A. PROJECT IDENTIFICATION

INTRODUCTION

Halletts A Development Company, LLC (the "Applicant") is requesting discretionary approvals (the "proposed actions") that will facilitate a mixed-use development on several parcels on Halletts Point along the East River in Astoria, Queens (see **Figure S-1**). The New York City Housing Authority (NYCHA) would be a co-applicant for certain discretionary approvals.

The project site comprises all or portions of eight existing tax lots on the Halletts Point peninsula (tentative tax lot numbers to be determined) (see **Figure S-2**). The project site contains eight building sites on which new development would occur with the proposed project. Seven of the building sites would be developed as part of the Applicant's proposal and one would be developed as part of a future request for proposals (RFP) by NYCHA. In total, eight buildings (Buildings 1 through 8) would be developed on the project site:

- **Building 1** (Block 915, Lot 6) would be located on the block bounded by 27th Avenue to the south, 1st Street to the west, 26th Avenue to the north, and 2nd Street to the east (the "Eastern Parcel" or "Eastern Zoning Lot").
- **Buildings 2 through 5** (Block 490, Lots 1 and 11 and Block 916, Lots 1 and 10), including the mapped streetbeds of 26th and 27th Avenues between 1st Street and the East River, would be bounded by Hallet's Cove Playground (Block 490, Lot 100) to the south, the East River to the west, Whitey Ford Field (Block 913, Lot 1) to the north, and 1st Street to the east (the "Waterfront [WF] Parcel").
- **Buildings 6 through 8** would be located within the existing NYCHA Astoria Houses Campus (Block 490, Lot 101) bounded by 27th Avenue, 1st Street, and 8th Street.

In order to facilitate a better site plan and flexibility in the allocation of affordable housing units among the project sites, the Applicant proposes the creation of a Large-Scale General Development (LSGD) Plan that would include Buildings 1 through 5 and the Astoria Houses Campus (including Buildings 6 through 8). The creation of the LSGD would be facilitated by the alienation of a 10-foot-wide strip of parkland of Hallet's Cove Playground (the "Parks Parcel") to create a single zoning lot containing Buildings 2 through 5 and the Astoria Houses Campus, including Buildings 6, 7, and 8 (the Astoria Houses Campus with the Parks Parcel is known as the "NYCHA Parcel"). In total, the LSGD would contain two zoning lots: one containing Building 1 on the Eastern Zoning Lot and a second containing the WF Parcel and the NYCHA Parcel, including the Parks Parcel (the "Waterfront Zoning Lot"). The use of an approximately 10-foot-wide alienated portion of the Hallet's Cove Playground would require the jurisdictional transfer of parkland from the New York City Department of Parks and Recreation (DPR) to NYCHA.

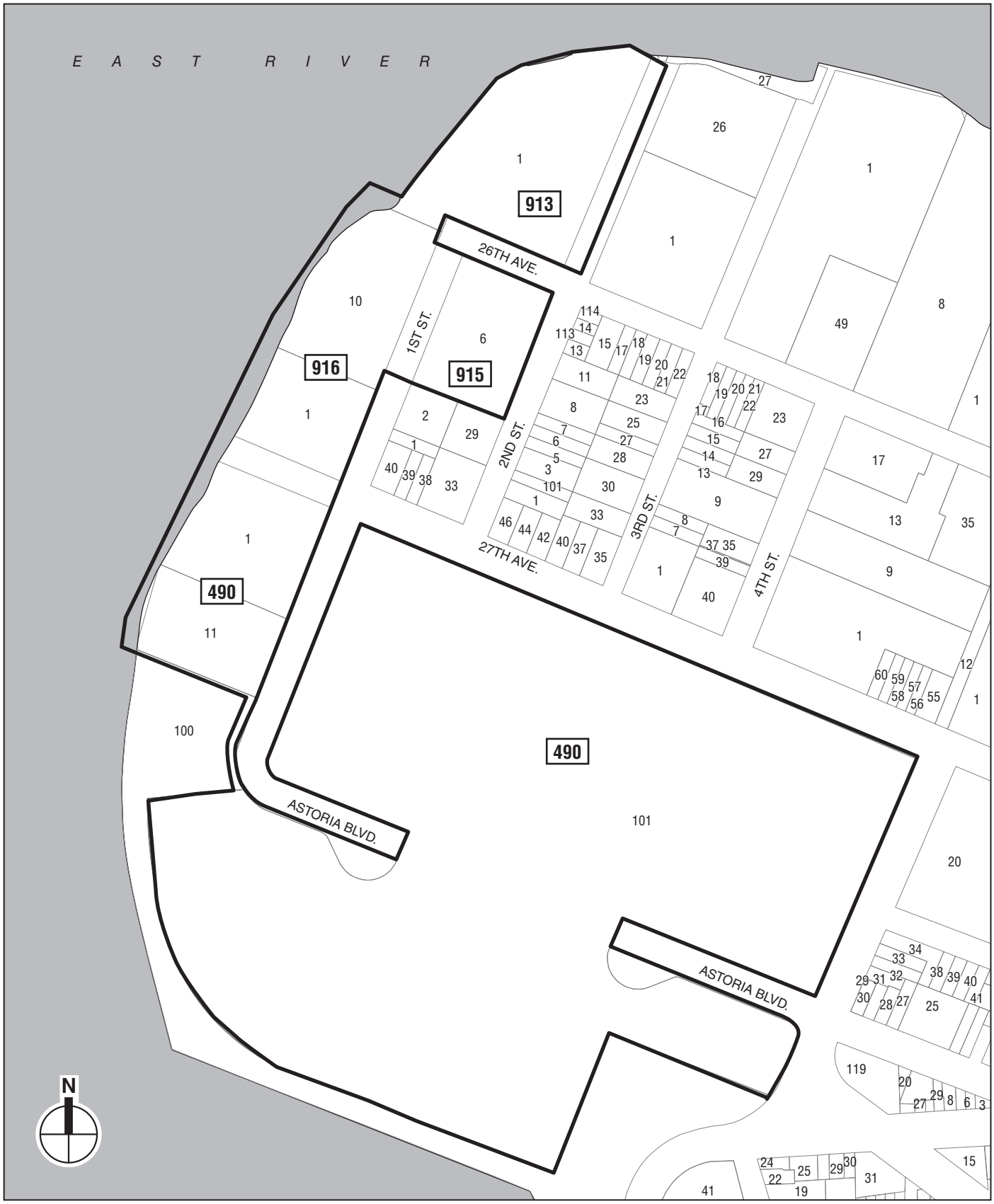
4.1.13



HALLETTS POINT

Project Location
Figure S-1

4.1.13



HALLETTS POINT

Project Site
Figure S-2

The development of Buildings 6, 7, and 8 would be facilitated by the disposition of NYCHA property, which is subject to Section 18 of the U.S. Housing Act of 1937 and approval by the U.S. Department of Housing and Urban Development (HUD). For Buildings 6 and 7, the NYCHA property would be disposed of to the Applicant for development as part of this application. Building 8 would not be developed by the Applicant; rather, it is expected that this application would facilitate a future disposition action by NYCHA with the development entity and specific building program subject to a future RFP by NYCHA. A separate Section 18 disposition action for Building 8 would be pursued in the future at the time a development entity is designated by NYCHA.

In order to facilitate a mixed-use development that includes affordable and market-rate housing, publicly accessible waterfront open space and an esplanade, and neighborhood commercial uses including a supermarket, the proposed project would require a number of zoning map changes; zoning text amendments; LSGD special permits related to bulk; waterfront special permits, authorizations, and certifications; and mapping actions. Other discretionary actions being requested include disposition of public housing property, use of development rights associated with lands underwater, and other potential financing approval for affordable housing.

In addition, the application will also include requests to: (1) rezone a portion of the Astoria Houses Campus to include a commercial overlay over the existing residential zoning district along Astoria Boulevard and 27th Avenue (the "NYCHA Rezoning Area"); and (2) establish Whitey Ford Field as a mapped public parkland and to rezone a portion of the adjacent streetbed (the "2nd Street Rezoning Area").

Figure S-3 shows the various parcels within the proposed LSGD and the proposed rezoning areas associated with the proposed project. Within this Environmental Impact Statement (EIS), the term "project site" is used to refer to all or portions of eight existing tax lots, including the sites of the proposed buildings themselves. The term "building sites" refers to areas that would be redeveloped as part of the proposed project; specifically, the WF and Eastern Parcels and the sites of Buildings 6, 7, and 8 on the NYCHA Parcel. The building sites do not include areas where no development associated with the proposed project would occur (i.e., on Hallet's Cove Playground, Whitey Ford Field, or portions of the NYCHA Astoria Houses Campus not located within the building sites for Buildings 6, 7, or 8).

In order to develop the proposed project, certain discretionary approvals are required from the City of New York, as well as from New York State and the United States Army Corp of Engineers (USACE). These discretionary approvals by the City of New York are subject to review under the City's Uniform Land Use Review Procedure (ULURP), which requires a determination pursuant to City Environmental Quality Review (CEQR). The New York City Department of City Planning (DCP), acting on behalf of the City Planning Commission (CPC), will serve as the city's lead agency for ULURP and CEQR.

Development of the proposed project may potentially result in significant adverse environmental impacts, requiring that an EIS be prepared. The *2012 CEQR Technical Manual* will serve as a guide on the methodologies and impact criteria for evaluating the proposed project's effects on the various environmental areas of analysis.

The disposition of NYCHA property would require a federal approval from HUD that is subject to review under the National Environmental Policy Act (NEPA). The New York City Department of Housing Preservation and Development (HPD) acts as a Responsible Entity for NYCHA's environmental reviews pursuant to 24 CFR Part 58 and for the proposed disposition



NOTE: See Figure S-14 for the Proposed Zoning Map Changes

SITE PLAN SOURCE: Studio V Architects

Proposed Large Scale General Development and Rezoning Areas

approval from the HUD. HPD and HUD therefore serve as Involved Agencies under CEQR. This EIS includes NEPA areas of analysis, as appropriate, to satisfy federal environmental review requirements.

B. PROJECT SITE

The building sites comprise a total of approximately 420,700 square feet (sf) (9.66 acres); the sites for Buildings 1 through 5 on the WF and Eastern Parcels are approximately 328,000 sf (7.53 acres, including land underwater) and those for Buildings 6 through 8 on the NYCHA Parcel are approximately 92,700 sf (2.13 acres). The Eastern Parcel is occupied by an electronics and ink toner company. The WF Parcel contains three building structures and three open lots. It is predominantly vacant, but portions of this waterfront parcel have been leased to two tenants for construction and telecommunications storage and parking on a short-term or month-to-month lease agreement. The waterfront along the project site consists of structural bulkheads and soil embankments armored with large stone rip-rap or construction debris. An existing platform and bulkhead extend approximately 175 feet north from the southern tip of the site. The bulkhead and platform are in good overall structural condition. The remainder of the waterfront along the waterfront parcel consists of a soil embankment lined with large stone rip-rap. The sites for Buildings 1 through 5 are currently zoned M1-1, permitting light industrial uses subject to performance standards common to all M1 districts. Approximately 15,000 sf of the WF Parcel consists of land underwater between the pierhead line and shoreline that is owned by the New York State Office of General Services (NYSOGS).

The sites for Buildings 6 through 8 are zoned R6 and contain parking lots, trash compactors, walkways, and a small amount of landscaped area within the Astoria Houses Campus. The Astoria Houses contains 22 six- and seven-story residential buildings on an approximately 27-acre campus with a total of 1,103 residential units, as well as surface parking lots, a day care center and senior center, basketball courts and playgrounds, walkways, and other landscaped areas. The campus was completed in 1951. The NYCHA Rezoning Area is also located within the Astoria Houses Campus.

Whitey Ford Field is an approximately 3.6-acre park bounded by the East River, 26th Avenue, and 2nd Street, containing a baseball field, bleachers, and open lawn area. It is under the jurisdiction of DPR, although it is not mapped parkland. Whitey Ford Field is currently zoned R6. The Parks Parcel consists of a portion of the Hallet's Cove Playground, which contains an asphalt baseball field and basketball courts. The approximately 10-foot-wide alienated Parks Parcel that would be incorporated as part of the project includes a number of trees, the park perimeter fence, and a portion of the perimeter sidewalk and baseball field back stop area. The Parks Parcel would be incorporated in the NYCHA Astoria Houses Campus as part of the proposed project and would continue to be utilized as open space.

C. PROJECT DESCRIPTION

The proposed actions would facilitate a proposal by the Applicant to develop Buildings 1 through 7 and a proposal by NYCHA to dispose of the site for Building 8 for development pursuant to a future RFP. The proposed project would be built continuously over time; it is expected that full build out would be complete by 2022.

DEVELOPMENT PROGRAM

The proposed actions would facilitate the development of a total of approximately 2.73 million gross square feet (gsf) on the building sites, consisting of a total of approximately 2.2 million gsf of residential space (2,644 housing units including 2,161 market-rate and 483 affordable housing units); approximately 69,000 gsf of retail space (including an approximately 30,100-gross square foot retail space designed for supermarket use in Building 1); and approximately 1,347 garage parking spaces and 53 on-site surface parking spaces. **Table S-1** provides a summary of the proposed development program on each site. The proposed project would also include approximately 102,324 sf (2.35 acres) of publicly accessible open space, including a waterfront esplanade along the East River and upland connections to 1st Street.

Table S-1
Summary of Proposed Program

Use	Bldg 1	Bldg 2	Bldg 3	Bldg 4	Bldg 5A	Bldg 5B	Bldg 6A	Bldg 6B	Bldg 7A	Bldg 7B	Bldg 8[2]	Total
Residential gsf	385,717	286,820	360,738	205,299	195,174	253,129	87,586	49,711	69,438	61,547	240,000	**2,195,159**
Total Units	*472*	*351*	*441*	*251*	*239*	*310*	*111*	*63*	*88*	*78*	*240*	***2,644***
Market-Rate Units	*377*	*351*	*441*	*251*	*191*	*310*	*0*	*0*	*0*	*0*	*240*	***2,161***
Affordable Units	*95*	*0*	*0*	*0*	*48*	*0*	*111*	*63*	*88*	*78*	*0*	***483***
Retail gsf	30,100	4,115	7,033	5,156	2,069	2,660	1,945	3,735	4,755	4,095	3,000	**68,663**
Parking gsf	76,308	60,383	63,818	44,745	50,852	60,661	0[2]	0[2]	0[2]	0[2]	51,015	**407,782**
Garage Parking Spaces[1]	*228*	*215*	*222*	*137*	*162*	*212*	0	*0*	0	*0*	*171*	***1,347***
Surface Parking Spaces[1]	*0*	*0*	*0*	*0*	*0*	*0*	27		26		*0*	***53***[3]
Mechanical gsf	11,738	8,198	13,177	9,138	7,266	6,303	NA	NA	NA	NA	5,000	**60,820**
Total gsf	**503,863**	**359,516**	**444,766**	**264,338**	**255,361**	**322,753**	**89,531**	**53,446**	**74,193**	**65,642**	**299,015**	**2,732,424**
Open Space	**102,324 sf (2.35 acres)**											

Notes: gsf = gross square feet. All proposed gsf are approximate.
[1] All parking would be accessory.
[2] In addition to the Applicant's proposal, NYCHA is seeking approvals in connection with the disposition and future development of Site 8.
[3] The proposed project would also maintain 178 surface parking spaces within the NYCHA Parcel adjacent to Buildings 6 and 7 and in an expanded surface lot south of Astoria Boulevard to replace the surface parking displaced by the development of Buildings 6, 7, and 8.

The Applicant intends to provide affordable housing as part of the proposed project, using the city's Inclusionary Housing bonus program. Affordable housing would be developed in Buildings 1, 5, 6, and 7. In order to meet the New York State Real Property Tax Law 421-a tax abatement program requirement that affordable housing be provided on-site (i.e., within the same zoning lot), the development of affordable housing in Buildings 6 and 7 would be paired with sites that would contain market-rate units. Specifically, the affordable units developed in Building 6A and 6B would satisfy the affordable housing obligations of Buildings 3 and 4, respectively, and the affordable units developed in Building 7A and 7B would satisfy the affordable housing obligations of Building 2 and a portion of Building 5B, respectively. The affordable units developed in Buildings 1 and 5A would satisfy their own affordable housing obligations. It is expected that senior housing units would be developed as part of the affordable housing component of the proposed project, and that Buildings 6A/6B and 7A/7B may be entirely senior housing units. However, to provide for a conservative analysis, this EIS assumes that the proposed project's affordable housing component would not be age-restricted.

Figure S-4 shows the illustrative overall site plan for the proposed project, and **Figure S-5** shows a rendering of the proposed project. The new development for Buildings 1 through 5 would consist of seven new buildings with high-rise towers rising from low- to mid-rise bases, and would include residential, retail, and parking. The low- to mid-rise bases would include one level of below-grade parking and up to four floors of additional parking above-grade. The above-grade parking would be located in the building cores, wrapped by residential and retail uses. The residential uses wrapping the parking garages would consist of townhouses below



Large Scale General Development Area

SITE PLAN SOURCE: Studio V Architects

Illustrative Development Site Plan

Figure S-4



SOURCE: Studio V Architects and James Corner Field Operations

NOTE: FOR ILLUSTRATIVE PURPOSES ONLY

Rendering of Proposed Project in Context

apartment units. Ground-floor retail would line portions of 1st Street and the demapped portion of 27th Avenue, leading to the waterfront. An approximately 30,000-gross square foot retail space (designed for a supermarket use) would be located on the ground floor of Building 1. The parking garages in the building cores may be topped by a rooftop terrace for use by the buildings' tenants. The structures on Buildings 1 through 5 would range from 17 to 31 stories in height (170 to 310 feet) (see **Figures S-6 and S-7**). The low- to mid-rise bases would be a minimum of four stories and would range from approximately 40 to 80 feet in height. Buildings 6 and 7 would contain four new mid-rise buildings rising to a maximum height of 130 feet and 140 feet, respectively (13 and 14 stories) (see **Figure S-8**). These structures would contain residential and retail uses and surface parking. Local retail uses would be located along 27th Avenue and surface parking lots would be provided at the rear of the buildings. The existing uses on these sites, including parking and trash facilities, would be relocated elsewhere within the Astoria Houses Campus. The development of Buildings 6 and 7 would also involve minor modifications to the paths and landscaping areas within the Astoria Houses Campus adjacent to each building site.

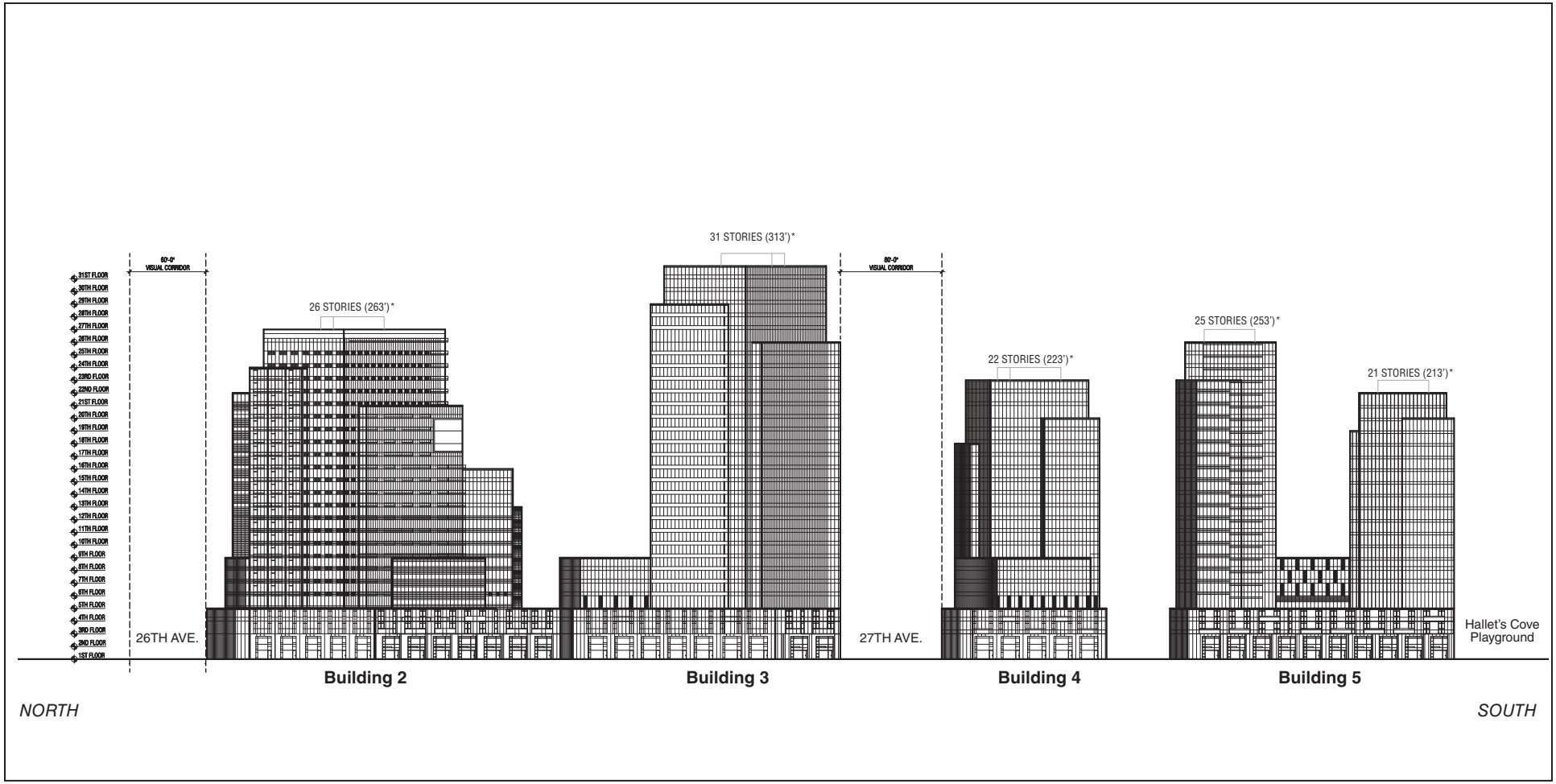
In addition to the Applicant's proposed development program for Buildings 1 through 7, the proposed actions would facilitate a proposal by NYCHA to dispose of the site for Building 8 along Astoria Boulevard for development pursuant to a future RFP. Building 8 would contain one new high-rise building rising to a height of 270 feet (27 stories). This structure would contain market-rate residential units and retail uses and garage parking. Local retail uses would be located on Astoria Boulevard at the intersection of 1st Street. **Figure S-9** provides illustrative elevations of the Building 8.

Building heights throughout the proposed development would be articulated to create a varied skyline.

The development of Buildings 6, 7, and 8 would displace approximately 178 surface parking spaces within the NYCHA Astoria Houses Campus. All of these spaces would be replaced as part of the proposed project. A portion of these spaces would be accommodated within the surface parking lots adjacent to Buildings 6 and 7, and the remainder would be accommodated within combined and reconfigured surface parking lots south of Astoria Boulevard near the intersection of Astoria Boulevard and 8th Street (the expanded surface parking area, see **Figure S-4**).

PUBLICLY ACCESSIBLE OPEN SPACE AND WATERFRONT ESPLANADE

As indicated, the proposed project would incorporate publicly accessible open space, including a waterfront esplanade and upland connections to 1st Street. The waterfront esplanade would run the length of the site's waterfront, connecting on the south to Hallet's Cove Playground and on the north to Whitey Ford Field. The waterfront esplanade would include landscaping and seating along the waterfront. The upland connections are intended to provide view corridors and public access from 1st Street to the esplanade and East River and would also include a public plaza at 27th Avenue. **Figure S-10** shows an illustrative rendering of the proposed esplanade and **Figure S-11** shows the upland connection between 1st Street and the proposed esplanade along the demapped portion of 27th Avenue. As each site along the waterfront is built out, the associated public open space required under the Zoning Resolution would be completed at the same time as the buildings. Upon completion, the proposed project would create approximately 102,324 sf (2.35 acres) of publicly accessible waterfront open space on the WF Parcel. The proposed waterfront esplanade would be designed to provide a cohesive transition between the project site



SOURCE: Studio V Architects

*The proposed zoning envelope would allow buildings up to the height indicated

Illustrative Elevation of WF Parcel, View From West

Figure S-6

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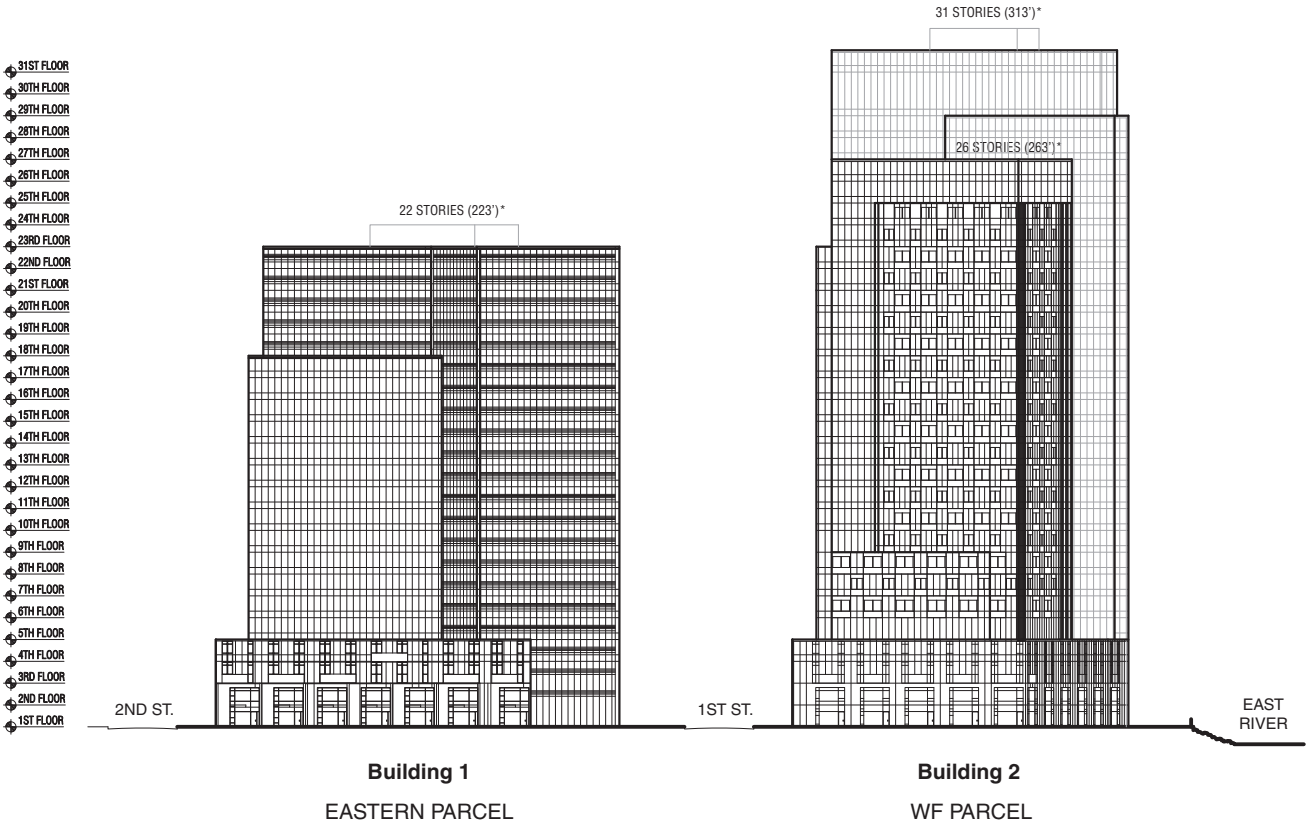


SOURCE: Studio V Architects

*The proposed zoning envelope would allow buildings up to the height indicated

Illustrative Elevation of Eastern and WF Parcel, View From North



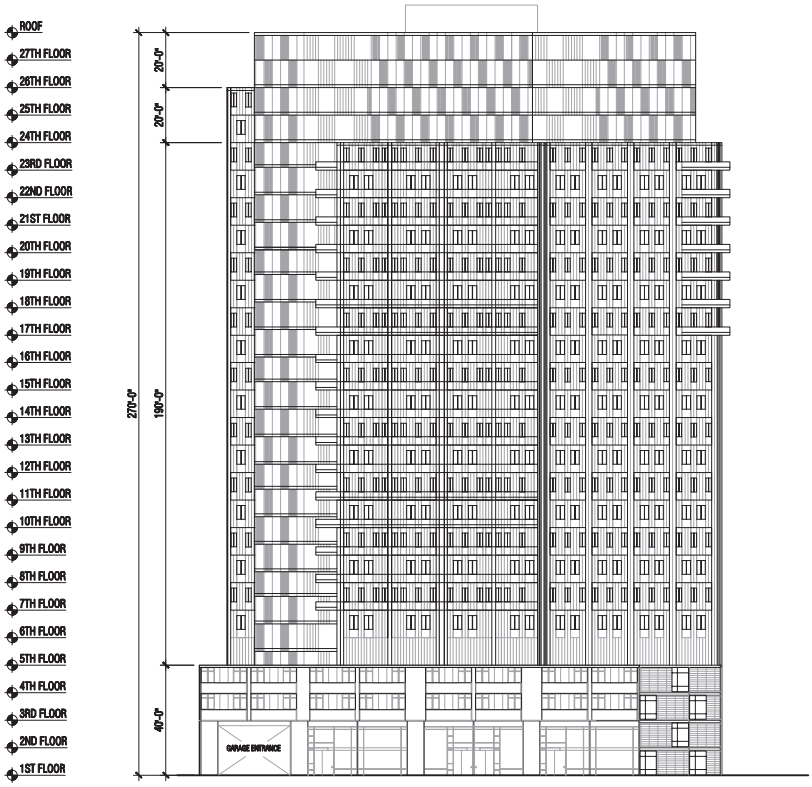
Building 6



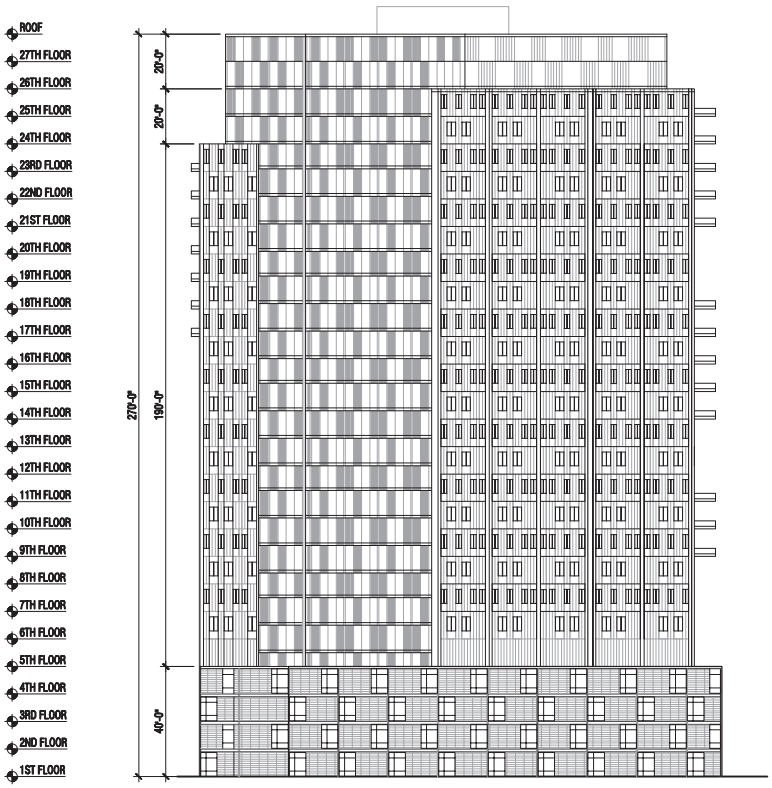
Building 7

SOURCE: Studio V Architects

Illustrative North Elevation, Building 6 and 7



North Elevation



South Elevation

SOURCE: Studio V Architects

Illustrative Elevations of Building 8
Figure S-9

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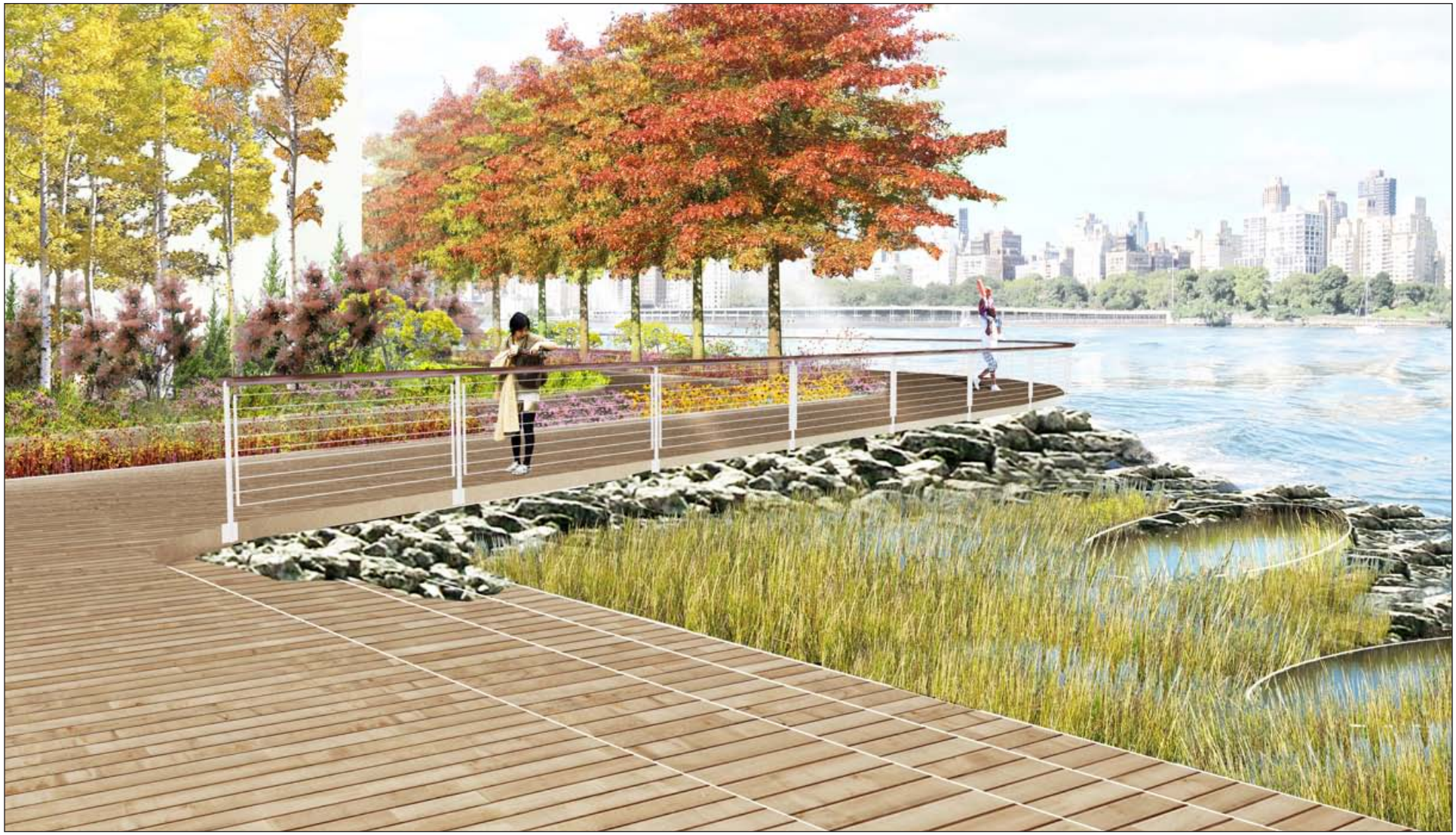

Illustrative Rendering of Proposed Esplanade

HALLETTS POINT

Figure S-10



Illustrative Rendering of Proposed 27th Avenue Plaza

and Whitey Ford Field to the north and the Hallet's Cove Playground to the south. The proposed project would also create a publicly accessible open space area with benches and plantings adjacent to Building 1 between 1st Street and 2nd Street.

INFRASTRUCTURE IMPROVEMENTS

The proposed project would include improvements to stormwater and sanitary sewer infrastructure to support the new development. Currently, there are two stormwater outfalls located adjacent to the project site: a 36-inch storm sewer and outfall on 27th Avenue and a 48-inch outfall at 26th Street. The proposed project would include construction of new stormwater outfall(s) for the proposed development sites to enable direct discharge of stormwater flows to the East River. These outfalls would be permitted by the New York State Department of Environmental Conservation (NYSDEC) and USACE, and stormwater generated on-site would be treated for water quality prior to discharge. In addition, it is expected that new sanitary sewers would be provided to convey additional wastewater flows generated from the project. The routing and scope of additional sanitary sewers will be developed as project design progresses in consultation with the New York City Department of Environmental Protection (DEP).

In addition, there is an established water distribution network through the Halletts Point peninsula generally consisting of 8- to 20-inch water mains. Consistent with DEP policy, mains located within the streets fronting the development sites constructed prior to 1945 would be reconstructed to current DEP design standards.

Furthermore, the design and construction of the proposed project would comply with *New York City Building Code* requirements for construction within the 100-year floodplain. The finish floor elevations for the residential townhouse structures proposed for the WF Parcel along the East River and on the Eastern Parcel would be about 3 feet above the 100-year flood elevation. The remaining residential units within the WF Parcel and Eastern Parcel would be within the towers above the low- to mid-rise bases and thus would be well above the 100- and 500-year flood elevation. The finish floor elevations for the ground floor retail uses on the WF Parcel would be about 2 inches above the 100-year flood elevation.

NYCHA REZONING AREA

The application would also rezone a portion of the Astoria Houses Campus to include a commercial overlay over the existing R6 zoning district along Astoria Boulevard and 27th Avenue. The portion of the NYCHA Rezoning Area along 27th Avenue would facilitate the development of approximately 15,000 gsf of retail in Buildings 6 and 7 along 27th Avenue. The portion of the NYCHA Rezoning Area along Astoria Boulevard would include the development of approximately 3,000 gsf of retail on Building 8. Because of the configuration of the NYCHA buildings and the presence of NYCHA tenants, it is not expected that new retail uses would be developed in the ground floors of existing buildings within the NYCHA Rezoning Area. It should be noted that the proposed project would not displace any existing NYCHA tenants nor would it reduce the number of existing parking spaces on the NYCHA Astoria Houses Campus.

It should be noted that NYCHA is contemplating a master plan for the Astoria Houses Campus that may include future development on other parcels within the campus. The NYCHA Rezoning Area may facilitate future development on other sites within the Astoria Houses Campus. There are no current plans or a projected timeline for the development of future commercial uses or other development parcels along Astoria Boulevard, but these uses are contemplated as part of NYCHA's long-term master planning for the Astoria Houses Campus. Future development in

the Astoria Houses would be subject to the proposed LSGD, if approved, and therefore any modification to the LSGD to facilitate this or any new development would require further review by the CPC.

ROAD NETWORK IMPROVEMENTS

The proposed project would include a number of street improvements. **Figure S-12** shows the existing street network and **Figure S-13** shows proposed improvements to the network. A portion of 27th Avenue, located west of 1st Street and currently used as accessory parking for adjacent businesses, would be demapped and transformed into a pedestrian waterfront access corridor. The portion of 26th Avenue west of 1st Street would also be demapped and transformed into a pedestrian waterfront access corridor. A new connecting street segment between existing mapped portions of Astoria Boulevard is proposed on the NYCHA parcel. Between 1st Street and 8th Street, Astoria Boulevard would be two-directional with one lane in either direction. Parking may be added along some segments of the street, depending on required street widths and the location of existing mature trees. Traffic calming measures for the new connecting street segment on Astoria Boulevard would be explored in consultation with the New York City Department of Transportation (NYCDOT).

To the north, 26th Avenue would become one-way eastbound between 1st and 2nd Streets. Between 26th and 27th Avenues, 1st Street would become one way northbound and 2nd Street would become one-way southbound. Third and 4th Streets would remain unchanged in their directionality between 26th and 27th Avenues.

TRANSIT SERVICE IMPROVEMENTS

The proposed project would also include an important transit amenity—a bus layover facility along 2nd Street adjacent to Building 1 for the Q18, Q102, and Q103 bus routes, and potentially other routes in the future. Preliminary discussions have taken place between the Applicant and the Metropolitan Transportation Authority-New York City Transit (MTA-NYCT) on potentially increasing bus service and/or extending routes as the project sites become occupied.

SUSTAINABILITY AND SEA LEVEL RISE RESILIENCE MEASURES

The Applicant intends to take a proactive approach to incorporating measures into the proposed project to address and plan for resilience to flooding, including future sea level rise. All habitable residential spaces in the proposed project would be approximately three feet above the current applicable 100-year flood elevation. When accounting for future sea level rise (specifically, the New York City Panel on Climate Change (NPCC) projected central estimate of 1.0 to 1.9 feet), the vast majority of residential units would be well above the projected future 100-year flood elevation. The residential uses closest to the current 100-year flood elevation, the proposed townhouses along the esplanade and upland connections, would still be above the central estimates of projected sea level rise. Building lobbies and the ground floor retail spaces, which are approximately 2 inches above the current 100-year flood elevation, would be flood-proofed and would utilize flood barriers on an as needed basis (i.e., before predicted storm events). In addition, if approved, the proposed project would account for elevating the proposed buildings above any future applicable flood elevations as designated by the Federal Emergency

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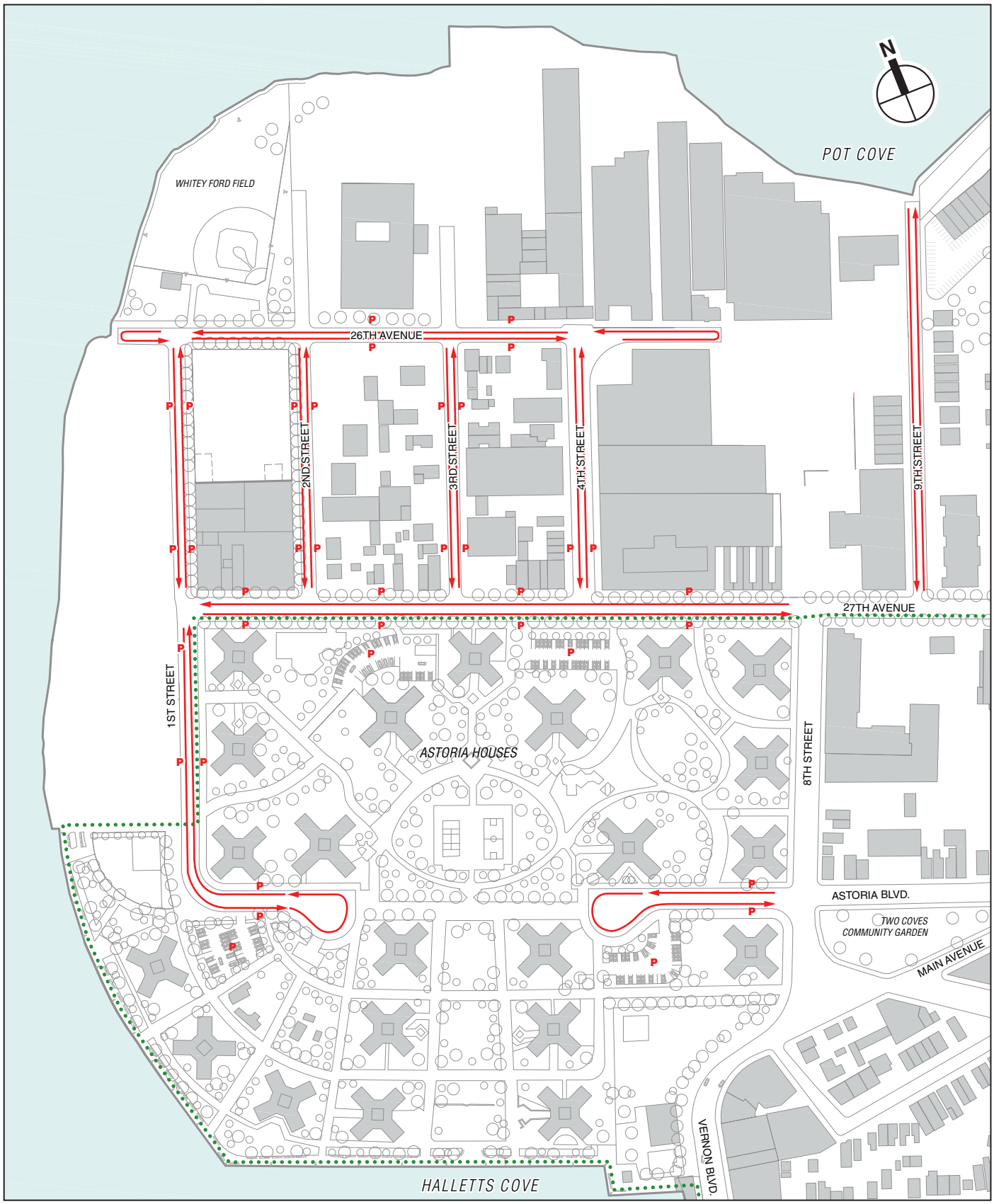

Direction of Traffic

P *Street Parking*

Bike Route

HALLETTS POINT

Existing Street Network

Figure S-12

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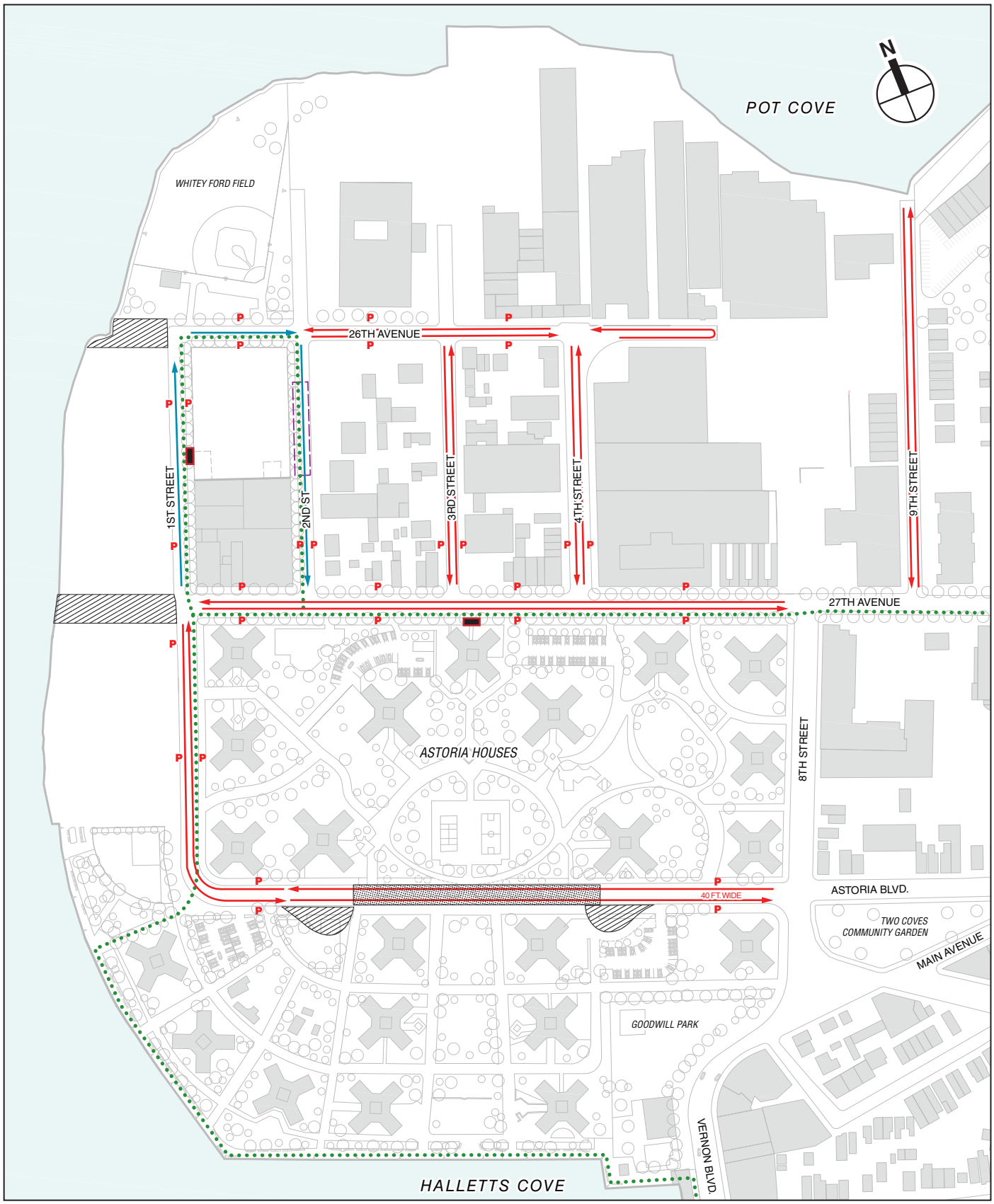


Direction Of Traffic
Proposed Directional Change
P Street Parking
Bike Route
Street Segment to be Closed and Demapped
Street Segment to be Re-opened
Proposed Bus Stop
Bus Layover Area

0 200 400 FEET
SCALE

HALLETTS POINT

Proposed Street Network
Figure S-13

Management Agency (FEMA).[1] The Applicant is also committed to elevating critical infrastructure above the flood level or, in cases where infrastructure is required to be at lower levels by building code, to be sealed. To the extent practicable and feasible, the proposed project would elevate emergency generators, fuel pumps, and water, electricity, and gas distribution well above flood levels and flood-protect those utility connections and fuel tanks that are required to be at lower elevations.

MODIFICATIONS TO THE NYCHA ASTORIA HOUSES CENTRAL BOILER PLANT EXHAUST

The Applicant has discussed with NYCHA the potential for modifications to the existing NYCHA Astoria Houses central boiler plant to avoid the potential for significant adverse air quality impacts on the proposed project. Specifically, as part of the development of Building 7A, the central boiler plant may be modified to duct the exhaust gas from the existing boiler exhausts to a new location at proposed Building 7A. The NYCHA Astoria Houses central boiler plant is located in the existing Astoria Houses building located between the proposed Buildings 6A/6B and 7A/7B (Astoria Houses Building 7 located at 3-04 27th Avenue). As part of the project, emissions from the NYCHA central boiler plant would be rerouted to a new boiler stack located at proposed Building 7A. The Applicant is also considering, in consultation with NYCHA, other options that would address emissions from the NYCHA Astoria Houses central boiler plant in a manner no less protective of the environment. In the event such other options are identified prior to issuance of the Final EIS (FEIS), they will be discussed in that document.

ANALYTICAL FRAMEWORK

The lead agency and involved agencies are required to take a hard look at the environmental effects of a proposed action and, to the maximum extent practicable, avoid or mitigate significant adverse impacts on the environment consistent with social, economic, and other essential considerations. The EIS identifies and analyzes the significant adverse environmental impacts of the proposed project and how those impacts could be avoided or minimized, providing a means for agencies to consider environmental factors and choose among alternatives in their decision-making processes.

The 2012 *CEQR Technical Manual* will serve as the general guide on the methodologies and impact criteria for evaluating the proposed project's potential effects on the various environmental areas of analysis. Environmental review requires a description of existing conditions, a projection of site conditions into the future without the proposed project (the No Build condition) for the year that the action would be completed, and an assessment of future conditions with the proposed project (the Build condition) for the same year. Project impacts are then based on the incremental change between the future without and with the proposed project.

The proposed project would be built continuously over time and it is expected that the full build out would be complete by 2022. No Build conditions are projected through 2022 and are based on

[1] The FEMA Advisory Base Flood Elevation (ABFE) for the portion of New York City including the project site was released for review on February 25, 2013. The ABFE for the WF Parcel would be 13 feet, an approximately 5-foot increase over the currently applicable 100-year flood elevation. Although the ABFE is subject to further review, if it is adopted as part of a future updated Flood Insurance Rate Map, the proposed project would comply these flood elevations as required by the New York City *Building Code*.

the assumption that conditions on the site would not change in the future without the proposed project.

D. DISCRETIONARY APPROVALS

Implementation of the proposed project would require approval of discretionary actions by the CPC, including:

ZONING MAP CHANGES

- Rezoning of Eastern and WF Parcels from an M1-1 District to R7-3/C1-4 District;
- Establish a C1-4 District within an existing R6 District on p/o the Astoria Houses Campus—NYCHA would be the co-applicant for this rezoning action, which would facilitate the proposed project's development of Buildings 6, 7, and 8;
- Establish an R6 District on the Parks Parcel;
- Rezoning of parcel bounded by edge of Whitey Ford Field, centerline of 2nd Street, East River, and 26th Avenue from R6 to M1-1;
- Rezoning a former portion of 26th Avenue between 1st Street and the U.S. Pierhead and Bulkhead Line from an R6 District to an R7-3/C1-4 District; and
- Rezoning a portion of 26th Avenue between 1st Street and 2nd Street from an R6 District to an R7-3 District.

ZONING TEXT AMENDMENTS

- Text amendment to ZR §63-02(a)(4) and 63-25(d), and Appendices A, B, and C to make Queens Community District 1, shown on Map 1 in Appendix B, eligible for the Food Retail Expansion to Support Health (FRESH) Program;
- Text amendment to ZR §62-454 to exempt accessory parking located no more than 33' above the height of the base plane from the definition of floor area;
- Text amendment to ZR §23-952, §62-322, and Appendix F to apply the Inclusionary Housing program to the WF and Eastern Parcel;
- Text amendment to ZR §23-952 to add R7-3 base and maximum floor area ratios;
- Text amendment to modify ZR §62-132 to allow lot lines coincident with the boundary of a mapped Public Park in Queens Community District 1 to be treated as a wide street line for the purposes of applying §23-86 (minimum distance between legally required windows and walls or lot lines);
- Text amendment to modify ZR §74-742 to permit a LSGD special permit to be applied for even if a portion of the LSGD is owned by the City or State of New York or is located within the bed of 26th Avenue, between 1st Street and the bulkhead line; and
- Text amendment to modify ZR §74-743 to authorize CPC to permit floor area distribution from a zoning lot containing public housing buildings on the Halletts Point peninsula if unused floor area on a separate parcel containing light industrial buildings to be demolished can be transferred to another zoning lot within a large scale general development and such distribution contributes to better site planning of a waterfront public access area and the development of affordable housing units.

The text of the proposed zoning text amendments is provided in **Appendix A**.

LSGD BULK MODIFICATION SPECIAL PERMITS

- ZR §74-743(a) Special Permit to
  - allow floor area from the Waterfront Zoning Lot to be distributed to the Eastern Zoning Lot;
  - allow lot coverage from the Eastern Zoning Lot to be used on the Waterfront Zoning Lot;
  - waive the ZR §23-532 through-lot rear yard equivalent;
  - waive the height and setback provisions of ZR §62-341(c)(1) and (2);
  - waive the tower footprint size limitation provision of §62-341(c)(4);
  - waive the maximum width of walls facing shoreline provision of §62-341(c)(5); and
  - allow a phased construction program for Development, pursuant to ZR §11-42(c).

WATERFRONT SPECIAL PERMITS

- ZR §62-836 Special Permit to waive the Shore Public Walkway initial setback distance provisions of 62-341(a), the height & setback provisions of §62-341(c)(1) and (2), the 30 percent floor area coverage provision of §62-341(c)(3), the tower footprint size limitation provision of §62-341(c)(4), the maximum width of walls facing shoreline provision of §62-341(c)(5), and the minimum distance between buildings on the same zoning lot requirements of §23-711.

WATERFRONT AUTHORIZATIONS AND CERTIFICATIONS

- ZR §62-822(a) Authorization to modify the requirements for location, area and minimum dimensions of waterfront public access areas and visual corridors—NYCHA would be the co-applicant for this authorization;
- ZR §62-822(b) Authorization to modify requirements within a waterfront public access areas—NYCHA would be the co-applicant for this authorization;
- ZR §62-822(c) Authorization for phased development of waterfront public access areas; and
- ZR §62-811(b) Certification by the Chairperson of the CPC for compliance with the requirements for waterfront public access and visual corridors—NYCHA would be the co-applicant for this certification.

MAPPING ACTIONS

- The Elimination, Discontinuance, and Closing of Portions of Two Cul-De-Sacs in Astoria Boulevard Between 1st Street and 8th Street, the conveyance of a Street Easement from NYCHA to the City, and the Related Transfer of City-Owned Property to NYCHA;
- The Establishment of a Park Between 2nd Street and 26th Avenue and the U.S. Pierhead and Bulkhead Line;
- The Elimination of a Portion of Public Park West of 1st Street and South of 27th Avenue and the Related Transfer of City-Owned Property to NYCHA;
- The Elimination, Discontinuance, and Closing of 26th Avenue and 27th Avenue Between 1st Street and the U.S. Pierhead and Bulkhead Line and the Related Disposition of City-Owned Property to the Applicant; and
- The Adjustment of Grades and Block Dimensions Necessitated Thereby.

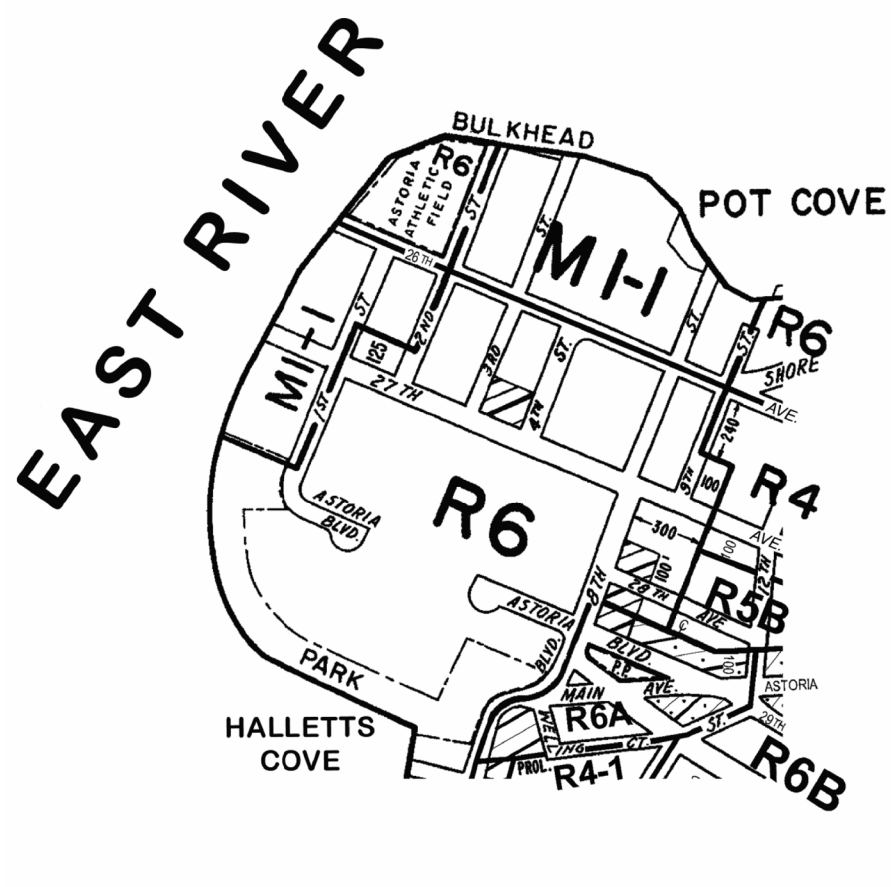
In addition to the actions listed above, it is anticipated that the authorization application (N090487ZAQ) filed pursuant to ZR §62-822(a) may be amended to allow the waterfront yard elevation to be raised and to modify the level of the visual corridors accordingly. ZR §62-332 (Rear yards and waterfront yards) limits the level of waterfront yards to the elevation of the top of the existing bulkhead, existing stabilized natural shore or mean high water (MHW) line and ZR §62-512 (Dimensions of visual corridors) requires that the lowest level of a visual corridor be determined by a plane connecting the intersection of the visual corridor with the street and the shoreline. This modification would be requested to address and plan for project resilience to flooding. FEMA has re-evaluated existing flood elevations and released ABFEs indicating that base flood elevation would likely rise several feet. Accordingly, the base plane of the proposed buildings will likely be raised to a higher elevation to maintain compliance with zoning and construction codes, which are based off of base flood elevation. Therefore, the waterfront yard may need to be raised to maintain connectivity with the higher base plane of the buildings fronting 1st Street and the modification of the above authorization would be required.

ACTIONS NOT SUBJECT TO ULURP

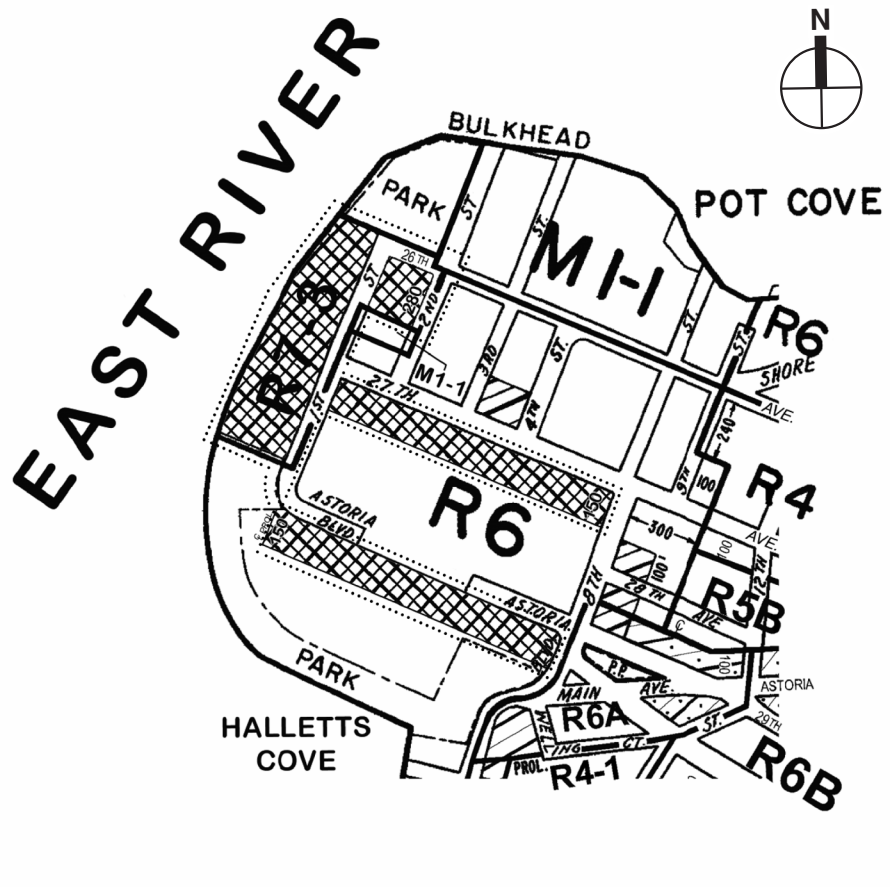
In addition to the proposed actions subject to CPC approval, the proposed project would require approval from other city, state, and federal agencies, including:

- NYCHA board approval of the disposition of public housing property at the Astoria Houses Campus for construction of new housing and provision of a street easement;
- Approval by HUD under Section 18 of the U.S. Housing Act for disposition of NYCHA public housing property for construction of Buildings 6 and 7 and provision of a street easement at the Astoria Houses Campus—HPD will be acting as the Responsible Entity on behalf of NYCHA under 24 CFR Part 58 on the disposition action. A separate Section 18 disposition action for Building 8 would be pursued in the future at the time a development entity is designated by NYCHA.
- NYSOGS approval for disposition of a negative easement to allow the use of development rights associated with lands underwater;
- Permits and approvals by the NYSDEC and the USACE for any in-water and tidal wetlands construction activities;
- State Pollutant Discharge Elimination System (SPDES) permit from NYSDEC;
- Alienation of Parkland by the New York State Legislature (New York State alienation legislation 10622);
- HPD approval of an Affordable Housing Plan (AHP) pursuant to the Inclusionary Housing Program; and
- Potential financing from city and/or state agencies (HPD, the New York City Housing Development Corporation [HDC], and/or New York State Homes and Community Renewal [HCR]) for affordable housing construction.

Figure S-14 shows the existing and proposed zoning on the project site. **Figure S-15** shows the proposed mapping actions associated with the proposed project.



EXISTING ZONING



PROPOSED ZONING

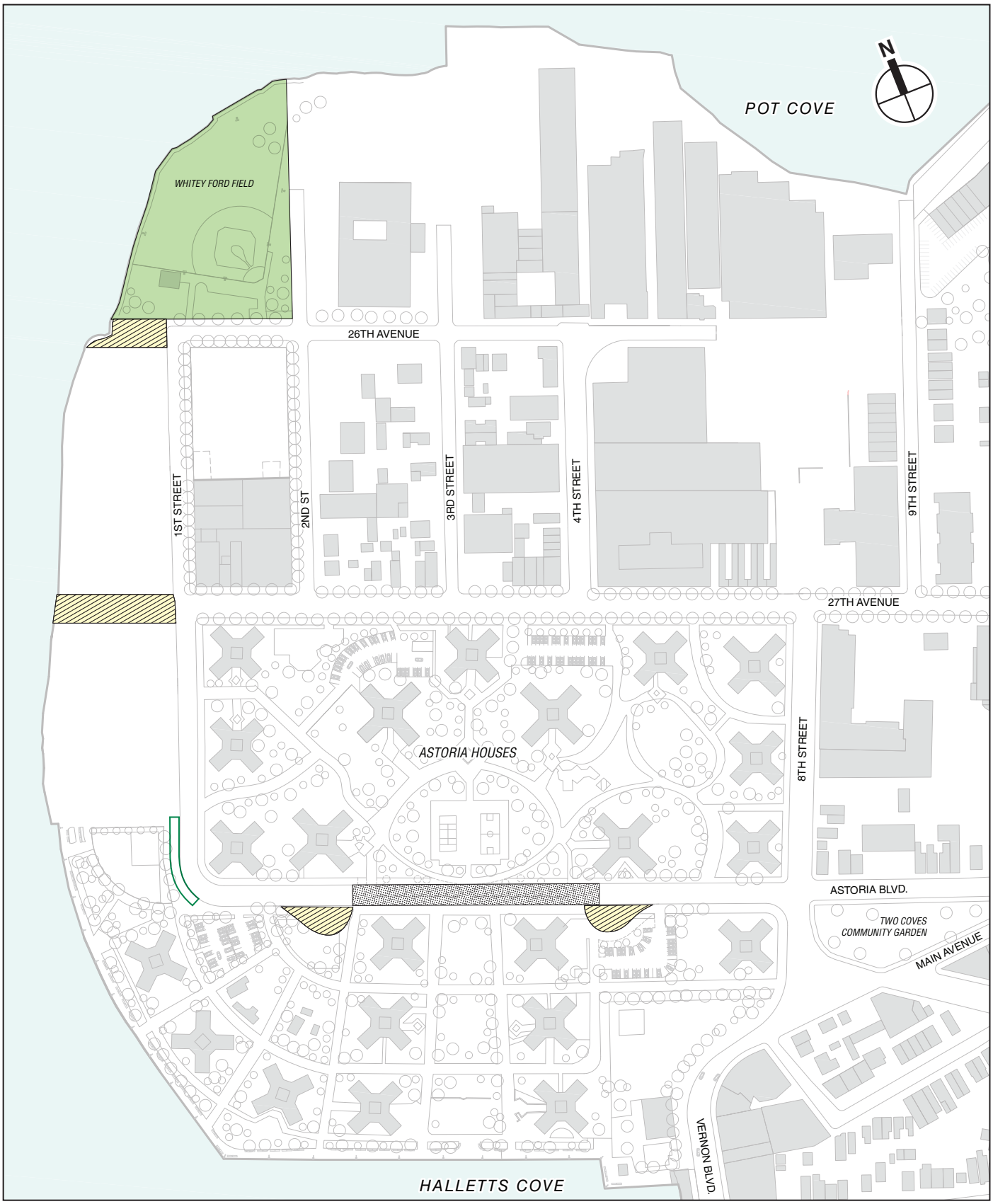
Area of Rezoning

C1-1 C1-2 C1-3 C1-4 C1-5 C2-1 C2-2 C2-3 C2-4 C2-5

NOTE: Where no dimensions for zoning district boundaries appear on the zoning maps, such dimensions are determined in Article VII, Chapter 6 (Location of District Boundaries) of the Zoning Resolution.

Existing and Proposed Zoning Comparison
Figure S-14

4.18.13



HALLETTS POINT

Proposed Mapping Actions
Figure S-15

OTHER ACTIONS

MAYORAL OVERRIDES

Parking

Subsequent to City Planning approval of the proposed ULURP application, if obtained, the Applicant intends to request a Mayoral Override to waive part of the parking requirement applicable to Buildings 6 and 7. For purposes of the proposed ULURP application, the proposed project meets all applicable accessory parking space minimums required by the Zoning Resolution. While existing parking lots on the Astoria Houses Campus would be the site of future development, each of the parking spaces that would be displaced by development would be replaced in consolidated lots located elsewhere on the Astoria Houses Campus. The new required parking spaces generated by new development on the Astoria Houses campus would be partially met by spaces provided within central parking lots on the Astoria Houses Campus and partially by spaces within structured parking garages located in the proposed new buildings on the WF Parcel.

The proposed Mayoral Override would allow the required parking spaces generated on the NYCHA Parcel but accommodated on the WF Parcel to be waived. It would eliminate the necessity that the buildings on the NYCHA Parcel rely on the WF Parcel buildings to remain zoning compliant. Buildings 6 and 7 may include a senior housing component, and such residents are less dependent on personal automobile use. The Mayoral Override would eliminate the need to overly burden existing NYCHA open space with parking, but still permit each parcel to independently comply with zoning.

Street Trees

Subsequent to City Planning approval of the proposed ULURP application, if obtained, the Applicant intends to request a Mayoral Override to waive part of the street tree planting requirements applicable to the proposed project. Under the street tree planting requirements of the Zoning Resolution, street trees would need to be planted along all street frontages of the affected zoning lots. The proposed Mayoral Override would permit trees to be planted only along street frontages adjacent to areas affected by the proposed project. The Mayoral Override would eliminate the burden to plant street trees along the portions of the zoning lot frontage not affected by the proposed project. As noted, the project site includes the entire 27-acre Astoria Houses Campus which aside from the sites of Buildings 6, 7, and 8 and the expanded surface parking area would not be affected by the proposed project.

(E) DESIGNATIONS

An (E) designation is a mechanism that ensures no significant adverse impacts would result from a proposed project because of procedures that would be undertaken as part of the development of a rezoned site. The proposed project includes the placement of (E) designations on the sites of Buildings 1 through 5 to avoid significant adverse impacts in the following technical areas: hazardous materials, air quality, and noise. An (E) designation for hazardous materials would be placed on the sites of Buildings 1 through 5. (E) designations for air quality would be placed on the sites of Buildings 1, 2, 4, and 5. These air quality (E) designations would require a variety of measures, including fuel type and stack location restrictions, stack height requirements, or use of low NO_x burners. (E) designations for noise would be placed on Buildings 3 and 4. The noise

(E) designations would require the future building façades to meet certain noise attenuation requirements to avoid significant adverse noise impacts.

Measures to avoid significant adverse hazardous materials, air quality, and noise impacts for Buildings 6, 7, and 8 would be required through an agreement between NYCHA and the Applicant/future developer or a Restrictive Declaration.

RESTRICTIVE DECLARATION

In connection with the proposed project, a Restrictive Declaration would be recorded at the time all land use-related actions required to authorize the proposed project's development are approved. The Restrictive Declaration would, among other things:

- Require development in substantial accordance with the approved plans, which establish an envelope within which the buildings must be constructed, including limitations on floor area;
- Require that the proposed project's development program be within the scope of the development scenario analyzed in the EIS; and
- Provide for the implementation of "Project Components Related to the Environment" (i.e., certain project components which were material to the analysis of environmental impacts in the EIS) and mitigation measures, substantially consistent with the EIS.

E. PURPOSE AND NEED FOR THE PROPOSED PROJECT

The purpose of the proposed project is to implement a plan for a large-scale housing development with affordable units, along with ground-floor retail space and a publicly accessible waterfront esplanade and open space. The proposed project is intended to transform a largely underused waterfront area into a new, enlivened mixed-use development. The proposed new housing would support the city's plans to provide additional capacity for residential development, especially affordable housing. The proposed neighborhood retail is intended to provide amenities that are currently lacking in the area and which would serve the existing residential population in addition to the project-generated population. The proposed action includes a request to include the project area in the FRESH Program, which, if pursued, will facilitate the siting of grocery stores selling a full range of food products with an emphasis on fresh fruits and vegetables, meats, and other perishable goods in this underserved area. The proposed project would also establish a publicly accessible waterfront esplanade with upland connections and a connection to Hallet's Cove Playground south of the site and Whitey Ford Field north of the site. The proposed open space is intended to provide benefits for the Astoria community, the Borough of Queens, and the city as a whole.

In addition to the Applicant's proposal for the development of Buildings 1 through 7, NYCHA is contemplating a master plan for the Astoria Houses that may include future development on other parcels within the campus. NYCHA is seeking to identify sources of revenue in order to continue its mission of maintaining and providing affordable housing, and one source of revenue is to reposition and capitalize on its existing real estate assets. Thus, the proposed disposition of the land for Buildings 6 and 7 to the Applicant and the anticipated future disposition of the land for Building 8 would provide revenue to support NYCHA's mission. The development of Building 8 would also contribute to the introduction of an economically diversified population within the Astoria Houses Campus. The proposed actions would facilitate the disposition of the site for Building 8 by NYCHA pursuant to a future RFP. The proposed disposition of the site for

Building 8 would also facilitate the potential disposition of another site on the Astoria Houses Campus to the School Construction Authority (SCA) for a public school.

The new connecting street segment between existing mapped portions of Astoria Boulevard on the NYCHA Parcel is intended to improve circulation in the area and provide a better connection with the surrounding community. The development of Building 8, including the proposed ground-floor retail, is intended to enliven the new Astoria Boulevard. The proposed bus layover would facilitate the provision of better bus service to the area.

F. PROBABLE IMPACTS OF THE PROPOSED PROJECT

LAND USE, ZONING, AND PUBLIC POLICY

The proposed project would be consistent with land use and development trends, zoning, and public policy for the study area and New York City as a whole. While the proposed project would result in uses that are substantially different than the light industrial and manufacturing/warehousing uses currently permitted on the project site, the proposed mixed-use development would be in keeping with the trend throughout the study area and other parts of the city toward reinvestment in appropriately located and underutilized waterfront areas through redevelopment of mixed-use, higher density projects. Overall, the proposed project would not result in any significant adverse impacts on land use, zoning, or public policy. The proposed project would have a positive effect on land use by creating a vibrant new mixed-use development with public waterfront access and open space on a site that currently contains underutilized industrial uses and vacant land and buildings and would otherwise likely remain vacant and underutilized with no public open space or waterfront access. The new housing, retail, and open space would bring activity to the site and would serve both residents of the proposed project's buildings and the larger Astoria community. The proposed project would be consistent with the goals of the city's New Housing Marketplace Plan (NHMP) and would also help facilitate NYCHA's goal of repositioning its assets to generate revenue for operation of its affordable housing mandate, particularly at the Astoria Houses Campus. Specifically, the proposed project would involve the disposition of property within the NYCHA Astoria Houses Campus to the Applicant for the development of affordable housing and to a future development entity for the development of market-rate housing as part of a future RFP by NYCHA.

SOCIOECONOMIC CONDITIONS

This analysis finds that the proposed project would not result in significant adverse socioeconomic impacts. The following summarizes the conclusions for each of the five CEQR areas of socioeconomic concern.

DIRECT RESIDENTIAL DISPLACEMENT

The proposed project would not directly displace any residents, as the building sites do not contain any existing residential units. Therefore, the proposed project would not result in significant adverse impacts due to direct residential displacement.

INDIRECT RESIDENTIAL DISPLACEMENT

A detailed analysis finds that the proposed project would not result in significant adverse impacts due to indirect residential displacement.

According to the *CEQR Technical Manual*, indirect displacement of a residential population most often occurs when an action increases property values, and thus rents, throughout a study area, making it difficult for some of the existing residents to continue to afford to live in the area. The proposed project would introduce 2,644 residential units to the study area, of which 483 would be developed as affordable housing. Residential rental rates and sales prices in the study area have increased since 2000, and the recently-completed and planned luxury developments in the area indicate an existing trend of increasing rents and the influx of more affluent households. The rental rates and sales prices of the market-rate units introduced by the proposed project would be comparable to other new developments expected to be completed in the study area by 2022. However, given the large number of market-rate units that would be introduced by the project, and the existing disparity between average household incomes in the study area and the projected income of households for the project's market-rate units, a detailed analysis was conducted to determine whether the proposed project would introduce or accelerate a trend of changing socioeconomic conditions that may potentially displace a population of renters vulnerable to rent.

The detailed analysis finds that while there is a population of 3,605 low income renters in the study area that may be vulnerable to rent increases, the project site is relatively isolated, separated from these populations by the Astoria Houses campus, the Bridgeview residential developments, and industrial uses. The residential markets in areas containing vulnerable populations would more strongly influenced by planned no build developments in their distinct neighborhoods than by the proposed project. In addition, recent development spurred by the 2010 Astoria Rezoning along the waterfront and 21st Street indicates an existing trend of residential development in some areas. Despite development along 21st Street, the inland census tracts in the study area have experienced relatively less turnover to more affluent households in recent years, and similarly would not be expected to experience substantial rent increases as a result of the proposed project. These inland areas contain older, smaller residential buildings with few amenities that do not cater to the incoming, more affluent residential population who are primarily seeking newly constructed condominiums, many with waterfront views. In addition, there is little development opportunity: unlike many other portions of the study area, they were not rezoned to allow higher floor area ratio (FAR) in the 2010 Astoria Rezoning and now remain in lower-density and contextual residential districts. The proposed project would add affordable housing that would help maintain a mix of incomes in the study area and provide housing opportunities for lower-income households.

The project site includes the NYCHA Astoria Houses Campus, a development of 1,103 units that are protected from rent increases and that are therefore not subject to indirect residential displacement pressures. Moreover, the proposed disposition of the land for Buildings 6 and 7 to the Applicant and the anticipated future disposition of the land for Building 8 would provide revenue to support NYCHA's mission. Specifically, these dispositions and developments are part of NYCHA's plan for capitalizing on its campus assets to generate the revenue to maintain, improve, and preserve the Astoria Houses Campus and building stock.

DIRECT BUSINESS DISPLACEMENT

A screening-level assessment concludes that the proposed project would not result in significant adverse impacts due to direct business displacement. There are two existing industrial uses located on the project site that would be displaced by the proposed project—a warehousing facility used by a construction company, and an ink and toner company. It should be noted that these users are occupying Applicant-controlled sites and they have short-term leases with

termination clauses in anticipation of site redevelopment should the requested discretionary land use actions be approved. While these potentially displaced businesses are valuable to the city's economy, supporting an estimated 43 jobs, the products and services they provide are not uniquely dependent on their location on the project site, nor are the businesses the subject of regulations or publicly adopted plans aimed at preserving, enhancing, or otherwise protecting them in their current location. The employment associated with the potentially displaced businesses does not constitute a substantial portion of the ½-mile study area's employment base, and is well below CEQR's 100-employee threshold warranting further assessment of direct business displacement.

INDIRECT BUSINESS DISPLACEMENT

A preliminary assessment finds that the proposed project would not result in significant adverse indirect business displacement due to increased rents. While the proposed project's uses would be a substantial addition to the ½-mile study area, they would not be new types of uses within the study area, and therefore would not introduce a new trend that could alter economic patterns. The study area is already experiencing a trend toward increased residential development, adding to the demand for neighborhood retail. The proposed project's retail would serve existing residents, and would accommodate future consumer demand introduced by residents of planned developments and the proposed project. The uses, residents, and workers introduced by the proposed project are not expected to place upward pressure on commercial office rents in the study area.

ADVERSE EFFECTS ON SPECIFIC INDUSTRIES

A screening-level assessment concludes that the proposed project would not result in any significant adverse impacts due to effects on specific industries. As noted, the two businesses that would be directly displaced by the proposed project are on short-term leases in anticipation of future site redevelopment. These businesses represent a small portion of the businesses within their industries, and the goods and services provided by these businesses can be found elsewhere in the city. Similarly, any potential indirect business displacement that could occur as a result of the proposed project would be limited, and would not affect conditions within any city industries.

COMMUNITY FACILITIES

Based on a preliminary screening, the proposed project warrants analysis for indirect effects to elementary, intermediate, and high schools; libraries; and child care centers. The analysis finds that the proposed project would result in significant adverse impacts to public elementary schools and public child care facilities.

INDIRECT EFFECTS ON PUBLIC SCHOOLS

The analysis of indirect effects on public schools concludes that the proposed project would result in a significant adverse impact on public elementary schools. The proposed project would not result in any significant adverse impacts to public intermediate or high schools.

The project site is located in Sub-district 3 of Community School District (CSD) 30. By 2022, it is anticipated that the proposed project would result in the development of up to 2,644 residential units on the building site, including 240 units in Building 8, which would be developed pursuant to a future RFP by the NYCHA. Based on the public school student

generation rates provided in the *CEQR Technical Manual*, the proposed project would introduce 740 public elementary students, 317 public intermediate school students, and 370 high school students to the study area. Of these, approximately 67 elementary students, 29 intermediate students, and 34 high school students would be introduced by the development of Building 8.

Elementary Schools

Study area elementary schools would operate with a deficit of seats in the future without the proposed project, and would continue to do so in the future with the proposed project. Within Sub-district 3, elementary schools would operate with a shortage of seats in 2022, and the proposed project would result in an increase of more than 5 percentage points in the collective utilization rate over the No Build condition. Therefore, the proposed project would result in a significant adverse impact on elementary schools in the study area. Potential measures to mitigate elementary school impact are described below in Section G, "Mitigation."

Intermediate Schools

With regard to intermediate schools, Sub-district 3 intermediate schools would operate with surplus capacity at the intermediate school level in the future with the proposed project. Therefore, the proposed project would not result in any significant adverse impacts on intermediate schools.

High Schools

With regard to high schools, the proposed project would result in a less than a 1 percentage point increase in the collective utilization rate for high schools in the borough compared with conditions in the future without the proposed project. Therefore, the proposed project would not result in significant adverse impacts on high schools.

INDIRECT EFFECTS ON LIBRARIES

The proposed project would not result in any significant adverse impacts to public libraries. The study area includes the Astoria Library, which is located at the intersection of Astoria Boulevard and 14th Street. The population of the Astoria Library catchment area would increase by approximately 10 percent as a result of the proposed project. However, this increase would not be expected to impair the delivery of library services, as residents of the Astoria Library catchment area and the proposed project would have access to the entire Queens Public Library system through the inter-library loan system and could have volumes delivered directly to their nearest library branch and residents would also have access to libraries near their place of work. In a letter dated March 19, 2013, the Queens Public Library concurred with the conclusion that the proposed project would not result in a significant adverse impact to public libraries. Therefore, the proposed project would not result in any significant adverse impacts to public libraries.

INDIRECT EFFECTS ON CHILD CARE CENTERS

The proposed project would result in a significant adverse impact to publicly funded child care facilities. Child care facilities in the study area would operate with a shortfall of seats both in the future without and the future with the proposed project. The proposed project would introduce approximately 483 low- to moderate-income units by 2022. Based on the most recent child care multipliers in the *CEQR Technical Manual*, this development would generate approximately 68 children under the age of six who would be eligible for publicly funded child care programs.

With the addition of these children, there would be a deficit of 154 slots in the study area by 2022 (134 percent utilization), and the proposed project would result in an increase in the utilization rate of 15 percentage points over conditions in the future without the proposed project.

Several factors may limit the number of children in need of publicly funded child care slots in New York City Administration for Children's Services (ACS)-contracted day care facilities, including the potential for future residents to make use of family-based child care facilities and private child care facilities. Nevertheless, following *CEQR Technical Manual* methodology, the proposed project would result in a significant adverse impact to publicly funded child care facilities. Potential measures to mitigate child care impacts are described below in Section G, "Mitigation."

It should be noted that this analysis conservatively accounts for the potential child care-eligible children (approximately 48 children in 2022) that would be generated by the proposed Astoria Cove project, which requires discretionary actions and is subject to its own environmental review and approval, without accounting for any potential measures that may be needed to mitigate impacts to publicly funded child care centers that may be identified as part of the Astoria Cove project's environmental review. If these mitigation measures were proposed and accounted for in this analysis, the shortfall of slots would be smaller. As more information becomes available about the proposed Astoria Cove project's potential impacts and mitigation measures, it will be incorporated into this environmental review as appropriate.

OPEN SPACE

DIRECT EFFECTS

The proposed project would not remove or alter any existing publicly accessible open spaces. Although the proposed project involves the alienation and jurisdictional transfer of a 10-foot-wide strip of parkland of Hallet's Cove Playground from DPR to NYCHA, this strip of parkland would continue to be used as open space and would therefore not result in adverse direct effects to the users of the open space. In addition, study area open spaces would not experience project-related significant adverse shadows, air quality, or operational noise impacts. Construction activities would result in temporary significant adverse noise impacts during construction at Whitey Ford Field and Hallet's Cove Playground. While this is not desirable, there is no effective practical mitigation that could be implemented to avoid these levels during construction. Noise levels in many parks and open space areas throughout the city, which are located near heavily trafficked roadways and/or near construction sites, experience comparable and sometimes higher noise levels. Therefore, the proposed project would not result in any significant adverse direct impacts to open space.

INDIRECT EFFECTS

According to the CEQR Technical Manual, because the proposed project is anticipated to introduce more than 200 residents to the area, a detailed analysis was conducted to determine whether these new residents would result in significant adverse indirect impacts to open space. The detailed analysis determined that the proposed project would result in a significant adverse impact to open space in the residential study area as a result of the decrease in the total and active open space ratios.

The quantitative assessment of open space is based on ratios of usable open space acreage to the study area populations (the "open space ratios"). As compared to the city's planning goal open

space ratios of 2.5 acres of total open space per 1,000 residents, including 0.50 acres of passive space and 2.0 acres of active open space per 1,000 residents, the study area is underserved by total and active open space in existing conditions and would continue to be underserved in the future without and the future with the proposed project.

The proposed project would decrease the total, active, and passive open space ratios in the study area by more than 5 percent. Because the passive open space ratio would remain above the city's passive open space guideline in the future with the proposed project (the Build condition), the proposed project would not result in a significant adverse impact on passive open space.

Despite the proposed project's creation of a public waterfront open space and the connections it would create to surrounding open space resources, as well as the availability of additional open space within the project site itself and near the study area, including several recreational amenities at the NYCHA Astoria Houses Campus which are available to the facility's residents, and the particularly large Astoria Park, the project-generated residential population would exacerbate an existing deficiency of open space in the residential study area. Therefore, the proposed project would result in a significant adverse impact to open space in the residential study area due to the reduction in the total and active open space ratios. Potential measures to mitigate the open space impacts are described below in Section G, "Mitigation."

SHADOWS

The analysis demonstrates that the proposed project would result in new shadows on several nearby open spaces, including Hallet's Cove Esplanade, Hallet's Cove Playground (the playground area between 1st Street and the East River), Whitey Ford Field, and the NYCHA Astoria Houses Campus open spaces, as well as on the East River, an important natural feature. These resources are all located adjacent to, or within, the project site, and new shadows would occur in all seasons. However, vegetation in all areas affected by project shadow would continue to receive a minimum of four hours of direct sunlight throughout the growing season. For users of these open spaces, despite the new incremental shadows, alternative sunlit open spaces would be available for use nearby during the affected times, along the waterfront and in the Astoria Houses development. For the users of Whitey Ford Field, primarily youth and adult baseball and softball leagues active in the spring, summer, and fall, the new shadows would not substantially reduce the usability of the space. The analysis concludes that the proposed project would not cause any significant adverse shadow impacts to either the vegetation or the users of these open spaces, nor to the biota of the river.

HISTORIC AND CULTURAL RESOURCES

The proposed project would have no adverse impact on archaeological resources as the project site is not sensitive for precontact or historic-period archaeological resources. In addition, the proposed project would have no adverse impacts on architectural resources, as there are no known architectural resources on the project site or in the study area. In comments dated December 17, 2012, the New York City Landmarks Preservation Commission (LPC) determined that there were no concerns with respect to archaeological and architectural resources on the project site and in the study area. In a letter dated February 21, 2013, the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) determined that the proposed project would have no adverse impacts on cultural resources in or eligible for inclusion in the State and National Registers of Historic Places (S/NR).

URBAN DESIGN AND VISUAL RESOURCES

Overall, while the proposed project would result in substantial changes to the urban design of the project site, it would not have significant adverse impacts related to urban design within the project site and study area. The proposed project would not alter the arrangement, appearance, or functionality of the project site such that the alteration would negatively affect a pedestrian's experience of the area. Rather, instead of a largely vacant and underutilized stretch of industrial and manufacturing buildings along 1st Street and the west end of 26th Avenue, the pedestrian would experience new buildings with active ground-floor uses, including retail. The proposed buildings on the NYCHA Parcel would also enliven the street with active ground-floor and retail uses. New publicly accessible open spaces along the demapped portions of 26th and 27th Avenues, the waterfront esplanade, and along other upland connections between the proposed buildings on the WF Parcel along 1st Street would provide recreational areas and would visually enhance the experience of walking around the project site. These pedestrian areas and pathways would also provide access to a new waterfront esplanade proposed on the project site. Moreover, the proposed waterfront esplanade would provide a cohesive transition between the Hallet's Cove Playground and Esplanade south of the WF Parcel and Whitey Ford Field north of the WF Parcel.

The proposed project also would not obstruct views to visual resources in the study area. The proposed waterfront esplanade would provide new panoramic views of the Manhattan skyline and East River waterfront and islands that would not be provided in the future without the proposed project. These new views would be an improvement over the No Build condition, which would continue to include primarily vacant buildings and parking lots, with limited views through the project site to Manhattan. The proposed waterfront esplanade is also anticipated to improve views of the Halletts Point waterfront—including the project site—from Roosevelt Island, Wards Island, and the Manhattan waterfront by enlivening the waterfront area with open park space, trees, and landscaping. These views are also anticipated to be an improvement over the views of the waterfront in the No Build condition, which would consist of box-shaped industrial buildings, parking lots, and scruffy vegetation along the water's edge.

PEDESTRIAN WIND CONDITIONS

A pedestrian wind analysis was undertaken for the project site to assess whether the proposed project would result in channelized wind pressure from between buildings, or downwashed wind pressure from parallel buildings, that may cause winds that jeopardize pedestrian safety. The results of the wind tunnel analysis indicate that during the summer months (June through August) there is no potential for pedestrian wind conditions which exceed the safety criterion at any of the locations tested. During the winter months (December through February), the analysis indicates that there are up to 11 locations (out of a total of 70 analyzed locations) where pedestrian-level winds potentially exceed the safety criterion. The assessment of pedestrian-level wind effects was completed based on the current conceptual level of design of the proposed development at the project site. Actual effects would vary depending on the final design of the project that would be developed under the proposed actions. These conditions would be similar to conditions at comparable locations along the waterfront in Queens and elsewhere near the East River.

A number of measures have been incorporated into the proposed project to reduce or minimize the effects of winds at ground level, including requirements for podiums and setbacks and minimum requirements for landscaping. Overall, because the proposed project would

incorporate these measures to reduce the effects of pedestrian winds and the modeling analysis indicates that exceedances would occur at a small number of locations only during the winter months (December through February), no significant adverse urban design impacts would result from potential pedestrian wind conditions.

To further address potential pedestrian wind conditions, similar additional measures could be incorporated into the final design of the project within the constraints of the zoning approvals that would reduce or eliminate the potential for the creation of pedestrian-level wind conditions that exceed the safety criterion. These measures could include additional evergreen, semi-evergreen or marcescent (deciduous trees that retain their leaves in the winter) tree plantings, or replacement of existing/proposed deciduous tree plantings with these plantings, to deflect and disperse wind gusts. The extent to which additional measures would be available to be incorporated into the final design of the buildings on the WF and Eastern Parcels would have to be balanced against urban design considerations of the project, including the goals of maximizing views of the East River. With these additional measures, no significant adverse urban design impacts would result from potential pedestrian wind conditions.

NATURAL RESOURCES

The proposed project would not result in significant adverse impacts to groundwater, floodplains, water quality, aquatic biota, wetlands, terrestrial natural resources, and threatened or endangered species within and near the project site. Project construction would include stabilization and rehabilitation of the presently armored shoreline of the East River which would not result in a net increase in fill below MHW and spring high water (SHW) or a change in the shoreline configuration that would result in loss of NYSDEC littoral zone tidal wetlands or aquatic habitat. New stormwater outfalls would be constructed above SHW and would not result in loss of tidal wetland or disturbance to the river bottom. Stormwater management measures implemented within the WF Parcel would improve the quality of stormwater discharged to the East River. This would benefit NYSDEC littoral zone tidal wetlands and aquatic resources adjacent to the project site, as discharge of runoff from this parcel is currently untreated. Stormwater management measures implemented within the NYCHA and Eastern Parcel would regulate the rate at which runoff is discharged to the DEP storm sewer, in accordance with the DEP allowable rate, and then to the East River through the existing outfalls. Discharge of stormwater runoff to the DEP storm sewer at the rate allowed by DEP would not be expected to contribute to street flooding due to storm sewer capacity exceedances. Because runoff from the project site would not be discharged to a combined sewer, the proposed project would not have the potential to result in street or basement flooding due to combined sewer backups. The proposed esplanade would not extend beyond the SHW line, and as such, would not shade or otherwise affect areas of regulated tidal wetland.

Because floodplains within and adjacent to the project site are affected by coastal flooding rather than local or fluvial flooding, the proposed project would not result in increased flooding on or adjacent to the project site. The design and construction of the buildings within the project site would comply with current and any future changes to the New York City Building Code requirements for construction within the 100-year floodplain, and any future changes in the floodplain zones designated by FEMA. Flood insurance would be purchased and maintained for buildings in the special flood hazard area. Development of the proposed project would not result in significant adverse impacts to flood levels, flood risk, or the flow of flood waters within the project site or in other portions of the Halletts Point peninsula. Coastal floodplains are influenced by astronomic tide and meteorological forces (e.g., northeasters and hurricanes) and

not by fluvial flooding, and as such are not affected by the placement of obstructions (e.g., buildings) within the floodplain.

Construction of the proposed project would require minimal tree removal and would not eliminate or degrade valuable wildlife habitat. No threatened or endangered terrestrial species are known to occur or have the potential to occur on or in the vicinity of the project site.

HAZARDOUS MATERIALS

The Phase I Environmental Site Assessments (ESAs) identified potential hazardous material concerns at all of the building sites and the connecting street segment location. All parcels likely have fill materials of unknown origin and all existing structures have the potential to contain asbestos-containing materials (ACM), lead-based paint (LBP), and polychlorinated biphenyls (PCB) -containing electrical components. ACM may also be present as insulation around underground steam lines, several of which are known to be present. The Limited Phase II Subsurface Investigations, performed at the proposed locations of Buildings 1A through 5B (the Eastern and WF Parcels), found generally elevated levels of semi-volatile organic compounds (SVOCs) and metals, but the levels were typical of urban fill materials, rather than indicative of a spill or release. Evidence of volatile organic compounds (VOCs) contamination in groundwater was found at two locations which could be associated with historical on- or off-site releases.

Excavation activities associated with the proposed project could temporarily increase pathways for human exposure. To reduce the potential for human or environmental exposure to known or unexpectedly encountered contamination during and following construction of the proposed project, supplemental testing and a Remedial Action Plan (RAP) and associated Construction Health and Safety Plan (CHASP) would be prepared for implementation at all development sites during proposed construction. For sites under the Applicant's control (Building Sites 1-5), an (E) designation would be assigned and sampling and remedial protocols and reports will be submitted for review and approval by the New York City Mayor's Office of Environmental Remediation (MOER). For sites subject to disposition by the city (Building Sites 6-8), DEP and HPD would review and approve sampling protocols and the RAP and CHASP.

Demolition of existing structures would be conducted in accordance with applicable regulatory requirements relating to ACM, LBP, and PCB-containing components. Any dewatering required for the proposed construction would be conducted in accordance with DEP sewer use requirements (and NYSDEC requirements in the case of discharge to the East River). If petroleum storage tanks are encountered during project site redevelopment, these tanks would be properly closed and removed, along with any contaminated soil, in accordance with the applicable regulations, including NYSDEC spill reporting and registration requirements.

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

WATER AND SEWER INFRASTRUCTURE

The analysis finds that the proposed project would not result in any significant adverse impacts on the city's water supply, wastewater or stormwater conveyance and treatment infrastructure.

WATER SUPPLY

The project would generate an incremental water demand of 627,004 gallons per day (gpd) as compared with the future without the proposed project. This represents a 0.06 percent increase in

demand on the New York City water supply system. Based on the projected incremental demand, it is expected that there would be adequate water service to meet the proposed project's incremental water demand, and there would be no significant adverse impacts on the city's water supply.

SANITARY (DRY WEATHER) FLOWS

The proposed project would generate an incremental 627,828 gpd of sanitary sewage over the future without the proposed project. This incremental volume in sanitary flow would represent approximately 0.57 percent of the average daily flow to the Bowery Bay Wastewater Treatment Plant (WWTP) which serves the project site. This volume would not result in an exceedance of the Bowery Bay WWTP's capacity, and therefore would not create a significant adverse impact on the city's sanitary sewage treatment system. New sanitary sewer infrastructure would also be constructed as a part of the proposed project.

STORMWATER (WET WEATHER) FLOWS

Generally, the overall volume of stormwater runoff and the peak stormwater runoff rate from the project site is anticipated to increase due to the replacement of the existing surface parking areas with buildings; however, approximately 2.35 acres of publicly accessible open space, including a lawn at 27th Avenue Plaza and a waterfront esplanade along the East River would be created as part of the proposed project. With the incorporation of new separate stormwater outfalls to the East River and selected best management practices (BMPs) within the project site, the stormwater runoff volumes from the proposed project would not result in any significant adverse impacts to the city's stormwater conveyance system.

SOLID WASTE AND SANITATION SERVICES

The proposed project would generate an increment above the No Build condition of approximately 132,000 pounds (approximately 66 tons) per week of solid waste. Although this would be an increase compared with conditions in the future without the proposed project, it would be a negligible increase relative to the approximately 13,000 tons of waste handled by commercial carters every day or the 16,500 tons per day handled by the New York City Department of Sanitation (DSNY). The proposed project would not result in an increase in solid waste that would overburden available waste management capacity. It would also not conflict with, or require any amendments to, the city's solid waste management objectives as stated in the Comprehensive Solid Waste Management Plan (SWMP). Therefore, the proposed project would not result in a significant adverse impact on solid waste and sanitation services.

ENERGY

The proposed project is projected to generate demand for approximately 252,000 million British Thermal Units (BTUs) of energy per year. This energy demand represents the total incremental increase in energy consumption between the future without the proposed project (the No Build condition) and the future with the proposed project (the Build conditions). As explained in the *CEQR Technical Manual*, the incremental demand produced by most projects would not create a significant impact on energy capacity, and detailed assessments are only recommended for projects that may significantly affect the transmission or generation of energy. The proposed project would generate an incremental increase in energy demand that would be negligible when compared with the overall demand within Con Edison's New York City and Westchester County service area. Therefore, the proposed project would not result in any significant adverse energy impacts.

TRANSPORTATION

The preliminary CEQR screening determined the need for quantified analyses of traffic, transit, and pedestrian conditions as well as an evaluation of vehicular and pedestrian safety and an assessment of parking conditions. These analyses are summarized here.

TRAFFIC

As part of this analysis, an estimate of the vehicular traffic expected to be generated by the proposed project was developed. In the weekday AM peak hour, it would generate 166 vehicle trips arriving at the project site and 514 vehicle trips leaving the site, for a total of 680 vehicle trips. In the weekday midday peak hour, it would generate 213 inbound vehicle trips plus 209 outbound vehicle trips for a total of 422 vehicle trips. In the weekday PM peak hour, it would generate 480 inbound vehicle trips plus 289 outbound vehicle trips for a total of 769 vehicle trips.

Of the 25 study area intersections analyzed, the proposed project would result in significant traffic impacts at 18 intersections in the weekday AM peak hour, 10 in the midday peak hour, and 17 in the PM peak hour, as summarized in **Table S-2**. Traffic capacity improvements that would be needed to mitigate these significant impacts are addressed below in Section G, "Mitigation." As requested by DCP, two additional intersections will be analyzed for the FEIS and may result in additional significant impacts. The findings of this additional analysis will be documented in the FEIS.

Table S-2
Summary of Significant Adverse Traffic Impacts

Intersection		AM	Midday	PM
EB/WB Street	**NB/SB Street**	**Peak Hour**	**Peak Hour**	**Peak Hour**
27th Avenue	8th Street	EB-TR WB-LT	EB-TR WB-LT NB-R	EB-TR WB-LT NB-R
Vernon Boulevard/ Main Street	8th Street/ Welling Court	EB-LT SB-R	EB-LT	EB-LT
Astoria Boulevard	8th Street	EB-LR		NB-LT
Astoria Boulevard	21st Street	EB-L EB-TR WB-L NB-LTR SB-LTR	WB-L	WB-L NB-LTR SB-LTR
Astoria Boulevard	23rd Street	EB-LT		EB-LT
Astoria Boulevard	Crescent Street	EB-TR WB-LT	WB-LT	EB-TR WB-LT
Astoria Boulevard	31st Street	EB-LTR	EB-LTR	EB-LTR
Astoria Park South/ Hoyt Avenue South	21st Street	SB-LTR		NB-LTR SB-LTR
Hoyt Avenue South	31st Street	EB-LT		
Hoyt Ave S/Astoria Blvd	33rd Street	EB-LT	EB-LT	EB-LT
Hoyt Avenue North	21st Street	WB-L NB-T	WB-L	WB-L NB-T
Hoyt Avenue North	29th Street	SB-R		SB-R
Hoyt Ave N/GCP Ramp	32nd Street	WB-T	WB-T	WB-T
24th Avenue	21st Street			NB-LTR
Broadway	Vernon Boulevard/ 11th Street	WB-LTR SB-LTR	WB-LTR	WB-LTR SB-LTR
Broadway	21st Street	EB-LTR WB-LTR SB-LTR	EB-LTR WB-LTR	EB-LTR WB-LTR NB-LTR
27th Avenue	2nd Street	SB-LR		SB-LR
27th Avenue	4th Street	EB-LT WB-LR		WB-LR
Astoria Boulevard	18th Street	SB-LR		SB-LR

Notes: EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound; L = Left Turn; T = Through; R = Right Turn

TRANSIT

The preliminary screening assessment concluded that a detailed examination of subway line-haul analysis is not warranted. However, bus line-haul analyses and a detailed analysis of station elements at the 30th Avenue subway station (N and Q lines) and the 21st Street-Queensbridge subway station (F line) were prepared. Based on the results of the transit analysis, the proposed project would not result in any significant adverse impacts at the 30th Avenue station or the 21st Street-Queensbridge station during any analysis peak periods.

As summarized in **Table S-3**, the proposed project would result in significant adverse impacts for bus line-haul levels on the eastbound and westbound Q18, the eastbound and westbound Q102, and the southbound Q103 during the AM peak period, and the eastbound and westbound Q18, the eastbound and westbound Q102, and the northbound and southbound Q103 during the PM peak period. Potential measures to mitigate the projected significant adverse bus line-haul impacts are described in "Mitigation."

Table S-3
Summary of Significant Adverse Bus Impacts

Route	Direction	Load Point	AM Peak Hour	PM Peak Hour
Q18	East	30th Avenue East of 31st Street	X	X
	West	30th Avenue West of 31st Street	X	X
Q102	East	30th Avenue West of 31st Street	X	X
	West	30th Avenue West of 31st Street	X	X
Q103	North	41st Avenue and 21st Street		X
	South	41st Avenue and 21st Street	X	X

Notes: X = Impacted

The proposed project would also include a bus layover facility along 2nd Street adjacent to Building 1 for the Q18, Q102, and Q103 bus routes, and potentially other routes in the future. Although this layover facility would not affect the bus line-haul analysis, it would be an important transit amenity for the area. preliminary discussions have taken place between the Applicant and the MTA Bus Company about the anticipated need to improve existing service on the Q18, Q102, and Q103, as well as the possible extension of the Q19 to the waterfront to serve the additional demand that is expected to occur over time with the development of this and other projects.

PEDESTRIANS

Weekday peak period pedestrian conditions were evaluated at key sidewalk, corner reservoir, and crosswalk elements at six area intersections. It was concluded that the proposed project would not result in any significant adverse pedestrian impacts at any of the analysis locations. However, one of the recommended traffic mitigation measures is expected to result in a pedestrian crosswalk impact, which could be mitigated by coupling the traffic mitigation measure with the necessary crosswalk widening.

VEHICULAR AND PEDESTRIAN SAFETY

Crash data for the study area intersections were obtained from the New York State Department of Transportation (NYSDOT) for the time period between January 1, 2009 and December 31, 2011. During this period, a total of 161 reportable and non-reportable accidents, one fatality, 79 injuries, and 7 pedestrian/bicyclist-related accidents occurred at the study area intersections. A

rolling total of the 2009–2011 accident data indicates that the number of vehicular and pedestrian/bicyclist-related accidents at the study area intersections is well below the CEQR thresholds for high-accident locations. Although the proposed project is expected to result in significant adverse traffic impacts at some of these locations, given the low accident frequencies, the proposed project would not have the potential to result in any significant adverse vehicular and pedestrian safety impacts.

PARKING

The proposed project would include the construction of 1,375 off-street parking spaces and is estimated to add approximately 28 on-street parking spaces with the extension of Astoria Boulevard but would remove 14 on-street spaces on 1st Street. The total overall project parking demand would be accommodated in the provided accessory spaces except during overnight hours, where there would be a shortfall of up to 169 parking spaces. Much of this shortfall could likely be accommodated by available on-street parking within the parking study area, and would be more easily accommodated by on-street availability within an extended ½-mile radius.

The proposed project (specifically, the development of Buildings 6, 7, and 8) would also displace approximately 144 existing NYCHA resident permit parking spaces on the Astoria Houses Campus. However, 178 new NYCHA resident permit parking spaces would be provided within the Astoria Houses campus to replace those displaced by the proposed project.

AIR QUALITY

The analyses conclude that the proposed project would not result in any significant adverse air quality impacts on sensitive uses in the surrounding community, and the proposed project would not be adversely affected by existing sources of air emissions in the project area.

The maximum predicted pollutant concentrations and concentration increments from mobile sources with the proposed project would be below the corresponding guidance thresholds and ambient air quality standards. The project's parking facilities would also not result in any exceedances of guidance thresholds and ambient air quality standards. Therefore, the proposed project would not have significant adverse impacts from mobile source emissions.

Analysis of the emissions and dispersion of nitrogen dioxide (NO_2), CO, and particulate matter less than 10 microns on diameter (PM_{10}) from the proposed project's heating and hot water systems sources indicate that such emissions would not result in a violation of National Ambient Air Quality Standards (NAAQS). Emissions of particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) were analyzed in accordance with the city's current $PM_{2.5}$ interim guidance criteria, which determined that the maximum incremental increases in $PM_{2.5}$ concentrations from stationary sources would be below the significant impact thresholds. To ensure the avoidance of impacts, limitations on fuel type, stack location and/or minimum stack heights would be required. For buildings on Applicant-controlled sites (Buildings 1 through 5), these restrictions would be mapped as (E) designations. For buildings within the NYCHA Astoria Campus (Buildings 6 through 8), which would be subject to a future disposition approval from HUD, the restrictions would be required through an agreement between NYCHA and the Applicant/developer.

Nearby existing sources from manufacturing or processing facilities were analyzed for their potential impacts on the proposed project. The results of the industrial source analysis demonstrated that there would be no significant adverse air quality impacts on the proposed project.

With respect to other existing sources, the project site is in the vicinity of the NYCHA Astoria Houses central boiler plant. Air quality screening studies indicated that emissions from the NYCHA Astoria Houses central boiler plant through the existing approximately 75-foot stack would exceed the city's interim guidance criteria for $PM_{2.5}$ at elevated receptors along portions of the proposed project's building facades on the NYCHA Parcel and would have the potential to affect air quality on the proposed project. However, air quality dispersion modeling performed in connection with the preparation of this Draft EIS (DEIS) demonstrates that the $PM_{2.5}$ exceedances resulting from this existing source would be eliminated if emissions from the NYCHA central boiler plant are rerouted to a new boiler stack which would be located on Building 7A.

An initial engineering evaluation has determined that this configuration is feasible. Implementation would be subject to the Applicant performing the modifications at the NYCHA Astoria Houses boiler plant pursuant to an agreement with NYCHA that will address access, responsibility for costs and liabilities incurred as a result of this initiative, construction risks, and other issues. Implementation would also be subject to obtaining the necessary permits. Permitting actions would occur after the ULURP process. The proposed project's Restrictive Declaration would include provisions requiring completion of the improvement during the construction of Building 7A.

The Applicant is also considering, in consultation with NYCHA, other options that would address emissions from the NYCHA Astoria Houses central boiler plant in a manner no less protective of the environment. In the event such other options are identified prior to issuance of the FEIS, they will be discussed in that document.

GREENHOUSE GAS EMISSIONS

The project will be designed to meet New York City Energy Conservation Code requirements and is committed to reducing energy consumption. The building energy use and the vehicle use associated with the proposed project are estimated to result in up to approximately 33,000 metric tons of carbon dioxide equivalent (CO_2e) emissions per year. The proposed project is committed to achieving energy efficiency commensurate with achieving certification under the Leadership in Energy and Environmental Design (LEED) system or equivalent for Buildings 1 through 5 and Building 8, and Buildings 6 and 7 would meet the energy requirements of the Enterprise Green Communities Criteria or equivalent. The LEED certified or equivalent requirements would reduce energy expenditure by at least 10 percent as compared with baseline buildings meeting the New York City Energy Conservation Code requirements, and the Enterprise Green Communities Criteria or equivalent would require a 15 percent improvement in energy performance over the baseline. Energy efficiency design measures could potentially reduce building energy and associated emissions by up to roughly 40 percent by including energy efficiency and other design options. Additional greenhouse gas (GHG) emissions associated with the production of materials to be used by the proposed project could also be reduced by the selection of lower-carbon alternatives where practicable. The proximity of the proposed project to public transportation also contributes to energy efficiency.

Based on the commitment to energy efficiency and the design and location of the proposed project, the proposed project would be consistent with the city's emissions reduction goal, as defined in the *CEQR Technical Manual*.

In addition, the proposed project is being designed to meet all current building code requirements regarding potential flooding elevations. The Applicant is also committed to

elevating critical infrastructure and to design flood protection measures for critical infrastructure that is required to be at ground or subgrade levels so as to prepare for future severe storm flood levels which would exceed current conditions due to sea level rise.

NOISE

The analysis finds that the proposed project would result in a noticeable increase in noise levels at locations immediately adjacent to the new roadway segment connecting Astoria Boulevard between 1st Street and 8th Street. The 2012 *CEQR Technical Manual* states that "it is reasonable to consider 65 dBA $L_{eq(1)}$ as an absolute noise level that should not be significantly exceeded" when determining a significant impact. The predicted $L_{eq(1)}$ at this location would be 62.4 dBA, which would be below the CEQR absolute noise impact guideline of 65 dBA. Additionally, since this increase would occur at a receptor site that represents a residential location, the L_{dn} noise level at this location in the future with the proposed project was considered and compared to HUD noise criteria. The L_{dn} for this receptor site was calculated to be 61.6 dBA. The minimum attenuation required to satisfy the HUD criteria of 45 dBA L_{dn} would be 17 dBA of attenuation. The nearest NYCHA residential building (and all other NYCHA buildings on the campus) has double glazed windows and window air conditioners. This combination would be expected to provide a minimum of 25 dBA of attenuation. Therefore, the interior L_{dn} noise levels at this receptor would be below 45 dBA, which is the HUD interior noise level guideline for residential use. Therefore, although this would be a noticeable increase in noise levels, it would not constitute a significant adverse noise impact requiring mitigation. Open space areas within the NYCHA Astoria Houses Campus adjacent to the proposed Astoria Boulevard connecting segment are predicted to experience $L_{10(1)}$ values of 62.5 dBA or less. These $L_{10(1)}$ values exceed the 55 dBA $L_{10(1)}$ CEQR guideline, but would be comparable to other parks around New York City. Overall, the proposed project would not have the potential to result in any significant adverse noise impacts as a result of increased traffic traveling to and from the project site.

The building attenuation analysis concludes that in order to meet *CEQR Technical Manual* interior noise level requirements, up to 28 dBA of building attenuation would be required for the building sites. Because these specifications would be required by (E) designations, there would be no significant adverse noise impacts with respect to CEQR building attenuation requirements. Up to 22 dBA of building attenuation would be required to meet HUD criteria, where appropriate. This level of attenuation could be achieved with the use of standard windows, and therefore there would be no significant adverse noise impact with respect to building attenuation. No additional measures would be necessary to meet the required attenuation levels.

The analysis of noise levels in the proposed project's open space areas concludes that noise levels in the proposed open space and waterfront esplanade would be greater than the 55 dBA $L_{10(1)}$ CEQR guideline, but would be comparable to other parks around New York City. Therefore, the future projected noise levels would not constitute a significant adverse noise impact to the proposed project's open space areas.

NEIGHBORHOOD CHARACTER

While the proposed project would result in substantial changes to the project site, it would not have significant adverse impacts on the neighborhood character of the area. The proposed project's impacts would not individually nor cumulatively result in significant adverse impacts on neighborhood character. The proposed project would further improve the neighborhood character of the area by providing publicly accessibly open space, including landscaped, pedestrian

connections to a waterfront esplanade. The new open space would provide recreational areas and would visually enhance the experience of walking around the project site. These pedestrian areas and pathways would not only improve access to the waterfront and circulation on the project site, but would also provide a cohesive transition and connection between the project site and surrounding open space resources, including Hallet's Cove Playground to the south and Whitey Ford Field to the north. Rather, the proposed project would improve the neighborhood character of the area by transforming a largely underused waterfront area into a new, enlivened mixed-use development.

Based on the methodology of the *CEQR Technical Manual*, a preliminary assessment of the proposed project's effects on neighborhood character concluded that the proposed project would not result in significant adverse impacts to neighborhood character and that a detailed analysis is not warranted.

CONSTRUCTION

There would be temporary inconvenience and disruption arising from the construction of the proposed project throughout the Halletts Point LSGD Plan area. Given that the eight building sites and other proposed area improvements (public spaces, waterfront esplanade, and infrastructure improvements) are distributed over the approximately 12 acres of the proposed LSGD Plan area, one or more building sites and other portions of the project site would be under construction over the course of the approximately nine year construction duration anticipated for the "build out" for the proposed project. As construction activity associated with the Halletts Point LSGD Plan area would occur on multiple building sites and other locations within the same geographic area, such that there is the potential for several construction timelines to overlap, an assessment of potential construction impacts was prepared in accordance with the guidelines of the *CEQR Technical Manual*. Construction of the proposed project would result in temporary significant adverse construction impacts related to transportation and noise. Potential mitigation for these significant adverse impacts is discussed below in Section G, "Mitigation."

TRANSPORTATION

Construction in the future with the proposed project (the Build condition) is expected to result in significant adverse traffic impacts during peak construction, but generally at lesser magnitudes than impacts identified under the Build condition. For purposes of the construction traffic analysis, the first quarter of 2021 (peak construction traffic is expected to occur during this quarter) was assessed. For transit, although construction worker trips would not result in any significant adverse impacts during construction, bus line-haul impacts identified for the 2022 Build condition may also occur during peak construction in 2021 during the commuter peak hours. Similar mitigation measures as those identified for the 2022 Build condition (i.e., bus frequency increase) are expected to also address the potential impacts during construction. The proposed project is not expected to result in any significant adverse parking or pedestrian impacts during construction.

Traffic

During peak construction in 2021, the project-generated trips would be less than what would be realized upon the full build-out of the proposed project in 2022. Therefore, the overall extent of potential traffic impacts during peak construction would be within the envelope of significant adverse traffic impacts identified for the Build condition. However, because Astoria Boulevard may not be open to traffic until the proposed project is near completion and traffic patterns near

the project site would be different from those analyzed for potential operational traffic impacts, a detailed analysis during construction was prepared for several key study area intersections (seven in total) near the project site to identify potential construction-related significant adverse traffic impacts. During this time, the projected construction activities would result in 348 passenger car equivalents (PCEs) between 6 and 7 AM and 292 PCEs between 3 and 4 PM on weekdays. Since some components of the proposed project would have already been completed and occupied, operational traffic generated by those completed components together with the projected construction traffic were considered for the construction traffic impact analysis. The total number of project generated (construction-related and operational) vehicle trips generated during construction would be approximately 49 percent less than the total number of vehicle trips generated by the completed development project during the weekday AM peak hour and 31 percent lower during the PM peak hour. Nevertheless, a detailed analysis of traffic conditions was completed for seven key intersections near the project sites, and this analysis indicated that significant adverse traffic impacts would occur at five locations during construction, but generally at lesser magnitudes than impacts identified under the Build condition. Where impacts during construction may occur, measures similar to the ones recommended to mitigate impacts of the proposed actions could be implemented early to aid in alleviating congested traffic conditions.

Maintenance and Protection of Traffic (MPT) plans would be developed, reviewed, and approved by NYCDOT's Office of Construction Mitigation and Coordination (OCMC) for curb lane and sidewalk closures as well as equipment staging activities. It is expected that traffic and pedestrian flow along all surrounding streets would be maintained throughout the entire construction period, with the exception of sidewalks adjacent to two of the project's northern buildings near the intersection of 26th Avenue and 1st Street.

Parking

The majority of construction workers (approximately 70 percent) are expected to drive to the project site. It is expected that all construction worker parking would be accommodated on-site within areas yet to undergo construction or within completed parking garages.

Transit

The estimated number of total peak hour transit trips would be 150 during peak construction in 2021. These construction worker trips would occur outside of peak periods of transit ridership, would be distributed and dispersed to nearby transit facilities, and would not result in any significant adverse transit impacts during construction. However, bus line-haul impacts identified for the 2022 Build condition may also occur during peak construction in 2021 during the commuter peak hours. Similar mitigation measures as those identified for the 2022 Build condition (i.e., bus frequency increase) are expected to also address the potential impacts during construction.

Pedestrians

The estimated number of construction-related peak hour pedestrian trips traversing the area's sidewalks, corners, and crosswalks would be up to 500 during peak construction in 2021. These trips are expected to have minimal effects on pedestrian operations during the construction peak hours. The proposed project would not result in any significant adverse pedestrian impacts at any of the analysis locations. Therefore, like the Build condition, there would not be any significant adverse pedestrian impacts during peak construction.

AIR QUALITY

The *CEQR Technical Manual* lists several factors for consideration in determining whether a detailed construction impact assessment for air quality is appropriate. These factors include the need for a transportation analysis, the duration of construction tasks, the intensity of construction activities, the location of nearby sensitive receptors (such as residences), and emissions control measures. All of these factors have been taken into consideration in the detailed construction air quality analysis undertaken for the proposed project.

Almost all emissions from construction activities would be near ground level; therefore, the highest air quality impacts from construction activities would be expected at ground level locations. The increments from elevated operational stationary sources at ground level locations would be negligible. In addition, the cumulative operational and construction traffic increments would be of lower magnitudes than what would result from the overall proposed project when completed in 2022. A detailed analysis of the combined effects of on-site and on-road emissions determined that annual-average nitrogen dioxide (NO_2), carbon monoxide (CO), and particulate matter with an aerodynamic diameter less than 10 microns (PM_{10}) concentrations would be below their corresponding NAAQS. Therefore, the construction of the proposed project would not cause or contribute to any significant adverse air quality impacts with respect to these standards.

Dispersion modeling determined that the maximum predicted incremental concentrations of particulate matter with an aerodynamic diameter less than 2.5 microns ($PM_{2.5}$) (using a worst-case emissions scenario) would exceed the city's applicable 24-hour interim guidance criterion of 2 $\mu g/m^3$ at a few receptor locations, including at proposed Buildings 6A and 7A, existing Astoria Houses Building 6 (3-20 27th Avenue located to the south of Proposed Building 7B), existing Astoria Houses Building 20 (2-04 Astoria Boulevard located to the east of Proposed Building 8), and the open space area southwest of proposed Building 8, where the likelihood of prolonged exposure is very low. The occurrences of elevated 24-hour average concentrations for $PM_{2.5}$ would be limited in duration, frequency, and magnitude. Therefore, after taking into account the limited duration and extent of these predicted exceedances, and the limited area-wide extent of the 24-hour impacts, it is concluded that no significant adverse air quality impacts for $PM_{2.5}$ are expected from the on-site construction sources.

NOISE AND VIBRATION

Noise

Development pursuant to the proposed project would have the potential to result in significant adverse impacts with respect to construction noise. This conclusion is based on a conservative analysis of the construction procedures, including peak quarterly (i.e., three-month) levels assumed to represent each year of construction, a maximum amount of construction equipment assumed to be operational on each development site and at locations closest to nearby receptors, peak hour construction equipment and truck delivery operations occurring simultaneously, and a compressed construction schedule with a maximum amount of development sites under construction simultaneously.

Construction on the proposed building sites would include noise control measures as required by the New York City Noise Control Code, including both some path and source controls. Even with these measures, the results of detailed construction analyses indicate that elevated noise levels

are predicted to occur for two or more consecutive years at fifty-one (51) of the seventy-nine (79) existing receptor sites analyzed.

Affected locations include residential, institutional and open space areas adjacent to the proposed development sites and along routes expected to be traveled by construction-related vehicles to and from the project site. However, most affected buildings have double-glazed windows and air-conditioning, and would consequently be expected to experience interior $L_{10(1)}$ values less than 45 dBA, which would be considered acceptable according to CEQR criteria. At affected locations that do not already have double-glazed windows and air conditioning interior, $L_{10(1)}$ values resulting from construction may consistently exceed 45 dBA, and even at some locations that do already have double-glazed windows and an alternate means of ventilation, interior $L_{10(1)}$ values may exceed 45 dBA during construction.

Thus, should the proposed project be developed and constructed as conservatively presented, up to up to fifty-one (51) existing locations could experience significant impacts for certain limited periods during construction. At the two open space locations with the potential to experience construction noise impacts, there would be no feasible or practicable mitigation to mitigate the construction noise impacts.

Some potential receptor controls that could be used to mitigate the impacts at residential locations where interior L_{10} values would be expected to exceed the value considered acceptable by CEQR criteria are discussed below in Section G, "Mitigation."

Additionally, because of very high levels of construction noise from construction on buildings attached to them, Buildings 6A/6B and 7A/7B would have the potential to experience significant adverse noise impacts during construction if either segment of either building is occupied during the construction of the other segment of the building. These buildings would be required to provide at least 20 dBA of window/wall attenuation and an alternate means of ventilation.

Between the DEIS and FEIS, a refined construction noise analysis will be undertaken to more precisely determine the magnitude and duration of the elevated noise levels resulting from construction at these locations. The refined analysis will examine the practicability and feasibility of relocating some equipment within the construction sites to add distance and/or shielding between the equipment and the adjacent receptors. It will also analyze in detail additional time periods throughout the construction period to determine whether the analysis results in the DEIS are conservatively overstated as a result of representing each year during the construction period based on peak construction quarters that include the greatest amount of construction activity according to the conceptual construction schedule

Vibration

The proposed project is not expected to result in significant adverse construction impacts with respect to vibration. While construction may result in vibrations that would be perceptible and annoying, they would not result in vibration levels with the potential to result in damage to nearby structures. Use of construction equipment that would have the most potential to exceed the 65 vibration decibels (VdB) criterion within a distance of 230 feet of sensitive receptor locations (e.g., equipment used during pile driving) would be perceptible and annoying. Therefore, for limited time periods, perceptible vibration levels may be experienced by occupants and visitors to all of the buildings and locations on and immediately adjacent to the construction sites. However, the operations which would result in these perceptible vibration levels would only occur for finite periods of time at any particular location and, therefore, the resulting vibration levels, while perceptible, would not result in any significant adverse impacts.

OTHER TECHNICAL AREAS

Historic and Cultural Resources

There are no archaeological resources on the project site. Therefore, construction of the proposed project would have no significant adverse impact on such resources.

Architectural resources are defined as buildings, structures, objects, sites, or districts listed on the S/NR or determined eligible for such listing, National Historic Landmarks (NHLs), New York City Landmarks (NYCLs) and Historic Districts, and properties that have been found by the LPC to appear eligible for designation, considered for designation ("heard") by LPC at a public hearing, or calendared for consideration at such a hearing (these are "pending" NYCLs). There are no known architectural resources located on the project site or in the study area. Therefore, construction of the proposed project would have no significant adverse impact on architectural resources.

Hazardous Materials

The proposed project would not result in significant adverse impacts with respect to hazardous materials during construction.

The proposed project would result in the demolition of existing structures and excavation on the eight building sites, and areas of the other project elements. Development would occur on the Eastern (i.e., Building 1) and WF Parcels (i.e., Buildings 2 through 5), and the sites of Buildings 6, 7, and 8 (collectively, the building sites) within the NYCHA Astoria Houses Campus. No development would occur at Whitey Ford Field or Hallet's Cove Playground, or elsewhere on the project site. Although certain new buildings would include cellar space (primarily for parking), this space would be created through a combination of raising the grade around the building and limited excavation (likely less than six feet). Construction would also entail some deeper excavation, e.g., for construction of elevator pits and certain utilities. The proposed project would also include a new connecting street segment between existing mapped portions of Astoria Boulevard on the NYCHA Parcel. An assessment of potential hazardous materials impacts was performed for the Halletts Point LSGD Plan area where ground disturbance from construction activities could occur as part of the proposed project. The hazardous materials assessment identified potential historical and existing sources of contamination within the project site.

The Phase I ESAs identified potential hazardous material concerns at all of the building sites and the connecting street segment location. All parcels likely have fill materials of unknown origin and all existing structures have the potential to contain ACM, LBP, and PCB-containing electrical components. ACM may also be present as insulation around underground steam lines, several of which are known to be present. The Limited Phase II Subsurface Investigations, performed at the proposed locations of Buildings 1A through 5B (the Eastern and WF Parcels), found generally elevated levels of SVOCs and metals, but the levels were typical of urban fill materials, rather than indicative of a spill or release. Evidence of VOCs contamination in groundwater was found at two locations which could be associated with historical on- or off-site releases.

Excavation activities associated with construction of the proposed project could temporarily increase pathways for human exposure. To reduce the potential for human or environmental exposure to known or unexpectedly encountered contamination during and following

construction of the proposed project, supplemental testing and a RAP and associated CHASP would be prepared for implementation at all development sites during proposed construction.

For sites under the Applicant's control (Building Sites 1-5), an (E) designation would be assigned (requiring the owner to comply with MOER investigative and remedial requirements as a condition of obtaining New York City Department of Buildings' [NYCDOB] construction and occupancy permits) and sampling and remedial protocols and reports will be submitted for review and approval by the MOER.

For sites subject to disposition by the city (Building Sites 6-8), DEP and HPD would review and approve sampling protocols and the RAP and CHASP. Implementation of any approved RAP/CHASP would occur as part of construction and would be required through a Development Agreement between NYCHA and the Applicant/developer or a Restrictive Declaration.

Demolition of existing structures would be conducted in accordance with applicable regulatory requirements relating to ACM, LBP, and PCB-containing components. Any dewatering required for construction of the proposed project would be conducted in accordance with DEP sewer use requirements (and NYSDEC requirements in the case of discharge to the East River). If petroleum storage tanks are encountered during project construction, these tanks would be properly closed and removed, along with any contaminated soil, in accordance with the applicable regulations, including NYSDEC spill reporting and registration requirements.

With these measures, construction of the proposed project would not result in any significant adverse impacts related to hazardous materials.

Open Space

Construction of the proposed project would not result in any significant adverse impacts to open space. Construction of the proposed project would not remove or alter any existing publicly accessible open spaces, and construction of the proposed project would not change the use of Hallet's Cove Playground or Whitey Ford Field. Furthermore, construction of the proposed project would not limit access to these parks or other open space resources in the vicinity of the project's building sites or other project elements.

However, because construction of Building Sites 1 and 2 on the project site would occur immediately adjacent to Whitey Ford Field, and construction of Building Site 5 would occur immediately adjacent to Hallet's Cove Playground, special measures would be taken to prevent construction activities intrusion into these open spaces. In each case, a solid fence would be erected along the perimeter of the site that borders the open spaces. The fence would have no openings between the construction site and the open spaces and would be high enough to reduce sound from construction activity from these building sites, to the extent practicable, and to minimize dust. The hoists, cranes, and other equipment would be located on the side of the building sites away from the open spaces. As the superstructure is being erected, netting would be installed on the side of the building facing the open space to prevent any materials from falling into the open spaces.

Construction activities would be conducted with the care mandated by the close proximity of an open space to the project site. Dust control measures—including watering of exposed areas and dust covers for trucks—would be implemented to ensure compliance with the New York City Air Pollution Control Code, which regulates construction-related dust emissions. There would be no significant adverse air quality impacts on open spaces.

However, at limited times some project site and study area public and private open spaces (including some of the private open spaces at the NYCHA Astoria Houses Campus) would experience project-related short-term significant noise impacts from activities such as excavation and foundation construction. This would also be the case for new project site open spaces being developed incrementally as part of the proposed project–the waterfront esplanade. In these instances, the portion of the new esplanade already completed, would experience project-related short-term significant noise impacts for the construction of subsequent adjacent building sites. These activities would generate noise that could impair the enjoyment of nearby public open space users, but such noise effects would be temporary and of short duration (3 to 4 months for each building site adjacent to the open spaces). However, because of the temporary nature of these impacts, and their short duration (in all cases less than 5 months), these would not be considered significant.

Socioeconomic Conditions

The proposed project would not result in significant adverse construction impacts with respect to socioeconomic conditions.

Construction could, in some instances, temporarily affect pedestrian and vehicular access on street frontages immediately adjacent to the proposed project's eight building sites or the areas of the other project elements. However, lane and/or sidewalk closures are expected to be of very limited duration, and are not expected to occur in front of entrances to any existing or planned retail businesses, construction activities would not obstruct major thoroughfares used by customers or businesses, and businesses would not be significantly affected by any temporary reductions in the amount of pedestrian foot traffic or vehicular delays that could occur as a result of construction activities, because of the MPT measures required by NYCDOT. Utility service would be maintained to all businesses, although very short-term interruptions (i.e., hours) may occur when new equipment (e.g., a transformer, or a sewer or water line) is put into operation. Overall, construction resulting from the proposed project is not expected to result in any significant adverse impacts on surrounding businesses.

Construction would create direct benefits resulting from expenditures on labor, materials, and services, and indirect benefits created by expenditures by material suppliers, construction workers, and other employees involved in the direct activity. Construction also would contribute to increased tax revenues for the city and state, including those from personal income taxes.

Community Facilities

Construction activities related to the proposed project would not physically displace or alter any existing community facilities. No study area community facilities would be directly affected by construction activities for an extended duration. However, because the proposed project has been found to have the potential to result in a significant adverse impact on elementary schools, preliminary discussions have been held between the Applicant and the SCA, and are expected to continue between the DEIS and FEIS, with regard to the provision of a new school building serving kindergarten through grade 8 within the NYCHA Astoria Houses Campus, as a mitigation measure for a potential school impact. The construction of the school as a mitigation measure, as well as ongoing project construction effects on the school once it is operational, is discussed in detail in "Mitigation." The construction sites would be surrounded by construction fencing and barriers that would limit the effects of construction on nearby facilities. Construction workers would not place any burden on public schools and would have minimal, if any, demands on libraries, child care facilities, and health care. Construction of the proposed

buildings and the other project elements would not block or restrict access to any facilities in the area, and would not materially affect emergency response times. New York Police Department (NYPD) and Fire Department (FDNY) emergency services and response times would not be materially affected as a result of the geographic distribution of the police and fire facilities and their respective coverage areas.

Natural Resources

Construction of the proposed project would not result in significant adverse impacts to groundwater, floodplains, water quality, aquatic biota, wetlands, terrestrial natural resources, and threatened or endangered species within and near the project site. Construction activities along the East River waterfront would include rehabilitation and stabilization of failing shoreline revetments, installation of four new stormwater outfalls, and rehabilitation of two existing DEP stormwater outfalls, and construction of an esplanade. The proposed stabilization and repair of shoreline armoring would be limited to the replacement of existing rip-rap and debris in some areas with granite rip-rap for improved scour protection. These activities would not result in a net increase in fill below MHW and SHW or a change in the shoreline configuration that would result in loss of bottom habitat. The four new stormwater outfalls would be constructed above the SHW elevation and within the riprap revetment. Maintenance and minor repair of two existing DEP outfalls would consist of clearing of debris and obstructive vegetation growth, and augmentation of deficient rip-rap. The proposed boardwalk esplanade would not extend over the MHW or SHW elevation.

Within the upland portion of the project site, construction of the proposed project would result in removal of existing vegetation and buildings. While construction of the proposed project would require minimal tree removal, it would not eliminate or degrade valuable wildlife habitat. No threatened or endangered terrestrial species are known to occur or have the potential to occur on or in the vicinity of the project site. Overall, the proposed project would not result in any significant adverse impact to threatened, endangered, and special concern species and significant habitat areas.

The proposed project would be covered under the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity Permit No. GP-0-10-001. To obtain coverage under this permit, a stormwater pollution prevention plan (SWPPP) would be prepared and Notice of Intent (NOI) would be submitted to NYSDEC. The SWPPP would comply with all of the requirements of GP-0-10-001, NYSDEC's technical standard for erosion and sediment control, presented in "New York Standards and Specifications for Erosion and Sediment Control," and NYSDEC's Stormwater Management Design Manual. The SWPPP would include both structural (e.g., silt fencing, inlet protection, and installation of a stabilized construction entrance) and non-structural (e.g., routine inspection, dust control, cleaning, and maintenance programs; instruction on the proper management, storage, and handling of potentially hazardous materials) BMPs. Implementation of erosion and sediment control measures and stormwater management measures identified in the SWPPP would minimize potential impacts to wetlands and aquatic resources along the edges of the project site associated with discharge of stormwater runoff during land-disturbing activities resulting from the construction of the proposed project.

Significant adverse impacts to groundwater would not occur as a result of construction or operation of the proposed project. Because groundwater is not used as a potable water supply in the area, there would be no potential impacts to drinking water supplies. In the event that construction dewatering is necessary, the recovered groundwater would be pretreated, if necessary, in accordance with NYSDEC and/or DEP requirements prior to being discharged to

the East River or the DEP storm sewer. Any hazardous materials encountered during grading or other land-disturbing activities would be handled and removed in accordance with DEP, NYSDEC, Occupational Safety & Health Administration (OSHA), and U.S. Environmental Protection Agency (EPA) requirements, and the required RAP/CHASP would be approved by DEP and HPD (for Building Sites 6-8, subject to disposition by the city), or MOER (for Building Sites 1-5, under the Applicant's control). To ensure these required procedures are followed, Building Sites 1-5 will have (E) designations assigned, whereas the Building Sites 6-8 requirements would be incorporated into the Development Agreement between NYCHA and the Applicant/developer or a Restrictive Declaration.

Land Use and Neighborhood Character

Construction activities resulting from the proposed project would affect land use on the eight building sites and the areas of the other project elements, but would not alter surrounding land uses. As is typical with construction projects, during periods of peak construction activity there would be some disruption, predominantly noise, to the nearby area. There would be construction trucks and construction workers coming to the various sites. There would also be noise, sometimes intrusive, from building construction as well as trucks and other vehicles backing up, loading, and unloading. These disruptions would be temporary in nature and would have limited effects on land uses within the study area, particularly as most construction activities would take place within each of the building sites, areas of the other project elements, or within portions of sidewalks, curbs, and travel lanes of public streets immediately adjacent to these sites. Throughout construction, access to surrounding residences, businesses, and institutions in the area would be maintained. In addition, measures would be implemented to control noise, vibration, emissions, and dust on construction sites, including the erection of construction fencing incorporating sound-reducing measures. Overall, while the construction at the various building sites and areas of the other project elements within the Halletts Point LSGD Plan area would be evident to the local community, the limited duration of construction at each of the proposed project's building sites and the areas of the other project elements would not result in significant or long-term adverse impacts on local land use patterns or the character of the nearby area.

Rodent Control

Construction contracts for the seven building sites (Building Sites 1–7) and areas of the other project elements which are controlled by the Applicant would include provisions for a rodent (mouse and rat) control program. Similarly, such controls would be expected to be provided by any future developer of Building Site 8, as standard construction practice. Before the start of construction at any given site in the Rezoning Area, construction contractors would survey and bait the appropriate areas and provide for proper site sanitation. During the construction phase, as necessary, the contractors would carry out a maintenance program. Coordination would be maintained with appropriate public agencies. Only EPA- and NYSDEC-registered rodenticides would be utilized, and the contractors would be required to perform rodent control programs in a manner that avoids hazards to persons, domestic animals, and non-target wildlife.

PUBLIC HEALTH

The proposed project would not result in significant adverse impacts in the following technical areas: air quality, water quality, hazardous materials, or operational noise.

While during some periods of construction, the proposed project would result in significant adverse impacts related to noise as defined by CEQR thresholds, the predicted overall changes to noise levels would not be large enough to significantly affect public health. Therefore, the proposed project would not result in significant adverse public health impacts.

G. MITIGATION

COMMUNITY FACILITIES

PUBLIC SCHOOLS

The proposed project would result in a significant adverse impact on public elementary schools. Because the proposed project would be developed sequentially, the potential to result in a significant adverse impact on elementary schools could occur when the proposed project completes construction of 942 residential units that could introduce public elementary school children.[1] As noted above, it is expected that senior housing units would be developed as part of the affordable housing component of the proposed project. If affordable senior housing units are developed, more residential units could be constructed before a significant adverse elementary school impact would occur. Furthermore, the analysis of public elementary school conditions relies on conservative assumptions regarding both the background growth in the student population and the development of new residential units in the Build condition. Should this high level of background growth in the sub-district and residential development in the study area not occur, the shortfall of elementary schools seats in Sub-district 3 of CSD 30 would be reduced but not completely eliminated.

Preliminary discussions have been held among the Applicant, NYCHA, DCP, and SCA, and are expected to continue between the DEIS and FEIS, with regard to the potential development of a new school building that could accommodate students in kindergarten through grade 8 on a site located within the NYCHA Astoria Houses Campus. The proposed school would fully mitigate the potential significant adverse impact to public elementary schools, and is anticipated to also provide public intermediate school seats, even though the proposed project would not result in a significant adverse impact to public intermediate schools. Based on preliminary discussions, it is expected that this school building would be approximately 130,000 sf and would accommodate 1,057 elementary and intermediate school students.

Development of the public school would be subject to the confirmation that the need for a new school exists and the allocation of sufficient capital funding for design and construction of the new school facility in the New York City Department of Education's (DOE) Five-Year Capital Plan. The disposition of the property within the NYCHA Astoria Houses Campus to the SCA to facilitate the construction of the future school would be subject to approval by HUD under Section 18 of the National Housing Act of 1937. Similar to the disposition of property for Buildings 6 through 8, HPD would act as Responsible Entity for NYCHA's environmental review of the school sites disposition pursuant to 24 CFR Part 58. While funding for design and construction of the public school would be included in the Capital Plan, the SCA has stated that in order to proceed, the site acquisition cost would be required to be for a nominal amount.

[1] This represents the number of units that would introduce enough elementary school children to increase the school utilization rate by 5 percentage points or more.

No further mitigation measures by the Applicant are proposed in the event that NYCHA is unable to dispose of the proposed school site to SCA for a nominal fee or the SCA were to otherwise decline to develop the proposed public school due to the absence of City capital funding or for other reasons. In the event that the SCA is unable to obtain sufficient capital funding to develop a school of the size proposed above, the SCA could develop a smaller school potentially containing only elementary school seats that would also fully mitigate the significant adverse impact on public elementary schools. In addition, other options to address school seat demand in the future if the SCA were to decline to develop any public school will also be explored in consultation with DOE between the DEIS and FEIS. These options would include standard measures utilized by DOE/SCA to address school capacity such as redistricting, the provision of off-site capacity, or other administrative measures. Such measures could wholly or partially mitigate the significant adverse impact on public elementary schools.

Because the school proposed as mitigation could result in impacts different from the proposed project, a qualitative analysis of the possible impacts of locating a public school in the NYCHA Astoria Houses Campus was prepared. This analysis is summarized in the "Potential Environmental Impacts of the Public School Mitigation" section below.

CHILD CARE CENTERS

The proposed project would result in a potential significant adverse impact to publicly funded child care facilities based on *CEQR Technical Manual* methodology. Because the proposed project would be developed sequentially, the potential to result in an increase in a deficiency of available publicly funded child care slots by 5 percent or more could occur when the proposed project completes construction of approximately 161 affordable residential units that introduce children eligible for publicly funded child care. As noted above, it is expected that senior housing units would be developed as part of the affordable housing component of the proposed project, and that Buildings 6A/6B and 7A/7B may be entirely senior housing units. If affordable senior housing units are developed, more affordable housing units could be constructed before a significant adverse impact to publicly funded child care facilities would occur, or such an impact may not occur. For instance, if all 340 proposed affordable units in Buildings 6A/6B and 7A/7B were senior housing units, the proposed project would introduce 48 fewer children that would be eligible for publicly funded child care, and the proposed project would not result in a significant adverse impact to publicly funded child care facilities. It should be noted that the analysis conservatively accounts for the potential child care-eligible children (approximately 48 children in 2022) that would be generated by the proposed Astoria Cove project, which requires discretionary actions and is subject to its own environmental review and approval, without accounting for any potential measures that may be needed to mitigate impacts to publicly funded child care centers that may be identified as part of that project's environmental review. If these mitigation measures were proposed and accounted for in the child care analysis in this EIS, the shortfall of slots would be smaller. As more information becomes available about the proposed Astoria Cove project's potential impacts and mitigation measures, it will be incorporated into this environmental review as appropriate.

As the proposed project is developed, the Applicant will coordinate with ACS to consider the need for and the implementation of measures to provide additional capacity, if needed, in child care facilities within the 1½-mile study area or within Community Board 1. Possible mitigation measures for this significant adverse impact include adding capacity to existing facilities if determined feasible through consultation with ACS, or providing a new child care facility within or near the project site. As a city agency, ACS does not directly provide new child care facilities, instead it contracts with providers in areas of need. ACS is also working to create public/private partnerships

to facilitate the development of new child care facilities where there is an area of need. As part of that initiative, ACS may be able to contribute capital funding, if it is available, towards such projects to facilitate the provision of new facilities.

The Restrictive Declaration for the proposed project will require the Applicant to work with ACS to consider the need for and the implementation of measures to provide additional capacity, if required, to mitigate the significant adverse impact to publicly funded child care facilities within the 1½-mile study area or within Community Board 1. Based on the results of the analysis presented in "Community Facilities," which accounts for the current inventory of publicly funded child care facilities and conservative future background projections, the proposed project would need to provide 37 child care slots to reduce the increase in the utilization rate to less than 5 percent. Absent the implementation of such needed mitigation measures, the proposed project could have an unmitigated significant adverse impact on publicly funded child care facilities.

OPEN SPACE

The proposed project would result in a potential indirect significant adverse impact on total and active open space. The significant adverse impact related to active open space would occur with the completion of approximately 839 residential units and the impact related to total open space would occur with the completion of approximately 1,138 residential units in the study area.

The *CEQR Technical Manual* lists potential mitigation measures for open space impacts. These measures include, but are not limited to, creating new open space within the study area; funding for improvements, renovation, or maintenance at existing local parks; or improving existing open spaces to increase their utility or capacity to meet identified open space needs in the area, such as through the provision of additional active open space facilities. Preliminary discussions have been held between the Applicant and DPR regarding potential improvements to open spaces nearby the project site including, potentially, Hallet's Cove Playground and Hallet's Cove Esplanade.

These mitigation measures will be explored by the Applicant in consultation with the lead agency, DCP, and DPR between the DEIS and FEIS. If feasible mitigation is found, the impacts will be considered partially mitigated. Absent the implementation of such measures, the proposed project could have an unmitigated significant adverse impact on open space.

TRANSPORTATION

The transportation analyses were prepared based on a slightly smaller version of the development program than the proposed project (71 fewer dwelling units and 25 fewer parking spaces), because the programming changes occurred shortly prior to certification of the DEIS, after substantial transportation-related analysis work had been completed and reviewed. Correspondingly, the transportation mitigation analyses are based on the impact findings from the analysis of the smaller development program. Between the DEIS and FEIS, the transportation and transportation-related analyses will be updated to reflect the proposed project's programming changes, as well as background changes associated with other projects and the addition of new study area traffic intersections. These changes could result in new, different, or worsened significant adverse impacts, all of which will be further detailed in the FEIS. For mitigation, it is expected that the same menu of improvement options will be used to address these impacts.

TRAFFIC

The proposed project would result in potential significant adverse traffic impacts at a number of locations in the traffic study area, some of which could be fully or partially mitigated with the implementation of traffic improvement measures.

The overall finding of the traffic mitigation analysis is that 15 out of 25 intersections under the 2022 Build condition would either not be significantly impacted or could be fully mitigated with readily implementable traffic improvement measures. Another 5 of the 25 study locations would have potential significant adverse impacts that could be partially mitigated. Potential traffic mitigation measures include installation of traffic signals at currently unsignalized intersections (three locations: 27th Avenue and 2nd Street, 27th Avenue and 4th Street, and Astoria Boulevard and 18th Street), signal timing and phasing changes, parking regulation changes to gain a travel lane at key intersections, and lane restriping. These measures represent some of the standard traffic capacity improvements that are typically implemented by NYCDOT. Additional review of potential mitigation measures that may fully or partially mitigate other significant impact locations that are identified as unmitigatable in the DEIS will be undertaken for the FEIS.

TRANSIT

The proposed project would result in potential significant adverse bus line haul impacts on the Q18, Q102, and Q103 bus routes during the AM and PM peak periods. Potential mitigation includes service adjustments on these lines, subject to changes in bus ridership and NYCT and MTA Bus fiscal and operational constraints.

EFFECTS OF TRAFFIC MITIGATION ON PEDESTRIAN OPERATIONS

Intersection operations would alter pedestrian conditions with the implementation of the recommended traffic mitigation measures. These measures would include installation of traffic signals and changes to existing signal timings and lane utilizations. A review of the effects of these changes on pedestrian circulation and service levels at intersection corners and crosswalks showed that the addition of a traffic signal at 27th Avenue and 2nd Street would result in a significant adverse pedestrian impact at the north crosswalk during the PM peak period. Restriping the width of this crosswalk from its existing width of 13 feet to 16.5 feet would be required to fully mitigate the projected significant adverse crosswalk impact. Implementation of this additional pedestrian mitigation measure would be subject to review and approval by NYCDOT.

CONSTRUCTION

TRAFFIC

Potential significant adverse traffic impacts would occur at five locations during construction, but generally at lesser magnitudes than impacts identified under the Build condition. Where impacts during construction may occur, measures similar to the ones recommended to mitigate impacts of the proposed project could be implemented early to alleviate congested traffic conditions.

TRANSIT

Bus line-haul impacts identified for the 2022 Build condition may also occur during peak construction in 2021 during the commuter peak hours. Similar mitigation measures as those

described for the 2022 Build condition (i.e., bus frequency increase) are expected to also address the potential impacts during construction.

NOISE

Construction of the proposed project would be required to include measures to reduce noise levels during construction as required by the New York City Noise Control Code. Even with these measures, an analysis based on a conceptual worst-case construction activity and equipment schedule determined that noise levels due to construction activities would result in potential significant adverse noise impacts at some sensitive receptors (i.e., residential buildings and open spaces) immediately adjacent to some of the proposed development sites. Based on a conservative analysis, up to fifty-one (51) existing locations could experience significant adverse noise impacts for certain limited periods during construction. Between the DEIS and FEIS, a refined construction noise analysis will be undertaken to more precisely determine the magnitude and duration of the elevated noise levels resulting from construction at these locations.

Most of those locations, however, have double-glazed windows and an alternate means of ventilation. For buildings with double-glazed windows and window air conditioners, interior noise levels would be approximately 20 to 25 dBA less than exterior noise levels, and for buildings with double-glazed windows and well-sealed through-the-wall/sleeve/packaged terminal air conditioners (PTAC) interior noise levels would be approximately 25 to 30 dBA less than exterior noise levels. The typical attenuation provided by double-glazed windows and the outlined alternate ventilation would be expected to result in interior noise levels during most of the time that are below 45 dBA $L_{10(1)}$ (the CEQR acceptable interior noise level criteria). Given the building attenuation provided by these existing structures, additional receptor controls would be unlikely to fully mitigate the construction noise impacts. Although these structures have double-glazed windows and alternate ventilation, during some limited time periods construction activities may result in interior noise levels that would be above the 45 dBA $L_{10(1)}$ noise level recommended by CEQR for these uses.

A visual survey was performed to identify which locations may not currently have a means of alternate ventilation; six residential locations were identified. At these locations, typical attenuation provided by the building facade would be 5 dBA for an open window condition. This level of attenuation would not be expected to result in interior noise levels during most of the time that are below 45 dBA $L_{10(1)}$ (the CEQR acceptable interior noise level criteria).

Some potential receptor controls that could be used to mitigate the impacts at residential locations where interior L_{10} values would be expected to exceed the value considered acceptable by CEQR criteria could include the provision of air-conditioning so that the impacted structures can maintain a closed-window condition, the installation of storm windows, and/or improvements in the sealing of existing windows. Many receptor locations already have double-glazed windows and an alternate means of ventilation, and additional receptor controls would be unlikely to fully mitigate the construction noise impacts. Such mitigation measures may affect the ability to achieve project goals with regard to the development of affordable housing; however, further exploration of the measures will be conducted between DEIS and FEIS to determine the practicability and feasibility of implementing these measures to minimize or avoid the potential significant adverse impacts, taking into account the practicability relative to project goals. Should it be determined that there are no practicable mitigation measures, taking into account project goals, and should the proposed project be developed and constructed as

conservatively presented, up to 51 existing locations would be expected to experience an unmitigated significant adverse impact at various times.

Additionally, because of very high levels of construction noise from construction on buildings attached to them, Buildings 6A/6B and 7A/7B would have the potential to experience significant adverse noise impacts during construction if either segment of either building is occupied during the construction of the other segment of the building. These buildings would be required to provide at least 20 dBA of window/wall attenuation and an alternate means of ventilation. In addition, as with the construction noise impacts on existing receptors, a refined construction noise analysis will be undertaken between the DEIS and FEIS, and the potential for implementing other appropriate and feasible noise attenuation mitigation measures will be explored.

It should be noted that these projected noise levels and corresponding significant adverse construction noise impacts are based on a conservative analysis of the construction procedures, including peak quarterly (i.e., three-month) levels assumed to represent each year of construction, a maximum amount of construction equipment assumed to be operational on each development site and at locations closest to nearby receptors, peak hour construction equipment and truck delivery operations occurring simultaneously, and a conservative conceptual construction schedule that has been developed in consultation with an experienced New York City construction manager, which includes a reasonable worst-case assumption for the number of development sites that would be expected to be under construction simultaneously.

Between the DEIS and FEIS, a refined construction noise analysis will be undertaken to more precisely determine the magnitude and duration of the elevated noise levels resulting from construction at the receptors predicted to experience significant noise level increases for an extended period of time. The refined analysis will examine the practicability and feasibility of relocating some equipment within the construction sites to add distance and/or shielding between the equipment and the adjacent receptors. It will also analyze in detail additional time periods throughout the construction period to determine whether the analysis results in the DEIS are conservatively overstated as a result of representing each year during the construction period based on peak construction quarters that include the greatest amount of construction activity according to the conceptual construction schedule.

Construction activities would produce $L_{10(1)}$ noise levels at open space areas (Whitey Ford Field and Hallet's Cove Playground) which would exceed the levels recommended by CEQR for passive open spaces (55 dBA L_{10}). (Noise levels in these areas exceed CEQR recommended values for existing and No Action conditions.) These open spaces would experience temporary significant adverse noise impacts during construction. While this is not desirable, there is no effective practical mitigation that could be implemented to avoid these levels during construction. Noise levels in many parks and open space areas throughout the city, which are located near heavily trafficked roadways and/or near construction sites, experience comparable and sometimes higher noise levels.

POTENTIAL ENVIRONMENTAL IMPACTS OF PUBLIC SCHOOL MITIGATION

Preliminary discussions have been held among the Applicant, NYCHA, DCP, and the SCA with regard to the provision of a new school building serving kindergarten through grade 8 within the NYCHA Astoria Houses Campus. The conceptual plan for the proposed public school has been developed in consultation with SCA, DCP, and NYCHA. The proposed school would serve both elementary and intermediate school grades, even though the proposed project would not result in a significant adverse impact to public intermediate schools.

As shown in **Figure S-16**, the school would be located adjacent to Building 8, with a potential schoolyard between the proposed school and Building 8. Based on preliminary discussions, it is expected that this school building would be approximately 130,000 gsf and would accommodate 1,057 elementary and intermediate school students. The proposed project's school seat demand would materialize over time as the proposed project is completed.

As shown in **Figure S-17**, the proposed school would be approximately 5 stories (75 feet) tall (the zoning envelope would allow a maximum height of approximately 90 feet). It is expected that a school playground would be developed in the area between the proposed school and Building 8. The proposed school location is currently occupied by a parking lot with approximately 34 spaces, two playgrounds for use by NYCHA residents, and landscaping features. The displaced playgrounds would be replaced elsewhere on the NYCHA Astoria Houses Campus. The displaced parking spaces would also be replaced elsewhere on the campus as part of the overall development of the proposed project, such that there would be no net loss of parking within the NYCHA Astoria Houses Campus. In addition, the site of the proposed school contains subsurface utilities that would be relocated as part of the development of the proposed school. The playgrounds and subsurface utilities located on the site of the proposed school would be relocated by the future developer of Building 8 or by the Applicant if the SCA elects to move forward with development of the proposed school before the selection of a developer for Building 8. A Memorandum of Understanding (MOU) will be entered into between Applicant, NYCHA, and the SCA that sets forth the cost, timing and duration of the disposition of the school site from NYCHA to SCA, among other activities.

The disposition of the NYCHA property to the SCA would be subject to a Section 18 approval by HUD. Based on the preliminary design, the proposed school would also require waivers to certain zoning bulk regulations governing the site, which are being requested as part of this ULURP application.

An analysis for each technical area where the school could have potential impacts was conducted. Specifically, analyses of the following technical areas were conducted: land use, community facilities, open space, shadows, urban design and visual resources, natural resources, hazardous materials, water and sewer infrastructure, solid waste and sanitation services, energy, transportation, air quality, noise, neighborhood character, construction, and public health.

The analyses concluded that the school proposed as mitigation would not result in any new or different significant adverse impacts compared to the proposed project. With respect to traffic, the number of significant traffic impacts would remain the same and the mitigatability of the impacts would also remain the same (i.e., no new unmitigatable impacts) as with the proposed project. However, additional mitigation would be needed at two already impacted intersections in the AM peak hour—Astoria Boulevard and 8th Street and Hoyt Avenue South and 21st Street.

In terms of air quality, to ensure that there are no significant adverse impacts related to $PM_{2.5}$ from the proposed school's heating and hot water emissions, the fossil fuel-fired heating and hot water equipment must utilize only natural gas, and the heating and hot water equipment exhaust stack(s) must be located at least 120 feet away from any operable windows or air intakes on the tallest portion of the approved massing envelope for proposed Building 8, to avoid any potential significant air quality impacts.

With respect to noise, in order to minimize noise level increases at the nearest residence at 2-06 Astoria Boulevard, active use areas of the school playground would be required to be setback 10 feet from the property line, which would provide a total of 30 feet between the edge of the

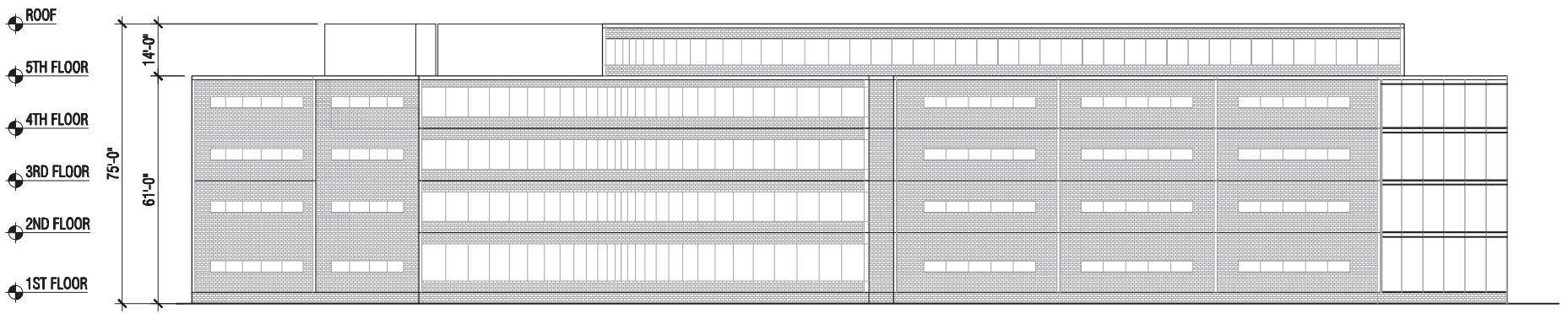


Large Scale General Development Area

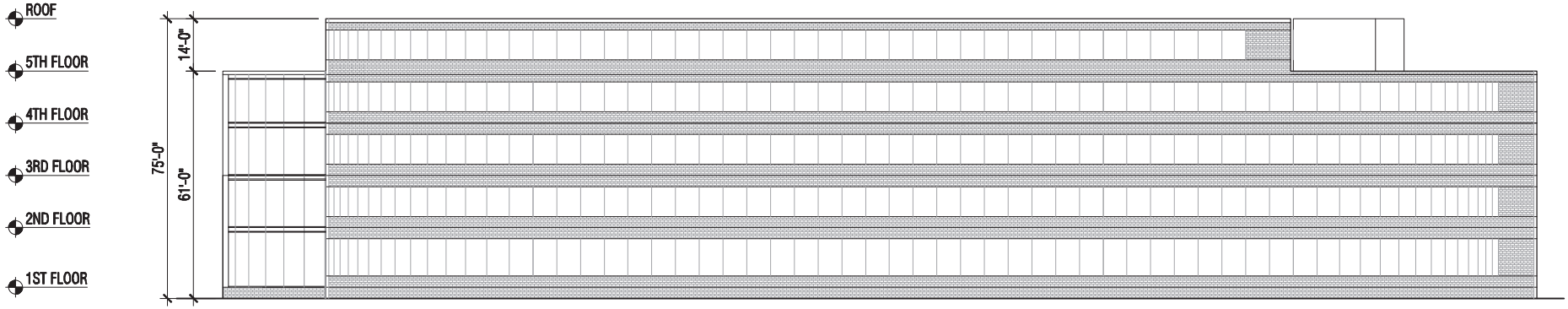
SITE PLAN SOURCE: Studio V Architects

Illustrative Development Site Plan With Proposed Public School

Figure S-16



Northeast Elevation



Southwest Elevation

SOURCE: Studio V Architects

NOTE: The proposed zoning envelope would allow a maximum building height of 90 ft.

Illustrative Elevations of Proposed Public School

Figure S-17

playground and 2-06 Astoria Boulevard. The area between the edge of the playground and the property line could be landscaped or could include aesthetic fencing to further reduce noise levels. According to CEQR building attenuation requirements, the north façade of the proposed school would require 28 dBA of attenuation. In addition, the south façade of Building 8 would require 28 dBA of attenuation. According to HUD building attenuation requirements, the north façade of the proposed school would require 23 dBA of attenuation, and the other facades would require 19 dBA of attenuation.

Construction of the proposed school would be similar to construction of other schools in the city, and would follow the same general construction practices and same basic construction stages, employ similar construction methods, and be subject to the same governmental coordination and oversight. It is anticipated that the proposed school would require an overall construction duration of approximately 26 months to complete, including the substantial relocation of existing utilities at the site (water lines, sanitary and storm sewers, gas lines, and steam pipes), in addition to all of the activities normally associated with construction of a new building, including, excavation and foundations, core and shell, interior finishing, and site work (including landscaping and construction of outdoor play areas). The proposed school would not alter the conclusions of the construction analysis with respect to transportation, air quality, noise, historic and cultural resources, hazardous materials, open space, socioeconomic conditions, community facilities, natural resources, or land use and neighborhood character. In terms of construction noise, construction of the school would not result in any additional significant adverse impacts due to construction noise. Many of the affected receptors have already been identified to experience significant increases in noise level for two years or longer based on the conceptual worst-case construction schedule analyzed for the proposed project.

As noted above, development of the proposed public school would be subject to the confirmation that the need for a new school exists and the allocation of sufficient capital funding for design and construction of the new school facility in the DOE's Five-Year Capital Plan. As such, construction of the proposed public school could occur later than contemplated in the schedule above. Therefore, between the DEIS and FEIS, the construction analysis for the proposed public school will be supplemented to examine the potential cumulative impacts of the proposed school's construction activities undertaken concurrently with the proposed project's peak construction period in 2021. It is anticipated that this supplemental analysis would identify similar construction traffic, noise, and air quality impacts as those already disclosed in "Construction," and that any significant adverse impacts could be mitigated with similar measures.

H. ALTERNATIVES

The conclusion of the alternatives analysis is that the No Build Alternative and No Unmitigated Significant Adverse Impacts Alternatives would not substantively meet the goals and objectives of the proposed project, while the Reduced Density Alternative would meet the goals and objectives of the proposed project to a lesser degree than the proposed project.

NO BUILD ALTERNATIVE

The No Build Alternative assumes no discretionary actions would occur and that the proposed project would not be implemented. The project site would remain in its current underutilized state under the existing M1-1 manufacturing zoning along the waterfront, including a building materials storage yard, a building used for construction materials storage, two vacant buildings, a vacant parcel, and a partially vacant industrial building. This alternative would avoid the

proposed project's significant adverse impacts relating to public elementary schools, public funded child care facilities, open space, transportation, and construction impacts related to transportation and noise. The anticipated development projects in the study area would substantially increase the background demand for schools and child care facilities, and would result in declines in the level of service (LOS) at up to 18 study area intersections. However, in this alternative, there would be no market-rate or affordable housing developed on the project site and no new publicly accessible open space or a public waterfront esplanade with upland connections and connections to Hallet's Cove Playground and Whitey Ford Field. Furthermore, no neighborhood retail amenities would be introduced and the No Action Alternative would not provide revenue to support NYCHA's mission. In short, the No Build Alternative would fail to meet all of the proposed project's principal goals.

NO UNMITIGATED SIGNIFICANT ADVERSE IMPACTS

The No Unmitigated Significant Adverse Impacts Alternative considers several modifications of the proposed project to eliminate its significant adverse impacts on public elementary schools, child care centers, open space, traffic, and construction impacts related to traffic and noise. To eliminate all unmitigated significant adverse impacts, the proposed project would have to be modified to a point that its principal goals and objectives would not be realized.

REDUCED DENSITY ALTERNATIVE

The Reduced Density Alternative considers a project program that does not include development of Building 8. In general, this alternative would result in effects substantially similar to the proposed project but would result in 240 fewer residential units (market-rate) and would therefore be less supportive of the PlaNYC goal of creating enough housing for almost a million more people. In addition, this alternative would be less supportive of NYCHA's goal of repositioning its assets to generate revenue for operation of its affordable housing mandate, particularly at the Astoria Houses Campus, and would be less supportive of the public policy goals of Plan NYCHA. This alternative would result in similar impacts as those identified for the proposed project. With respect to transportation, the Reduced Density Alternative is expected to result in the same or a slightly fewer number of significant adverse traffic impacts than the proposed project, depending on the peak analysis hour. These impacts could be mitigated using the same mitigation measures identified for the proposed project and the Reduced Density Alternative would result in the same unmitigated traffic impacts as the proposed project. With respect to the other impact categories, the Reduced Density Alternative would result in similar impacts as the proposed project and would not eliminate any of the proposed project's significant adverse impacts, nor would it make unmitigated impacts of the proposed project mitigatable. The Reduced Density Alternative could result in an unmitigated schools impact since without the disposition of Building 8, the SCA would be required to pay fair market value for the site for the school. Absent sufficient funding to acquire the site, no school would be built; therefore, it is expected that this alternative would result in an unmitigated impact on elementary schools. This alternative would also be less supportive of the goals and objectives of the project, particularly the goal to provide revenue to support NYCHA's affordable housing mission through the proposed disposition of the land for Building 8 pursuant to a future RFP and the introduction of an economically diversified population within the Astoria Houses Campus. Overall, although the Reduced Density Alternative would meet a number of the goals and objectives of the proposed project, it would do so to a lesser degree than the proposed project

because it would introduce fewer residential units and provide less revenue to support NYCHA's affordable housing mission.

I. UNAVOIDABLE ADVERSE IMPACTS

Unavoidable significant adverse impacts are defined as those that meet the following two criteria: (1) there are no reasonably practicable mitigation measures to eliminate the impact; and (2) there are no reasonable alternatives to the proposed actions that would meet the purpose and need for the actions, eliminate the impact, and not cause other or similar significant adverse impacts.

As described above, the proposed project would result in significant adverse impacts with respect to community facilities (public elementary schools and publicly funded child care centers), open space, transportation (traffic, transit, and pedestrians), and construction impacts related to traffic, transit, and noise. To the extent practicable, mitigation has been proposed for these identified significant adverse impacts. However, in some instances no practicable mitigation was identified to fully mitigate significant adverse impacts, and there are no reasonable alternatives to the proposed project that would meet its purpose and need, eliminate its impacts, and not cause other or similar significant adverse impacts. In other cases, mitigation has been proposed, but absent a commitment to implement the mitigation, the impacts would not be eliminated. The following is a summary of those "Unavoidable Adverse Impacts."

COMMUNITY FACILITIES

Public Schools

As discussed above, preliminary discussions have been held among the Applicant, NYCHA, DCP, and SCA, and are expected to continue between the DEIS and FEIS, with regard to the potential development of a new school building that could accommodate students in kindergarten through grade 8 on a site located within the NYCHA Astoria Houses Campus. Absent the construction of a new school building, the proposed project would result in an unavoidable adverse impact on public elementary schools.

Child Care Centers

As discussed above, the Restrictive Declaration for the proposed project will require the Applicant to work with ACS to consider the need for and the implementation of measures to provide additional capacity, if required, to mitigate the significant adverse impact to publicly funded child care facilities within the 1½-mile study area or within Community Board 1. Absent the implementation of such needed mitigation measures, the proposed project could result in an unavoidable adverse impact on publicly funded child care facilities.

OPEN SPACE

As discussed above, mitigation measures for this significant adverse impact will be explored by the Applicant in consultation with the lead agency, DCP, and DPR between the DEIS and FEIS. Absent the implementation of such measures, the proposed project would result in an unavoidable significant adverse impact on open space.

TRANSPORTATION

The transportation analyses were prepared based on a slightly smaller version of the development program than the proposed project (71 fewer dwelling units and 25 fewer parking spaces), because the programming changes occurred shortly prior to certification of the DEIS, after substantial transportation-related analysis work had been completed and reviewed. Correspondingly, the transportation mitigation analyses presented in "Mitigation" are based on the impact findings from the analysis of the smaller development program. Between the DEIS and FEIS, the transportation and transportation-related analyses will be updated to reflect the proposed project's programming changes, as well as background changes associated with other projects and the addition of new study area traffic intersections. These changes could result in new, different, or worsened significant adverse impacts, all of which will be further detailed in the FEIS. For mitigation, it is expected that the same menu of improvement options will be used to address these impacts. However, if the updated analyses identify new, different, or worsened impacts that could not be fully mitigated, they will be identified as unmitigated in the FEIS.

Traffic

The proposed project would result in potential significant adverse traffic impacts at several locations within the traffic study area. Many of these significantly impacted locations could be mitigated using standard traffic improvements, such as installation of new traffic signals, signal timing and phasing changes, parking regulation changes to gain a travel lane at key intersections, and lane restriping. However, in some cases, impacts from the proposed project would not be fully mitigated.

Specifically, 10 of the 25 study locations would have significant adverse traffic impacts that could not be fully mitigated in at least one peak hour, including:

- 27th Avenue and 8th Street (partially mitigated during all three peak hours).
- Vernon Boulevard/Main Avenue and 8th Street/Welling Court (partially mitigated during the weekday AM peak hour and unmitigated during the weekday PM peak hour).
- Astoria Boulevard and 21st Street (partially mitigated during the weekday AM peak hour).
- Astoria Boulevard and 23rd Street (unmitigated during the weekday AM peak hour).
- Astoria Boulevard and Crescent Street (unmitigated during all three peak hours)
- Hoyt Avenue South/Astoria Boulevard and 33rd Street (unmitigated during the weekday AM peak hour).
- Hoyt Avenue North and 21st Street (unmitigated during the weekday AM peak hour and partially mitigated during the weekday PM peak hour).
- Hoyt Avenue North and 32nd Street (unmitigated during all three peak hours).
- Broadway and Vernon Boulevard/11th Street (partially mitigated during the weekday AM peak hour).
- Broadway and 21st Street (unmitigated during the weekday AM and PM peak hours).

At the partially mitigated locations, significant impacts could be mitigated for at least one traffic movement that is significantly impacted, but not for all traffic movements that are significantly impacted. Because these impacts would be partially, not fully, mitigated, they are considered unavoidable adverse impacts. Moreover, at certain locations the proposed mitigation involves the installation of a traffic signal. A preliminary analysis shows that these intersections would

meet the peak hour criteria of the Manual of Uniform Traffic Control Devices' (MUTCD) signal warrant analysis. Should this analysis indicate that a traffic signal is not warranted, other mitigation measures would need to be identified or the significant impacts may only be partially mitigated or remain unmitigated.

Additional review of potential mitigation measures that may fully or partially mitigate other significant impact locations that are identified as unmitigatable in the DEIS will be undertaken for the FEIS. Also, additional analysis would be performed between the DEIS and FEIS along the Astoria Boulevard and 27th Avenue corridors. This analysis may lead to the modification of traffic improvements proposed in the DEIS and may result in new or additional mitigation for locations identified as partially mitigated or unmitigated in this DEIS.

Other analysis modifications will be done for the FEIS that could affect the findings presented. Analysis assumptions made for the proposed Astoria Cove project and analysis findings documented in the *Cornell NYC Tech FEIS* may change and such changes, when available, may affect the mitigation measures and findings in this (Halletts Point) project's FEIS. This may result in either fewer impacts or greater impacts and could potentially result in one or more additional unmitigated impacts.

CONSTRUCTION

Traffic

All but two of the seven intersections analyzed for peak construction period conditions would either not be significantly impacted or could be mitigated using standard traffic improvements, such as installation of new traffic signals, signal timing and phasing changes, parking regulation changes to gain a travel lane at key intersections, and lane restriping. The intersection of 27th Avenue and 8th Street would be unmitigated during the weekday AM peak hour and the intersection of Astoria Boulevard and 21st Street would be partially mitigated during the PM peak hour. Partially mitigated means that significant impacts could be mitigated for at least one traffic movement that is significantly impacted, but not for all traffic movements that are significantly impacted. Because the impacts would be partially, not fully, mitigated, they are considered unavoidable adverse impacts. The two locations that could not be fully mitigated during the construction conditions could also not be fully mitigated in the Build conditions. Other analysis modifications will be done for the FEIS that could affect the traffic findings. This may result in either fewer impacts or greater impacts for the peak construction period and could potentially result in one or more additional unmitigated impacts.

Noise

With regard to the locations where construction noise impacts are predicted to occur—with the exception of six residential buildings and two open space locations—all residential and institutional buildings have double-glazed windows and have some form of alternative ventilation (i.e., central air conditioning, PTAC units, through-wall air conditioners, or window air conditioners). Consequently, even during warm weather conditions, interior noise levels would be approximately 20-30 dBA less than exterior noise levels. The double-glazed windows and alternative ventilation at these residential structures would provide a significant amount of sound attenuation, and would result in interior noise levels during much of the time that are below 45 dBA L_{10} (the CEQR acceptable interior noise level criteria). Given the building attenuation provided by these existing structures, additional receptor controls would be unlikely to fully mitigate the temporary construction noise impacts. Although these structures have double-

glazed windows and alternate ventilation, during some limited time periods construction activities may result in interior noise levels that would be above the 45 dBA $L_{10(1)}$ noise level recommended by CEQR for these uses.

At the six residential locations with the potential to experience construction noise impacts and that lack receptor noise control measures such as double-glazed windows and an alternate means of ventilation, typical attenuation provided by the building facade would be 5 dBA for an open window condition. This level of attenuation would not be expected to result in interior noise levels during most of the time that are below 45 dBA $L_{10(1)}$ (the CEQR acceptable interior noise level criteria).

Some potential receptor controls that could be used to mitigate the impacts at residential locations where interior L_{10} values would be expected to exceed the value considered acceptable by CEQR criteria could include the provision of air-conditioning so that the impacted structures can maintain a closed-window condition, the installation of storm windows, and/or improvements in the sealing of existing windows. Many receptor locations already have double-glazed windows and an alternate means of ventilation, and additional receptor controls would be unlikely to fully mitigate the construction noise impacts. Such mitigation measures may affect the ability to achieve project goals with regard to the development of affordable housing; however, further exploration of the measures will be conducted between DEIS and FEIS to determine the practicability and feasibility of implementing these measures to minimize or avoid the potential significant adverse impacts, taking into account the practicability relative to project goals. Should it be determined that there are no practicable mitigation measures, taking into account project goals, and should the proposed project be developed and constructed as conservatively presented, up to 51 locations would be expected to experience an unmitigated significant adverse impact at various times.

It should be noted that these projected noise levels and corresponding significant adverse construction noise impacts are based on a conservative analysis of the construction procedures, including peak quarterly (i.e., three month) levels assumed to represent each year of construction, a maximum amount of construction equipment assumed to be operational on each development site and at locations closest to nearby receptors, peak hour construction equipment and truck delivery operations occurring simultaneously, and a conservative conceptual construction schedule that has been developed in consultation with an experienced New York City construction manager, which includes a reasonable worst-case assumption for the number of development sites that would be expected to be under construction simultaneously.

Between the DEIS and FEIS, a refined construction noise analysis will be undertaken to more precisely determine the magnitude and duration of the elevated noise levels resulting from construction at the receptors predicted to experience significant noise level increases for an extended period of time. The refined analysis will examine the practicability and feasibility of relocating some equipment within the construction sites to add distance and/or shielding between the equipment and the adjacent receptors. It will also analyze in detail additional time periods throughout the construction period to determine whether the analysis results in the DEIS are conservatively overstated as a result of representing each year during the construction period based on peak construction quarters that include the greatest amount of construction activity according to the conceptual construction schedule.

Overall, although the presence of double-glazed windows and alternative ventilation at affected buildings would result in interior noise levels during much of the time that are below 45 dBA L_{10} (the CEQR acceptable interior noise level criteria), during some limited time periods construction activities may result in interior noise levels that would be above the CEQR acceptable interior

noise level criteria for these uses, and additional receptor controls would be unlikely to fully mitigate the temporary construction noise impacts. Therefore, these significant adverse construction noise impacts would constitute unavoidable significant adverse impacts.

Lastly, with regard to the open space areas adjacent to the project site where temporary significant adverse noise impacts are predicted to occur during construction—Whitey Ford Field and Hallet's Cove Playground—there are no feasible or practicable measures that could be implemented to mitigate the impacts. Consequently, these temporary significant adverse impacts during construction would constitute unavoidable significant adverse impacts.

J. GROWTH-INDUCING ASPECTS OF THE PROPOSED PROJECT

The proposed project is not expected to induce additional notable growth outside of the project site. While the proposed project would improve existing infrastructure on and around the project site, including water and sewer lines, roadways, sidewalks, and open space, the infrastructure in the study area is sufficiently well-developed such that improvements associated with the proposed project would not induce additional growth.

K. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

There are a number of resources, both natural and built, that would be expended in the construction and operation of the development expected to result from the proposed project. These resources include the materials used in construction; energy in the form of gas and electricity consumed during construction and operation of the project-generated development; and the human effort (time and labor) required to develop, construct, and operate various components of the proposed development. They are considered irretrievably committed because their reuse for some purpose other than the project-generated development would be highly unlikely. The development of the project site with new mixed-use development, including new affordable housing and neighborhood retail, constitutes a long-term commitment of land resources, thereby rendering land use for other purposes highly unlikely in the foreseeable future. These commitments of resources and materials are weighed against the proposed project's goals of transforming a largely underused waterfront area into a new, enlivened mixed-use development, including much-needed affordable housing and neighborhood retail, while providing new publicly accessible waterfront open space and transportation and infrastructure improvements that would serve both the existing residential population and new residents from the proposed project.

L. CUMULATIVE EFFECTS

In summary, the proposed project in combination with the other future development projects evaluated throughout this DEIS would result in changes in the future conditions of the project study areas, and would result in certain cumulative significant adverse impacts. The proposed project is expected to result in significant adverse impacts in the following areas: community facilities, open space, transportation, and construction. Measures have been examined to minimize or eliminate the anticipated impacts and are presented in "Mitigation." The proposed project would also have beneficial cumulative effects by transforming underutilized industrial parcels on the waterfront to higher-density mixed use development, along with providing affordable housing, local retail amenities, transportation and infrastructure improvements, and

new publicly accessible open space and a waterfront esplanade for the area's existing and future population.

M. ENVIRONMENTAL JUSTICE

Given all the facts and circumstances, the proposed project is not expected to result in any disproportionately high and adverse effects on minority and low-income populations, other than a potential disproportionately high and adverse effect on low-income populations related to publicly funded child care facilities. This potential disproportionately high and adverse effect would only occur if the proposed project's potential significant adverse impact on publicly funded child care facilities be unmitigated, in the event that the proposed mitigation is not implemented. The proposed project would have a positive effect by transforming a largely underused waterfront area into a new, enlivened mixed-use development. As discussed throughout this EIS, the proposed project would produce beneficial effects for the local community, including view corridors and public access to the waterfront and the creation of new affordable housing and local retail amenities in an area that is currently underserved. In addition, NYCHA and the Applicant have an ongoing commitment to community engagement and intend to hold meetings with the Astoria Houses residents before and during development to ensure their concerns are heard and appropriate responses provided. The proposed project would be in compliance with all applicable NEPA and HUD regulations related to environmental justice protections. ✷