the Applicant will coordinate with SCA to provide programmatic funding for existing elementary schools within CSD 30, Sub-district 3. This fund will go to a to-be-determined program in the sub-district, and will be outlined more specifically in the Restrictive Declaration. Absent the implementation of such measures, the significant adverse impact to public elementary schools would remain unmitigated.

In order to avoid the identified significant adverse impact, the project would need to be reduced from 1,665 incremental DUs generated by the projected development sites to 900 DUs (a reduction of 500 units), which would generate 99 elementary school students.[1] An increase of 99 elementary school students in CSD 30, Sub-district 3 would be below the CEQR threshold that would be considered a significant adverse impact. However, the reduction in total DUs to avoid significant adverse impacts would result in a substantial reduction in the number of affordable housing units developed in the Project Area, from 416 affordable units to 225 (a reduction of approximately 191 affordable units). The reduction in affordable units at the Project Area would be less supportive of the goals and objectives of the Proposed Actions.

Publicly Funded Early Childhood Programs

The Proposed Actions would result in a significant adverse impact to publicly funded early childhood programs. The Proposed Actions would introduce 46 children under the age of six eligible for publicly funded early childhood programs. With the addition of these children, the combined utilization rate of early childhood programs within the early childhood study area would increase to approximately 193.9 percent, an approximately 46.5 percent increase over the No-Action condition. Mitigation measures ~~will be~~were explored with DCP and the DOE between the DEIS and FEIS. As described in **Chapter 18,**

[1] As it anticipated that Projected Development Site 2 would be redeveloped with approximately 265 DUs in the future with the approval of the Proposed Actions, the Proposed Project would need to be reduced from 1,400 DUs to 635 DUs (a reduction of 765 units) at Projected Development Site 1 in order to avoid significant adverse impacts related to public elementary schools.

"Mitigation," in order to address the Proposed Actions' potential significant adverse impact on publicly funded early childhood programs, the Applicant will coordinate with DOE to develop possible mitigation measures which may include provision of suitable space on-site for a publicly funded early childhood program facility, provision of a suitable location off-site and within a reasonable distance (at a rate affordable to DOE providers), or funding to support additional capacity. The Restrictive Declaration for the Proposed Project will require the Applicant to work with DOE to consider the need for and the implementation of one or more measures as listed above to provide additional capacity, if required, to mitigate the significant adverse impact to publicly funded child care facilities within the 1.5-mile study area or within Queens Community District 1. Based on the results of the analysis presented in **Chapter 4, "Community Facilities and Services,"** which accounts for the current inventory of publicly funded child care facilities and conservative future background projections, providing capacity for 27 publicly-funded early childhood program slots would be needed to reduce the increase in the utilization rate to less than five percent. ~~Should practical and feasible mitigation measures not be found~~Absent the implementation of such needed mitigation measures, the significant adverse impact to early childhood programs would remain unmitigated.

To avoid the identified significant adverse impact to early childhood programs, the number of affordable DUs that could be developed on the projected development sites would have to be reduced from 416 DUs to 33 DUs, a reduction of 383 affordable units.[2] A substantial reduction in the number of affordable housing units developed in the Project Area would be less supportive of the goals and objectives of the Proposed Actions. Alternatively, the provision of 27 early childhood slots under this alternative would avoid the unmitigated significant adverse impact to early childhood programs.

Open Space

The Proposed Actions would result in a significant adverse quantitative impact associated with the active open space ratio. The active open space ratio (0.859 acres per 1,000 residents under the Proposed Actions) would decrease by approximately 11.81~~13.36~~ percent over the No-Action condition. The impact to open space is primarily due to the existing low active open space ratio in the study area and the addition of a substantial residential population. In consultation with DCP and the New York City Department of Parks and Recreation (DPR), the Applicant ~~is~~ explored~~ing~~ possible mitigation measures to mitigate this impact. As described in **Chapter 18, "Mitigation,"** in order to address the significant adverse impact on active open space, the Applicant would be required to upgrade or replace a playground and sitting area (approximately 49,000 sf area), reconfigure existing storm water management systems, restore existing pavement in the playground and sitting area, and install eight security lights at the Triborough Bridge Playground B. These improvements would increase the utility of Triborough Bridge Playground B and its capacity to meet the active open space needs of the study area, and therefore would constitute partial mitigation of the potential significant adverse impact on active open space. Because these measures would only partially mitigate the significant adverse impact, even with the implementation of mitigation measures, the impact would not be fully mitigated. According to the *CEQR Technical Manual*, a significant adverse open space impact may occur if a proposed action would reduce the open space ratio by more than five percent ~~in areas that are considered neither underserved nor well served by open space~~compared to the No-Action condition. For areas exhibiting a low open space ratios, indicating a

[2] It should be noted that while the RWCDS anticipates that the Proposed Actions would result in the development of up to 1,665 DUs (of which, 25 percent or up to 416 units would be affordable) at the Project Area, for conservative analysis purposes—and at the request of DCP—the analysis of early childhood programs provided in **Chapter 4, "Community Facilities",** assumes 20 percent of the overall residential floor area (approximately 333 units) of the RWCDS to be set aside for "affordable" residential units.

shortfall of open space, smaller decreases in that ratio as a result of the action may constitute significant adverse impacts (refer to **Table 5-1** in **Chapter 5, "Open Space"**). ~~T~~As the Proposed Actions would result in a 11.81~~13.36~~ percent decrease in the active open space ratio, a reduction of approximately 1,278~~1,043~~ DUs would result in a decrease of less than 3~~5~~ percent (2.98~~4.99~~ percent) to avoid a significant adverse impact to the study area's active open space ratio;~~,~~ however such a reduction would not facilitate the provision of housing, including a substantial amount of affordable housing (a reduction of approximately 319 affordable units), which is one of the primary goals of the Proposed Actions.

Transportation

Traffic

As presented in **Chapter 18, "Mitigation,"** the Proposed Actions would result in significant adverse traffic impacts at 20~~1~~ study area intersections during one or more analyzed peak hours; specifically, 18~~9~~ intersections during the weekday AM peak hour, 10~~3~~ intersections during the weekday midday peak hour, 17 intersections during the weekday PM peak hour, and 12~~3~~ intersections during the Saturday peak hour. Implementation of traffic engineering improvements, such as signal timing changes, the installation of new traffic signals, and modifications to lane striping and curbside parking regulations would provide mitigation for many of the anticipated traffic impacts. Specifically, the significant adverse impacts would be fully mitigated at ~~24~~ 10 lane groups in the weekday AM peak hour, ~~10~~3 lane groups in the midday peak hour, ~~20~~ 6 lane groups in the weekday PM peak hour, and ~~13~~ 5 lane groups in the Saturday peak hour. Intersections where all impacts would be fully mitigated would total ~~13~~6, ~~9~~3, ~~10~~4, and ~~9~~ 3 during these same periods, respectively. In total, impacts to one or more lane groups would remain unmitigated in one or more peak hours at ~~9~~ 16 intersections.

Because of existing congestion at a number of these intersections, even a minimal increase in traffic would result in unmitigated impacts. Specifically, in the No-Action condition, a total of 17~~6~~ intersections would have at least one congested lane group in one or more peak hours, and a total of 17~~6~~, 10~~2~~, 16 and 14~~3~~ intersections would have one or more lane groups operating at or over capacity in the weekday AM, midday, and PM, and Saturday peak hours, respectively. According to the *CEQR Technical Manual*, for a lane group that would operate at LOS F in the No-Action condition, a projected delay of three or more seconds is considered a significant impact. As such, small increases in incremental With-Action traffic volumes at some of the congested intersection approach movements would result in significant adverse impacts that could not be fully mitigated during one or more analysis peak hours, and almost any new development in the Project Area could result in unmitigated traffic impacts. Therefore, no reasonable alternative could be developed to completely avoid such impacts without substantially compromising the Proposed Actions' stated goals.

Noise

As discussed in **Chapter 18, "Mitigation,"** the Proposed Actions would result in significant adverse noise impacts at ~~10 residential~~existing buildings within the vicinity of the Project Area. Specifically, significant mobile source noise impacts during the operation of the proposed development are predicted to occur at residential buildings at 3-04 - 3-06 26th Avenue, 3-08 - 3-10 26th Avenue, 26-38 3rd Street, ~~26-31 3rd Street,~~ 26-24 3rd Street, ~~26-18 3rd Street,~~ 26-19 3rd Street, and 26-15 3rd Street, and 26-11 3rd Street~~, 26-35 3rd Street~~. As described in **Chapter 14, "Noise,"** mobile source noise impacts are determined if noise passenger equivalent (PCE) values increase by 100 percent (which is equivalent to an increase of 3.0 dBA or more) or more between No-Action and With-Action conditions. As the highest increase in L_{eq} noise levels between No-Action and With-Action conditions would be ~~7.2~~5.9 dBA at both 26-38~~24~~ 3rd Street

(Receptor Location FH) and 26-18 3rd Street (Receptor Location I), the PCE values generated by the Proposed Actions vehicular traffic would need to be reduced by approximately 62 49 percent in order for the With-Action L_{eq} noise level increase to remain below the 3.0 dBA CEQR threshold. As such, in order to the avoid significant adverse noise impacts at the 10 identified receptors, the number of project-generated DUs would need to be reduced from 1,665 units to approximately 633 853 units (a reduction of 1,032812 units). However, the reduction in total DUs to avoid significant adverse impacts would result in a substantial reduction in the number of affordable housing units developed in the Project Area, from 416 affordable units to 158 213 (a reduction of approximately 258 203 affordable units). As such, in order to fully mitigate all identified significant adverse impacts, the Proposed Actions would need to be modified to a point at which the Proposed Actions' goals and objectives would not be realized.

Construction

Noise

As discussed in **Chapter 18, "Mitigation,"** significant adverse construction noise impacts at sensitive receptors were identified in consideration of the magnitude of the noise level increase (3 dBA, a "noticeable" noise level increase per the *CEQR Technical Manual* methodology), the anticipated absolute noise level (45 dBA interior noise levels for residential, mixed-use, and public facilities/institutions and 80 55 dBA for open space), and the duration of the predicted elevated noise level. In order to fully mitigate all identified significant adverse impacts related to construction noise, the Proposed Actions would need to be modified to a point at which the Proposed Actions' goals and objectives would not be realized.

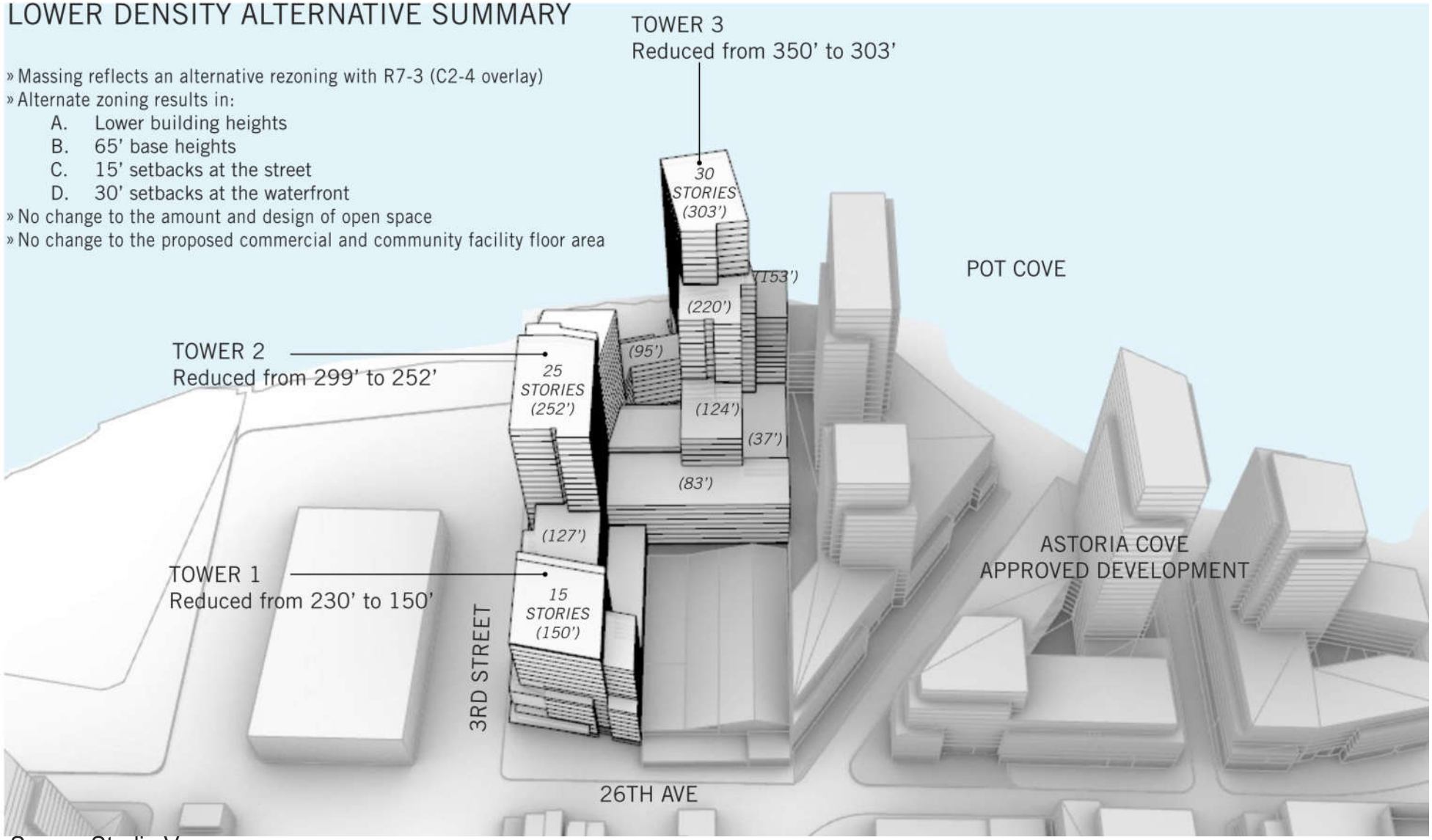
F. LOWER DENSITY ALTERNATIVE

Description of the Lower Density Alternative

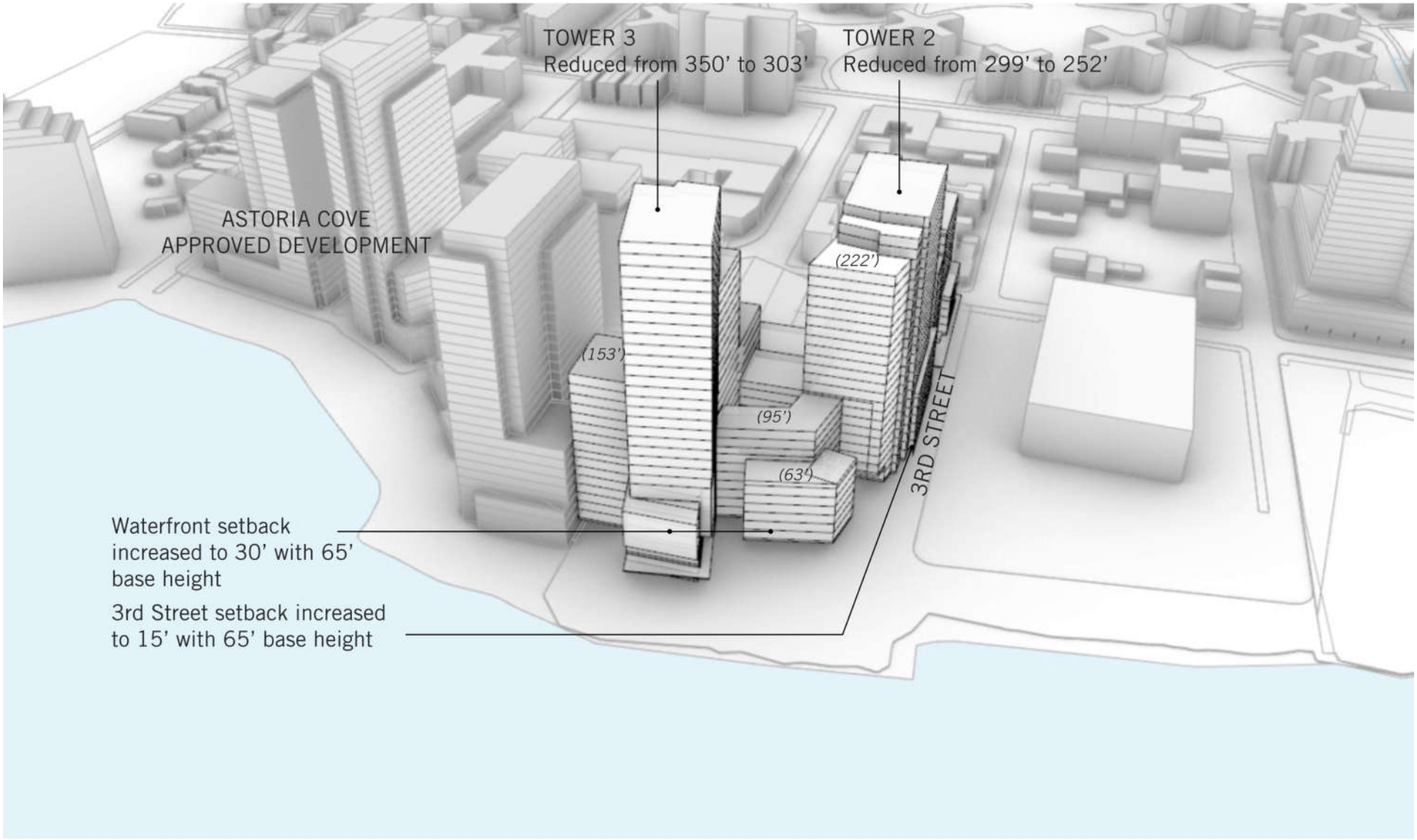
A Lower Density Alternative to the Proposed Actions was developed to determine whether the impacts to community facilities, active open space, traffic, transit, pedestrian, and construction noise could be reduced or eliminated while accomplishing the purpose and need established for the Proposed Actions. Under the Lower Density Alternative, the overall density of the Proposed Project would be reduced. It is assumed that the proposed density of Projected Development Site 2 would remain the same under the Lower Density Alternative as under the Proposed Actions.

As shown in **Table 19-1**, the Lower Density Alternative would result in 213 fewer residential units (including 53 fewer affordable DU) and 80 fewer accessory parking spaces; the same amount of commercial and community facility floor area and open space would be developed under both alternatives. An illustrative massing of the Lower Density Alternative is provided in **Figure 19-1**.

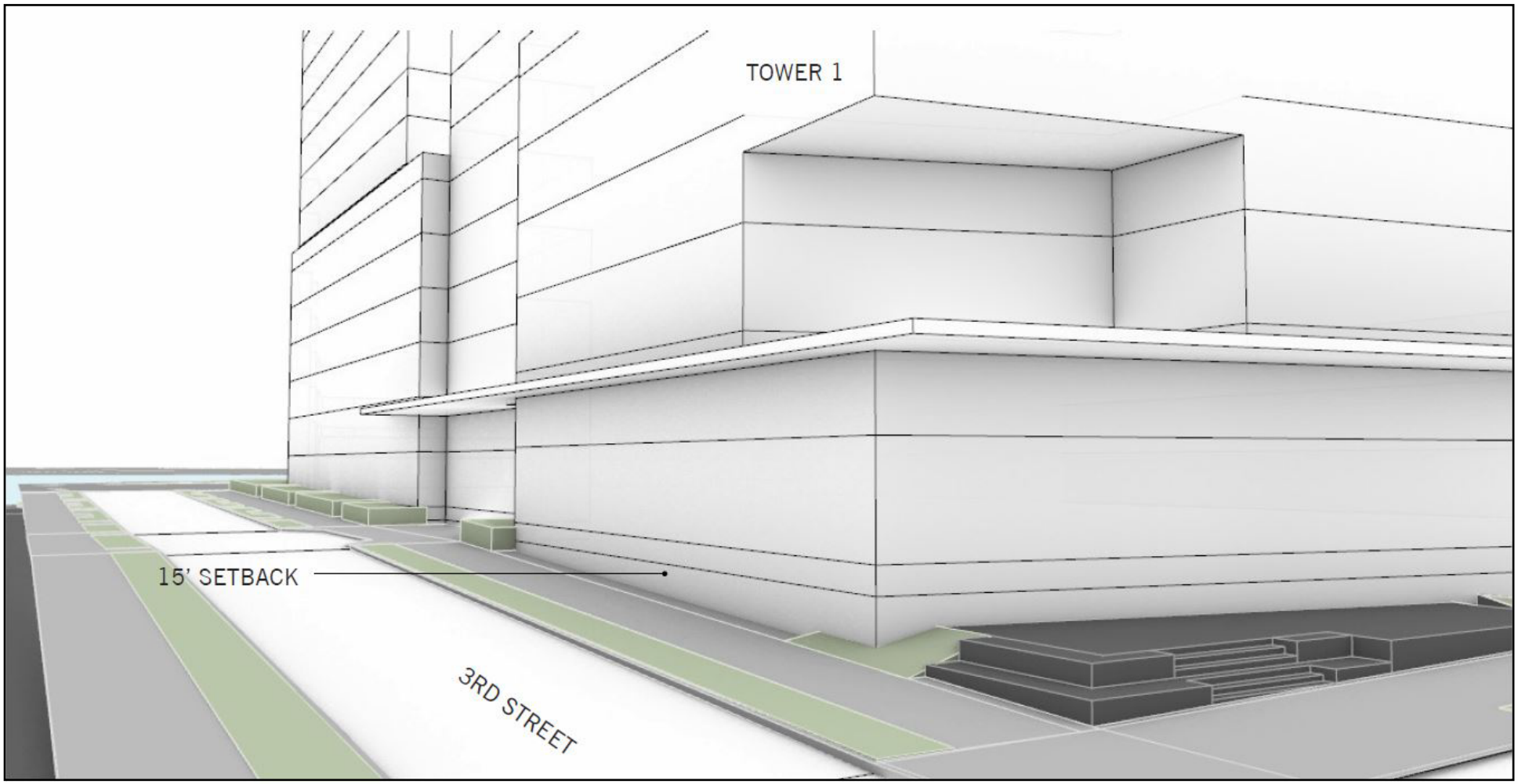
As shown in **Figure 19-1**, it is anticipated that under the Lower Density Alternative, proposed base heights, setbacks, and maximum building heights would change for the Proposed Project. Tower 1 would rise to 150 feet (15-stories); Tower 2 would rise to 252 feet (25-stories); and Tower 3 would rise to 303 feet (30-stories).



Source:Studio V

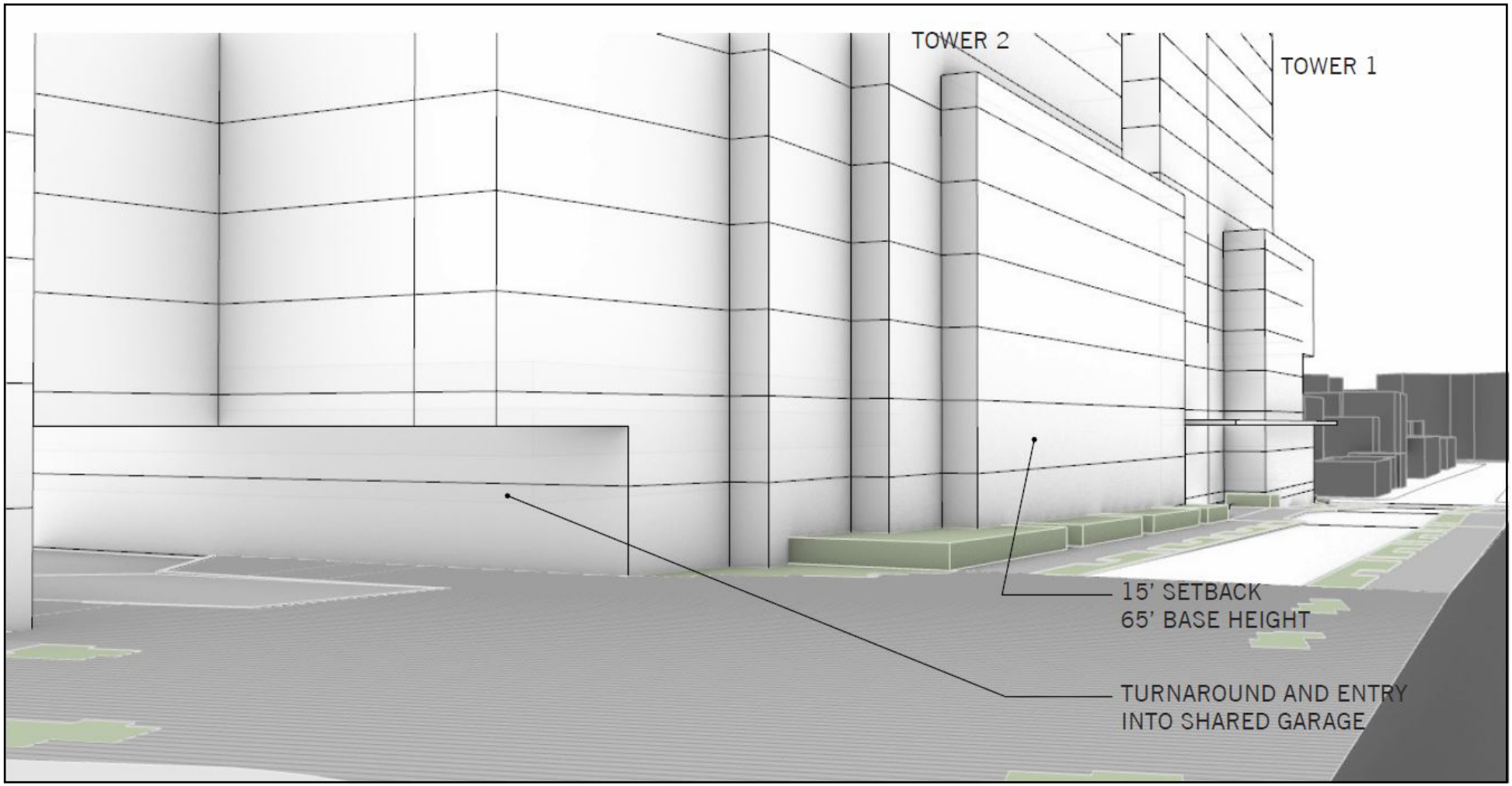


Source:Studio V



Street View: North Along 3rd Street

Source:Studio V



Street View: South Along 3rd Street

Source:Studio V

TABLE 19-1: Lower Density Alternative Compared to the Proposed Actions

Use	Proposed Actions	Lower Density Alternative	Difference
Total Residential Units	1,665	1,452	-213
Market-Rate Units	*1,249*	*1,089*	*-160*
Affordable Units	*416*	*363*	*-53*
Commercial gsf	16,887	16,887	0
Community Facility gsf	22,638	22,638	0
Accessory Parking Spaces	640	560	-80
Open Space sf	41,363	41,363	0

Lower Density Alternative Compared with the Proposed Actions

The effects of the Lower Density Alternative in comparison to those of the Proposed Actions are summarized below. As outlined below, the Lower Density Alternative would still result in significant adverse impacts on community facilities, active open space, transportation, operational noise, and construction noise. These impacts could be mitigated using the same mitigation measures identified for the Proposed Actions, with slightly lesser mitigation needed to mitigate the child care and transportation impacts.

The Lower Density Alternative would meet the goals of the Proposed Actions to a lesser degree than under the Proposed Actions. While this alternative would provide some affordable housing, there would be approximately 53 affordable DUs less than under the Proposed Actions. As such, the Lower Density Alternative would contribute less to the goal of the Proposed Actions of introducing much-needed affordable housing units within the Project Area. In addition, the Lower Density Alternative would result in the construction of approximately 13 percent fewer residential units than under the Proposed Actions and, therefore, would be less supportive of the Proposed Actions' and the City's goals to create more housing for the City's growing population.

Land Use, Zoning, and Public Policy

As under the Proposed Actions, the Lower Density Alternative would introduce a mix of residential, commercial, community facility, and open space uses within the Project Area. Compared to the Proposed Actions, the Lower Density Alternative would include 213 fewer residential units (including 53 fewer affordable DUs) and 80 fewer accessory parking spaces. Neither the Lower Density Alternative nor the Proposed Actions would result in significant adverse land use impacts. In addition, both alternatives would involve the same discretionary actions. Both alternatives would extend residential zoning onto the Project Area and, therefore, would not represent a significant adverse zoning impact.

However, the Lower Density Alternative would be less supportive of applicable public policies, as compared to the Proposed Actions. Because this alternative would result in fewer residential units, including fewer affordable units, it would be less supporting of the Housing New York affordable housing goals and the PlaNYC goal of creating enough housing for almost a million more people by 2030.

Socioeconomic Conditions

The Lower Density Alternative would result in less development than under the Proposed Actions. Like the Proposed Actions, the Lower Density Alternative would not result in impacts related to either direct or indirect displacement of residences of businesses, nor would it result in impacts on specific industries. However, the Lower Density Alternative would result in the construction of fewer affordable units and

therefore would be less supportive of the project's goal of creating new opportunities for affordable housing development.

Community Facilities

The Lower Density Alternative would result in less demand on area community services than development under the Proposed Actions. With 213 fewer dwelling units, the Lower Density Alternative would decrease the number of anticipated elementary, intermediate, and high school students generated at the Project Area by 21, 8, and 22 students, respectively. As such, the demand for elementary, intermediate, and high school seats within CSD 30, Sub-district 3 would increase to 140.5 percent, 76.1 percent, and 91.2 percent utilization compared to No-Action conditions. The introduction of 160 elementary school students would increase the shortfall of available seats in CSD 30, Sub-district 3 to 1,574. Similar to the Proposed Actions, the Lower Density Alternative would result in a significant adverse impact related to public elementary school seats. As the increase in the public elementary school utilization rate from No-Action conditions would be less than the incremental increase anticipated under the Proposed Actions, slightly lesser mitigation measures would be needed to fully mitigate the significant adverse impact.

With 53 fewer affordable units, the Lower Density Alternative would decrease the number of anticipated publicly funded child care-eligible children generated on the project site by six, thereby reducing future 2031 child care enrollment to 411 (159.9 percent utilization). Like the Proposed Actions, this would represent an increase of more than five percentage points over the No-Action condition and would therefore result in a significant adverse impact on study area child care facilities. As the increase in the publicly funded child care center utilization rate from No-Action conditions, would be less than the incremental increase anticipated under the Proposed Actions, slightly lesser mitigation measures would be needed to fully mitigate the significant adverse impact.

Neither the Lower Density Alternative nor the Proposed Actions would result in significant adverse impacts on libraries or police, fire, or healthcare services.

Open Space

With 213 fewer residential units, the Lower Density Alternative would result in a reduction in the Project Area's residential population (open space users) by approximately 475~~96~~. Under the Lower Density Alternative, the total, active, and passive open space ratios would be slightly higher than under the Proposed Actions and would represent decreases of 9.37~~10.76~~, 10.47~~11.87~~, and 8.84~~10.22~~ percent from the No-Action open space ratios, respectively. As under the Proposed Actions, the total and passive open space ratios would continue to be higher than the City's optimal planning goals. However, as under the Proposed Actions, the future active open space ratio would be less than the City's optimal planning goal of 2.0 acres of active open space per 1,000 residents. As such, significant adverse active open space impacts would occur under both the Proposed Actions and the Lower Density Alternative.

Shadows

As indicated in **Figure 19-1**, the Proposed Project's buildings that would be constructed under the Lower Density Alternative would be lower in height than those to be developed under the Proposed Actions. Specifically, Tower 1 would be reduced from 22 to 15 stories; Tower 2 would be reduced from 31 to 25 stories; and Tower 3 would be reduced from 35 to 30 stories. As such, the maximum shadow length from the Proposed Project's buildings would be lower than under the Proposed Actions. Like the Proposed

Actions, the Lower Density Alternative would not result in significant adverse shadow impacts on area sunlight-sensitive resources.

Urban Design and Visual Resources

Both the Lower Density Alternative and the Proposed Actions would result in significant changes to the pedestrian realm, including the construction of new mixed-use buildings and roadways, reactivation of the streetscape with ground floor retail, improvements to existing roadways and sidewalks, and the creation of new waterfront open space. As with the Proposed Actions, the Lower Density Alternative would map a residential zoning district with a commercial overlay on the Project Area (R7-3/C2-4). However, the buildings constructed under the Lower Density Alternative would be lower in height than currently proposed. As discussed in **Chapter 7, "Urban Design and Visual Resources,"** the taller buildings constructed under the Proposed Actions would be consistent with existing and planned development in the surrounding area. Like the Proposed Actions, the Lower Density Alternative would not result in significant adverse impacts to urban design and visual resources.

Natural Resources

The Lower Density Alternative, like the Proposed Actions, would not result in significant adverse impacts to natural resources, including groundwater, floodplains, vegetation, wildlife, threatened and endangered species, and littoral zone tidal wetlands and aquatic resources of the East River. It is anticipated that the Lower Density Alternative would result in minor reductions in the Proposed Project's building's bulk. A new stormwater outfall would be constructed at the northern termini of 3rd Street under both the Lower Density Alternative and the Proposed Actions and would not result in the loss of tidal wetland or disturbance to the river bottom.

Hazardous Materials

Development under the Proposed Actions and the Lower Density Alternative would not result in significant adverse hazardous materials impacts with implementation of the measures outlined in **Chapter 9, "Hazardous Materials."**

Water and Sewer Infrastructure

Neither the Proposed Actions nor the Lower Density Alternative would result in a significant adverse impact to the City's water supply or sanitary sewage systems. It is assumed that new stormwater outfall would be constructed at the northern termini 3rd Street, new storm sewers would be constructed along portions of 3rd Street and 26th Avenue, and new sanitary sewers would be constructed along portions of 3rd Street and 26th Avenue to accommodate development of the Proposed Project, as under the Proposed Actions.

With a reduction of 213 residential units (an estimated 475~~96~~ residents), the Lower Density Alternative would result in approximately 47,500~~49,600~~ gallons per day (gpd) less domestic water demand, as compared to the Proposed Actions. Similar to the development facilitated by the Proposed Actions, the Lower Density Alternative would not result in a significant increase in water demand over the No-Action condition.

Transportation

Based on the trip generation assumptions detailed in **Chapter 11, "Transportation,"** the Lower Density Alternative would generate ~~1,442~~1,429, ~~1,346~~1,309, ~~1,758~~1,659, and ~~1,712~~2,002 incremental person trips and ~~326~~320, ~~241~~250, ~~338~~297, and ~~303~~ 331 incremental vehicle trips during the weekday AM, midday, PM, and Saturday peak hours, respectively (see **Tables 19-2** and **19-3**). In comparison, under the reasonable worst-case traffic scenario, the Proposed Actions would generate ~~1,614~~1,591, ~~1,432~~1,407, ~~1,946~~1,807, and ~~1,876~~2,164 incremental person trips and ~~361~~356, ~~259~~270, ~~375~~326, and ~~333~~ 364 incremental vehicle trips in the weekday AM, midday, PM and Saturday peak hours. As shown in **Tables 19-2** and **19-3**, the Lower Density Alternative would generate between ~~86~~ 98 and ~~188~~ 162 fewer peak hour person trips and between ~~18~~ 20 and ~~37~~ 36 fewer peak hour vehicle trips as compared to the Proposed Actions. This would represent an approximately ~~six~~ seven to ~~eleven~~ ten percent decrease in project-generated person trips and a seven to ten percent decrease in project-generated vehicle trips as compared to the Proposed Actions. Overall, it is anticipated that the Lower Density Alternative would result in similar or fewer significant adverse traffic, subway, bus and pedestrian impacts. While both the Proposed Actions and the Lower Density Alternative are expected to result in a parking shortfall in the weekday overnight period, the shortfall under this alternative would be somewhat smaller than under the Proposed Actions, and there would be no significant adverse parking impacts under either scenario based on *CEQR Technical Manual* criteria.

Traffic

As presented in **Table 19-3**, compared with the Proposed Actions, the Lower Density Alternative would generate approximately ~~35~~36, ~~18~~20, ~~37~~ 29, and ~~30~~ 33 fewer incremental vehicle trips during the weekday AM, midday, and PM and Saturday peak hours, respectively. Depending on the peak hour, this represents a decrease of approximately seven percent to ten percent as compared with the incremental vehicle trips that would be generated under the Proposed Actions. Consequently, the number of lane groups and intersections with significant adverse traffic impacts under the Lower Density Alternative would likely be comparable to or less than the number under the Proposed Actions. As discussed in **Chapter 11, "Transportation,"** under the Proposed Actions there would be a total of ~~32~~ 30 impacted lane groups at 18 intersections in the weekday AM peak hour, 14 impacted lane groups at 10 intersections in the midday, ~~30~~ 27 impacted lane groups at 17 intersections in the PM, and 20 impacted lane groups at 12 intersections in the Saturday peak hour.

TABLE 19-2: Comparison of Weekday Peak Hour Incremental Person Trips by Mode—Proposed Actions vs. Lower Density Alternative

Scenario	Auto		Taxi		Subway		Bus		Ferry		Walk/Other		Total		
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	Total
Weekday AM															
Proposed Actions	117 ~~122~~	242 ~~245~~	12~~1~~ 1	13	162 ~~185~~	592 ~~611~~	26	64~~6~~ 6	11~~1~~ 3	384 ~~1~~	130 ~~108~~	184 ~~173~~	458~~46~~ 5	1,133 ~~1,149~~	1,591 ~~1,614~~
Lower Density Alternative	110 ~~114~~	217 ~~219~~	11	12	140 ~~160~~	516 ~~533~~	24	57~~5~~ 8	10~~1~~ 1	33~~3~~ 6	127 ~~104~~	172 ~~160~~	422~~42~~ 4	1,007 ~~1,018~~	1,429 ~~1,442~~
Net Difference	***~~8~~ 7***	***~~26~~ 25***	***~~0~~ 1***	***-1***	***~~25~~ 22***	***~~78~~ 76***	***-2***	***~~8~~ 7***	***~~2~~ 1***	***-5***	***~~4~~ 3***	***~~13~~ 12***	***~~41~~ 36***	***~~131~~ 126***	***~~172~~ 162***
Weekday Midday															
Proposed Actions	149	~~159~~ 153	~~11~~1 6	~~12~~1 6	~~207~~ 233	~~209~~ 234	~~35~~3 8	~~36~~3 8	~~13~~1 5	~~13~~1 5	~~293~~ 260	~~295~~ 343	708	~~724~~69 9	~~1,432~~ 1,407
Lower Density Alternative	~~141~~ 136	~~151~~ 143	~~11~~1 6	~~12~~1 6	~~180~~ 204	~~182~~ 205	~~32~~3 5	~~33~~3 5	~~12~~1 3	~~12~~1 3	~~289~~ 255	~~291~~ 238	~~665~~65 9	~~681~~65 0	~~1,346~~ 1,309
Net Difference	***~~8~~ 10***	***~~8~~ 10***	***0***	***0***	***~~27~~ 29***	***~~27~~ 29***	***-3***	***-3***	***~~1~~ 2***	***~~1~~ 2***	***~~4~~ 5***	***~~4~~ 5***	***~~43~~ 49***	***~~43~~ 49***	***~~86~~ 98***
Weekday PM															
Proposed Actions	~~222~~ 192	~~171~~ 144	~~14~~1 6	~~14~~1 5	~~543~~ 444	~~343~~ 256	~~62~~5 8	~~44~~4 1	~~36~~3 0	~~23~~1 7	~~249~~ 320	~~225~~ 274	~~1,126~~ 1,060	~~820~~74 7	~~1,946~~ 1,807
Lower Density Alternative	~~200~~ 174	~~157~~ 134	~~13~~1 5	~~13~~1 4	~~475~~ 387	~~299~~ 224	~~55~~5 2	~~40~~3 8	~~32~~2 6	~~20~~1 5	~~237~~ 311	~~217~~ 269	~~1,012~~ 965	~~746~~69 4	~~1,758~~ 1,659
Net Difference	***~~22~~ 18***	***~~14~~ 10***	***-1***	***-1***	***~~68~~ 57***	***~~44~~ 32***	***~~7~~ 6***	***~~4~~ 3***	***-4***	***~~3~~ 2***	***~~12~~ 9***	***~~8~~ 5***	***~~114~~ 95***	***~~74~~ 53***	***~~188~~ 148***
Saturday															
Proposed Actions	~~177~~ 197	~~203~~ 193	~~14~~2 1	~~14~~1 9	~~352~~ 402	~~430~~ 387	~~47~~5 9	~~55~~5 6	~~23~~2 5	~~28~~2 4	~~271~~ 408	~~262~~ 373	~~884~~1, 112	~~992~~1, 052	~~1,876~~ 2,164
Lower Density Alternative	~~162~~ 180	~~185~~ 177	~~13~~2 0	~~14~~1 8	~~309~~ 354	~~376~~ 340	~~42~~5 5	~~50~~5 1	~~20~~2 1	~~24~~2 1	~~264~~ 400	~~253~~ 365	~~810~~1, 030	~~902~~97 2	~~1,712~~ 2,002
Net Difference	***~~15~~ 17***	***~~18~~ 16***	***-1***	***~~0~~ 1***	***~~43~~ 48***	***~~54~~ 47***	***~~5~~ 4***	***-5***	***~~3~~ 4***	***~~4~~ 3***	***~~7~~ 8***	***~~9~~ 8***	***~~74~~ 82***	***~~90~~ 80***	***~~164~~ 162***

TABLE 19-3: Comparison of Weekday Peak Hour Incremental Vehicle Trips by Mode—Proposed Actions vs. Lower Density Alternative

Scenario	Auto		Taxi (Balanced)		Shuttle		Truck		Total		
	In	Out	In	Out	In	Out	In	Out	In	Out	Total
Weekday AM											
Proposed Actions	~~96~~91	~~215~~213	~~15~~17	~~15~~17	~~13~~12	~~13~~12	-6	0	~~118~~114	~~243~~242	~~361~~356
Lower Density Alternative	~~89~~84	~~191~~190	~~14~~15	~~14~~15	~~13~~12	~~13~~12	-7	-1	~~109~~104	~~217~~216	~~326~~320
Net Difference	***-7***	***~~-24~~-23***	***~~-1~~-2***	***~~-1~~-2***	***0***	***0***	***-1***	***-1***	***~~-9~~-10***	***-26***	***~~-35~~-36***
Weekday Midday											
Proposed Actions	~~115~~116	~~122~~120	~~13~~19	~~13~~19	0	0	-3	-1	~~125~~132	~~134~~138	~~259~~270
Lower Density Alternative	107	~~114~~111	~~13~~19	~~13~~19	0	0	-4	-2	~~116~~122	~~125~~128	~~241~~250
Net Difference	***~~-8~~-9***	***~~-8~~-9***	***0***	***0***	***0***	***0***	***-1***	***-1***	***~~-9~~-10***	***~~-9~~-10***	***~~-18~~-20***
Weekday PM											
Proposed Actions	~~191~~164	~~141~~117	~~16~~19	~~16~~19	~~11~~9	~~11~~9	-7	-4	~~211~~185	~~164~~141	~~375~~326
Lower Density Alternative	~~171~~147	~~128~~107	~~14~~18	~~14~~18	~~11~~9	~~11~~9	-7	-4	~~189~~167	~~149~~130	~~338~~297
Net Difference	***~~-20~~-17***	***~~-13~~-10***	***~~-2~~-1***	***~~-2~~-1***	***0***	***0***	***0***	***0***	***~~-22~~-18***	***~~-15~~-11***	***~~-37~~-29***
Saturday											
Proposed Actions	~~144~~162	~~167~~160	~~12~~22	~~12~~22	0	0	-1	-1	~~155~~183	~~178~~181	~~333~~364
Lower Density Alternative	~~130~~146	~~151~~145	~~12~~21	~~12~~21	0	0	-1	-1	~~141~~166	~~162~~165	~~303~~331
Net Difference	***~~-14~~-16***	***~~-16~~-15***	***~~0~~-1***	***~~0~~-1***	***0***	***0***	***0***	***0***	***~~-14~~-17***	***-16***	***~~-30~~-33***

Tables 19-4 through **19-7**, below, show the volume-to-capacity (v/c) ratios, delays, and levels of service (LOS) for each analyzed intersection under the Lower Density Alternative, and compares them to the Proposed Actions' conditions for the weekday AM, midday, PM, and Saturday peak hours. These tables also show the volume-to-capacity (v/c) ratios, delays, and levels of service (LOS) for each analyzed intersection under the Lower Density Alternative with mitigation, and compares them to the Proposed Actions' with mitigation conditions for the same peak hours. As shown in **Tables 19-4** through **19-7**, the Lower Density Alternative would result in significant adverse traffic impacts at 22 study area intersections (13 signalized and 9 unsignalized) during one or more analyzed peak hours; specifically ~~31~~ 28 lane groups at ~~18~~ 17 intersections during the weekday AM peak hour (compared to ~~32~~ 30 lane groups at 18 intersections under the Proposed Actions), ~~14~~ 12 lane groups at ~~10~~ nine intersections during the midday peak hour (compared to 14 lane groups at 10 intersections ~~same~~ as under the Proposed Actions), ~~30~~ 26 lane groups at 17 intersections during the PM peak hour (compared to 27 lane groups at 17 intersections ~~same~~ as under the Proposed Actions), and 20 lane groups at 12 intersections during the Saturday midday peak hour (same as under the Proposed Actions).

As demonstrated below, many of the traffic impacts under the Lower Density Alternative would be mitigated through the implementation of traffic engineering improvements, specifically the modification of traffic signal phasing and/or timing. The mitigation measures proposed herein are standard measures that are routinely identified by the City and considered feasible for implementation. **Table 19-8**

summarizes the recommended mitigation measures for each of the intersections with identified significant adverse traffic impacts during the weekday AM, midday, PM, and Saturday midday peak hours under the Lower Density Alternative. It should be noted that these mitigation measures are the same as those proposed for the Proposed Actions with exception of the signal-related measures proposed at one intersection during the AM ~~and PM~~ peak hour~~s~~. At Astoria Park S/ Hoyt Avenue at 21st Street in the AM peak hour, under the Lower Density Alternative, the signal timing would be modified to transfer 2 seconds from EB phase to NB/SB phase (compared to a 3 seconds modification proposed as mitigation for the Proposed Actions). As shown below in **Tables 19-4** through **19-7**, significant adverse impacts under the Lower Density Alternative would be mitigated at 10~~11~~ lane groups (at 6 intersections) in the weekday AM peak hour, 4 lane groups (at 4 intersections) in the midday peak hour, ~~7~~ 5 lane groups (at ~~5~~ 4 intersections) in the weekday PM peak hour, and ~~6~~ 5 lane groups (at ~~3~~ 2 intersections) in the Saturday peak hour. Significant adverse impacts under the Lower Density Alternative would be unmitigated at ~~20~~ 18 lane groups (at 11 intersections) in the weekday AM peak hour, 10 lane groups (at 6 intersections) in the midday peak hour, ~~23~~ 20 lane groups (at ~~13~~ 12 intersections) in the weekday PM peak hour, and ~~14~~ 15 lane groups (at 9 intersections) in the Saturday peak hour.

TABLE 19-4: Comparison of AM LOS Proposed Actions vs. Lower Density Alternative

			Proposed Actions AM				Proposed Actions w/ Mitigation AM				LDA AM				LDA w/ Mitigation AM			
Intersections	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS		V/C Ratio	Delay (sec/veh)	LOS		V/C Ratio	Delay (sec/veh)	LOS		V/C Ratio	Delay (sec/veh)	LOS	
26th Ave &	EB	LR	0.09	22.7	C		0.09	23.3	C		0.09	22.7	C		0.09	23.3	C	
21st St	NB	T	0.64	27.4	C		0.63	26.5	C		0.64	27.3	C		0.63	26.4	C	
(Signalized)	SB	T	1.14	105.8	F	*	1.12	96.9	F		1.14	104.7	F	*	1.12	95.8	F	
27th Avenue &	EB	LT	0.00	9.7	A		0.00	9.7	A		0.00	9.7	A		0.00	9.7	A	
3rd St	SB	LR	1.26	227.3	F	*	1.26	227.3	F	*	1.11	175.7	F	*	1.11	175.7	F	*
(Stop-Control)																		
27th Avenue &	EB	LT	1.14	99.9	F	*	1.02	52.6	D		1.12	92.2	F	*	1.00	48.0	D	
4th St	WB	T	0.59	16.5	B		0.52	11.9	B		0.58	16.3	B		0.52	11.8	B	
(Signalized)	WB	R	1.73	362.9	F	*	0.74	19.5	B		1.70	350.9	F	*	0.73	19.1	B	
27th Avenue &	EB	T	0.51	14.4	B		0.51	14.4	B		0.51	14.4	B		0.51	14.4	B	
8th Street	EB	R	1.02	67.7	E	*	0.84	24.3	C		0.99	57.6	E	*	0.81	21.7	C	
(Signalized)	WB	L	0.74	28.9	C		0.74	28.9	C		0.73	28.3	C		0.73	28.3	C	
	WB	T	0.76	21.6	C		0.76	21.6	C		0.75	21.1	C		0.75	21.1	C	
	NB	L	0.82	43.9	D		0.82	43.9	D		0.81	43.4	D		0.81	43.4	D	
	NB	R	0.49	32.0	C		0.49	32.0	C		0.48	31.5	C		0.48	31.5	C	
27th Avenue &	EB	T	0.70	23.6	C		0.70	23.6	C		0.70	23.6	C		0.70	23.6	C	
9th St	WB	T	1.12	95.2	F	*	1.12	95.2	F	*	1.11	90.0	F	*	1.11	90.0	F	*
(Signalized)	SB	L	1.01	65.9	E	*	1.01	65.9	E	*	0.99	60.0	E	*	0.99	60.0	E	*
	SB	R	0.25	18.4	B		0.25	18.4	B		0.24	18.3	B		0.24	18.3	B	
27th Avenue &	EB	LT	1.42	210.8	F	*	1.42	210.8	F	*	1.40	202.4	F	*	1.40	202.4	F	*
12th Street	WB	TR	0.73	11.6	B		0.73	11.6	B		0.72	11.3	B		0.72	11.3	B	
(Signalized)	NB	LTR	0.70	51.0	D		0.70	51.0	D		0.70	51.0	D		0.70	51.0	D	
27th Avenue &	EB	TR	1.30	168.0	F	*	1.08	79.6	E		1.28	161.6	F	*	1.07	74.7	E	
14th Street	WB	LT	0.97	52.7	D		0.89	37.5	D		0.95	47.9	D		0.87	35.0	C	
(Signalized)	SB	LTR	0.87	38.9	D		0.92	47.2	D		0.87	38.9	D		0.92	47.2	D	
Astoria Boulevard &	EB	T	0.91	46.3	D		0.91	46.3	D		0.91	46.3	D		0.91	46.3	D	
18th Street	WB	T	0.65	28.9	C		0.65	28.9	C		0.65	28.9	C		0.65	28.9	C	
(Signalized)	SB	LR	1.04	78.6	E	*	1.04	78.6	E	*	1.01	72.7	E	*	1.01	72.7	E	*
Astoria Boulevard &	EB	L	1.29	205.4	F	*	1.29	205.4	F	*	1.26	194.0	F	*	1.26	194.0	F	*
21st Street	EB	TR	2.91	915.1	F	*	2.91	915.1	F	*	2.89	906.9	F	*	2.89	906.9	F	*
(Signalized)	WB	L	1.11	123.8	F		1.11	123.8	F		1.11	123.8	F		1.11	123.8	F	
	WB	T	1.51	286.9	F	*	1.51	286.9	F	*	1.50	284.7	F	*	1.50	284.7	F	*
	WB	R	0.36	44.4	D		0.36	44.4	D		0.36	44.3	D		0.36	44.3	D	
	NB	Defl	1.78	447.1	F		1.78	447.1	F		1.75	433.0	F		1.75	433.0	F	
	NB	T	0.83	47.0	D		0.83	47.0	D		0.83	47.0	D		0.83	47.0	D	
	NB	LT	-	126.7	F	*	-	126.7	F	*	-	122.4	F	*	-	122.4	F	*
	NB	R	0.44	29.7	C		0.44	29.7	C		0.44	29.7	C		0.44	29.7	C	
	SB	LT	0.85	38.5	D		0.85	38.5	D		0.85	38.5	D		0.85	38.5	D	
	SB	R	0.73	38.6	D		0.73	38.6	D		0.73	38.1	D		0.73	38.1	D	
Astoria Blvd &	NB	LR	0.77	102.9	F	*	0.77	102.9	F	*	0.77	102.9	F	*	0.77	102.9	F	*
Newtown Ave																		
(Stop-Control)																		
30th Av &	SB	LT	1.14	110.9	F	*	1.14	110.9	F	*	1.09	94.0	F	*	1.09	94.0	F	*
8th St	WB	LR	-	9999.0	F	*	-	9999.0	F	*	-	9999.0	F	*	-	9999.0	F	*
(Stop-Control)																		
30th Av &	NB	LTR	0.00	7.3	A		0.00	7.3	A		0.00	7.3	A		0.00	7.3	A	
Main St	WB	TR	0.34	14.7	B		0.34	14.7	B		0.34	14.7	B		0.34	14.7	B	
(Stop-Control)	EB	LT	1.19	133.0	F	*	1.19	133.0	F	*	1.17	124.6	F	*	1.17	124.6	F	*
30th Avenue &	EB	LTR	-	36.0	E	*	-	36.0	E	*	-	33.4	D		-	33.4	D	
12th Street	WB	LTR	-	12.4	B		-	12.4	B		-	12.3	B		-	12.3	B	
(All-way Stop)	NB	LTR	-	14.8	B		-	14.8	B		-	14.7	B		-	14.7	B	
30th Avenue &	EB	LTR	-	88.7	F	*	-	88.7	F	*	-	81.4	F	*	-	81.4	F	*
14th Street	WB	LTR	-	21.3	C		-	21.3	C		-	21.3	C		-	21.3	C	
(All-way Stop)	NB	LTR	-	13.6	B		-	13.6	B		-	13.6	B		-	13.6	B	
	SB	LTR	-	72.0	F	*	-	72.0	F	*	-	72.0	F	*	-	72.0	F	*
24th Ave &	EB	LTR	0.08	16.1	B		0.08	16.1	B		0.08	16.1	B		0.08	16.1	B	
21st St	WB	LTR	0.57	25.8	C		0.57	25.8	C		0.57	25.8	C		0.57	25.8	C	
(Signalized)	NB	LTR	1.49	246.2	F	*	1.49	246.2	F	*	1.47	241.0	F	*	1.47	241.0	F	*
	SB	LT	1.21	131.1	F	*	1.21	131.1	F	*	1.20	126.9	F	*	1.20	126.9	F	*
	SB	R	0.00	9.6	A		0.00	9.6	A		0.00	9.6	A		0.00	9.6	A	
Hoyt Avenue North &	EB	L	0.00	40.0	D		0.00	40.0	D		0.00	40.0	D		0.00	40.0	D	
21st Street	EB	R	0.33	47.1	D		0.33	47.1	D		0.33	47.1	D		0.33	47.1	D	
(Signalized)	WB	L	1.06	84.7	F		1.06	84.7	F		1.05	83.7	F		1.05	83.7	F	
	WB	TR	0.36	17.9	B		0.36	17.9	B		0.36	17.9	B		0.36	17.9	B	
	NB	L	0.18	28.6	C		0.18	28.6	C		0.18	28.6	C		0.18	28.6	C	
	NB	T	1.42	239.8	F	*	1.42	239.8	F	*	1.41	234.4	F	*	1.41	234.4	F	*
	SB	TR	1.00	74.6	E	*	1.00	74.6	E	*	1.00	74.1	E		1.00	74.1	E	
Astoria Park S/ Hoyt Aven &	EB	L	0.19	24.0	C		0.20	26.1	C		0.19	24.0	C		0.19	25.4	C	
21st Street	EB	T	-	-	-		0.64	35.7	D		-	-	-		0.63	34.5	C	
(Signalized)	EB	R	-	-	-		0.76	45.7	D		-	-	-		0.74	43.4	D	
	EB	TR	1.31	189.7	F	*	-	38.0	D		1.31	188.9	F	*	-	36.5	D	
	NB	LTR	1.28	169.8	F	*	1.16	118.6	F		1.27	165.4	F	*	1.19	130.6	F	
	SB	LTR	1.33	184.0	F	*	1.23	140.9	F		1.32	181.2	F	*	1.26	152.1	F	
30th Avenue &	EB	LT	-	-	-		0.87	61.6	E		-	-	-		0.85	59.9	E	
21st Street	EB	R	-	-	-		0.73	51.4	D		-	-	-		0.72	50.6	D	
(Signalized)	EB	LTR	1.46	260.4	F	*	-	57.5	E		1.43	249.9	F	*	-	56.1	E	
	WB'	LT	-	-	-		0.95	80.0	E		-	-	-		0.93	77.1	E	
	WB	R	-	-	-		0.12	29.9	C		-	-	-		0.12	29.9	C	
	WB	LTR	1.16	144.8	F	*	-	73.9	E		1.15	140.0	F	*	-	71.4	E	
	NB	LTR	0.67	22.3	C		0.67	22.3	C		0.67	22.3	C		0.67	22.3	C	
	SB	LTR	1.01	53.5	D		1.01	53.5	D		1.01	53.5	D		1.01	53.5	D	

Notes:
EB - eastbound, WB - westbound, NB - northbound, SB - southbound
L - left, T - through, R - right, DefL - Analysis considers a defacto left-turn lane on this approach
V/C ratio - volume-to-capacity ratio
Sec/veh - seconds per vehicle
LOS - level of service
* - Denotes a significant adverse impact
Analysis is based on the 2000 Highway Capacity Manual methodology (HCS+, version 5.5)

*This table has been updated for the FEIS

TABLE 19-5: Comparison of Midday LOS Proposed Actions vs. Lower Density Alternative

			No-Action MD			Proposed Actions MD				Proposed Actions w/ Mitigation MD				LDA MD				LDA w/ Mitigation MD			
Intersections	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS		V/C Ratio	Delay (sec/veh)	LOS		V/C Ratio	Delay sec/veh	LOS		V/C Ratio	Delay sec/veh	LOS	
27th Avenue &	EB	LT	0.00	12.9	B	0.00	14.1	B		0.00	14.1	B		0.00	14.0	B		0.00	14.0	B	
3rd St	SB	LR	0.52	73.3	F	1.54	373.5	F	*	1.54	373.5	F	*	1.48	351.2	F	*	1.48	351.2	F	*
(Stop-Control)																					
27th Avenue &	EB	LT	0.74	21.7	C	0.84	27.5	C		0.75	18.2	B		0.83	27.0	C		0.74	18.0	B	
4th St	WB	T	0.50	14.7	B	0.58	16.4	B		0.52	11.8	B		0.57	16.2	B		0.51	11.7	B	
(Signalized)	WB	R	1.29	177.1	F	1.90	442.6	F	*	0.63	15.6	B		1.85	417.9	F		0.63	15.4	B	
27th Avenue &	EB	T	0.35	13.2	B	0.36	13.4	B		0.36	13.4	B		0.36	13.4	B		0.36	13.4	B	
8th Street	EB	R	0.92	53.0	D	1.30	180.6	F	*	1.01	62.3	E	*	1.29	173.4	F	*	0.99	57.9	E	
(Signalized)	WB	L	0.28	13.5	B	0.36	15.1	B		0.36	15.1	B		0.36	15.1	B		0.36	15.1	B	
	WB	T	0.64	18.6	B	0.77	23.8	C		0.77	23.8	C		0.76	23.2	C		0.76	23.2	C	
	NB	L	0.61	29.7	C	0.72	34.5	C		0.72	34.5	C		0.71	34.2	C		0.71	34.2	C	
	NB	R	0.49	33.0	C	0.54	36.6	D		0.54	36.6	D		0.54	36.6	D		0.54	36.6	D	
27th Avenue &	EB	TR	0.59	16.2	B	0.67	18.5	B		0.61	16.5	B		0.67	18.3	B		0.61	16.4	B	
14th Street	WB	LT	0.53	14.8	B	0.65	17.4	B		0.67	18.0	B		0.64	17.1	B		0.65	17.7	B	
(Signalized)	SB	LTR	0.49	27.6	C	0.49	27.6	C		0.49	27.6	C		0.49	27.6	C		0.49	27.6	C	
27th Avenue &	EB	LTR	0.46	39.7	E	-	9999.0	F	*	-	9999.0	F	*	-	9999.0	F	*	-	9999	F	*
18th Street (Stop-Control)	WB	LTR	0.05	15.5	C	0.08	22.5	C		0.08	22.5	C		0.08	22.3	C		0.08	22.3	C	
Astoria Boulevard &	EB	L	0.47	41.9	D	0.56	44.6	D		0.56	44.6	D		0.55	44.4	D		0.55	44.4	D	
21st Street	EB	TR	1.71	379.2	F	1.84	434.3	F	*	1.84	434.3	F	*	1.83	429.7	F	*	1.83	429.7	F	*
(Signalized)	WB	L	0.82	60.7	E	0.82	60.7	E		0.82	60.7	E		0.82	60.7	E		0.82	60.7	E	
	WB	T	1.35	224.0	F	1.50	286.3	F	*	1.50	286.3	F	*	1.48	278.4	F	*	1.48	278.4	F	*
	WB	R	0.36	41.3	D	0.38	41.7	D		0.38	41.7	D		0.38	41.7	D		0.38	41.7	D	
	NB	LT	1.05	92.9	F	1.17	137.7	F	*	1.17	137.7	F	*	1.16	134.6	F	*	1.16	134.6	F	*
	NB	R	0.61	44.7	D	0.66	47.8	D		0.66	47.8	D		0.66	47.8	D		0.66	47.8	D	
	SB	LT	0.85	50.4	D	0.85	50.4	D		0.85	50.4	D		0.85	50.4	D		0.85	50.4	D	
	SB	R	0.94	77.3	E	1.03	99.6	F	*	1.03	99.6	F	*	1.02	97.9	F	*	1.02	97.9	F	*
30th Av &	SB	LT	3.86	1405.0	F	0.00	9999.0	F	*	0.00	9999.0	F	*	0.00	9999.0	F	*	0.00	9999	F	*
8th St	WB	LR	-	9999.0	F	-	9999.0	F	*	-	9999.0	F	*	-	9999.0	F	*	-	9999	F	*
(Stop-Control)																					
24th Ave &	EB	LTR	0.01	15.5	B	0.01	15.5	B		0.01	15.5	B		0.01	15.5	B		0.01	15.5	B	
21st St	WB	LTR	0.35	20.0	B	0.35	20.0	B		0.35	20.0	B		0.35	20.0	B		0.35	20.0	B	
(Signalized)	NB	LTR	1.24	140.4	F	1.34	183.1	F	*	1.34	183.1	F	*	1.33	180.3	F	*	1.33	180.3	F	*
	SB	LT	0.61	19.6	B	0.64	20.6	C		0.64	20.6	C		0.64	20.6	C		0.64	20.6	C	
	SB	R	0.00	11.4	B	0.00	11.4	B		0.00	11.4	B		0.00	11.4	B		0.00	11.4	B	
Hoyt Avenue North &	EB	L	0.07	42.8	D	0.07	42.8	D		0.07	42.8	D		0.07	42.8	D		0.07	42.8	D	
21st Street	EB	R	0.14	44.2	D	0.14	44.2	D		0.14	44.2	D		0.14	44.2	D		0.14	44.2	D	
(Signalized)	WB	L	0.79	42.1	D	0.81	43.0	D		0.81	43.0	D		0.81	42.9	D		0.81	42.9	D	
	WB	TR	0.17	14.4	B	0.17	14.4	B		0.17	14.4	B		0.17	14.4	B		0.17	14.4	B	
	NB	L	0.13	25.7	C	0.13	25.9	C		0.13	25.9	C		0.13	25.9	C		0.13	25.9	C	
	NB	T	1.24	160.6	F	1.30	187.5	F	*	1.30	187.5	F	*	1.30	185.8	F		1.30	185.8	F	*
	SB	TR	0.71	40.2	D	0.74	41.6	D		0.74	41.6	D		0.74	41.6	D		0.74	41.6	D	
Astoria Park S/ Hoyt Aven &	EB	L	0.18	24.6	C	0.19	24.7	C		0.20	26.1	C		0.19	24.7	C		0.20	26.1	C	
21st Street	EB	T	-	-	-	-	-	-		0.36	28.7	C		-	-	-		0.36	28.6	C	
(Signalized)	EB	R	-	-	-	-	-	-		0.11	24.9	C		-	-	-		0.11	24.9	C	
	EB	TR	0.47	30.0	C	0.48	30.3	C		-	27.5	C		0.48	30.3	C		-	27.5	C	
	NB	LTR	0.84	37.7	D	0.88	41.4	D		0.83	35.6	D		0.88	41.1	D		0.83	35.4	D	
	SB	LTR	1.14	107.9	F	1.18	126.2	F	*	1.12	99.7	F		1.18	124.9	F	*	1.12	99.0	F	
30th Avenue &	EB	LT	-	-	-	-	-	-		0.55	39.5	D		-	-	-		0.55	39.5	D	
21st Street		R	-	-	-	-	-	-		0.43	37.7	D		-	-	-		0.43	37.6	D	
(Signalized)	EB	LTR	0.81	54.4	D	0.94	73.2	E	*	-	38.9	D		0.94	72.2	E	*	-	38.9	D	
	WB	LT	-	-	-	-	-	-		0.39	35.4	D		-	-	-		0.39	35.3	D	
	WB	R	-	-	-	-	-	-		0.10	30.2	C		-	-	-		0.10	30.2	C	
	WB	LTR	0.48	38.1	D	0.53	39.9	D		-	34.5	C		0.53	39.8	D		-	34.5	C	
	NB	LTR	0.67	23.6	C	0.69	24.3	C		0.69	24.3	C		0.69	24.2	C		0.69	24.2	C	
	SB	LTR	0.56	20.9	C	0.56	20.9	C		0.56	20.9	C		0.56	20.9	C		0.56	20.9	C	

Notes:
EB - eastbound, WB - westbound, NB - northbound, SB - southbound
L - left, T - through, R - right, DefL - Analysis considers a defacto left-turn lane on this approach
V/C ratio - volume-to-capacity ratio
Sec/veh - seconds per vehicle
LOS - level of service
* - Denotes a significant adverse impact
Analysis is based on the 2000 Highway Capacity Manual methodology (HCS+, version 5.5)

*This table has been updated for the FEIS

TABLE 19-6: Comparison of PM LOS Proposed Actions vs. Lower Density Alternative

			No-Action PM			Proposed Actions PM				Proposed Actions w/ Mitigation PM				LDA PM				LDA w/ Mitigation PM			
Intersections	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS		V/C Ratio	Delay (sec/veh)	LOS		V/C Ratio	Delay sec/veh	LOS		V/C Ratio	Delay sec/veh	LOS	
26th Ave &	EB	LR	0.08	22.6	C	0.08	22.6	C		0.08	23.8	C		0.08	22.6	C		0.08	23.8	C	
21st St	NB	T	0.82	33.3	C	0.84	34.4	C		0.81	31.5	C		0.83	34.2	C		0.80	31.4	C	
(Signalized)	SB	T	1.00	55.8	E	1.03	65.0	E	*	1.01	54.1	D		1.03	63.6	E	*	0.99	52.9	D	
27th Avenue &	EB	LT	0.01	11.9	B	0.01	13.3	B		0.01	13.3	B		0.01	13.1	B		0.01	13.1	B	
3rd St	SB	LR	0.92	137.1	F	2.11	612.0	F	*	2.11	612.0	F	*	2.04	582.0	F	*	2.04	582.0	F	*
(Stop-Control)																					
27th Avenue &	EB	LT	0.76	19.5	B	0.86	25.8	C		0.85	23.7	C		0.86	25.4	C		0.84	23.4	C	
4th St	WB	T	0.67	15.5	B	0.76	18.7	B		0.75	17.5	B		0.75	18.2	B		0.74	17.1	B	
(Signalized)	WB	R	1.80	391.8	F	2.52	711.7	F	*	1.02	56.3	E		2.46	687.6	F	*	1.01	52.5	D	
27th Avenue &	EB	T	0.44	14.4	B	0.47	14.8	B		0.47	14.8	B		0.47	14.8	B		0.47	14.8	B	
8th Street	EB	R	0.56	19.3	B	0.89	46.9	D		0.71	19.4	B		0.88	44.6	D		0.70	18.7	B	
(Signalized)	WB	L	0.49	18.4	B	0.63	24.8	C		0.63	24.8	C		0.63	24.5	C		0.63	24.5	C	
	WB	T	1.12	91.6	F	1.31	168.4	F	*	1.31	168.4	F	*	1.29	159.5	F	*	1.29	159.5	F	*
	NB	L	0.73	35.2	D	0.89	50.2	D		0.89	50.2	D		0.88	48.3	D		0.88	48.3	D	
	NB	R	0.59	34.4	C	0.64	39.0	D		0.64	39.0	D		0.64	39.0	D		0.64	39.0	D	
27th Avenue &	EB	T	0.53	13.6	B	0.55	14.0	B		0.55	14.0	B		0.55	14.0	B		0.55	14.0	B	
9th St	WB	T	1.16	103.4	F	1.34	178.2	F	*	1.34	178.2	F	*	1.32	170.1	F	*	1.32	170.1	F	*
(Signalized)	SB	L	0.68	34.9	C	0.82	43.5	D		0.82	43.5	D		0.80	42.1	D		0.80	42.1	D	
	SB	R	0.20	23.9	C	0.25	24.7	C		0.25	24.7	C		0.25	24.6	C		0.25	24.6	C	
27th Avenue &	EB	LT	1.31	161.7	F	1.59	285.7	F	*	1.59	285.7	F	*	1.54	264.7	F	*	1.54	264.7	F	*
12th Street	WB	TR	0.93	26.6	C	1.07	60.9	E	*	1.07	60.9	E	*	1.06	56.2	E	*	1.06	56.2	E	*
(Signalized)	NB	LTR	0.98	88.6	F	1.00	92.5	F		1.00	92.5	F		1.00	92.5	F		1.00	92.5	F	
27th Avenue &	EB	TR	0.87	32.7	C	0.98	51.6	D		0.83	27.1	C		0.98	50.1	D		0.83	26.7	C	
14th Street	WB	LT	1.08	78.2	E	1.27	156.5	F	*	1.23	135.8	F	*	1.25	147.4	F	*	1.21	127.2	F	*
(Signalized)	SB	LTR	0.73	30.9	C	0.73	30.9	C		0.79	37.4	D		0.73	30.9	C		0.79	37.4	D	
27th Avenue &	EB	LTR	0.88	87.7	F	2.08	608.9	F	*	2.08	608.9	F	*	2.00	572.8	F	*	2.00	572.8	F	*
18th Street (Stop-Control)	WB	LTR	0.04	11.9	B	0.06	16.1	C		0.06	16.1	C		0.05	15.8	C		0.05	15.8	C	
Astoria Boulevard &	EB	L	0.14	27.3	C	0.14	27.3	C		0.14	27.3	C		0.14	27.3	C		0.14	27.3	C	
8th Street	EB	R	0.42	32.0	C	0.42	32.0	C		0.42	32.0	C		0.42	32.0	C		0.42	32.0	C	
(Signalized)	WB	LTR	0.62	37.5	D	0.62	37.5	D		0.62	37.5	D		0.62	37.5	D		0.62	37.5	D	
	NB	LT	0.87	40.7	D	1.06	82.9	F	*	1.06	82.9	F	*	1.05	79.2	E	*	1.05	79.2	E	*
	SB	T	0.45	17.3	B	0.55	19.2	B		0.55	19.2	B		0.54	19.1	B		0.54	19.1	B	
	SB	R	0.05	12.3	B	0.06	12.5	B		0.06	12.5	B		0.06	12.4	B		0.06	12.4	B	
Astoria Boulevard &	EB	L	0.72	58.5	E	0.82	68.0	E	*	0.82	68.0	E	*	0.81	66.8	E	*	0.81	66.8	E	*
21st Street	EB	TR	1.75	395.3	F	1.86	441.9	F	*	1.86	441.9	F	*	1.85	438.6	F	*	1.85	438.6	F	*
(Signalized)	WB	L	1.01	109.0	F	1.01	109.0	F		1.01	109.0	F		1.01	109.0	F		1.01	109.0	F	
	WB	T	2.53	753.1	F	2.83	886.0	F	*	2.83	886.0	F	*	2.79	871.4	F	*	2.79	871.4	F	*
	WB	R	0.85	90.1	F	0.90	101.2	F	*	0.90	101.2	F	*	0.89	99.6	F	*	0.89	99.6	F	*
	NB	LT	1.34	195.4	F	1.44	240.2	F	*	1.44	240.2	F	*	1.44	238.1	F	*	1.44	238.1	F	*
	NB	R	0.51	29.5	C	0.51	29.5	C		0.51	29.5	C		0.51	29.5	C		0.51	29.5	C	
	SB	LT	0.79	35.5	D	0.79	35.6	D		0.79	35.6	D		0.79	35.6	D		0.79	35.6	D	
	SB	R	1.10	109.4	F	1.21	147.7	F	*	1.21	147.7	F	*	1.19	142.2	F	*	1.19	142.2	F	*
Astoria Blvd & Newtown Ave (Stop-Control)	NB	LR	0.67	67.0	F	0.90	112.0	F	*	0.90	112.0	F	*	0.87	103.5	F	*	0.87	103.5	F	*
30th Av &	SB	LT	1.34	222.0	F	4.03	1460.0	F	*	4.03	1460.0	F	*	3.87	1386.0	F	*	3.87	1386	F	*
8th St	WB	LR	-	9999.0	F	-	9999.0	F	*	-	9999.0	F	*	-	9999.0	F	*	-	9999	F	*
(Stop-Control)																					
30th Av &	NB	LTR	0.00	7.4	A	0.00	7.4	A		0.00	7.4	A		0.00	7.4	A		0.00	7.4	A	
Main St	WB	TR	0.38	16.0	C	0.48	18.1	C		0.48	18.1	C		0.48	17.9	C		0.48	17.9	C	
(Stop-Control)	EB	LT	0.68	28.2	D	0.84	42.4	E	*	0.84	42.4	E	*	0.83	41.3	E	*	0.83	41.3	E	*
24th Ave &	EB	LTR	0.03	15.6	B	0.03	15.6	B		0.03	15.6	B		0.03	15.6	B		0.03	15.6	B	
21st St	WB	LTR	0.42	21.1	C	0.42	21.1	C		0.42	21.1	C		0.42	21.1	C		0.42	21.1	C	
(Signalized)	NB	LTR	1.22	126.7	F	1.26	143.4	F	*	1.26	143.4	F	*	1.25	141.6	F	*	1.25	141.6	F	*
	SB	LT	0.67	19.0	B	0.70	19.9	B		0.70	19.9	B		0.70	19.8	B		0.70	19.8	B	
	SB	R	0.00	9.6	A	0.00	9.6	A		0.00	9.6	A		0.00	9.6	A		0.00	9.6	A	
Hoyt Avenue North &	EB	L	0.08	44.3	D	0.08	44.3	D		0.08	44.3	D		0.08	44.3	D		0.08	44.3	D	
21st Street	EB	R	0.18	44.8	D	0.18	44.8	D		0.18	44.8	D		0.18	44.8	D		0.18	44.8	D	
(Signalized)	WB	L	0.98	65.3	E	1.01	71.7	E	*	1.01	71.7	E	*	1.00	70.3	E	*	1.00	70.3	E	*
	WB	TR	0.28	16.8	B	0.28	16.8	B		0.28	16.8	B		0.28	16.8	B		0.28	16.8	B	
	NB	L	0.30	29.3	C	0.31	29.8	C		0.31	29.8	C		0.31	29.8	C		0.31	29.8	C	
	NB	T	1.18	131.0	F	1.22	148.9	F	*	1.22	148.9	F	*	1.22	147.1	F	*	1.22	147.1	F	*
	SB	TR	0.85	48.6	D	0.88	52.1	D		0.88	52.1	D		0.88	51.9	D		0.88	51.9	D	
Astoria Park S/ Hoyt Aven &	EB	L	0.20	24.2	C	0.21	24.3	C		0.22	25.7	C		0.21	24.3	C		0.22	25.7	C	
21st Street	EB	T	-	-	-	-	-	-		0.58	32.9	C		-	-	-		0.57	32.7	C	
(Signalized)	EB	R	-	-	-	-	-	-		0.14	24.8	C		-	-	-		0.14	24.8	C	
	EB	TR	0.74	38.5	D	0.74	38.8	D		-	30.5	C		0.74	38.6	D		-	30.4	C	
	NB	LTR	1.49	257.3	F	1.55	284.7	F	*	1.46	244.1	F		1.54	281.2	F	*	1.45	241.0	F	
	SB	LTR	1.53	272.8	F	1.58	299.1	F	*	1.50	259.4	F		1.58	295.4	F	*	1.49	255.9	F	
30th Avenue &	EB	LT	-	-	-	-	-	-		0.63	41.9	D		-	-	-		0.63	41.9	D	
21st Street	EB	R	-	-	-	-	-	-		0.39	36.4	D		-	-	-		0.39	36.3	D	
(Signalized)	EB	LTR	0.86	58.7	E	0.96	74.4	E	*	-	40.3	D		0.96	73.9	E	*	-	40.3	D	
	WB	LT	-	-	-	-	-	-		0.56	40.2	D		-	-	-		0.55	40.0	D	
	WB	R	-	-	-	-	-	-		0.12	30.5	C		-	-	-		0.12	30.5	C	
	WB	LTR	0.62	42.2	D	0.70	46.3	D		-	38.8	D		0.69	46.1	D		-	38.6	D	
	NB	LTR	1.00	52.2	D	1.03	58.7	E	*	1.01	53.8	D		1.03	58.3	E		1.01	53.5	D	
	SB	LTR	0.64	21.7	0.00	0.64	21.7	D		0.63	20.9	C		0.64	21.7	C		0.63	20.9	C	

Notes:
EB - eastbound, WB - westbound, NB - northbound, SB - southbound
L - left, T - through, R - right, DefL - Analysis considers a defacto left-turn lane on this approach
V/C ratio - volume-to-capacity ratio
Sec/veh - seconds per vehicle
LOS - level of service
* - Denotes a significant adverse impact
Analysis is based on the 2000 Highway Capacity Manual methodology (HCS+, version 5.5)

*This table has been updated for the FEIS

TABLE 19-7: Comparison of Saturday LOS Proposed Actions vs. Lower Density Alternative

			No-Action Saturday MD			Proposed Actions SAT				Proposed Actions w/ Mitigation SAT				LDA SAT				LDA w/ Mitigation SAT			
Intersections	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS		V/C Ratio	Delay (sec/veh)	LOS		V/C Ratio	Delay sec/veh	LOS		V/C Ratio	Delay sec/veh	LOS	
27th Avenue &	EB	LT	0.00	13.5	B	0.00	15.5	C		0.00	15.5	B		0.00	15.3	C		0.00	15.3	B	
3rd St	SB	LR	0.61	89.8	F	2.03	599.2	F	*	2.03	599.2	F	*	1.88	533.5	F	*	1.88	533.5	F	*
(Stop-Control/Signalized)																					
27th Avenue &	EB	LT	0.64	16.5	B	0.74	19.9	B		0.70	16.5	B		0.73	19.7	B		0.69	16.3	B	
4th St	WB	T	0.44	12.1	B	0.53	13.5	B		0.50	11.5	B		0.52	13.3	B		0.49	11.3	B	
(Signalized)	WB	R	1.57	293.1	F	2.65	772.9	F	*	0.79	21.3	C		2.54	722.9	F	*	0.78	20.5	C	
27th Avenue &	EB	T	0.41	14.0	B	0.43	14.2	B		0.43	14.2	B		0.42	14.2	B		0.42	14.2	B	
8th Street	EB	R	0.52	18.7	B	0.82	37.5	D		0.66	16.8	B		0.81	35.6	D		0.65	16.2	B	
(Signalized)	WB	L	0.42	16.4	B	0.54	20.4	C		0.54	20.4	C		0.54	20.1	C		0.54	20.1	C	
	WB	T	0.75	21.8	C	0.91	33.6	C		0.91	33.6	C		0.90	31.6	C		0.90	31.6	C	
	NB	L	0.41	24.0	C	0.54	26.7	C		0.54	26.7	C		0.53	26.5	C		0.53	26.5	C	
	NB	R	0.39	26.7	C	0.44	29.1	C		0.44	29.1	C		0.44	29.1	C		0.44	29.1	C	
27th Avenue &	EB	T	0.50	14.2	B	0.51	14.5	B		0.51	14.5	B		0.51	14.4	B		0.51	14.4	B	
9th St	WB	T	0.94	38.0	D	1.12	90.6	F	*	1.12	90.6	F	*	1.10	83.4	F	*	1.10	83.4	F	*
(Signalized)	SB	L	0.77	38.6	D	1.00	72.0	E	*	1.00	72.0	E	*	0.97	65.1	E	*	0.97	65.1	E	*
	SB	R	0.20	22.6	C	0.28	23.8	C		0.28	23.8	C		0.27	23.7	C		0.27	23.7	C	
27th Avenue &	EB	LT	1.23	134.9	F	1.70	338.6	F	*	1.70	338.6	F	*	1.63	309.7	F	*	1.63	309.7	F	*
12th Street	WB	TR	0.86	24.6	C	1.02	51.6	D		1.02	51.6	D		1.00	47.5	D		1.00	47.5	D	
(Signalized)	NB	LTR	0.39	29.3	C	0.40	29.4	C		0.40	29.4	C		0.40	29.4	C		0.40	29.4	C	
27th Avenue &	EB	TR	0.79	23.5	C	0.90	33.2	C		0.82	24.8	C		0.90	32.3	C		0.81	24.4	C	
14th Street	WB	LT	0.60	16.0	B	0.69	18.1	B		0.71	18.9	B		0.68	17.7	B		0.70	18.5	B	
(Signalized)	SB	LTR	0.69	34.1	C	0.66	32.9	C		0.66	32.9	C		0.66	32.9	C		0.66	32.9	C	
27th Avenue &	EB	LTR	-	9999	F	-	9999	F	*	-	9999	F	*	-	9999	F	*	-	9999	F	*
18th Street (Stop-Control)	WB	LTR	0.07	19.6	C	0.20	52.1	F	*	0.20	52.1	F	*	0.19	50.4	F	*	0.19	50.4	F	*
Astoria Boulevard &	EB	L	0.45	41.2	D	0.56	44.4	D		0.56	44.4	D		0.55	44.0	D		0.55	44.0	D	
21st Street	EB	TR	2.11	553.9	F	2.26	624.0	F	*	2.26	624.0	F	*	2.25	616.5	F	*	2.25	616.5	F	*
(Signalized)	WB	L	0.67	48.9	D	0.67	48.9	D		0.67	48.9	D		0.67	48.9	D		0.67	48.9	D	
	WB	T	1.41	249.5	F	1.60	329.8	F	*	1.60	329.8	F	*	1.58	322.2	F	*	1.58	322.2	F	*
	WB	R	0.23	37.6	D	0.25	38.0	D		0.25	38.0	D		0.25	38.0	D		0.25	38.0	D	
	NB	LT	1.39	229.6	F	1.47	263.6	F	*	1.47	263.6	F	*	1.46	261.9	F	*	1.46	261.9	F	*
	NB	R	0.53	43.2	D	0.54	43.9	D		0.54	43.9	D		0.54	43.9	D		0.54	43.9	D	
	SB	LT	0.92	58.2	E	0.91	57.0	E		0.91	57.0	E		0.91	56.9	E		0.91	56.9	E	
	SB	R	0.96	79.1	E	1.17	145.8	F	*	1.17	145.8	F	*	1.15	137.5	F	*	1.15	137.5	F	*
Astoria Blvd &	NB	LR	0.61	43.5	E	0.76	61.4	F	*	0.76	61.4	F	*	0.75	59.4	F	*	0.75	59.4	F	*
Newtown Ave																					
(Stop-Control/Signalized)																					
30th Av &	SB	LT	-	9999	F	0.00	9999	F	*	0.00	9999	F	*	0.00	9999	F	*	0.00	9999	F	*
8th St	WB	LR	-	9999	F	-	9999	F	*	-	9999	F	*	-	9999	F	*	-	9999	F	*
(Stop-Control/Signalized)																					
24th Ave &	EB	LTR	0.48	23.3	C	0.48	23.3	C		0.48	23.3	C		0.48	23.3	C		0.48	23.3	C	
21st St	WB	LTR	0.13	16.7	B	0.13	16.7	B		0.13	16.7	B		0.13	16.7	B		0.13	16.7	B	
(Signalized)	NB	LTR	1.27	153.0	F	1.35	186.4	F	*	1.35	186.4	F	*	1.35	184.3	F	*	1.35	184.3	F	*
	SB	LT	0.73	23.0	C	0.75	24.1	C		0.75	24.1	C		0.75	24.1	C		0.75	24.1	C	
	SB	R	0.17	13.0	B	0.17	13.0	B		0.17	13.0	B		0.17	13.0	B		0.17	13.0	B	
Hoyt Avenue North &	EB	L	0.07	41.2	D	0.07	41.2	D		0.07	41.2	D		0.07	41.2	D		0.07	41.2	D	
21st Street	EB	R	0.29	45.4	D	0.29	45.4	D		0.29	45.4	D		0.29	45.4	D		0.29	45.4	D	
(Signalized)	WB	L	0.89	51.3	D	0.93	56.1	E		0.93	56.1	E		0.93	55.2	E		0.93	55.2	E	
	WB	TR	0.39	18.3	B	0.39	18.3	B		0.39	18.3	B		0.39	18.3	B		0.39	18.3	B	
	NB	L	0.31	30.9	C	0.33	31.4	C		0.33	31.4	C		0.33	31.4	C		0.33	31.4	C	
	NB	T	1.07	93.6	F	1.13	117.6	F	*	1.13	117.6	F	*	1.13	115.7	F	*	1.13	115.7	F	*
	SB	TR	0.78	43.4	D	0.81	45.3	D		0.81	45.3	D		0.81	45.2	D		0.81	45.2	D	
Astoria Park S/ Hoyt Aven &	EB	L	0.25	25.7	C	0.26	25.8	C		0.27	27.3	C		0.26	25.8	C		0.27	27.3	C	
21st Street	EB	T	-	-	-	-	-	-		0.40	29.5	C		-	-	-		0.39	29.3	C	
(Signalized)	EB	R	-	-	-	-	-	-		0.29	28.0	C		-	-	-		0.29	28.0	C	
	EB	TR	0.65	35.7	D	0.69	37.2	D		-	28.5	C		0.68	36.9	D		-	28.5	C	
	NB	DefL	2.18	611.5	F	2.18	611.5	F		2.18	610.5	F		2.18	611.5	F		2.18	610.5	F	
	NB	TR	1.04	76.6	E	1.08	91.6	F		1.05	77.5	E		1.08	90.2	F		1.04	76.2	E	
	NB	LTR	-	159.7	F	-	169.3	F	*	-	157.2	F		-	168.4	F	*	-	156.4	F	
	SB	LTR	1.28	166.3	F	1.35	194.3	F	*	1.28	166.1	F		1.34	190.6	F	*	1.28	162.6	F	
30th Avenue &	EB	LT	-	-	-	-	-	-		0.63	42.7	D		-	-	-		0.63	42.6	D	
21st Street	EB	R	-	-	-	-	-	-		0.44	38.0	D		-	-	-		0.44	38.0	D	
(Signalized)	EB	LTR	0.91	68.6	E	1.04	97.2	F	*		41.2	D		1.03	96.4	F	*	-	41.1	D	
	WB	LT	-	-	-	-	-	-		0.69	48.3	D		-	-	-		0.68	48.1	D	
	WB	R	-	-	-	-	-	-		0.10	30.3	C		-	-	-		0.10	30.3	C	
	WB	LTR	0.78	56.9	E	0.88	70.0	E	*		45.9	D		0.88	69.4	E	*	-	45.7	D	
	NB	LTR	0.67	23.6	C	0.69	24.3	C		0.69	24.3	C		0.69	24.2	C		0.69	24.2	C	
	SB	LTR	0.78	27.6	0.00	0.78	27.7	E		0.78	27.7	C		0.78	27.7	0		0.78	27.7	C	

Notes:
EB - eastbound, WB - westbound, NB - northbound, SB - southbound
L - left, T - through, R - right, DefL - Analysis considers a defacto left-turn lane on this approach
V/C ratio - volume-to-capacity ratio
Sec/veh - seconds per vehicle
LOS - level of service
* - Denotes a significant adverse impact
Analysis is based on the 2000 Highway Capacity Manual methodology (HCS+, version 5.5)

*This table has been updated for the FEIS

TABLE 19-8: Lower Density Alternative Proposed Mitigation Measures

Intersection	Peak Hour	Phase	No-Action Signal Timing (Seconds) (1) AM	MD	PM	SAT	Proposed Signal Timing (Seconds) (1) AM	MD	PM	SAT	Proposed Mitigation Measures
26th Ave (EB/WB) & 21st Street (NB/SB)	AM/PM	EB/WB NB/SB Ped	53 60 7	52 58 10	53 60 7	52 58 2	52 61 7	52 58 10	51 62 7	52 58 2	- Tranfer 1s/2s of green time from EB/WB to NB/SB in AM & PM.
27th Ave (EB/WB) & 3rd Street (NB/SB)	ALL	EB/WB NB/SB	Stop-Controlled				Stop-Controlled				- Unmitigatable.
27th Ave (EB/WB) & 4th Street (NB)	ALL	EB/WB NB/SB ped	54 36	55 35	59 31	57 33	60 30	60 30	60 30	60 30	- Adjust signal timing to provide 30s of protected pedestrian phase
27th Ave (EB/WB) & 8th Street (NB/SB)	AM/MD/PM	EB/WB NB/SB NB/SB/EBR	55 35	53 37	53 37	53 37	55 24 11	53 23 14	53 25 12	53 25 12	- Adjust signal timing to introduce an NB/EBR phase to increase the EB-R capacity
27th Ave (EB/WB) & 9th Street (NB/SB)	AM/PM/ SATMD	EB/WB NB/SB	48 42	50 40	57 33	55 35	48 42	50 40	57 33	55 35	- Unmitigatable.
27th Ave (EB/WB) & 12th Street (NB/SB)	AM/PM SATMD	EB/WB NB/SB	70 20	60 30	69 21	60 30	70 20	60 30	69 21	60 30	- Unmitigatable.
27th Ave (EB/WB) & 14th Street (SB)	AM/PM	EB/WB NB/SB	46 44	55 35	49 41	55 35	48 42	55 35	52 38	55 35	- Install "No Stopping Anytime" regulation along north curb, west of 14th St. - Install "No Stopping Anytime" regulation along north curb for 100' of WB. - Restripe EB/WB approaches with one 15' EB lane and one 15' WB lane. - Transfer 2s & 3s from SB to EB/WB in AM & PM
27th Ave (EB/WB) & 18th Street (SB)	MD/PM SATMD	EB/WB	Stop-Controlled								- Unmitigatable.
Astoria Blvd (EB/WB) & 8th St (SB)	PM	EB/WB NB/SB	52 68	48 72	48 72	48 72	52 68	48 72	48 72	48 72	- Unmitigatable
Astoria Blvd (EB/WB) & 18th St (SB)	AM	EB/WB SB	60 60	60 60	60 60	60 60	59 61	60 60	60 60	60 60	- Unmitigatable
Astoria Blvd (EB/WB) & 21st St (SB)	ALL	EB WB NB/SB PED	27 33 53 7	36 36 38 10	30 27 56 7	36 36 38 10					- Unmitigatable
Astoria Blvd (EB/WB) & Newtown Ave(NB)	AM/PM	EB/WB NB NB/SB	Stop-Controlled				Stop-Controlled				- Unmitigatable.
30th Ave (WB) & 8th Street (NB/SB)	ALL	WB SB NB/SB	Stop-Controlled				Stop-Controlled				- Unmitigatable.
30th Ave (EB/WB) & Main Street (SB)	AM/MD/PM	EB/WB NB	Stop-Controlled								- Unmitigatable
30th Ave (EB/WB) & 12th Street (NB)	AM	EB/WB NB	Stop-Controlled								- Unmitigatable
30th Ave (EB/WB) & 14th Street (SB)	AM	EB/WB NB/SB	Stop-Controlled								- Unmitigatable
24th Ave (EB/WB) & 21st Street NB/SB)	ALL	EB/WB NB/SB PED	22 31 7	22 28 10	22 31 7	22 28 10	22 31 7	22 28 10	22 31 7	22 28 10	-Umitigatable
Hoyt Avenue North & 21st Street	ALL	EB/WBT WB NB/SB	27 43 50	25 45 50	25 43 52	27 43 50	27 43 50	25 45 50	25 43 52	27 43 50	-Umitigatable
Astoria Park S/ Hoyt Ave 21st Street	ALL	EB NB/SB PED	53 60 7	52 58 10	53 60 7	52 58 10	51 62 7	50 60 10	51 62 7	50 60 10	- Install "No Stopping Anytime" regulation along 75' of south curb of EB approach - Restripe thru-right to a 11' thru & 9' right-turn lane. - Transfer 2s from EB to NB/SB in AM, MD, PM, SATMD
30th Ave (EB/WB) & 21st Street (SB)	ALL	EB/WB NB/SB PED	43 70 7	42 68 10	43 70 7	42 68 10	43 70 7	42 68 10	42 71 7	42 68 10	- Install "No Stopping Anytime" regulation along 100' of south curb on EB approach. - Restripe EB to create a one 10' right turn lane. - Install "No Stopping Anytime" regulation along 100' of north curb of the WB approach. - Restripe WB approach to create 10' right turn lane. - Transfer 1s from EB/WB to NB/SB in the PM

Notes:
(1) Signal timings shown indicate green plus yellow (including all red) for each phase.

*This table has been updated for the FEIS

Transit

Subway

Subway Stations

As shown in **Table 19-2**, the Lower Density Alternative would generate ~~103~~ 98 and ~~112~~ 89 fewer incremental subway trips during the weekday AM and PM peak hours, respectively, than would the Proposed Actions. Consequently, there would likely be fewer trips at the analyzed 30th Avenue (N/W) subway station. As discussed in **Chapter 11, "Transportation,"** under the Proposed Actions, two platform stairs and one street stair at the 30th Avenue (N/W) subway station would be significantly adversely impacted by incremental demand in either the AM or PM peak hour. As the Lower Density Alternative is

expected to generate fewer subway trips at this station, the number of impacted station elements would likely be comparable to or less than the number under the Proposed Actions.

Under the Lower Density Alternative, all analyzed stairs that are impacted under the Proposed Actions at the 30th Avenue subway stations are projected to operate at ~~an acceptable~~ LOS E in either the weekday AM or PM peak hours. As shown in **Table 19-9**, under Lower Density Alternative, one stairs (P1-P2) would operate overcapacity with LOS E in the AM peak hour, while two stairs (M3-S3, P3-P4) would operate overcapacity with LOS E in the PM peak hour. In the AM peak hour, under the Lower Density Alternative, the P1-P2 platform stairs would have a WIT of ~~4.4~~4.2 inches, which exceeds the four-inch impact threshold, and therefore be considered significantly adversely impacted, similar to the Proposed Actions. In the PM peak hour, the M3-S3 street stairs would have a WIT of 16.2 inches, which exceeds the ~~four~~five-inch impact threshold, and therefore also be considered significantly adversely impacted as a result of the Lower Density Alternative. During the same period, consistent with the Proposed Actions, the P3-P4 platform stairs would each have a WIT of ~~4.6~~3.8 inches, which would not exceed the four-inch impact threshold, and therefore is ~~also~~ not ~~be~~ considered significantly adversely impacted as a result of the Lower Density Alternative. These Lower Density Alternative impacts are consistent with those disclosed as part of the Proposed Actions with exception to the platform stair during the PM peak hour.

TABLE 19-9
Lower Density Alternative - Subway Station Stair Analysis

Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Project Increment		Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS	WIT	Impact Threshold
					Up	Down	Up	Down	Up	Down					
AM	30th Ave (N/W)	M1-S1 (SW)	5.00	4.00	34	0	1,173	113	1.00	0.80	0.90	0.76	C	- - -	- - -
		M2-S2 (SE)	5.00	4.00	33	0	1,486	96	1.00	0.80	0.90	0.93	C	- - -	- - -
		M3-S3 (NW)	5.00	4.00	294	98	935	431	1.00	0.80	0.90	0.85	C	-	-
		P1-P2 (SB)	5.00	4.00	226	0	2,786	7	1.00	0.75	1.00	1.46	E *	4.2	4
		P5-P6 (SB)	5.00	4.00	135	0	1,657	3	1.00	0.75	1.00	0.87	C	-	-
		P3-P4 (NB)	5.00	4.00	0	53	9	393	1.00	0.75	1.00	0.28	A	- - -	- - -
		P7-P8 (NB)	5.00	4.00	0	45	7	329	1.00	0.75	1.00	0.23	A	- - -	- - -
PM	30th Ave (N/W)	M1-S1 (SW)	5.00	4.00	15	0	404	584	1.00	0.80	0.90	0.66	B	- - -	- - -
		M2-S2 (SE)	5.00	4.00	14	0	378	849	1.00	0.80	0.90	0.83	C	- - -	- - -
		M3-S3 (NW)	5.00	4.00	127	271	252	1,602	1.00	0.80	0.90	1.31	D *	13.2	5
		P1-P2 (SB)	5.00	4.00	91	0	697	53	1.00	0.75	0.90	0.45	A	- - -	- - -
		P5-P6 (SB)	5.00	4.00	65	0	498	20	1.00	0.75	1.00	0.27	A	- - -	- - -
		P3-P4 (NB)	5.00	4.00	0	148	15	2,015	1.00	0.75	1.00	1.41	E	3.8	4
		P7-P8 (NB)	5.00	4.00	0	123	32	1,676	1.00	0.75	1.00	1.18	D	3.8	7

*This table has been updated for the FEIS

Similar to the potential mitigation measure proposed as part of the Proposed Actions (described in Chapter 18, "Mitigation"), under the Lower Density Alternative, –the implementation of new stairs capacity at the southwest corner of Newtown Avenue and 31st Street, adjacent to the 30th Avenue subway station's southbound platform would mitigate/alleviate subway impacts and flows. As shown in **Table 19-10**, the P1-P2 would operate at LOS E (same as With-Action conditions) but with a v/c ratio of 1.35 ~~(compared to 1.46~~ in the Lower Density Alternative conditions~~)~~ with potential mitigation (compared to 1.46 without mitigation). Also shown in **Table 19-10**, under the Lower Density Alternative with potential mitigation, in the AM peak hour, the P1-P2 platform stairs would have a WIT of ~~0.5~~0.4 inches, which does not exceed the four-inch impact threshold, and therefore would no longer be considered significantly adversely impacted with the mitigation measure. The proposed staircase, denoted as "P13-P14-S6" in **Table 19-20**, would function at LOS A during each analyzed peak hour. However, it should be noted that although proposed stairs would mitigate the AM Lower Density Alternative impact and alleviate pressure on other stairs, in the PM peak hour, the M3-S3 street stairs ~~and P3-P4 platform stairs~~ would continue

exceed thresholds for impact. As such, the M3-S3 street stairs ~~and the P3-P4 platform stairs~~ would remain significantly adversely impacted as a result of the Lower Density Alternative in the PM peak hour. Under the Lower Density Alternative, all other analyzed elements would operate without significant impacts but with slightly better than levels projected under the Proposed Actions.

TABLE 19-10
Lower Density Alternative-With-Mitigation - Subway Station Stair Analysis

Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Project Increment		Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS	WIT	Impact Threshold
					Up	Down	Up	Down	Up	Down					
AM	30th Ave (N/W)	M1-S1 (SW)	5.00	4.00	34	0	1,173	113	1.00	0.80	0.90	0.76	C	- - -	- - -
		M2-S2 (SE)	5.00	4.00	33	0	1,486	96	1.00	0.80	0.90	0.93	C	- - -	- - -
		M3-S3 (NW)	5.00	4.00	294	98	697	430	1.00	0.80	0.90	0.71	C	-	-
		P1-P2 (SB)	5.00	4.00	226	0	2,578	6	1.00	0.75	1.00	1.35	E	0.4	5
		P5-P6 (SB)	5.00	4.00	135	0	1,534	3	1.00	0.75	1.00	0.8	C	-	-
		P3-P4 (NB)	5.00	4.00	0	53	9	393	1.00	0.75	1.00	0.28	A	- - -	- - -
		P7-P8 (NB)	5.00	4.00	0	45	7	329	1.00	0.75	1.00	0.23	A	- - -	- - -
		P13-P14-S6 (SB)	5.00	4.00	0	0	331	1	1.00	0.75	1.00	0.17	A	- - -	- - -
PM	30th Ave (N/W)	M1-S1 (SW)	5.00	4.00	15	0	404	584	1.00	0.80	0.90	0.66	B	- - -	- - -
		M2-S2 (SE)	5.00	4.00	14	0	378	849	1.00	0.80	0.90	0.83	C	- - -	- - -
		M3-S3 (NW)	5.00	4.00	127	271	209	1,599	1.00	0.80	0.90	1.28	D	* 11.6	6
		P1-P2 (SB)	5.00	4.00	91	0	661	51	1.00	0.75	0.90	0.42	A	- - -	- - -
		P5-P6 (SB)	5.00	4.00	65	0	473	19	1.00	0.75	1.00	0.26	A	- - -	- - -
		P3-P4 (NB)	5.00	4.00	0	148	15	2,015	1.00	0.75	1.00	1.41	E	3.8	4
		P7-P8 (NB)	5.00	4.00	0	123	32	1,676	1.00	0.75	1.00	1.18	D	3.8	7
		P13-P14-S6 (SB)	5.00	4.00	0	0	61	3	1.00	0.75	1.00	0.03	A	- - -	- - -

*This table has been updated for the FEIS

Subway Line Haul

Neither the Proposed Action nor the Lower Density Alternative would result in significant adverse subway line haul impacts. As the Lower Density Alternative would result in a reduction of approximately 13 percent in project-generated subway trips during the weekday AM and PM peak hours, the analyzed N/W subway lines would experience future levels of service slightly better than levels projected under the Proposed Actions.

Bus

As presented in **Table 19-2**, the Lower Density Alternative would generate only ~~10 and 11~~ nine fewer incremental bus trips during both the weekday AM and PM peak hours~~, respectively,~~ than would the Proposed Actions. Consequently, under this alternative the number of bus trips on the three analyzed bus routes—the Q18, Q19 and Q103 —would be generally comparable to the number under the Proposed Actions in both peak hours. As discussed in **Chapter 11, "Transportation,"** under the Proposed Actions, the eastbound Q18 and the northbound and southbound Q103 would be significantly adversely impacted by incremental demand in either the AM or PM peak hour. As the Lower Density Alternative is expected to generate fewer bur trips along these routes, the impacted bus routes would likely be comparable to or less than the number under the Proposed Actions.

As shown in **Table 19-11**, the Lower Density Alternative would result in capacity shortfalls on the same routes as compared to the Proposed Actions. As shown in **Table 19-11**, would result in a passenger capacity shortfall of ~~12~~ seven on the eastbound Q18 buses, ~~eight~~ three on the northbound Q103 buses,

and ~~33~~ 29 on the southbound Q103 buses in the AM peak hour. During the PM peak hour, the Lower Density Alterative would result in passenger capacity shortfall of ~~53~~ 33 on the northbound Q103 buses and ~~38~~ 21 on the southbound Q103 buses in the PM peak hour. Therefore, consistent with the Proposed Actions, based on *CEQR Technical Manual* impact criteria, the eastbound Q18, northbound Q103, and southbound Q103 bus routes in the AM peak hour and the northbound Q103 and southbound Q103 bus routes in the PM peak hour would be significantly adversely impacted.

As shown in **Table 19-11**, the significant adverse impact to the Q18 could be fully mitigated by the addition of one additional bus in eastbound direction in the AM peak hour. The significant adverse impact to the Q103 could be fully mitigated by one additional bus in northbound and southbound directions in the AM peak hour. Also, the significant adverse impact to the Q103 could be fully mitigated by the addition of one bus in northbound and southbound directions in the PM peak hour. These measures are consistent with those proposed for the Proposed Actions as mitigation ~~with exception of the northbound Q103 bus routes in the PM peak hour, which would require one additional bus under the Lower Density Alternative (compared to two under the proposed Actions) for mitigation~~.

TABLE 19-11
Lower Denisty Alterntaive Local Bus Analysis (with Mitigtaion)

Peak Hour	Route	Direction	Maximum Load Point	Peak Hour Buses[1]	No Action Available Capacity[2]	LDA Increment	Available Capacity w/ LDA[2]	Additional Buses Needed to Accommodate LDA Demand	Available Capacity With LDA Mitigation
AM	Q18	EB	30 AV & 27 ST	16.5	~~51~~53	60~~67~~	~~-127~~*	1	~~42~~47
	Q103	NB	21 ST-41 AV	6	~~18~~20	~~30~~23	~~-83~~*	1	~~46~~51
		SB	40 AV-10 ST	19	~~51~~52	~~97~~81	~~-3329~~*	1	~~21~~25
PM	Q103	NB	21 ST-41 AV	15	~~22~~29	~~85~~62	~~-5333~~*	1	~~1~~21
		SB	40 AV-12 ST	10	~~10~~16	~~55~~37	~~-3821~~*	1	~~16~~33

Notes:
Refer to Table 11-26 in Chapter 11 ("Transportation") for the No-Action service analysis & changes assumed
1. Assumes service levels adjusted to address capacity shortfalls in the No Action conditions.
2. Available capacity based on MTA loading guidelines of 54 passengers per standard bus.
* Denotes a significant adverse impact.

Pedestrians

As discussed above, under the Lower Density Alternative there would be fewer total pedestrian trips in all peak hours. These totals include all walk-only trips, Projected Development Site 2 pedestrians en route to and from nearest subway, Projected Development Site 1 pedestrians en route to and from nearest subway during the non-commuter peak hours, and all pedestrians en route to and from nearby bus stops or ferry landings. As shown in **Table 19-12**, the Lower Density Alternative is expected to generate ~~685~~702, ~~1,031~~998, ~~935~~979, and ~~1,338~~1,607 incremental pedestrian trips (including walk-only trips and trips to/from area transit services; in and out combined) in the weekday AM, midday, PM, and Saturday peak hours, respectively, compared with the ~~751~~762, ~~1,101~~1,076, ~~1,007~~1,034, and ~~1,468~~1,734 incremental pedestrian trips that would be generated under the Proposed Actions during these same periods, respectively. Compared with the Proposed Actions, pedestrian demand under this alternative would be from ~~six~~ five percent to ~~nine~~ eight percent less in the weekday AM, midday, PM and Saturday peak hours.

TABLE 19-12
Comparison of Incremental Peak Hour Pedestrian Trips
Proposed Actions vs. Lower Density Alternative

Scenario	Total
Weekday AM	
Proposed Actions	~~751~~762
Lower Density Alternative	~~685~~702
Net Difference	***~~66~~-60***
Weekday Midday	
Proposed Actions	~~1,101~~1,076
Lower Density Alternative	~~1,031~~998
Net Difference	***~~70~~-78***
Weekday PM	
Proposed Actions	~~1,007~~1,034
Lower Density Alternative	~~935~~979
Net Difference	***~~72~~-55***
Saturday	
Proposed Actions	*~~1,468~~1,734*
Lower Density Alternative	*~~1,338~~1,607*
Net Difference	***~~130~~-127***
Notes: Includes walk-only trips and trips en route to/from area transit services.	

As discussed in **Chapter 11, "Transportation,"** based on *CEQR Technical Manual* criteria, two sidewalks, three crosswalks, and one corner would be significantly adversely impacted by the Proposed Actions in one or more of the analyzed peak hours. As discussed above, pedestrian demand under the Lower Density Alternative would be from six percent to nine percent less than under the Proposed Actions in each analyzed peak period. It is therefore anticipated that pedestrian conditions under the Lower Density Alternative would be generally comparable to, or better than those under the Proposed Actions in all periods, and that there would be no new significant adverse pedestrian impacts under this alternative.

Table 19-13 shows the average pedestrian space and LOS at impacted sidewalks under the With-Action conditions, and compares them under the Lower Density Alternative for all analyzed peak hours. As stated in **Chapter 11, "Transportation"** and indicated in the below table, the Proposed Actions would result in a significant adverse impact to two sidewalks (the west sidewalk of 4th Street between 26th Avenue and 27th Avenue and the north sidewalk of 27th Avenue between 3rd Street and 4th Street). As shown in **Table 19-13**, the west sidewalk of 4th Street between 26th Avenue and 27th Avenue would ~~no longer~~ result in a significant adverse impact during the Saturday peak hour under the Lower Density Alternative, but would be mitigated by the removal of four tree curbside tree pits located on the northern half of the sidewalk. It should be noted that this mitigation measure is the same as the measure proposed for the Proposed Actions. However, the north sidewalk of 27th Avenue between 3rd Street and 4th Street would continue to have a significant adverse impact during the weekday midday peak hour under the Lower Density Alternative and would remain unmitigated.

Table 19-14 shows the average pedestrian space and LOS at impacted crosswalks under the With-Action conditions, and compares them under the Lower Density Alternative for all analyzed peak hours. As stated in **Chapter 11, "Transportation"** and indicated in the below table, the Proposed Actions would result in

significant adverse impacts to the north, east, and west crosswalks at 27th Avenue and 4th Street in the weekday midday and/or Saturday peak hours. As shown in **Table 19-14**, these impacts would also occur under the Lower Density Alternative for the same peak hours. With a 3.5-foot widening (to a total of 14.72 feet in width) on the west crosswalk, the Proposed Actions' significant adverse impacts (~~midday and~~ Saturday) on west crosswalk would be mitigated (at LOS C) based on the *CEQR Technical Manual* under the Lower Density Alternative. As it is not feasible to widen the north and east crosswalks based on DOT's guidance, the north and east crosswalks would remain the same width and unmitigated. As shown in **Table 19-14**, one of the three crosswalk impacts would be fully mitigated in the ~~weekday midday and~~ Saturday peak hour~~s~~ under the Lower Density Alternative. Two crosswalks would remain unmitigated under the Lower Density Alternative in both peak hours.

Table 19-15 shows the average pedestrian space and LOS at impacted corner under the With-Action conditions, and compares it under the Lower Density Alternative for all analyzed peak hours. As stated in **Chapter 11, "Transportation"** and indicated in the below table, the Proposed Actions would result in a significant adverse impact to the northeast corner at 27th Avenue and 4th Street in the weekday midday peak hour. As shown in **Table 19-15**, this impact would also occur under the Lower Density Alternative for the same peak hour, and would be mitigated with the installation of a five-foot wide bulb-extension along the N-S sidewalk of the northeast corner of 27th Avenue and 4th Street. The implementation of the proposed traffic mitigation measure under the Lower Density Alternative would result in a new impact on the northwest corner during the Saturday peak hour. This impact would cannot be mitigated, similar to the Proposed Actions.~~be mitigated by relocating the existing garbage can.~~

TABLE 19-13
Level-of-service for Impacted Sidewalks
Proposed Development With-Action and Lower Density Alternative

			Proposed Project W/ Action			LDA With-Action			LDA With-Action W/Mitigation			
	Location	Sidewalk	Effective Width (ft)	Avg Ped Space (ft^2/ped)	LOS	Effective Width (ft)	Avg Ped Space (ft^2/ped)	LOS	Effective Width (ft)	Avg Ped Space (ft^2/ped)	LOS	Mitigation Measure
Midday Peak Hour												
S8	27th Ave Btwn 3rd St and 4th St	North	7.5	28	D	7.5	28	D	7.5	28	D	-Unmitigated.
Saturday Peak Hour												
S7	4th St Btwn 26th Ave and 27th Ave	West	6.9	34	D	6.9	36	D	8.8	47	C	-Mitigated by removing four tree pits at existing constraint points.

Notes:
Shading denotes a significant impact based on *CEQR Technical Manual.*
*This table has been updated for the FEIS

TABLE 19-14
Level-of-service for Impacted Crosswalks
Proposed Development With-Action and Lower Density Alternative

			Proposed Project W/ Action			LDA With-Action			LDA With-Action W/Mitigation			
	Location	Crosswalk	Width (ft)	Avg Ped Space (ft^2/ped)	LOS	Width (ft)	Avg Ped Space (ft^2/ped)	LOS	Width (ft)	Avg Ped Space (ft^2/ped)	LOS	Mitigation Measures
Midday Peak Hour												
X1	27th Ave and 4th St	North	13.3	18.2	D	13.3	18.9	D	13.3	8.6	E	-Unmitigated. (Include corner mitigation for bulb-out)
X2		East	14.2	13.3	E	14.2	13.9	E	14.2	11.2	E	- Unmitigated.
Saturday Peak Hour												
X1	27th Ave and 4th St	North	13.3	15.0	E	13.3	15.7	D	13.3	7.4	F	-Unmitigated. (Include corner mitigation for bulb-out)
X2		East	14.2	19.6	D	14.2	20.7	D	14.2	18.5	D	- Unmitigated.
X3		West	11.2	19.1	D	11.2	20.5	D	14.7	24.7	C	- Widen crosswalk by 3.5 ft. - Signal timing adjusted to provide 30 sec of protected pedestrian phase as traffic mitigation.

Notes:
Shading denotes a significant impact based on *CEQR Technical Manual.*
Includes proposed 90-seocnd cycle length signal with EB/WB & SB/Ped phases for 27th Ave and 4th St from the Hallets Point No-Action development.
*This table has been updated for the FEIS

TABLE 19-15
Level-of-service for Impacted Corners
Proposed Development With-Action and Lower Density Alternative

			Proposed Project W/ Action		LDA With-Action		LDA With-Action W/Mitigation		
	Location	Corner	Avg Ped Space (ft^2/ped)	LOS	Avg Ped Space (ft^2/ped)	LOS	Avg Ped Space (ft^2/ped)	LOS	Mitigation Measure
Midday Peak Hour									
C1	27th Ave and 4th St	NE	21.2	D	22.6	D	30.5	C	- Install a 5 ft bulb-out on the N-S sidewalk.
Saturday Peak Hour									
C2	27th Ave and 4th St	NW[1]	25.1	C	26.8	C	19.0	D	- Unmitigated.

Notes:
Shading denotes a significant impact based on *CEQR Technical Manual.*
Includes proposed 90-seocnd cycle length signal with EB/WB & SB/Ped phases for 27th Ave and 4th St from the Hallets Point No-Action development.
[1]Corner not impacted in LDA With-Action, but impacted as an effect of traffic mitigation.
*This table has been updated for the FEIS

Parking

It is assumed that a total of approximately 560 accessory parking spaces would be developed on projected development sites under this alternative compared to 640 under the Proposed Actions. More specifically, the reduction of 80 parking spaces would occur on Projected Development Site 1. However, the reduction in dwelling units under the Lower Density Alternative would also result in less demand for on-street and off-street public parking compared with the Proposed Actions.

Under the Proposed Actions, the combined supply of on-street and public off-street parking capacity would not be sufficient to accommodate demand in the weekday overnight period on Project Development Site 1. As discussed in **Chapter 11, "Transportation,"** there would be 525 parking spaces on the Projected Development Site 1 but a demand of ~~588~~ 593 spaces during the overnight period, a deficit of ~~63~~ 68 spaces. Under the Lower Density Alternative, there would be 445 parking spaces on the Projected Development Site 1 but a demand of ~~499~~ 501 spaces during the overnight period, a deficit of ~~54~~ 56 spaces. This deficit in on-site spaces under the Lower Density Alternative would be slightly less than that of the Proposed Actions. As such, it is anticipated that there would be comparable parking shortfalls under the Lower Density Alternative. While some drivers destined for the Project Area would potentially have to travel a greater distance to find available parking in the overnight period under this alternative, these shortfalls would not be considered significant adverse impacts based on *CEQR Technical Manual* criteria due to the magnitude of available alternative modes of transportation (including local bus routes and a proposed shuttle bus to N/W trains and the nearby ferry landing). Therefore, similar to the Proposed Actions, the Lower Density Alternative is not expected to result in significant adverse parking impacts.

Air Quality

The Lower Density Alternative would generate approximately seven to ten percent fewer vehicular trips than the Proposed Actions. Consequently, the Lower Density Alternative would result in lower mobile source pollutant concentrations than the Proposed Actions. As such, similar to the Proposed Actions, no significant adverse mobile source air quality impacts would result. In addition, as the Lower Density Alternative would include fewer parking spaces, vehicle emissions within the parking garages would be slightly lower.

~~As with the Proposed Actions, no potential significant adverse stationary air quality impacts are anticipated with the Lower Density Alternative.~~ Like the Proposed Actions, the Lower Density Alternative would create new sources of stationary source emissions. The impact of emissions from the Lower Density Alternative will be evaluated based on the stationary source CEQR procedure, considering fuel type, usage, facility type, and proposed stack location.

Heating and Hot Water Systems

The Lower Density Alternative developments would utilize natural gas-fired combustion equipment to provide heating and hot water services to the proposed buildings.

AERMOD ANALYSIS

The analysis was performed using the AERMOD dispersion model. AERMOD is EPA's preferred regulatory stationary source model. The detailed methodology was described in **Chapter 12, "Air Quality."**

EMISSION RATES AND STACK PARAMETERS

Lower Density Alternative Buildings

For the Lower Density Alternative buildings, annual emission rates for heating and hot water systems were calculated based on CEQR-provided energy intensity estimates, and applying EPA AP42 emission factors for natural gas-fired boilers.[3] $PM_{2.5}$ emissions include both the filterable and condensable components.

For the Lower Density Alternative buildings, to calculate exhaust velocity, the fuel consumption was multiplied by EPA's fuel factor for natural gas,[4] providing the exhaust flow rate at standard temperature; the flow rate was then corrected for the exhaust temperature, and exhaust velocity was calculated based on the stack diameter.

The emission rates and exhaust stack parameters used in the modeling analysis for the proposed buildings are presented in **Table 19-16**. Tower 3 of the Lower Density Alternative is not listed in the **Table 19-16** since this building is taller than surrounding buildings, and therefore a detailed analysis of Tower 3 is not warranted.

TABLE 19-16
Exhaust Stack Parameters and Emission Rates – Lower Density Alternative and Projected Development Site 2

Building Name	Annual NOx (g/s)	Short Term NOx (g/s)	Annual PM2.5 (g/s)	Short Term PM2.5 (g/s)	Stack diameter (m)	Stack Velocity (m/s)	Stack Height (ft)
Lower Density Alternative, Tower 1	3.16E-03	1.15E-02	1.30E-03	4.73E-03	0.61	2.01	153
Lower Density Alternative, Tower 2	5.40E-03	1.97E-02	2.22E-03	8.09E-03	0.61	3.43	255
Projected Development Site 2	3.46E-03	1.26E-02	1.42E-03	5.17E-03	0.61	2.20	153

Notes: The exhaust temperature modeled for all project buildings is 307.8ºF.

BACKGROUND CONCENTRATIONS

To estimate the maximum expected pollutant concentration at a given location (receptor), the predicted impacts must be added to a background value that accounts for existing pollutant concentrations from other sources that are not directly accounted for in the model (see **Table 19-17**). The annual NO_2 background is based on the maximum annual average value measured over the most recent five years for which data is available (2016-2020), 29.7 µg/m^3.

For the AERMOD analysis, total 1-hour NO_2 concentrations were refined following a more detailed approach (EPA "Tier 3"). The methodology used to determine the total 1-hour NO_2 concentrations from the facility was based on adding the monitored background to modeled concentrations, as follows: hourly modeled concentrations from the boilers were first added to the seasonal hourly background monitored concentrations; then the highest combined daily 1-hour NO_2 concentration was determined at each location and the 98th percentile daily 1-hour maximum concentration for each modeled year was

[3] EPA. Compilation of Air Pollutant Emission Factors AP-42. 5th Ed., V. I, Ch. 1.4. September, 1998.
[4] EPA. *Standards of Performance for New Stationary Sources.* 40 CFR Chapter I Subchapter C Part 60. Appendix A-7, Table 19-2. 2013.

calculated within the AERMOD model; finally the 98th percentile concentrations were averaged over the modeled five years.

$PM_{2.5}$ impacts are assessed on an incremental basis and compared with the $PM_{2.5}$ *de minimis* criteria. The $PM_{2.5}$ 24-hour average background concentration based on the 98th percentile concentration, averaged over the years 2018-2020 was used to establish the *de minimis* value of 8.7 ug/m^3. $PM_{2.5}$ annual average impacts are assessed on an incremental basis and compared to the $PM_{2.5}$ annual *de minimis* criteria of 0.3 ug/m^3, without considering the annual background. Therefore, the annual $PM_{2.5}$ background is not presented in the Table.

TABLE 19-17
Maximum Background Pollutant Concentrations

Pollutant	Average Period	Location	Concentration (µg/m^3)	NAAQS (µg/m^3)
NO_2	1-hour	Queens College, Queens	99.9	188
	Annual	Queens College, Queens	29.7	100
$PM_{2.5}$	24-hour	Queens College, Queens	17.7	35
Source: New York State Air Quality Report Ambient Air Monitoring System, DEC, 2018–2020.				

RECEPTOR PLACEMENT

Discrete receptors were modeled along existing, future proposed and Lower Density Alternative -building façades to represent potentially sensitive locations such as operable windows and intake vents. Rows of receptors at spaced intervals on the modeled buildings were analyzed at multiple elevations.

Heat and Hot Water System Analysis

Table19-18 present the maximum predicted concentration from the heating and hot water systems of the Proposed Buildings on the Proposed Buildings for the Lower Density Alternative. As shown in the table, all predicted pollutant concentrations are less than the applicable impact criteria. Therefore, there would be no potential for significant adverse air quality impacts from the Lower Density Alternative developments' heating and hot water systems.

TABLE 19-18
Maximum Modeled Pollutant Concentrations - Project-on-Project (µg/m^3)

Pollutant	Averaging Period	Maximum Modeled Impact	Background	Total Concentration	Criterion
NO_2	1-hour	(1)	-	186.4	188(2)
	Annual	0.4	29.7	30.1	100
$PM_{2.5}$	24-hour	3.53	-	-	8.7(3)
	Annual	0.14	-	-	0.3

Notes:
(1) The 1-hour NO_2 concentration presented represents the sum of the modeled 1-hour NO2 concentration and the seasonal-hourly background concentrations.
(2) NAAQS
(3) $PM_{2.5}$ de minimis criteria—24-hour average, not to exceed more than half the difference between the background concentration and the 24-hour standard of 35 µg/m3

To ensure that there is no potential for significant adverse impacts of $PM_{2.5}$ or NO_2 from the Lower Density Alternative's heating and hot water system emissions, certain restrictions would be required through an

Air Quality (E) Designation that would be placed on the Projected Development Sites. As described in **Chapter 12, "Air Quality,"** the projected development sites under the Proposed Actions would require certain restrictions through the placement of an (E) Designation (E-671) to avoid the potential for significant adverse air quality impacts from stationary sources. Similar to the Proposed Actions, the placement of an (E) Designation on the projected development sites would also be needed under the Lower Density Alternative in order to avoid the potential for significant adverse air quality impacts. These restrictions were assumed in the analysis results presented in **Table 19-18**, and would avoid the potential for the Lower Density Alternative to result in significant adverse air quality impacts from stationary sources based on the conservative assumptions used in the analysis.

The restrictions for the Lower Density Alternative would be as follows:

BLOCK 911, LOT 1 – PROJECTED DEVELOPMENT SITE 1, TOWER 1

Any new residential and/or commercial development on Projected Development Site 1, Tower 1 (Block 911, Lot 1) must utilize natural gas in any fossil fuel-fired heating equipment and hot water equipment, be fitted with low NOx (15 ppm) burners. The stacks must be located more than 90 feet from the north wall and more than 60 feet from the east wall of Tower 1, and at least 153 feet above grade, to avoid potential significant air quality impacts.

BLOCK 911, LOT 1 – PROJECTED DEVELOPMENT SITE 1, TOWER 2

Any new residential and/or commercial development on Projected Development Site 1, Tower 2 (Block 911, Lot 1) must utilize natural gas in any fossil fuel-fired heating equipment and hot water equipment, be fitted with low NOx (15 ppm) burners. The stacks must be located more than 100 feet from the north wall and more than 40 feet from the east wall of Tower 2, and at least 255 feet above grade, to avoid potential significant air quality impacts.

BLOCK 911, LOT 49 – PROJECTED DEVELOPMENT SITE 2

Any new residential and/or commercial on Projected Development Site 2 Building (Block 911, Lot 49) must utilize natural gas in any fossil fuel-fired heating equipment and hot water equipment, be fitted with low NOx (15 ppm) burners. The stacks must be located more than 150 feet from the north lot line facing the waterfront and more than 110 feet from the western lot line adjacent to Block 911 Lot 1, at least 153 feet above grade, to avoid potential significant air quality impacts.

~~An air quality (E) designation would be assigned to the Projected Development Sites under both the Proposed Actions and this alternative and would be require the use of natural gas for heating and hot water systems.~~

Greenhouse Gas Emissions and Climate Change

Both the Proposed Actions and the Lower Density Alternative would be consistent with the City's greenhouse gas reduction goals. However, due to the reduction in total residential floor area under the Lower Density Alternative as well as the small reduction in associated vehicle trips, greenhouse gas emissions would be slightly lower than under the Proposed Actions. Buildings associated with the Proposed Actions and the Lower Density Alternative, as a dense mixed-use development, would advance New York City's greenhouse gas reduction goals as outlined in PlaNYC. In addition, both alternatives would be subject to changes in the New York City Building Code that are currently being considered to require greater energy efficiency. As under the Proposed Actions, buildings on the waterfront parcel be constructed to meet the standards of the New York City Building Code and the Best Available Flood Hazard

Data available from FEMA at the time of their construction. As such, neither the Proposed Actions nor the Lower Density Alternative would result in significant adverse greenhouse gas emission or climate change impacts.

Noise

As described above, while the Lower Density Alternative would result in a seven to ten percent decrease in project-generated vehicle trips, as compared to the Proposed Actions, the projected noise levels would be similar to noise levels expected with the Proposed Actions. While the Lower Density Alternative would result in fewer projected residential units compared to the Proposed Actions, the projected mobile source noise levels under the Lower Density Alternative is likely to result in similar significant adverse impacts at the project site and within the vicinity of the Project Area. As described above in Section D, "No Unmitigated Significant Adverse Impact Alternative," in order to avoid significant adverse noise impacts, the project would need an approximately ~~62~~49 percent reduction in project-generated vehicle trips (or PCEs) as compared to the Proposed Actions. As such, in order to the avoid significant adverse noise impacts at the 10 identified receptors, the number of project-generated DUs would need to be reduced from 1,665 units under the Proposed Actions to approximately 853 units (a reduction of 812 units). As such, while the magnitude of the impacts at the 10 identified receptors would be slightly less under the Lower Density Alternative as compared to the Proposed Actions, it is anticipated that the Lower Density Alternative would still result in significant adverse noise impacts (i.e., a doubling of PCE values between No-Action and With-Action conditions) at each of the identified receptors. In terms of noise attenuation requirements at the Project Area, the same or similar (E) designation for noise expected under the Proposed Actions would likely apply under the Lower Density Alternative as well.

Neighborhood Character

Like the Proposed Actions, the Lower Density Alternative would result in substantial changes to the Project Area; neither alternative would result in significant adverse impacts on neighborhood character in the area. Both alternatives would improve the neighborhood character of the area by replacing vacant lots and vacant industrial buildings with new mixed-use buildings with active ground floor uses, publicly accessible open space, and improved access to the waterfront and circulation within the Project Area.

Construction

While the Lower Density Alternative is somewhat smaller in overall density and size, it would require essentially the same construction process and phasing as anticipated under the Proposed Actions. Since the buildings would be smaller and would be developed over the same construction schedule, there could be a modest reduction in the amount of materials and construction workers associated with building the Lower Density Alternative. This could slightly reduce the duration and total level of activity. These reductions would not materially affect the construction-related analysis assumptions and conclusions. Therefore, while the overall construction duration could be shorter, the Lower Density Alternative could result in significant adverse noise impacts and of a similar magnitude to the Proposed Project (see **Chapter 17, "Construction"**).

Like the Proposed Actions, there would be no significant adverse construction impacts with respect to land use and neighborhood character, socioeconomic conditions, community facilities, open space, natural resources, hazardous materials, air quality.

Public Health

Neither the Proposed Actions nor the Lower Density Alternative would result in significant adverse public health impacts. As described above, the Lower Density Alternative would not have the potential for unmitigated significant adverse impacts in any of the technical areas related to public health.

G. POTENTIAL CPC MODIFICATION ALTERNATIVE

The Potential CPC Modification Alternative was developed in response to questions received from the Commissioners during the public review process concerning the Proposed Project's ability to provide adequate light and air at Projected Development Site 1 and its location in relation to the waterfront and project-generated open space. Under this alternative, Tower 3 of the Proposed Project would be shifted approximately 15 feet to the south, Tower 2 would be shifted approximately 6 to 10 feet to the east, and the terminus of the turnaround drive extending beyond 3rd Street north of 26th Avenue would shift approximately 35 feet closer to 26th Street as compared to the Proposed Project (see **Figure 19-2**). While the massing configuration would be slightly different compared to the Proposed Project, the Potential CPC Modification Alternative would include an equivalent amount of floor area that would be generated as a result of the Proposed Actions and incorporated into the waterfront special permit.

As such, the Potential CPC Modification Alternative would not result in any changes to the RWCDS's building program, as the development program under this alternative would be identical to the RWCDS prepared for the Proposed Actions. However, while Tower 1 would remain unchanged under the Potential CPC Modification Alternative, the massing configuration of Tower 2 would be shifted approximately 6 to 10 feet to the east and Tower 3 would be shifted approximately 15 feet to the south. The Potential CPC Modification Alternative would result in the same land uses as the Proposed Actions, and would require the same zoning actions considered as the Proposed Actions. The significant adverse impacts related to public elementary schools, publicly funded early childhood programs, open space, transportation, noise, and construction that would occur with the Proposed Actions would also occur under the Potential CPC Modification Alternative, and would require the same or similar mitigation measures. Additionally, the Potential CPC Modification Alternative would meet the goals and objectives of the Proposed Actions.

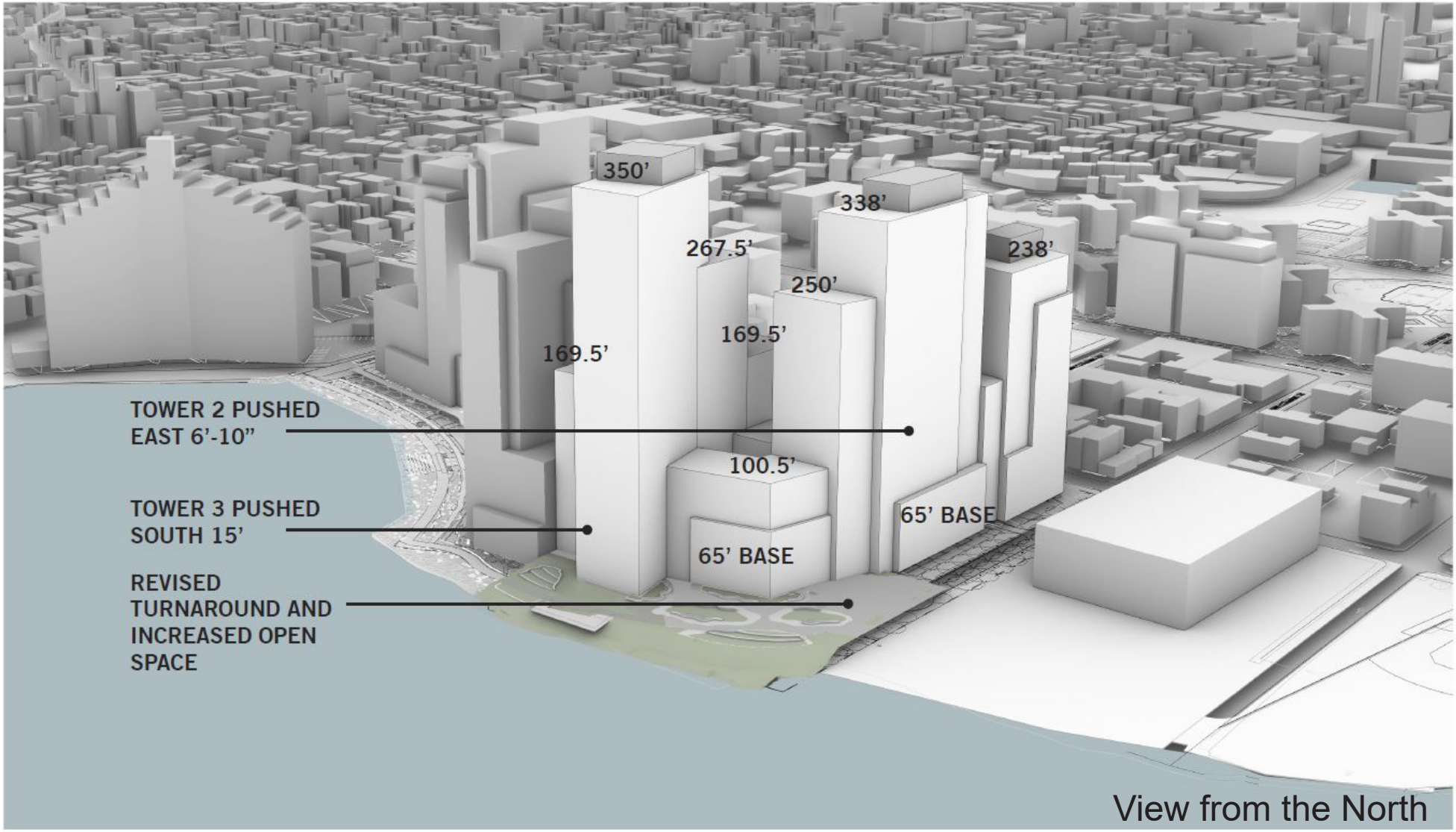
The effects of the Potential CPC Modification Alternative in comparison to those of the Proposed Actions are provided below.

Land Use, Zoning, and Public Policy

As described above, the Potential CPC Modification Alternative would result in the same land uses as the Proposed Actions, and would require the same zoning actions considered as the Proposed Actions. In addition, no changes to zoning or public policy are anticipated to the Project Area under the Potential CPC Modification Alternative. As such, neither the Potential CPC Modification Alternative nor the Proposed Actions would be expected to result in significant adverse impacts related to land use, zoning, or public policy.

Socioeconomic Conditions

As the development program under the Potential CPC Modification Alternative would be identical to the RWCDS prepared for the Proposed Actions, neither the Potential CPC Modification Alternative nor the Proposed Actions would be expected to result in significant adverse impacts on socioeconomic conditions.



Source: Studio V

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Figure 19-2
Potential CPC Modification Alternative - Massing Diagram

Similar to the Proposed Actions, the Potential CPC Modification Alternative would not result in direct or indirect residential or business displacement.

Community Facilities and Services

As the development program under the Potential CPC Modification Alternative would be identical to the RWCDS prepared for the Proposed Actions, the Potential CPC Modification Alternative would generate the same residential and student population, as well as the same number of publicly funded child care-eligible children, at the Project Area as under the Proposed Actions.

Neither the Potential CPC Modification Alternative nor the Proposed Actions would result in direct impacts to community facilities and services or indirect impacts to intermediate and high schools, library services, or police, fire, and emergency medical services. However, similar to the Proposed Actions, the Potential CPC Modification Alternative would result in indirect impacts to public elementary schools and publicly funded early childhood programs. As the indirect impact on public elementary schools and publicly funded early childhood programs would be identical to that under the Proposed Actions, mitigation, as described in **Chapter 18, "Mitigation,"** would remain the same as under the Proposed Actions.

Open Space

As the development program under the Potential CPC Modification Alternative would be identical to the RWCDS prepared for the Proposed Actions, the Potential CPC Modification Alternative would generate the same residential population at the Project Area as under the Proposed Actions. However, the Potential CPC Modification Alternative would result in a slightly larger project-generated open space as compared to the Proposed Actions. As such, the Potential CPC Modification Alternative would result in a slight reduction to the significant adverse impact on active open space as compared to the Proposed Actions. Specifically, under the Potential CPC Modification Alternative, the total, active, and passive open space ratios would be slightly higher than under the Proposed Actions. As under the Proposed Actions, the total and passive open space ratios would continue to be higher than the City's optimal planning goals. However, as under the Proposed Actions, the future active open space ratio would be less than the City's optimal planning goal of 2.0 acres of active open space per 1,000 residents. As such, significant adverse active open space impacts would occur under both the Proposed Actions and the Potential CPC Modification Alternative. However, mitigation for the significant adverse active open space impact, as described in **Chapter 18, "Mitigation,"** would be the same as under the Proposed Actions.

Shadows

As indicated in **Figure 19-2**, the buildings that would be constructed under the Potential CPC Modification Alternative would be similar to that of the Proposed Project, with the exception of massing configuration of Towers 2 and 3, which would be shifted 6 to 10 feet to the east and approximately 15 feet to the south, respectively. However, it should be noted that while this alternative's massing is slightly different from that of the Proposed Project, both the Proposed Project and Potential CPC Modification Alternative are within the waterfront special permit's maximum development envelope that was studied in the detailed shadows analysis presented in **Chapter 6, "Shadows."** As such, like the Proposed Actions, the Potential CPC Modification Alternative would not result in significant adverse shadow impacts on area sunlight-sensitive resources.

Urban Design and Visual Resources

Both the Potential CPC Modification Alternative and the Proposed Actions would result in significant changes to the pedestrian realm, including the construction of new mixed-use buildings and roadways, reactivation of the streetscape with ground floor retail, improvements to existing roadways and sidewalks, and the creation of new waterfront open space. As with the Proposed Actions, the Potential CPC Modification Alternative would map a residential zoning district with a commercial overlay on the Project Area (R7-3/C2-4). However, Towers 2 and 3 under the Potential CPC Modification Alternative would be shifted approximately 6 to 10 feet to the east and 15 feet to the south, respectively, than is currently proposed. As discussed in **Chapter 7, "Urban Design and Visual Resources,"** the taller buildings constructed under the Proposed Actions would be consistent with existing and planned development in the surrounding area. Additionally, the Potential CPC Modification would provide additional open space, and would thus improve upon the pedestrian experience within and in the vicinity of the project-generated open space and waterfront areas, while also providing more adequate light and air between the proposed buildings (see **Figure 19-3**). As such, like the Proposed Actions, the Potential CPC Modification Alternative would not result in significant adverse impacts to urban design and visual resources.

Natural Resources

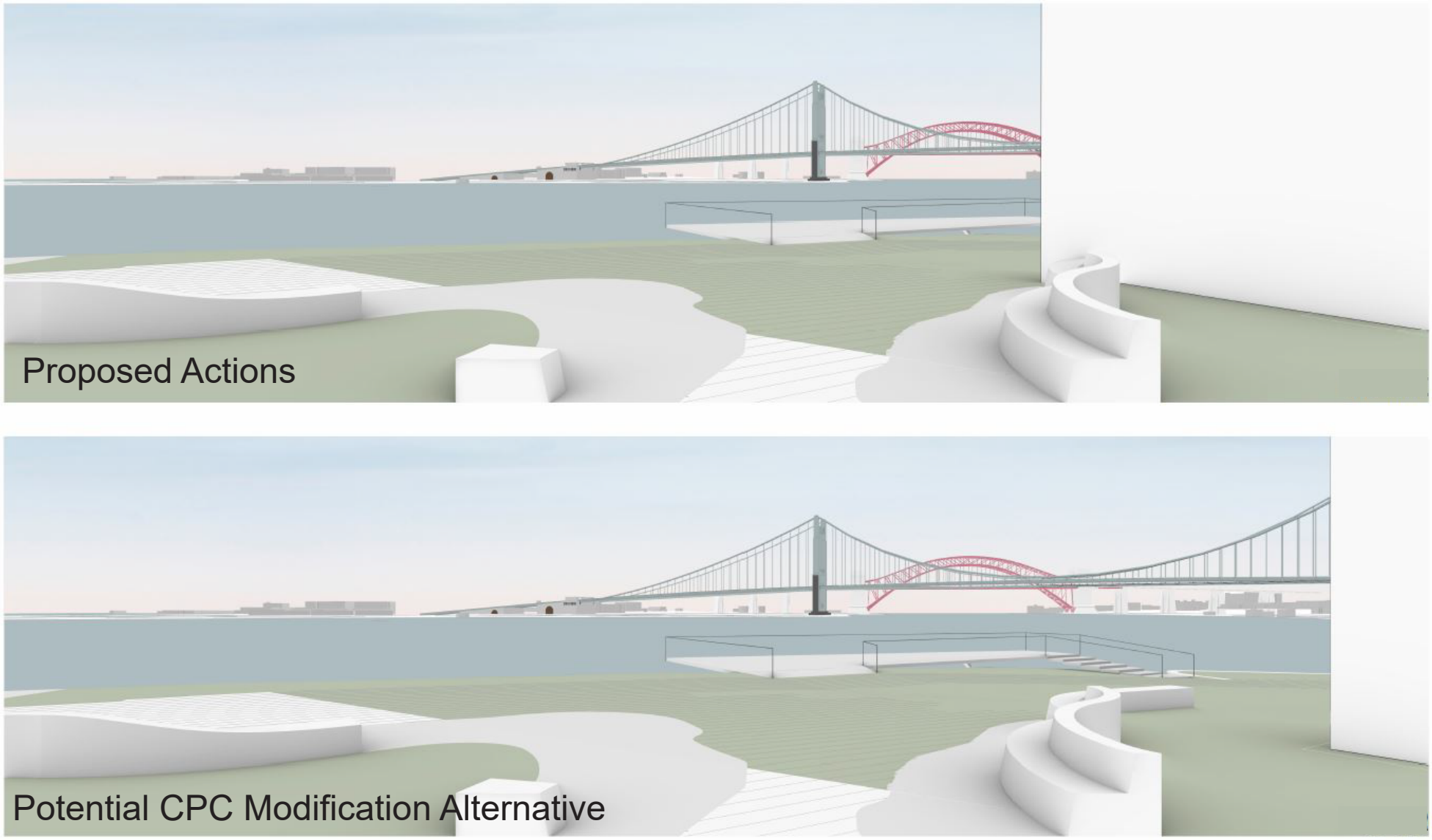
The Potential CPC Modification Alternative, like the Proposed Actions, would not result in significant adverse impacts to natural resources, including groundwater, floodplains, vegetation, wildlife, threatened and endangered species, and littoral zone tidal wetlands and aquatic resources of the East River. While the bulk configuration of Towers 2 and 3 would be slightly different compared to the Proposed Actions, it is anticipated that the Potential CPC Modification Alternative would not result in any reductions in the Proposed Project's building's bulk. A new stormwater outfall would be constructed at the northern termini of 3rd Street under both the Potential CPC Modification Alternative and the Proposed Actions and would not result in the loss of tidal wetland or disturbance to the river bottom.

Hazardous Materials

Development under the Proposed Actions and the Potential CPC Modification Alternative would not result in significant adverse hazardous materials impacts with implementation of the measures outlined in **Chapter 9, "Hazardous Materials."**

Water and Sewer Infrastructure

As with the Proposed Actions, the Potential CPC Modification Alternative would not result in significant adverse impacts to the City's water supply, wastewater and stormwater conveyance, and treatment infrastructure. As the development program under the Potential CPC Modification Alternative would be identical to the RWCDS prepared for the Proposed Actions, the Potential CPC Modification Alternative would generate the same water demand at the Project Area as under the Proposed Actions. It is assumed that new stormwater outfall would be constructed at the northern termini 3rd Street, new storm sewers would be constructed along portions of 3rd Street and 26th Avenue, and new sanitary sewers would be constructed along portions of 3rd Street and 26th Avenue to accommodate development of the Potential CPC Modification Alternative, as under the Proposed Actions. As such, neither the Proposed Actions nor the Potential CPC Modification Alternative would result in a significant adverse impact to the City's water supply or sanitary sewage systems.



Source: Studio V

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Figure 19-3
Potential CPC Modification Alternative - Comparison of Views from Turnaround

Transportation

As the development program under the Potential CPC Modification Alternative would be identical to the RWCDS prepared for the Proposed Actions, the Potential CPC Modification Alternative would generate the same vehicle, subway, bus, and pedestrian trips at the Project Area as under the Proposed Actions. Additionally, the Potential CPC Modification Alternative would contain the same number of on-site parking space as under the Proposed Actions.

As such, similar to the Proposed Actions, the Potential CPC Modification Alternative would result in identical significant adverse impacts related to traffic, transit (subway station and bus), and pedestrians, and would result in the same parking shortfall as under the Proposed Actions. As the significant adverse impacts on traffic, transit, and pedestrians would be identical to that under the Proposed Actions, mitigation, as described in **Chapter 18, "Mitigation,"** would remain the same as under the Proposed Actions.

Air Quality

As with the Proposed Actions, the Potential CPC Modification Alternative would not result in significant adverse air quality impacts. The Potential CPC Modification Alternative would generate the same vehicular trips as the Proposed Actions. As such, the Potential CPC Modification Alternative would result in identical mobile source pollutant concentrations as the Proposed Actions. As such, like the Proposed Actions, no significant adverse mobile source air quality impacts would result. In addition, as the Potential CPC Modification Alternative would include the same number of parking spaces, vehicle emissions within the parking garages would be identical as well.

As the configuration of Towers 2 and 3 under the Potential CPC Modification Alternative would be slightly different compared to the Proposed Actions, to ensure that there is no potential for significant adverse impacts of $PM_{2.5}$ or NO_2 from the Potential CPC Modification Alternative's heating and hot water system emissions, certain restrictions would be required through an Air Quality (E) Designation that would be placed on the Projected Development Sites. As described in **Chapter 12, "Air Quality,"** the projected development sites under the Proposed Actions would require certain restrictions through the placement of an (E) Designation (E-671) to avoid the potential for significant adverse air quality impacts from stationary sources. Similar to the Proposed Actions, the placement of an (E) Designation on the projected development sites would also be needed under the Potential CPC Modification Alternative in order to avoid the potential for significant adverse air quality impacts.

Greenhouse Gas Emissions and Climate Change

Both the Proposed Actions and the Potential CPC Modification Alternative would be consistent with the City's greenhouse gas reduction goals. As the total residential floor area and associated vehicle trips under the Potential CPC Modification Alternative would be identical to that of the Proposed Actions, greenhouse gas emissions of the Potential CPC Modification Alternative would be identical under the Proposed Actions. Buildings associated with the Proposed Actions and the Potential CPC Modification Alternative, as a dense mixed-use development, would advance New York City's greenhouse gas reduction goals as outlined in PlaNYC. In addition, both alternatives would be subject to changes in the New York City Building Code that are currently being considered to require greater energy efficiency. As under the Proposed Actions, buildings on the waterfront parcel would be constructed to meet the standards of the New York City Building Code and the Best Available Flood Hazard Data available from FEMA at the time of

their construction. As such, neither the Proposed Actions nor the Potential CPC Modification Alternative would result in significant adverse greenhouse gas emission or climate change impacts.

Noise

As described above, while the Potential CPC Modification Alternative would result in identical project-generated vehicle trips as compared to the Proposed Actions, the projected noise levels would be the same as noise levels expected with the Proposed Actions. As the Potential CPC Modification Alternative would result in identical residential units compared to the Proposed Actions, the projected mobile source noise levels under the Potential CPC Modification Alternative is likely to result in the same significant adverse impacts at the project site and within the vicinity of the Project Area. As described above in Section D, "No Unmitigated Significant Adverse Impact Alternative," in order to avoid significant adverse noise impacts, the project would need an approximately 49 percent reduction in project-generated vehicle trips (or PCEs) as compared to the Proposed Actions. As such, in order to the avoid significant adverse noise impacts at the 10 identified receptors, the number of project-generated DUs would need to be reduced from 1,665 units under the Proposed Actions to approximately 853 units (a reduction of 812 units). In terms of noise attenuation requirements at the Project Area, the same (E) designation for noise expected under the Proposed Actions would be required under the Potential CPC Modification Alternative as well.

Public Health

Neither the Proposed Actions nor the Potential CPC Modification Alternative would result in significant adverse public health impacts. As described above, the Potential CPC Modification Alternative would not have the potential for unmitigated significant adverse impacts in any of the technical areas related to public health.

Neighborhood Character

Like the Proposed Actions, the Potential CPC Modification Alternative would result in substantial changes to the Project Area; neither alternative would result in significant adverse impacts on neighborhood character in the area. Both alternatives would improve the neighborhood character of the area by replacing vacant lots and vacant industrial buildings with new mixed-use buildings with active ground floor uses, publicly accessible open space, and improved access to the waterfront and circulation within the Project Area.

Construction

As the Potential CPC Modification Alternative is identical in overall density but with minor changes to massing configuration, it would require essentially the same construction process and phasing as anticipated under the Proposed Actions. Since the buildings are nearly identical in size and would be developed over the same construction schedule, the amount of materials and construction workers associated with building the Potential CPC Modification Alternative would be nearly identical to that of the Proposed Actions. As such, the duration and total level of activity would be similar to that of the Proposed Actions. These slight changes to the Potential CPC Modification Alternative would not materially affect the construction-related analysis assumptions and conclusions. Therefore, the Potential CPC

Modification Alternative would likely result in significant adverse noise impacts and of a similar magnitude to the Proposed Project (see **Chapter 17, "Construction"**).

Like the Proposed Actions, there would be no significant adverse construction impacts with respect to land use and neighborhood character, socioeconomic conditions, community facilities, open space, natural resources, hazardous materials, and air quality.