Chapter 5 : Open Space

I. INTRODUCTION

This chapter assesses the potential impact of the Proposed Project on open space resources. Open space is defined in the 2014 *City Environmental Quality Review (CEQR) Technical Manual* as publicly-accessible, publicly- or privately-owned land that is available for leisure, play, or sport, or serves to protect or enhance the natural environment. *CEQR Technical Manual* guidelines indicate that an open space analysis should be conducted if an action would result in a direct effect, such as the physical loss or alteration of publicly-accessible open space, or an indirect effect, such as when a substantial new population could place added demand on an area's open spaces.

As described in Chapter 1, "Project Description," the Applicant is seeking a set of Proposed Actions in the form of discretionary approvals to include zoning map and text amendments, a large-scale general development (LSGD) special permit, a City Map Amendment to re-establish a portion of Beach 52nd Street south of Rockaway Beach Boulevard to reconnect with Rockaway Freeway, and public funding and/or financing from various City and New York State agencies and/or programs related to affordable housing development on the Project Site in Queens Community District 14 (CD 14). The Proposed Actions would facilitate the Proposed Project to consist of an approximately 2,371,000 gross square feet (gsf) development on the Project Site, comprised of 11 buildings with approximately 2,200 dwelling units (DUs), of which 1,927 DUs are intended to be affordable, of which 201 units would be set aside for Affordable Independent Residences for Seniors (AIRS) senior housing DUs, and 273 DUs are intended to be income-restricted for moderate income households.[1] In addition to the residential DUs, the Proposed Project would include approximately 72,000 gsf of retail space; approximately 77,000 gsf of community facility space; approximately 24,000 square feet (sf) of publicly-accessible open space; and approximately 973 accessory off-street parking spaces.

II. PRINCIPAL CONCLUSIONS

A detailed analysis was conducted, which found that the Proposed Project would result in an indirect significant adverse impact active open space resources in the residential study area. In addition, the analysis concluded that the Proposed Project would not result in a significant adverse impact on passive open space resources in either the residential or non-residential study areas. The Proposed Project would not result in a direct impact on open space resources since there are no existing open space resources on the Project Site, nor would it result in a significant adverse shadows, air quality, noise, or other environmental impact that would affect the utilization of publicly-accessible open space resources.

The Proposed Project would result in a 16.20% decrease in the overall residential open space ratio (OSR), from 3.66 in the No-Action condition to 3.07 in the With-Action condition. The 3.07 residential OSR in the With-Action condition would be above the *CEQR Technical Manual* benchmark OSR of 2.50 and above the City median community district OSR of 1.50. The active OSR in the residential study area would decrease by 13.31%, from 0.84 in the No-Action condition to 0.73 in the With-Action condition; the active OSR benchmark noted in the *CEQR Technical Manual* is 2.00. The passive OSR in the residential study area would decrease by 17.05%, from 2.83 in the No-Action condition to 2.34 in the With-Action condition. Although the decrease in the passive OSR would be greater than 5%, the passive OSR of 2.34 in the With-Action condition would remain above the passive OSR benchmark of 0.50 for a residential study area.

[1] Affordable DUs are intended to be affordable to households at or below 80% Area Median Income (AMI). Moderate income DUs will be restricted above 80% AMI to not exceed 130% AMI.

The overall OSR in the non-residential study area would decrease by 11.96%, from 26.25 in the No-Action condition to 23.11 in the With-Action condition. The non-residential OSR of 23.11 in the With-Action condition would remain above the CEQR benchmark OSR of 0.15. Open space resources considered in the With-Action condition include approximately 0.55 acres of publicly-accessible open space that would be provided as part of the Proposed Project.

Though substantial open space resources located within one mile of the Project Site would be available to study area residents and were considered qualitatively, the 13.31% reduction in the active OSR in the residential study area, from 0.84 in the No-Action condition to 0.73 in the With-Action condition, would constitute a significant adverse impact on active open space resources within the residential study area.

III. METHODOLOGY

Direct Effects

As described in the *CEQR Technical Manual,* a proposed project would directly affect open space conditions if it causes the loss of publicly-accessible open space, changes the use of an open space so that it no longer serves the same user population, limits public access to an open space, or results in increased noise or air pollutant emissions, odor, or shadows that would temporarily or permanently affect the usefulness of a publicly-accessible open space. Since the Proposed Project would not directly displace any publicly-accessible open space, nor change the usefulness of or access to any publicly-accessible open space, it would not result in a direct effect on open space, and further assessment is not warranted.

Indirect Effects

The *CEQR Technical Manual* indicates that open space can be indirectly affected by a proposed action if the project would add enough population, either non-residential or residential, to noticeably diminish the capacity of open space in the area to serve the future population. The Proposed Project is not in an area that is either underserved or well-served by open space resources, and it would generate a net increase of 1,632 DUs and 149,000 gsf of retail and community facility space, or approximately 4,251 residents and 277 workers. Since this would exceed the associated residential and worker analysis thresholds of 200 residents and 500 workers, an assessment of both residential and non-residential open space is warranted.

Study Area

In conformance to *CEQR Technical Manual* guidelines, the first step in the assessment of potential open space impacts is to establish the appropriate study area(s) for the new residential and/or non-residential population(s) that would be added by the Proposed Project. According to the *CEQR Technical Manual*, the open space study areas is based on the distance a person is assumed to walk to reach a neighborhood open space. This distance differs by user group. Workers typically use passive open spaces within a short walking distance of their workplaces. Residents are more likely to travel farther to reach parks and recreational facilities and use both passive and active open spaces. Workers are assumed to walk up to a 0.25-mile distance to reach neighborhood open spaces, while residents are assumed to walk up to a 0.5-mile distance to reach neighborhood open spaces.

The residential study area for the open space assessment was based on a 0.5-mile distance from the Project Site and the non-residential study area was based on a 0.25-mile distance from the Project Site. In conformance to *CEQR Technical Manual* guidelines, the study areas were adjusted to include all Census Tracts with at least 50% of their area within these respective boundaries. As shown in **Figure 5-1: Existing Open Space Map**, the residential study area is defined by Queens Census Tracts 972.02, 972.03, and 972.04, and the non-residential study area is defined by Queens Census Tracts 972.03 and 972.04. Based on consultation with DCP and NYC Parks, the residential study area also includes the planned Thursby

Basin waterfront park bounded by Thursby Avenue, Beach 63rd Street, and Elizabeth Road (see **Figure 5-1**).

Impact Significance

The determination of significant adverse impacts is based in part on how a project would change the OSR in the study area. According to the *CEQR Technical Manual,* projects that reduce the OSR by more than 5% in areas that are currently below the citywide average of 1.5 acres per 1,000 residents may result in a significant adverse impact. For areas that are extremely lacking in open space, a reduction as small as 1% may be considered significant. *CEQR Technical Manual* guidelines recognize that OSR benchmarks cannot be feasibly achieved in many areas of the City and, consequently, do not constitute a threshold for a significant adverse impact. Rather, these are benchmarks that represent how well an area is served by its open space. The *CEQR Technical Manual* also recommends consideration of qualitative factors in the assessment of the potential for open space impacts. These include the availability of nearby open space resources.

Assessment Methodology

Characteristics of the two open space user groups (residents and workers/daytime users) are determined using US Census data for Census Tracts comprising the non-residential and residential open space study areas. The acreage and conditions of existing active and passive open spaces within the residential and non-residential open space study areas are inventoried and mapped based on City data and map files, and field visits. Based on the inventory of facilities and study area populations, active and passive OSRs are calculated for the existing residential and worker populations. OSRs are expressed as the amount of open space acreage (total, active, and passive) per 1,000 users.

Expected changes in future levels of open space supply and demand in the 2034 analysis year are assessed based on other planned development projects within the open space study areas as well as known capital improvements to open space or recreational facilities. OSRs are calculated for the No-Action condition and compared with existing OSRs to determine changes in future levels of adequacy. Characteristics of residents and workers are estimated for the residential and non-residential study areas in the No-Action condition.

The assessment considers the effects of increased resident and worker populations associated with the Proposed Project on open space supply and demand in the study areas. The assessment also considers any new accessory open space facilities included in the Proposed Project. Characteristics of residents and workers are estimated for the residential and non-residential study areas in the With-Action condition. The qualitative analysis is performed to assess whether the study areas are sufficiently served by open space, given the type (active vs. passive), capacity, condition, and distribution of open space, as well as the profile of study area populations.

IV. EXISTING CONDITIONS

Residential Study Area Population

Demographic data from the U.S. Census' 2012-2016 American Community Survey was compiled for the three census tracts that comprise the residential study area to identify the residential population served by existing open space resources. (See **Table 5-1: Existing Study Area Residential Population)**. As summarized in Table 5-1, the residential study area had a residential population of approximately 13,651 residents.

Table 5-1: Study Area Residential Population

Census Tract	Residential Population[1]
972.02	2,886
972.03	6,803
972.04	3,962
Study Area Total (2012-2016)	**13,651**

[1] U.S. Census Bureau, American Community Survey, 2012-2016 five-year estimates, DP-05

Within a given area, the age distribution of a population affects the way open spaces are used and the need for various types of recreational facilities. Typically, children four years or younger use traditional playgrounds with play equipment for toddlers and preschool children. Children between the ages of five and nine typically use traditional playgrounds, as well as grassy and hard-surfaced open spaces, which are important for activities such as ball playing, running, and skipping rope. Children ages 10 through 14 use playground equipment, court spaces, and ball fields. Teenagers and young adults tend to use court facilities such as basketball courts and sports fields such as football or soccer fields. Adults between the ages of 20 and 64 continue to use court facilities and fields for sports, as well as space for more individualized recreation, such as rollerblading, biking, and jogging, which require bike paths, esplanades, and vehicle-free roadways. Adults also gather with families for picnicking, *ad hoc* active sports such as frisbee, and recreational activities in which all ages may participate. Senior citizens engage in active recreation such as handball, tennis, gardening, and swimming, as well as recreational activities that require facilities appropriate for passive recreation.

As shown in **Table 5-2: Residential Study Area Population Age Breakdown**, while the demographic data for the residential study area show a lower percentage of residents above the age of 20 and a higher percentage of children under the age of 20 compared to Queens County and New York City overall, 52.7% of the population is in the 20- to 64-year age cohort.

Table 5-2: Residential Study Area Population Age Breakdown

Census Tract	Total Residential Population	Age Distribution												Median Age
		Under 5		5-9		10-14		15-19		20-64		65+		
		#	%	#	%	#	%	#	%	#	%	#	%	
972.02	**2,886**	271	9.4%	411	14.2%	202	7.0%	192	6.7%	1,619	56.1%	191	6.6%	25.9
972.03	**6,803**	530	7.8%	610	9.0%	835	12.3%	872	12.8%	3,449	50.7%	507	7.5%	25.8
972.04	**3,962**	334	8.4%	266	6.7%	265	6.7%	199	5.0%	2,124	53.6%	774	19.5%	40.7
Total for Residential Study Area	***13,651***	***1,135***	***8.3%***	***1,287***	***9.4%***	***1,302***	***9.5%***	***1,263***	***9.3%***	***7,192***	***52.7%***	***1,472***	***10.8%***	***29.8[1]***
Total for Queens	***2,310,011***	***144,634***	***6.3%***	***127,945***	***5.5%***	***123,991***	***5.4%***	***124,342***	***5.4%***	***1,473,246***	***63.8%***	***315,853***	***13.7%***	***37.9***
Total for NYC	***8,461,961***	***555,383***	***6.6%***	***487,643***	***5.8%***	***466,493***	***5.5%***	***479,928***	***5.7%***	***5,373,184***	***63.5%***	***1,099,330***	***13.0%***	***35.9***

Source:
U.S. Census Bureau, ACS 2012-2016 five-year estimate, DP-05
Note:
[1] Weighted average for study area Census Tracts

Non-Residential Study Area Population

Data from the *OnTheMap*, a service of the U.S. Census, was compiled for Queens Census Tracts 972.02 and 972.04, which comprise the non-residential study area, to assess the worker population served by existing passive open space resources. Data from 2015 show that that the non-residential study area has a worker population of 674 workers.

Inventory of Open Space Resources

According to the *CEQR Technical Manual*, open space may be public or private and may be used for active or passive recreational purposes. Public open space is defined as facilities that are open to the public at designated hours on a regular basis and should be assessed for impacts and private open space not accessible to the public on a regular basis should only be considered qualitatively.

Five publicly-accessible open space resources were identified within the residential study area and three publicly-accessible passive open space resources were identified within the non-residential study area. These open space resources were inventoried by name and size based on information available from the New York City (NYC) Department of Parks and Recreation ("NYC Parks"), the NYC Housing Authority (NYCHA), the Arverne Urban Renewal Area Final Environmental Impact Statement (CEQR No. 02HPD004Q), spatial measurement tools available in ArcGIS and Google Maps, and a field survey conducted during the mid-afternoon of August 11, 2016. These resources are listed in **Table 5-3: Existing Inventory of Open Space Resources**. The locations of these open spaces are shown on **Figure 5-1** and are keyed to **Table 5-3**. Description of these open space resources are provided below.

Rockaway Beach and Boardwalk

The largest open space resource in both the residential and non-residential study areas is the Rockaway Beach and Boardwalk, which are both under the jurisdiction of NYC Parks. This open space is a regional resource that draws visitors from the entire City and consists of 7.5 linear miles of public beach along the Rockaway peninsula between Beach 3rd Street to the east and Beach 149th Street to the west. The approximately 5.5-mile Rockaway Boardwalk extends from Beach 9th Street on the east to Beach 126th Street on the west. Sections of the boardwalk were closed after Superstorm Sandy, but the entire extent of the boardwalk was reopened to the public in June 2016 after extensive reconstruction. The Rockaway Beach and Boardwalk include active facilities such as basketball courts, baseball fields, fitness equipment, playgrounds, skate parks, volleyball courts, roller hockey, handball courts, and spray showers, and activities such as swimming, surfing, jogging, and playing catch. Passive uses include fishing, sunning, and strolling.

Approximately one mile of the Rockaway Beach and Boardwalk are located within the residential and non-residential study areas, between Beach 39th Street and Beach 59th Street. A portion of Rockaway Beach within the residential and non-residential study areas is designated as the Arverne Shorebird Preserve since it is a breeding location for the piping plover, which is listed as a threatened species on the Atlantic Coast (50 CFR 17.11). To limit disturbance to the breeding grounds, Rockaway Beach is cordoned off from May to September between Beach 44th Street and Beach 57th Street.[2] The quantitative assessment of open space resources accounts for 17.41 acres of the Rockaway Beach and Boardwalk, which is a conservative estimate that only includes the portion of Rockaway Beach that is publicly-accessible year-round[3] and the area of the Rockaway Boardwalk that is within the study area **(Figure 5-1)**.

Within the residential and non-residential study areas that are open year-round, the Rockaway Beach accommodates a more limited range of active recreational uses, such as jogging and games of catch. Passive uses include fishing, sunning and strolling along the beach or the boardwalk. According to the

[2] Rockaway Beach: Arverne Shorebird Preserve. NYC Parks. https://www.nycgovparks.org/greening/nature-preserves/site?FWID=27
[3] The excluded beach area conservatively continues to the western study area boundary at Beach 59th Street since Beach 57th Street, which is identified by NYC Parks as the western terminus of the closed beach area for the Shorebird Preserve, does not intersect with the beach and boardwalk.

CEQR Technical Manual, for computation purposes, beach acreage is assumed to be 60% to 80% passive space and 20% to 40% active space. This analysis assumes that the publicly-accessible portions of Rockaway Beach within the residential and non-residential study area are 20% active and 80% passive open space.

Rockaway Community Park

The Rockaway Community Park contains 255.4 acres, of which 12.0 acres of usable open space falls within the residential study area. None of Rockaway Community Park is in the non-residential study area. The northern 242 acres of Rockaway Community Park formerly served as the Edgemere solid waste landfill, which has been inactive since the early 1990s and was formally closed and capped in conformance with a New York State Department of Environmental Conservation (NYSDEC) Record of Decision in March 2000. This portion of the park is inaccessible to the public since it is being ecologically restored by NYC Parks as part of the agency's mission to protect the wildlife and natural habitat of Jamaica Bay. Historically, the park has been less utilized than other parks due to the heavy presence of mosquitoes in the summer months, the park's lack of visibility, and challenging connectivity due to few through streets[4].

Approximately 12.0 acres of Rockaway Community Park are publicly-accessible[5], with 40% of this area reserved for active uses and 60% for passive uses. Existing facilities include a baseball and cricket field, three basketball courts, four tennis and two handball courts, playground, walking trail, unused park house, informal small boating put-in location, and two fishing piers. In addition, a portion of the land west of Beach 58th Street is allocated for the Rockaway Youth Task Force Garden (open 9:00 AM to 8:00 PM during weekdays, and 10:00 AM to 8:00 PM, on weekends) and Farm Rockaway (open Tuesday through Saturday 8:00 AM to 4:00 PM). The quantitative assessment considered the publicly-accessible 12.0 acres of this open space resource.

Arverne Playground

This approximately 0.99-acre playground includes jungle gyms, swings, benches, spray showers, basketball courts, and handball courts. It is operated by NYC Parks and is located on Arverne Boulevard between Beach 56th Street and Beach 54th Street within both the residential study area and non-residential study area.

Cardozo Playground

This approximately 2.10-acre playground is located on Beach Channel Drive between Beach 56th Street and Beach 57th Street, at Goldie Maple School. The playground is jointly-operated by the NYC Board of Education (BOE) and NYC Parks, and contains benches and a softball field for JHS 198 School use as well as the community. It is located within both the residential study area and non-residential study area.

Conch Playground

The 1.89-acre PS 105 playground, known as Conch Playground, is located at Beach 49th Street and Beach Channel Drive in the residential study area but outside of the non-residential study area. It has been recently renovated and includes amenities such as handball courts, a softball field, a basketball courts, swings, jungle gyms, pavement games, and benches. As a jointly-operated park by NYC Parks and BOE, it is open to the public outside of school hours.

[4] Rockaway Parks Conceptual Plan Report, Spring 2014

[5] Measured using DCP PLUTO files, ArcGIS, and Nearmap measurement tools.

Table 5-3: Existing Inventory of Open Space Resources

Map No.	Park Name	Location	Owner/ Agency	Amenities	Total Acres	Active		Passive		Condition	Utilization
						Acres	%	Acres	%		
1	Arverne Playground*	Arverne Blvd b/n Beach 56th Street & Beach 54th Street	NYC PARKS	Basketball courts, handball courts, jungle gyms, spray showers, swings, pavement games, benches	**0.99**	0.99	100%	0.00*	0%	Acceptable	Low
2	Cardozo Playground*	Arverne Blvd b/n Beach 57th Street & Beach 56th Street	NYC PARKS	Tennis courts, volleyball courts, basketball courts, game tables, adult fitness equipment, jungle gyms, a running track, and benches.	**2.10**	2.10	100%	0.00*	0%	Acceptable	Low
3	Conch Playground	Beach 49th Street b/n Elizabeth Avenue & Beach Channel Drive	NYC PARKS/ NYC BOE	Handball courts, softball field, jungle gyms, swings	**1.89**	1.89	100%	0.00	0%	Acceptable	Low
4	Rockaway Beach and Boardwalk*	Beach 62nd Street to Beach 40th Street	NYC PARKS	Multi-purpose beach and boardwalk	**17.41****	3.48	20%	13.92*	80%	Varies / Acceptable	Low
5	Rockaway Community Park	Alameda Avenue & Conch Place	NYC PARKS	Tennis courts, baseball fields, basketball courts, handball courts, jungle gyms	**12.00**	7.20	60%	4.80	40%	Varies / Acceptable	Low
Total, Residential Study Area					**34.39**	15.66	46%	18.72	54%		
Total, Non-Residential Study Area								13.92			

Sources:
NYC Parks' Find-A-Park; NYCHA; Arverne URA EIS; ArcGIS; Google Maps; field survey conducted on August 11, 2016

Notes:
All resources listed above are considered in the quantitative assessment of open space adequacy.
* Within the non-residential study area in addition to the residential study area. All other resources are only within the residential study area.
** Beach and Boardwalk estimated using DCP PLUTO files, ArcGIS, and Nearmap measurement tools



Source: 2015 PLUTO, DCP; Field Surveys - August 2016

Note: Publicly-accessible open space is considered in the quantitative assessment.
The residential study area includes Thursby Basin Park per DCP direction.

EDGEMERE, QUEENS

- Project Site
- Existing Open Space
- Publicly-Accessible Open Space
- Census Tracts
- 0.25-Mile Radius
- 0.5-Mile Radius
- Non-Residential Study Area
- Residential Study Area

1. Arverne Playground
2. Cardozo Playround
3. Conch Playground
4. Rockaway Beach and Boardwalk
5. Rockaway Community Park

EXISTING OPEN SPACE MAP

Figure 5-1

Peninsula Hospital Site Redevelopment

Adequacy of Open Space Resources

The residential study area contains 34.39 acres of publicly-accessible open space, serving approximately 13,651 residents in the residential study area. The existing OSR for the residential study area is 2.52 acres of open space per 1,000 residents in the existing condition (**Table 5-4: Adequacy of Open Space Resources, Existing Condition**). The existing active OSR is 1.15 acres of active open space per 1,000 residents, which is less than the benchmark OSR of 2.00 for active open space resources. The existing passive OSR is 1.37 acres of passive open space per 1,000 residents, which is greater than the benchmark OSR of 0.50 for passive open space resources.

The non-residential study area contains 13.92 acres of publicly-accessible passive open space, serving approximately 674 workers in the non-residential study area. The existing OSR is 20.66 acres of improved open space per 1,000 workers, which is greater than the benchmark OSR of 0.15 for passive open space resources.

Table 5-4: Adequacy of Open Space Resources

Population	Existing Acreage			Existing OSR			CEQR Benchmark OSR		
	Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
Residential Study Area									
Residents 13,651	34.39	15.66	18.72	2.52	1.15	1.37	2.50	2.00	0.50
Non-Residential Study Area									
Workers 674	*N/A*	*N/A*	13.92	*N/A*	*N/A*	20.66	*N/A*	*N/A*	0.15

As shown in **Table 5-3: Inventory of Open Space Resources**, most open spaces in both the residential and non-residential study areas were in good condition and displayed low utilization levels.

As shown in **Table 5-2: Residential Study Area Population Breakdown**, though a majority of the population is 20- to 64-year age cohort, the proportion of the population that representing children and youth (toddlers to teenagers ranging in age between less than five years to 19 years) is higher in the study area (36.5%) than in Queens (22.6%) and NYC overall (23.5%). The proportion of the adult population between the ages of 20 and 64 years of age is lower in the residential study area (52.7%) than in Queens (63.8%) and NYC overall (63.5%). The proportion of the population that is over 65 years of age is lower in the study area (10.8%) than in Queens (13.7%) and NYC overall (13.0%).

Publicly-accessible open spaces in the residential study area are oriented toward users of all ages. Children under the age of 10 tend to use traditional playground equipment and grassy and hard-surfaced open spaces for ball playing, running, skipping rope, etc. The study area contains these features at Arverne Playground, Cardozo Playground, Conch Playground, and Rockaway Community Park, including jungle gyms, spray showers, swings, and pavement games. The Rockaway Beach and Boardwalk also allows for activities like running and playing in the sand.

Youth aged 10 to 19 and adults aged 20 to 64 tend to use court facilities, and sports fields. A combination of basketball courts, handball courts, softball and baseball fields, and tennis courts are found at Arverne Playground, Cardozo Playground, Conch Playground, and Rockaway Community Park. Adult populations

also tend to perform more individualized activities like biking and jogging, which requires vehicle-free roadways such as the Rockaway Boardwalk. Seniors also enjoy court facilities for handball and tennis as well as facilities for gardening, swimming, and passive recreation. Handball or tennis courts are found at Arvern Playground, Cardozo Playground, Conch Playground, and Rockaway Community Park. The Rockaway Beach and Boardwalk allows for strolling.

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

Absent the Proposed Actions (the "No-Action Condition"), the Project Site would remain under the existing zoning designations. As-of-right development on the Project Site would yield 12 buildings, including approximately 482,523 gsf of residential space (providing 568 DUs), approximately 21,659 gsf of local retail space, approximately 800 gsf of community facility space, and approximately 557 accessory parking spaces by the 2034 analysis year. This development on the Project Site would result in approximately 1,568 residents in the residential study area and approximately 88 workers in the non-residential study area in the No-Action condition.

In addition, 11 planned or ongoing development projects that would be complete by the 2034 analysis year were identified within the residential and non-residential study areas **(Table 5-5: No-Action Development Projects, Residential and Non-Residential Study Areas)**. These No-Action projects would add approximately 4,311 residents to the residential study area, and approximately 1,101 workers to the non-residential study area. Consequently, total residents in the residential study area in the No-Action condition would be 19,530 residents, and total workers in the non-residential study area would be 1,863 workers, **(Table 5-6: Study Area Populations, No-Action Condition)**.

Table 5-5: No-Action Development Projects, Residential and Non-Residential Study Areas

Map No.	Project	Block	Lot	Residential DU	Commercial sf	*Commercial Type*	Community Facility sf	*Community Facility Type*	Open Space sf	*Parking*
1	Edgemere Site #1*	15852	64, 68	44	25,911	local retail	-	-	-	44
2	Edgemere Site #2*	15851	44,40,35,33,58, 59,42	19	0		-	-	-	19
3	Edgemere Site #3*	15850	6	16	0		-	-	-	16
8	Edgemere Site #8*	15834	30,38,42	18	0		-	-	-	18
9	Edgemere Site #9	15973	1	60	0		-	-	-	60
10	Edgemere Site #10	15965	115	7	0		-	-	-	71
11	Edgemere (Small Sites)	Varies	Varies	71	0		-	-	-	71
12	Central Arverne*	Varies	Varies	0	0		0	/	722,919**	0
13	Arverne East*	Various	Various	1,200	200,000	50% Local Retail, 50% Destination Retail to be consistent with Ocean Bay Retail EAS	0	/	0	1,300
14	Ocean Bay Retail EAS*	15890	54, 55, 58, 62, 64, 66, 69	0	9,999	supermarket	0	/	0	
					5,214	local retail				
					21,664	office space				
					9,577	community facility/office space				
19	Beach Green Dunes Phase II*	15853	40	127	3,000	local retail	0	/	0	35
Total DUs, Residential Study Area				*1,542*	-	-	-	-		
Total Area (sf), Non-Residential Study Area				-	*279,865*	-	-	-		
Population Multipliers				*2.76*	*0.004*	-	*0.001*	-		
Residential Population (residents)				**4,311**	**-**	**-**	**-**	**-**		
Non-Residential Population (workers)				**-**	**1,101**	**-**	**-**	**-**		

Notes: Only those No-Action development projects within the residential and non-residential study areas are shown. All other No-Action development projects have been excluded. Map Numbers have been maintained consistent with the Land Use Chapter.

* Within non-residential study area.

** Open space resulting from the Central Arverne development would be a native dune preserve that would not be publicly-accessible. Therefore, it is not included in the quantitative or qualitative open space assessment for residential and non-residential populations.

Table 5-6: Study Area Populations

Residential Study Area			
Existing Resident Population 2016[1]	**No-Action Developments Population Increase**	**Project Site As-of-Right Population Increase**	**Total No-Action Population 2034**
13,651	4,311	1,568	**19,530**
Non-Residential Study Area			
Existing Worker Population 2015[2]	**No-Action Developments Population Increase**	**Project Site As-of-Right Population Increase**	**Total No-Action Population 2034**
674	1,101	88	**1,863**

Sources:
[1] U.S. Census, American Community Survey 2012-2016 5-year estimates, DP-05
[2] U.S. Census, OnTheMap 2015

Residential Study Area Population

The 11 known No-Action development projects in the residential study area, combined with the as-of-right development on the Project Site by the 2034 analysis year, would yield a residential population of 19,530 in the 2034 analysis year. The No-Action development projects would not include any age-restricted DUs, such as senior housing or dormitories, that alter age distribution of the future population. Therefore, the age breakdown of the residential population would be like that under existing conditions (**Table 5-7: Residential Age Breakdown**).

Table 5-7: Residential Age Breakdown

Age Distribution	Residents	
	Number	**Percent**
Under 5	1,624	8.3%
5-9	1,841	9.4%
10-14	1,863	9.5%
15-19	1,807	9.3%
20-64	10,289	52.7%
65+	2,106	10.8%
Total	**19,530**	**100.0%**

Note: Numbers may not add exactly due to rounding

Non-Residential Study Area Population

The non-residential population in the non-residential study area would increase by approximately 1,101 workers due to the eight No-Action development projects that would be in operation by the 2034 analysis year. As-of-right development on the Project Site would result in the addition of 88 workers. Therefore, the non-residential study area would consist of 1,863 workers in the No-Action condition, which represents an increase of 1,189 workers between the No-Action and With-Action conditions.

Inventory of Open Space Resources

Programmed capital improvements by the 2034 analysis year would increase the amount of publicly-accessible open space resources by 37.16 acres in the residential study area. In the No-Action condition, the residential study area would include 71.55 acres of publicly-accessible open space, of which 16.37

acres would be active open space and 55.17 acres would be passive open space. The non-residential study area would include 48.92 acres of publicly-accessible open space.

Arverne Central Preserve

The Arverne Central Preserve would be developed in the residential and non-residential study areas along Edgemere Avenue between Beach 44th Street and Beach 56th Place and would consist of 35.00 acres of passive open space.

Thursby Basin Park

The planned Thursby Basin Park would consist of 2.16 acres, of which 33%, or 0.71 acres, would be active open space. Park features would include a playground, adult fitness area, BBQ area, open lawn, waterfront seating, and ecological features such as riparian plantings and a rain garden.[6]

Adequacy of Open Space Resources

In the No-Action condition, the overall population increase in the 2034 analysis year compared to the existing condition would be 5,879 residents, comprised of an additional 4,311 residents generated from the No-Action development projects and 1,568 residents resulting from as-of-right development on the Project Site. The residential study area would not experience a change in publicly-accessible open space resources due to the No-Action development projects and as-of-right development on the Project Site.

The OSR in the No-Action condition would be 3.66 acres of open space per 1,000 residents, an increase from the OSR of 2.52 acres of open space per 1,000 residents in the existing condition. The active OSR in the No-Action condition would be 0.84 acres of active open space per 1,000 residents, and the passive OSR in the No-Action condition would be 2.83 acres of passive open space per 1,000 residents. The active OSR in the No-Action condition would be less than the CEQR benchmark of 2.00 acres of active open space per 1,000 residents, and the passive OSR would be greater than the CEQR benchmark of 0.50 acres of passive open space per 1,000 residents.

In the No-Action condition, the amount of publicly-accessible open space in the non-residential study area would increase from 13.92 acres in the existing condition to 48.92 acres and would serve an overall non-residential population of 1,863 workers. The increase in worker population in the 2034 analysis year compared to the existing condition would be approximately 1,189 workers, comprised of 1,101 workers from No-Action developments in the non-residential study area, and 88 workers resulting from as-of-right development on the Project Site. The No-Action condition in the non-residential study area would have a passive OSR of 26.25 acres of passive open space per 1,000 workers compared to an OSR of 20.66 in the existing condition. The passive OSR would be greater than the CEQR benchmark OSR of 0.15, which is used to define a non-residential study area that is well-served by passive open space resources, **(Table 5-8: Adequacy of Open Space Resources, No-Action Condition)**.

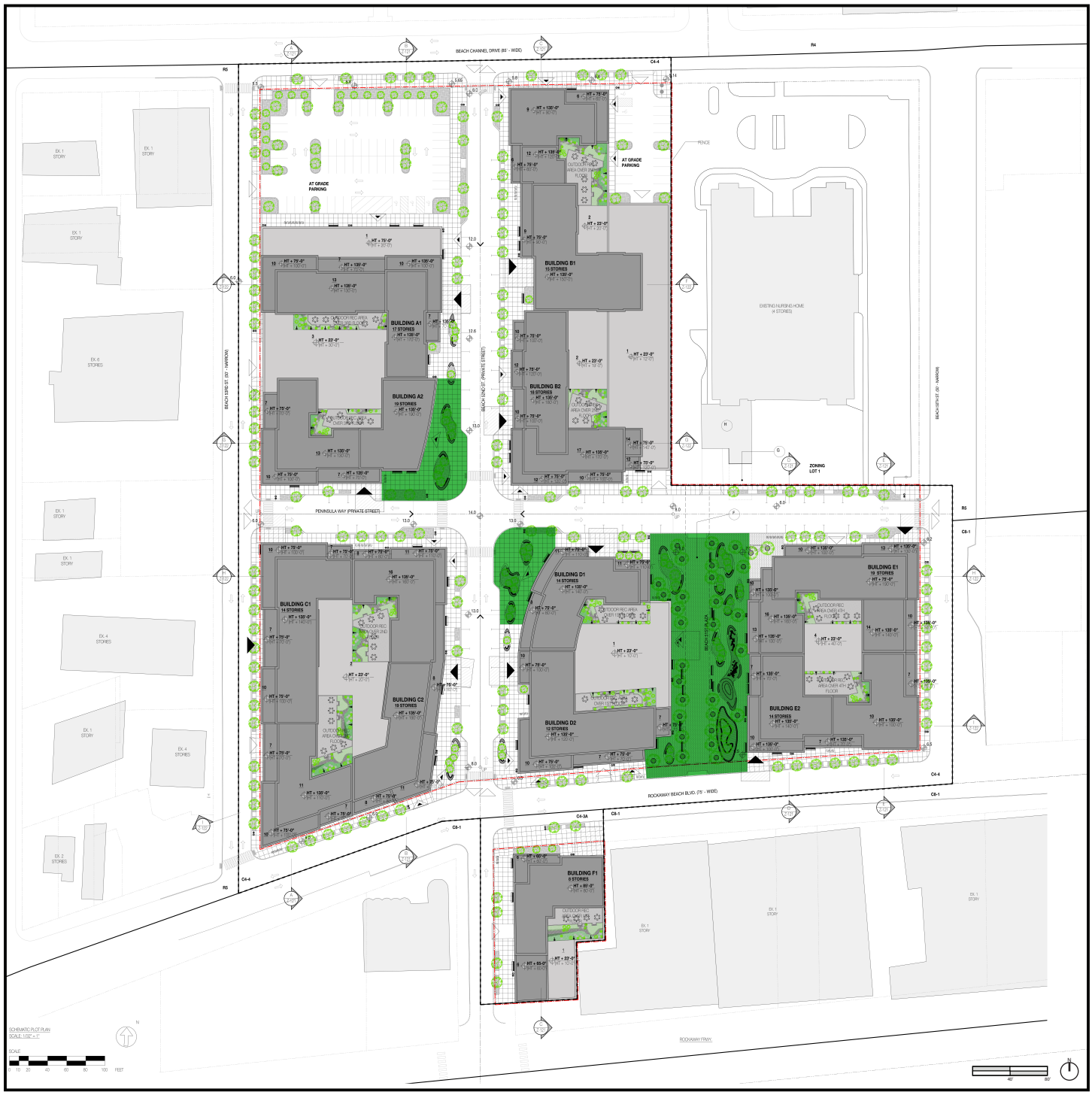
[6] Rockaway Parks Conceptual Plan Report, Spring 2014.

Table 5-8: Adequacy of Open Space Resources, No-Action Condition

Population	No-Action Acreage			No-Action OSR			CEQR Benchmark OSR		
	Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
Residential Study Area									
Residents 19,530	71.55	16.37	55.17	3.66	0.84	2.83	2.50	2.00	0.50
Non-Residential Study Area									
Workers 1,863	*N/A*	*N/A*	48.92	*N/A*	*N/A*	26.25	*N/A*	*N/A*	0.15

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

The Proposed Actions would facilitate an approximately 2,371,000 gsf development on the Project Site, comprised of 11 buildings with approximately 2,200 mixed income DUs, of which 201 DUs would be set aside for AIRS senior housing. In addition to the residential use, the Proposed Project would include approximately 72,000 gsf of retail space, approximately 77,000 gsf of community facility space, approximately 24,000 sf of publicly-accessible passive open space, and accessory parking. Publicly-accessible open space resources that would be provided on the Project Site are shown in **Figure 5-2: Proposed Project Site Plan**, which also depicts the incorporation of non-public rooftop recreation areas available for residents. Of the publicly-accessible open space introduced by the Proposed Project, the pedestrian plaza and play area is designated to the area in the Project Site between the internal roadway traversing the site from east to west, and Rockaway Beach Boulevard, as depicted in **Figure 5-3: Pedestrian Plaza and Play Area Plan** and **Figure 5-4: Play Area Precedent Images**. These open space resources would include landscaped areas with seating and play spaces such as a large timber platform that would be adjacent to a play area to encourage multi-generational use. The plaza would be planted with native, coastal species suited for the Project Site that would require low maintenance and provide habitat for naturally-occurring species on the Rockaway Peninsula. Lighting in the pedestrian plaza would consist of pole-mounted fixtures and overhead wire-mounted catenary fixtures to create a sense of enclosure. The design would limit light trespass and nuisance to adjacent residential units. In addition, the fixtures would be above flood elevation.



Source: Aufgang Architects

Note: For illustrative purposes only

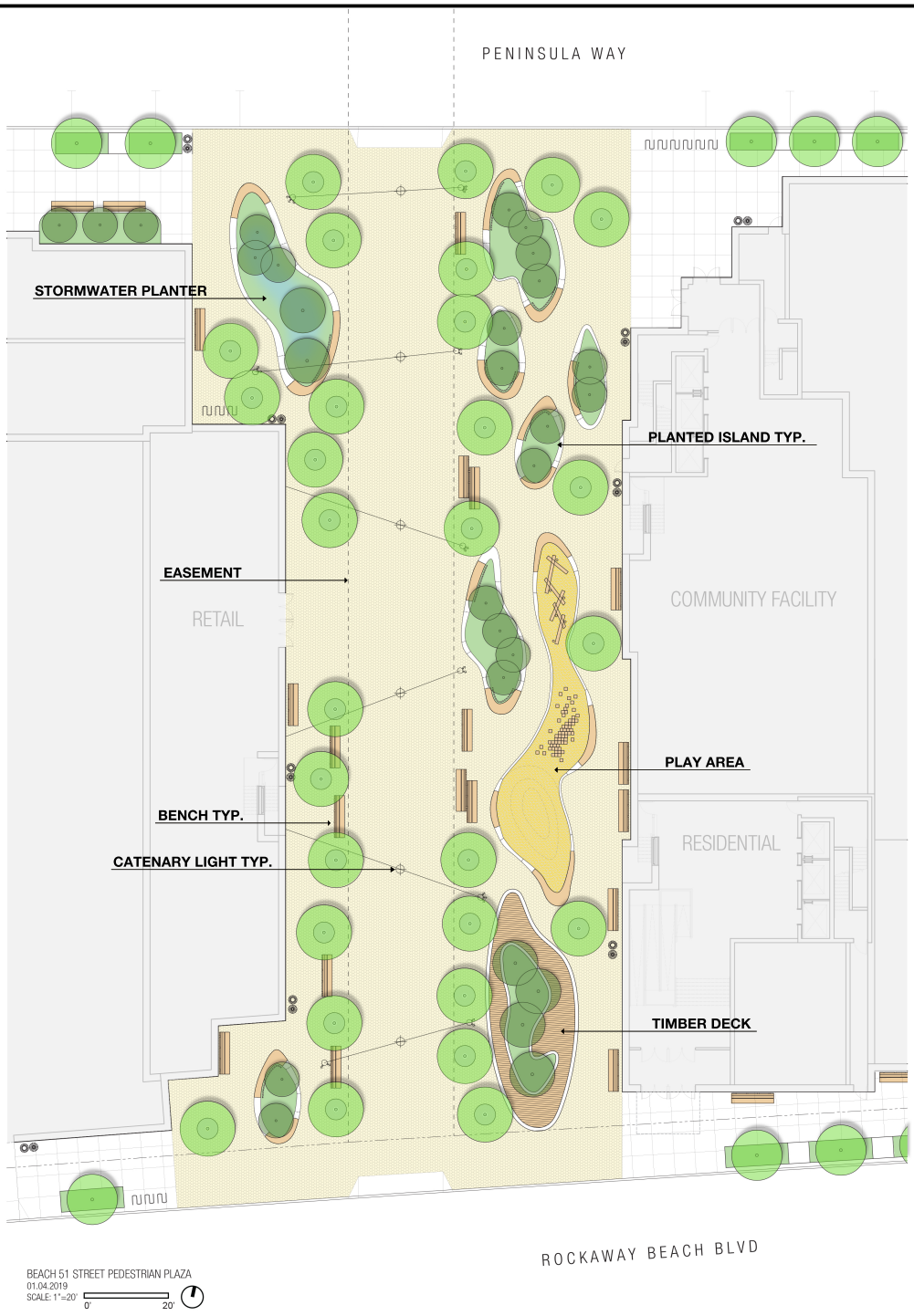
EDGEMERE, QUEENS

Public Passive Open Space

PROPOSED PROJECT SITE PLAN

Figure 5-2

Peninsula Hospital Site Redevelopment



Source: Terrain Landscape Architects
Note: For illustrative purposes only

EDGEMERE, QUEENS

PEDESTRIAN PLAZA AND PLAY AREA PLAN

Figure 5-3

Peninsula Hospital Site Redevelopment



Source: Terrain Landscape Architects
Note: For illustrative purposes only

EDGEMERE, QUEENS

PLAY AREA PRECDENT IMAGES

Figure 5-4

Peninsula Hospital Site Redevelopment

Residential Study Area Population

Development on the Project Site would result in a total residential population increase of 5,819 persons, based on an average household population of 2.76 residents for 1,999 DUs and a household population multiplier of 1.5 residents for the 201 DUs restricted to senior residents since seniors tend to have smaller household sizes. An incremental increase of 4,251 residents would be generated by the Proposed Project compared to the projected residential population on the Project Site in the No-Action condition, (**Table 5-9: Study Area Populations**).

Table 5-9: Study Area Populations

Residential Study Area		
No-Action Population in 2034	**Project Site Incremental Population Increase**	**Total With-Action Population in 2034**
19,530	4,251	**23,781**
Non-Residential Study Area		
No-Action Population in 2034	**Project Site Incremental Population Increase**	**Total With-Action Population in 2034**
1,863	277	**2,140**

Given that 201 DUs would be restricted to senior residents, the age breakdown of the residential population was adjusted to include a higher proportion of senior residents in the With-Action condition (11.9%) than in the No-Action condition (10.8%). To offset the increase in senior residents, a decrease of 201 residents was applied proportionally to the other age group categories **(Table 5-10: Residential Age Breakdown)**.

Table 5-10: Residential Age Breakdown

Age Distribution	Residents	
	Number	Percent
Under 5	1,952	8.2%
5-9	2,214	9.3%
10-14	2,239	9.4%
15-19	2,172	9.1%
20-64	12,370	52.0%
65+	2,833	11.9%
Total	**23,781**	**100.0%**

Source: ACS 2012-2016 five-year estimate, DP-05

Note: Numbers may not add exactly due to rounding

The Proposed Project would result in a residential population in the residential study area to consist of 11.9% at ages 65 and over age, which is a higher proportion of the population than shown in the No-Action condition at 10.8% (see **Table 5-7**). Compared to other user groups, this age cohort is less likely to use active facilities for recreational activities than younger age groups. Therefore, while this age cohort would have a greater proportional increase between the No-Action and With-Action conditions, it may not experience the active open space deficiency to the same extent as other user groups that rely more on facilities with amenities for active recreational uses such as playground equipment and sports fields.

Non-Residential Study Area Population

The non-residential study area population would be 2,140 workers in the With-Action condition, an incremental increase of 277 workers between the No-Action and With-Action conditions.

Inventory of Open Space Resources

In the With-Action condition, the amount of open space in the residential study area would increase by 0.55 acres due to the provision of publicly-assessible open space on the Project Site. The open space provided on the Project Site would include the Beach 61st Plaza between Building D and Building E and two plazas at the northwest and southeast corners of Beach 52nd Street and Peninsula Way. The pedestrian plazas would feature landscaping, benches, circuits for strolling and child play. The Beach 61st Plaza would also include a raised timber deck to promote intergenerational interaction as groups share the space for picnicking, people watching, and playing. Other features of the pedestrian plaza would include lighting to promote safety, waste and recycling containers, pavers, bicycle racks, and a rain garden planter. For purposes of the quantitative assessment, this publicly-assessible open space is assumed as passive open space.

Adequacy of Open Space Resources

Quantitative Assessment

The active OSR in the With-Action condition would be 0.73 acres of active open space per 1,000 residents, and the passive OSR in the With-Action condition would be 2.34 acres of passive open space per 1,000 residents, **(Table 5-11: Adequacy of Open Space Resources, With-Action Condition)**. Compared to the No-Action condition, the active OSR of 0.73 acres of active open space per 1,000 residents would continue to be below the CEQR benchmark OSR of 2.00 acres of active open space per 1,000 residents. The passive OSR would be greater than the CEQR benchmark OSR 0.50 acres of passive open space per 1,000 residents.

The With-Action condition would have a passive OSR of 23.11 acres of open space per 1,000 workers in the non-residential study area, which is greater than the benchmark OSR of 0.15 acres of passive open space per 1,000 workers.

Table 5-11: Adequacy of Open Space Resources, With-Action Condition

Population	With-Action Acreage			With-Action OSR			CEQR Benchmark OSR		
	Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
Residential Study Area									
Residents 23,781	73.01	17.28	55.72	3.07	0.73	2.34	2.50	2.00	0.50
Non-Residential Study Area									
Workers 2,140	*N/A*	*N/A*	49.48	*N/A*	*N/A*	23.11	*N/A*	*N/A*	0.15

As shown in **Table 5-12: Open Space Ratios Summary**, the residential OSR would decrease by 16.20% between the No-Action condition and the With-Action condition, while the non-residential OSR would decrease by 11.96% between the No-Action condition and the With-Action condition. According to the *CEQR Technical Manual,* a reduction in the OSR greater than 5% may result in a significant adverse open space impact in areas where the existing OSR is below the City median community district OSR of 1.5 acres per 1,000 residents.

The active OSR would be 0.73 acres per 1,000 residents in the residential study area, which would be lower than the active OSR benchmark of 2.00 acres per 1,000 residents in the residential study area. As shown

in **Table 5-12**, the decrease in the active OSR would be 13.31% between the No-Action condition and With-Action condition. Since the active OSR is substantially less than the active OSR benchmark and would decrease by greater than 5%, a qualitative assessment is necessary to further assess the adequacy of active open space resources surrounding the Project Site. The passive OSR would be 2.34 acres per 1,000 residents in the residential study area, which would be above the passive OSR benchmark of 0.50 acres per 1,000 residents in the residential study area.

Although the OSR for the non-residential study area would decrease by greater than 5% between the No-Action and With-Action conditions, the non-residential study area would have a With-Action OSR of 23.11 acres of passive open space per 1,000 workers, which would be greater than the CEQR benchmark OSR of 0.15 acres of passive open space per 1,000 workers.

Table 5-12: Open Space Ratios Summary

Type	CEQR Benchmark OSR	Open Space Ratio (acres per 1,000 persons)			Percent Change (No-Action condition to With-Action condition)
		Existing	No-Action	With-Action	
Residential – Total	2.5	2.52	3.66	3.07	-16.20%
Residential – Active	2.0	1.15	0.84	0.73	-13.31%
Residential – Passive	0.5	1.37	2.83	2.34	-17.05%
Non-Residential – Passive	0.15	20.66	26.25	23.11	-11.96%

Should the With-Action condition not include the 201 senior DUs, thereby increasing the number of non-senior DUs from 1,999 non-senior DUs with the Proposed Project to 2,200 non-senior DUs, the estimated residential population would increase by 4,504 persons between the No-Action condition and the With-Action condition. Since the average household population size of senior DUs is assumed to be lower at 1.5 persons per household than the household population size of non-senior DUs at 2.76 persons per household, such a change would increase the residential population in the With-Action condition.

In such a scenario, the overall residential OSR would decrease by 17.08%, compared to the in the No-Action condition, to 3.04 acres of open space per 1,000 residents. The active residential OSR would decrease by 14.22%, compared to the No-Action condition, to 0.72 acres of active open space per 1,000 residents. The passive residential OSR would decrease by 17.93%, compared to the No-Action condition, to 2.32 acres of passive open space per 1,000 residents. The age breakdown of the residential population would remain the same as under the No-Action condition.

Qualitative Assessment

According to guidelines in the *CEQR Technical Manual*, the qualitative assessment of open space resources helps determine overall impact significance. As specified in the *CEQR Technical Manual,* the qualitative assessment considers such factors as the type of open space (active or passive), its capacity and conditions, the distribution of open space, whether the area is considered "well-served" or "underserved" by open space, the distance to regional parks, the connectivity of open space, and any additional recreational resources provided by the project, in relation to the quantitative changes in the OSRs resulting from a proposed project. The qualitative assessment considers open spaces that are not publicly accessible within a 0.5-mile and one-mile radius from the Project Site but outside of the residential and non-residential study areas, and major parks in the surrounding area.

Open space resources listed below are both publicly accessible and not publicly accessible but provide active recreational opportunities to study area residents and are located within one mile of the Project Site.

NYCHA Open Spaces

Open space on NYCHA properties in the study area, as described below, serve residents in the 2,525 DUs contained in these properties. These open space resources are intended for NYCHA residents.

- The Ocean Bay Apartments (Bayside) are located on Beach Channel Drive between Beach 57th Street, providing approximately 0.88 acres of open space, which includes two basketball courts and 13 jungle gyms. It is located only within the residential study area.
- The Ocean Bay Apartments (Oceanside) are located south of Beach Channel Drive between Beach 54th Street and Beach 56th Street, providing approximately 0.13 acres of accessible open space, which includes three jungle gyms. It is located within both the residential study area and non-residential study area.
- The Beach 41st Street / Beach Channel Drive Houses are located north of Beach Channel Drive between Beach 38th Street and Beach 43rd Street, providing approximately 3.49 acres of accessible open space, which includes approximately six jungle gyms and a basketball court. It is located only within the residential study area.

Edgemere Urban Renewal Park

The Edgemere Urban Renewal Park is a community garden with limited access and is located within the residential and non-residential study areas. The 0.91-acre park is a NYC Parks-maintained property in the Green Thumb program and includes the Far Rock Urban Agro-Education Center at the Beach 45th Street Farm (open Tuesday, Thursday, and Saturday 10:00 AM to 2:00 PM) and the Edgemere Farm at Beach 45th Street (open Tuesday, Wednesday, Thursday from 10:00 AM to 6:00 PM, and Saturday from 1:00 PM to 6:00 PM).

Hip Hop Community Garden

The Hip Hop Community Garden is a private community garden located at the intersection of Rockaway Beach Boulevard and Beach 59th Street within both the residential and non-residential study areas. Within the Arverne View mixed-use development, the Hip Hop Community Garden offers gardening activities and event space for residents of all ages and community groups.

Rockaway Youth Task Force Urban Farm and Community Garden

The RYTF Urban Farm and Community Garden is located at the intersection of Beach Channel Drive and Beach 58th Street within Rockaway Community Park. It is part of NYC Parks' Greenthumb Program, operates from May through September from 11:00am to sundown, and is one of the largest youth-operated gardens in the NYC. The RYTF Urban Farm and Community Garden produces food that is sold at a seasonable farm stand every weekend in the summer and fall. In addition to outdoor garden plots, it consists of a greenhouse, on-site composting, solar technology, and rainwater harvesting.

Beach 59th Street Playground

The Beach 59th Street Playground is located on Beach Front Road between Beach 59th Street and Beach 60th Street within a 0.5-mile radius from the Project Site but outside of the residential study area. The playground is operated by NYC Parks and offers jungle gyms, swings, a handball court, pavement games, and benches serving users of all ages.

Bayswater Park

Bayswater Park is located at the intersection of Beach Channel Drive and Bay 32nd Street outside of the residential and non-residential study areas and approximately one mile from the Project Site. The 40.07-

acre park is operated by NYC Parks and offers basketball courts, baseball fields, handball courts, tennis courts, jungle gyms, kayak/canoe launches, barbequing areas, dog-friendly areas, and restrooms to users of all ages.

Rockaway Beach and Boardwalk

As noted previously, the portion of Rockaway Beach that would be closed as the Arverne Shorebird Preserve would be open from October to April. However, since beaches tend to be most utilized during warmer summer months, this seasonally opened portion of Rockaway Beach would not be fully utilized as an open space resource.

NYC Parks has plans to convert the area north of the Rockaway Boardwalk and south of the elevated A subway line into a native dune preserve within the residential study area and the non-residential study area. Since the native dune preserve would not be publicly- or privately-accessible, it would not provide any open space resources for residents or workers.

The 13.31% reduction in the active OSR in the residential study area, from 0.84 in the No-Action condition to 0.73 in the With-Action condition, would constitute a significant adverse impact. Though substantial open space resources outside of the residential study area would remain accessible to study area residents, the 13.31% reduction in active OSR is considered a significant adverse impact on active open space resources within the residential study area. Mitigation measures to address this indirect significant adverse impact on active open space resources in the residential study area are discussed in Chapter 20, “Mitigation,” of the DEIS.