Chapter 6: Open Space

A. INTRODUCTION

This chapter assesses the potential impacts of the proposed actions 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. Public open space is accessible to the public on a constant and regular basis, including for designated daily periods. Public open space may be under government or private jurisdiction and typically includes city, state and federal parkland, esplanades, and plazas designated through regulatory approvals such as zoning.

As discussed in Chapter 1, "Project Description," the proposed actions would result in a net increase of approximately 1,242 dwelling units, introducing a residential population of approximately 2,049. The Project Area would also contain up to 40,028 gsf of retail, 252 parking spaces, and 12,500 gsf potentially anticipated as a Fire Department of the City of New York-Emergency Medical Services (FDNY-EMS) station. As discussed in greater detail below, the incremental development exceeds CEQR thresholds for a preliminary assessment, and a detailed open space analysis has been prepared for the proposed actions.

PRINCIPAL CONCLUSIONS

The proposed actions would result in a significant adverse open space impact due to the increased user population.

While there are significant adverse impacts on vegetation located on a portion of the High Line due to shadows from the proposed projects, there would be no adverse impact to the character of the High Line from such shadows. As described in Chapter 20, "Construction," areas on the High Line directly across West 30th Street from the construction work areas would experience noise levels in the mid 60s to high 70s dBA. As with existing conditions, the predicted noise levels during construction at this open space would exceed the levels recommended by CEQR for passive open spaces (55 dBA L_{10}). The High Line at these locations would experience increases of up to approximately 14 dBA compared with No Action levels for approximately a 38 month period during construction. While this is not desirable, 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. In addition, construction activities would only occur for a limited number of hours per day, and for a limited time period at any location. Any effects from construction noise would be a temporary condition limited to a small portion of the High Line and there would be no adverse impact to the character and overall utility of the High Line.

As described in the *CEQR Technical Manual*, open space can be indirectly affected by a proposed action if the project would add enough population, either residential or non-residential, to noticeably diminish the capacity of open space in the area to serve the future population. A

detailed analysis was provided that considered the indirect effects of the population generated by the proposed actions on open space resources. The decreases in total, active, and passive open space ratios would be less than 5.5 percent (5.41, 5.47, and 5.39 percent, respectively). As noted in the *CEQR Technical Manual*, the determination of what constitutes a significant adverse open space impact is not based solely on the results of the quantitative assessment and may also take into account qualitative factors. These factors include new improvements to Hudson River Park enabled by the proposed actions, new recreational amenities in the proposed buildings, and existing large, linear open spaces that connect to the north and the south of the study area. Nonetheless, the proposed actions would result in a significant adverse open space impact due to indirect effects, i.e., the increased user population. Possible measures to address the impact are discussed in Chapter 21, "Mitigation."

B. METHODOLOGY

DIRECT EFFECTS

According to the *CEQR Technical Manual*, a proposed project would directly affect open space conditions if it causes the loss of public open space, changes the use of an open space so that it no longer serves the same user population, limits public access to an open space, or results in increased noise or air pollutant emissions, odor, or shadows that would temporarily or permanently affect the usefulness of a public open space. As no open space resources would be physically displaced as a result of the proposed actions, this chapter uses information from Chapter 7, "Shadows," Chapter 15, "Air Quality," Chapter 17, "Noise," and Chapter 20, "Construction," to determine whether the proposed actions would directly affect any open spaces within, or in close proximity to, the Project Area.

INDIRECT EFFECTS

As described in the *CEQR Technical Manual*, open space can be indirectly affected by a proposed action if the project would add enough population, either residential or non-residential, to noticeably diminish the capacity of open space in the area to serve the future population. Typically, an assessment of indirect effects is conducted when a project would introduce more than 200 residents or 500 workers to an area; however, the thresholds for assessment are slightly different for areas of the City that have been identified as either underserved or well-served by open space. The Project Area is not located within an area that has been identified as underserved or well-served; therefore, the 200 resident and 500 worker thresholds were applied to the analysis.

The proposed actions would introduce up to 1,242 incremental residential units, which would introduce an estimated 2,049 residents to the Project Area, compared to the No Action condition.[1] The proposed actions would introduce a new residential population above the 200-resident threshold, and therefore a detailed indirect effects open space analysis for the residential population is warranted. The proposed actions would introduce up to approximately 230 employees. The proposed actions would not introduce a new worker population over the 500-worker threshold, and therefore a non-residential open space analysis is not required.

[1] Assumes 1.65 Persons per Household in Manhattan CD 4 (2010 Decennial Census).

STUDY AREA

The *CEQR Technical Manual* recommends establishing a study area as the first step in an open space assessment. The study area is based on the distance that residents are likely to walk to an open space. According to the *CEQR Technical Manual*, residents are assumed to walk approximately 20 minutes, or ½ mile to an open space.

Because the proposed actions would introduce a residential population above the 200-resident threshold, the adequacy of open space resources was assessed for ½-mile (residential) study area. The study area was adjusted to include all Census Tracts with at least 50 percent of their area within the ½-mile boundary. In this way, the study area allows for analysis of both the open spaces in the area as well as population data. As shown in **Figure 6-1**, the ½-mile residential study area includes the area within Census Tracts 93, 97, 99, 103, and 111.

As shown in **Figure 6-1**, the study area is generally bounded by 38th Street to the north, Eighth Avenue to the east, Twelfth Avenue/Route 9A to the west, and 14th Street to the south.

ANALYSIS FRAMEWORK

The *CEQR Technical Manual* methodology suggests conducting an initial quantitative assessment to determine whether more detailed analyses are appropriate, but also recognizes that for projects that introduce a large population in an area that is underserved by open space, it may be clear that a full, detailed analysis should be conducted. Because the proposed actions would introduce sizeable new residential population to the study area, a preliminary analysis was not performed and a detailed analysis was conducted.

With an inventory of available open space resources and potential users, the adequacy of open space in the study area can be assessed both quantitatively and qualitatively. The quantitative approach computes the ratio of open space acreage to the population in the study area and compares this ratio with certain guidelines. The qualitative assessment examines other factors that may affect conclusions about adequacy, including proximity to additional resources beyond the study area, the availability of private recreational facilities, and the demographic characteristics of the area's population. Specifically, the analysis in this chapter includes:

- Characteristics of the residence in the open space study area. To determine the number of residents in the study area, 2015 American Community Survey (ACS) data has been compiled for census tracts comprising residential (½-mile) open space study area.
- An inventory of all publicly accessible passive and active recreational facilities in the residential open space study area. An open space is determined to be active or passive by the uses that the design of the space allows. Active open space is the part of a facility used for active play such as sports or exercise and may include playground equipment, playing fields and courts, swimming pools, skating rinks, golf courses, lawns, and paved areas for active recreation. Passive open space is used for sitting, strolling, and relaxation, and typically contains benches, walkways, and picnicking areas. However, some spaces can be used for both passive and active recreation; a green lawn or riverfront walkway, for example, can also be used for ball playing, jogging, or rollerblading.
- An assessment of the quantitative ratio of open space in the study area is conducted by computing the ratio of open space acreage to the population in the study area and comparing this open space ratio with certain guidelines. In New York City, local open space ratios vary widely, and the median ratio at the Citywide Community District level is 1.5 acres of open space per 1,000 residents. Typically, for the assessment of both direct and indirect effects,



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Open Space Study Area
Figure 6-1

citywide local norms are used for comparison and analysis. As a planning goal, a ratio of 2.5 acres per 1,000 residents represents an area well-served by open spaces, and is consequently used as an optimal benchmark for residential populations in large-scale proposals. Ideally, this would comprise 0.50 acres of passive space and 2.0 acres of active open space per 1,000 residents. For such large-scale projects (and for planning purposes), the City also seeks to attain its planning goal of a balance of 80 percent active open space and 20 percent passive open space. The City's planning goal is based, in part, on National Recreation and Park Association guidelines of 1.25 to 2.5 acres per 1,000 residents of neighborhood parks within one-half mile, 5 to 8 acres per 1,000 residents of community parks within one to two miles, and 5 to 10 acres per 1,000 residents of regional parks within a one-hour drive of urban areas.

- An assessment of expected changes in future levels of open space supply and demand in the 2022 analysis year, based on other planned development projects within the open space study area. To estimate the population expected in the study area in the future without the proposed actions, an average household size of 1.65[2] persons is applied to the number of new housing units expected in the study area. Any new open space or recreational facilities that are anticipated to be operational by the analysis year are also accounted for. Open space ratios are calculated for future No Action and With Action conditions and compared them to determine changes in future levels of adequacy.
- A determination of the adequacy of open space in the open space study area in the Existing, No Action, and With Action conditions.

IMPACT ASSESSMENT

Potential impacts are based in part on how a project would change the open space ratios in the study area. According to the *CEQR Technical Manual*, an open space ratio decrease is generally considered to be a significant adverse impact, warranting a detailed analysis, if it would approach or exceed 5 percent. If a study area exhibits a low open space ratio, indicating a shortfall of open space, smaller decreases in that ratio as a result of the action may constitute significant adverse impacts. However, this area is not considered underserved in terms of open space based on the guidelines of the *CEQR Technical Manual*.

In addition to the quantitative factors cited above, the *CEQR Technical Manual* also recommends consideration of qualitative factors in assessing the potential for open space impacts. These include the availability of nearby destination resources, the beneficial effects of new open space resources provided by a project, and the comparison of projected open space ratios with established City guidelines. It is recognized that the open space ratios of the City guidelines presented are not feasible for many areas of the City, and they are not considered impact thresholds on their own. Rather, these are benchmarks that indicate how well an area is served by open space. When assessing the effects of a change in the open space ratio, the assessment should consider the balance of passive and active open space resources appropriate to support the affected population and the condition of existing open spaces within the study area. Determinations as to what constitutes a significant adverse open space impact are not based solely on the results of the quantitative assessment. Qualitative considerations such as the distribution of open space, whether an area is considered “well-served” or “underserved” by

[2] Assumes 1.65 Persons per Household in Manhattan CD 4 (2010 Decennial Census).

open space, the distance to regional parks, the connectivity of open space, and any additional open space provided by the project, should be considered in a determination of significance.

C. EXISTING CONDITIONS

STUDY AREA POPULATION

Based on 2015 ACS data, the five Census Tracts that make up the study area have a total residential population of 27,272 (see **Table 6-1**).

Table 6-1
Study Area Residential Population

Census Tract	Population
93	10,650
97	5,163
99	4,938
103	1,841
111	4,680
Total	**27,272**

Source: U.S. Census Bureau, ACS 2011–2015 Five-Year Estimates.

AGE BREAKDOWN

Table 6-2 summarizes the age distribution of the study area population with a comparison to Manhattan and New York City as a whole. The study area has a relatively low percentage of children and teenagers and a higher percentage of adults ages 20 to 64 when compared to Manhattan and New York City. Children and teenagers (19 years and younger) account for approximately 13 percent of the study area, compared to approximately 17 percent in the Borough of Manhattan, and approximately 24 percent for New York City. Adults aged 20 to 64 make up approximately 74 percent of the study area, higher than that of both the Borough of Manhattan (approximately 69 percent), and that of New York City (approximately 64 percent) as a whole. The senior population, 65 years and over, is approximately 14 percent of the study area population, similar to that of the Borough of Manhattan (approximately 14 percent), but slightly higher than that of New York City (approximately 13 percent).

As shown in **Table 6-2**, the study area's average median age is 38.3, compared with 36.6 and 35.8 in the Borough of Manhattan and New York City as a whole, respectively. The study area median ages by census tract range from a high of 51.8 years (Manhattan Census Tract 97) to a low of 31.5 years (Manhattan Census Tract 111).

Table 6-2
Study Area Residential Population Age Breakdown

	Total	Age Distribution												
	Residential	Under 5		5-9		10-14		15-19		20-64		65+		Median
Census Tract	Population	#	%	#	%	#	%	#	%	#	%	#	%	Age
93	10,650	264	2.5%	860	8.10%	807	7.60%	188	1.80%	6,719	63.09%	1,812	17.01%	39.8
97	5,163	117	2.3%	120	2.30%	184	3.60%	81	1.60%	3,268	63.30%	1,393	26.98%	51.8
99	4,938	79	1.6%	42	0.90%	69	1.40%	105	2.10%	4,438	89.87%	205	4.15%	32.5
103	1,841	38	2.1%	11	0.60%	0	0.00%	25	1.40%	1,637	88.92%	130	7.06%	36.0
111	4,680	242	5.2%	62	1.30%	72	1.50%	96	2.10%	4,008	85.64%	200	4.27%	31.5
Study Area Totals	27,272	740	2.7%	1,095	4.0%	1,132	4.2%	495	1.8%	20,070	73.6%	3,740	13.7%	38.3[1]
Total for Manhattan	1,629,507	82,898	5.1%	61,563	3.8%	58,992	3.6%	72,223	4.4%	1,123,676	68.9%	230,155	14.1%	36.6
Total for NYC	8,426,743	555,811	6.6%	482,767	5.7%	465,647	5.5%	487,092	5.8%	5,363,721	63.7%	1,071,705	12.7%	35.8

Notes:
1. Average for study area census tracts.
There may be a small discrepancy within the number values above due to rounding.
Source: U.S. Census Bureau, ACS 2011–2015 5-Year Estimates.

Given the range of age groups present in the study area population, the study area has a need for various kinds of active and passive recreation facilities, including open space features that can be used by children and adults. Within a given area, the age distribution of a population affects the way open spaces are used and the need for various types of recreational facilities. Typically, children 4 years old or younger use traditional playgrounds that have play equipment for toddlers and preschool children. Children ages 5 through 9 typically use traditional playgrounds as well as grassy and hard-surfaced open spaces, which are important for activities such as ball playing, running, and skipping rope. Children ages 10 through 14 typically use playground equipment, court spaces, and ball fields. Teenagers' and young adults' needs tend toward court game facilities such as basketball and field sports. Adults (ages 20 to 64) continue to use court game facilities and sports fields, along with more individualized recreation such as rollerblading, biking, and jogging that require bike paths, promenades, and vehicle-free roadways. Adults also gather with families for picnicking, active informal sports such as Frisbee, and recreational activities in which all ages can participate. Senior citizens (65 years and older) engage in active recreation such as handball, tennis, gardening, fishing, walking and swimming, as well as recreational activities that require passive facilities.

INVENTORY OF PUBLICLY ACCESSIBLE OPEN SPACE

According to the *CEQR Technical Manual*, open space may be public or private and may be used for active or passive recreational purposes. In accordance with the *CEQR Technical Manual*, publicly accessible open space is defined as facilities open to the public at designated hours on a regular basis and is assessed for impacts using both a quantitative and a qualitative analysis, whereas private open space is not accessible to the general public on a regular basis and is considered qualitatively. Field surveys and secondary sources were used to determine the number, availability, and condition of publicly accessible open space resources in the study area.

There are 15 publicly accessible open spaces that are entirely within the study area and 3 publicly accessible open spaces that extend outside of the study area (see **Table 6-3** and **Figure 6-2**). Hudson River Park, a destination park and the largest open space resource in the study area, is located between West 59th Street and the northern edge of Battery Park City. The study area only captures the area of the park between West 38th Street and West 14th Street. This portion of the park contains piers and a waterfront walkway with upland areas improved with landscaping, seating areas, lawns, courts and dog runs. It should be noted that this portion of the Hudson River Park also includes areas of the Hudson River east of the pier-head line. These areas include boating facilities at certain locations along the waterfront and the opportunity for park goers to take advantage of various maritime activities.[3] For the purpose of this analysis the acreage of each pier has been calculated individually, however, they are all part of Hudson River Park. Within the study area, Piers 62, 63, 64, 66, and 66a, all contain recreational facilities and are accessible to the public. While these piers all feature pedestrian esplanades and seating areas, most also feature more extensive facilities, including passive or active open space. Pier 62 features a garden, pathways, seating, a carousel, and a 15,000 sf skate park. Pier 63 is a wide waterside esplanade with unique stone seating. Pier 63 and the adjacent upland area also includes gardens and a large green lawn fashioned in the shape of a bowl. Just north of Pier 63 is Pier 64, a long pier that features seating and landscaped area. Piers 66 and 66a, feature a more-unique blend of recreational activities, including non-motorized boating, public art, historic ships, and a restaurant. In total, Hudson River Park, including the piers, is 17.28 acres of open

[3] https://www.hudsonriverpark.org/explore-the-park/on-the-water



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Open Space Resources
Figure 6-2

space within the study area (roughly 45 percent of all open space within the study area) (see **Table 6-3**). Adjacent to Hudson River Park is the Route 9A Bikeway, an approximately 2.18 acre open space resource within the study area. In the study area, this 100 percent active open space resource is located between West 38th Street and West 14th Street. The Route 9A Bikeway consists of a northbound and a southbound lane dedicated to walking, roller blading, jogging and bicycle riding.

The remaining open spaces within the study area are a mix of publicly and privately owned parks, plazas, and seating areas. The parks and playgrounds in the study area include Penn Station South Houses open space, Penn Station South Houses Playground, Chelsea Park, Chelsea Waterside Park, 14th Street Park, Hudson Park, and the High Line. The largest of these parks is the High Line (4.92 acres), an elevated walkway that spans from 14th Street to 34th Street within the study area and includes pathways, landscaped areas, art installations, seating, and food kiosks. The next largest open space is the Penn Station South Houses open space (3.82 acres). The Penn Station South Houses, located between West 28th and West 23rd Streets and Eighth and Ninth Avenues, provides several open spaces for use by its residents and the public. Numerous sitting areas and landscaped paths are provided, along with play equipment for children. Chelsea Park (3.32 acres), the next largest open space, is located on 28th Street between Ninth and Tenth Avenues. This park features swing sets, slides, basketball and handball courts, baseball fields, paved walkways, seating, play equipment, and planters. In addition, the newly completed Hudson Park, developed alongside the 7 train extension, features seating, fountains, play equipment and landscaped areas and provides approximately 2.15 acres of recreational open space.

Table 6-3 summarizes the open spaces within the study area, and **Figure 6-2** shows their locations. In total, the study area contains approximately 38.60 acres of open space, with 9.91 acres (26 percent) of active open space and 28.69 acres (74 percent) of passive open space.

Table 6-3
Existing Residential Study Area Open Spaces

Ref. No.[1]	Name	Location	Owner/ Agency	Features	Total Acres	Active Acres	Passive Acres	Condition/ Utilization
1	Plaza	36 St., bet. Ninth and Dyer Aves	NYC Parks	Seating, planted median	0.15	0.00	0.15	Good/ Moderate
2	Plaza	Dyer Ave, bet. 35 St. and 36 St.	NYC Parks	Seating, planted Median	0.06	0.00	0.06	Good/Low
3	Hudson Park	Hudson Blvd. bet. W. 36 St. and W. 33 St.	NYC Parks	Seating, restrooms, landscaped areas, playground, fountain	2.15	0.22	1.94	Excellent/ Moderate
4	Farley Building Steps	Ninth Ave. bet. 30 St. and 33 St.	ESD	Seating	0.33	0.00	0.33	Good/High
5	Chelsea Park	W. 28 St. bet. Ninth and Tenth Aves.	NYC Parks	Basketball courts, handball courts, turf field, track, playground, statue, seating, landscaped areas	3.90	3.12	0.78	Good/High
6	Penn South Playground	W. 26 St., Eighth Ave. to Ninth Ave	NYC Parks	Playground, seating, basketball	0.60	0.45	0.15	Good/ Moderate
7	Chelsea Waterside Park	Bet. W. 22 St. and W. 24 St., Eleventh Ave.	Hudson River Park	Basketball, turf field, playground, spray showers, seating, grassy area, pathway, dog run	2.24	1.79	0.45	Good/High
8	14th Street Park	W. 14 St. and Twelfth Ave.	Hudson River Park	Seating, grassy areas	0.58	0.00	0.58	Excellent/ High
9	High Line	Bet. W. 14 St. and W. 34 St.	NYC Parks	Paths, landscaping, seating	4.92	0.00	4.92	Excellent/ High
10	Penn Station South Houses open space	Bet. W. 24 St. and W. 29 St. bet. Eighth and Ninth Aves.	Mutual Redevelopment Houses, Inc.	Basketball court, landscaped areas, grassy areas, seating areas, playgrounds, garden	3.82	0.76	3.06	Excellent/ High
11	Chelsea Recreation Center	430 W 25 St.	NYC Parks	Recreation Center: Pool, basketball court, exercise rooms, game room, space for aerobics/yoga classes, and a computer resource room with internet access	0.39	0.00	0.39	Excellent/ High
Hudson River Park and Route 9A Bikeway[2]								
12	Hudson River Park Upland	Bet. W 14 St. and W 38 St.	HRPT	Grass lawns, seating areas, plazas, walkways	10.89	0.00	10.89	Excellent/ High
13	Route 9A Bikeway	Bet. W. 14 St. and W. 38 St.	NYSDOT/ HRPT	Greenway	2.18	2.18	0.00	Excellent/ High
14	Pier 62	W. 22 St. and Twelfth Ave./Route 9A	HRPT	Skate park, carousel, garden, seating	2.14	1.39	0.75	Excellent/ High
15	Pier 63	W. 23 St. and Twelfth Ave./Route 9A	HRPT	Esplanade, seating, grass lawn, garden	2.02	0.00	2.02	Excellent/ High

Table 6-3
Existing Residential Study Area Open Spaces (cont'd)

Ref. No.[1]	Name	Location	Owner/ Agency	Features	Total Acres	Active Acres	Passive Acres	Condition/ Utilization
Hudson River Park and Route 9A Bikeway (cont'd)								
16	Pier 64	W. 24 St. and Twelfth Ave./Route 9A	HRPT	Grass lawn, pathways, seating	1.17	0.00	1.17	Excellent/ High
17	Pier 66	W. 26 St. and Twelfth Ave./Route 9A	HRPT	Walkway, seating, boathouse	0.56	0.00	0.56	Excellent/ High
18	Pier 66a	W. 26 St. and Twelfth Ave./Route 9A	HRPT	Seating, historic ships, restaurants	0.50	0.00	0.50	Excellent/ High
Hudson River Park and Route 9A Bikeway Total					19.46	3.57	15.89	
Residential (½-Mile) Study Area Total					**38.60**	**9.91**	**28.69**	
Qualitative Open Space Resources[3]								
A	Bob's Park	W. 35 St. bet. Ninth and Tenth Aves.	Clinton Housing Development Company	Seating, playground	0.05	0.03	0.03	Excellent/ Low
B	Elliot Houses	Bet. W. 27 St. and W. 25 St. and Ninth and Tenth Aves.	NYCHA	Seating, plaza, playgrounds	1.16	0.41	0.75	Good/ Moderate
C	Chelsea Houses	Bet. W. 27 St. and W. 25 St. and Ninth and Tenth Aves.	NYCHA	Playground, Rec Center, Chelsea Houses Playground	0.49	0.40	0.10	Good/ Moderate
D	Alice's Garden	460 W. 34 St.	Clinton Housing Development Company	Garden	0.18	0.00	0.18	Good/ Moderate
Total Qualitative Open Space					**1.89**	**0.83**	**1.06**	

Notes:
1. See **Figure 6-2**.
2. Hudson River Park comprises 550 acres overall, which includes in-water areas.
3. Chelsea Piers provides private recreational facilities within the study area.
NYC Parks = New York City Department of Parks and Recreation
DOE = Department of Education
ESD = Empire State Development Corporation
HRPT = Hudson River Park Trust
NYCHA = New York City Housing Authority
Sources: NYC Parks; HRPT; Western Rail Yards FEIS; 2015 Primary land Use Tax Output (PLUTO) data; site visits conducted in April 2017.

As shown in **Figure 6-2**, in addition to the open spaces included in the quantitative analysis, the study area contains two New York City Housing Authority (NYCHA) recreational areas, a privately operated park, and a privately operated garden. In addition to residential buildings, most NYCHA developments contain ancillary facilities for its residents such as community centers, childcare facilities, and recreational amenities such as basketball courts, landscaped grounds between buildings, passive seating areas, playgrounds and small parks. NYCHA open spaces are maintained for public use by the Department of Parks and Recreation (NYC Parks). In order to ensure a conservative analysis, those resources intended for use by NYCHA residents are discussed qualitatively. Similarly, Bob's Park and Alice's Garden are maintained for public use by the Clinton Housing Development Company and have not been included in the quantitative analysis because they require additional actions to gain access; however, they have been included in the qualitative assessment below.

ASSESSMENT OF OPEN SPACE ADEQUACY

The following analysis of the adequacy of open space resources within the study area takes into consideration the ratios of active, passive, and total open space resources per 1,000 residents.

QUANTITATIVE ASSESSMENT

As shown in **Table 6-4**, with a residential population of 27,272, the study area has a total open space ratio of 1.415 acres per 1,000 residents, which is slightly lower than the city's median of 1.5 acres per 1,000 residents. **Table 6-4** also compares the existing open space ratios to the City's planning goal of 2.5 total acres of open space per 1,000 residents (with 2.0 acres of active open space and 0.5 acres of passive open space per 1,000 residents). The study area currently has 0.363 acres of active open space per 1,000 residents, below the City's goal of 2.0 acres per 1,000 residents, and 1.052 acres of passive open space per 1,000 residents, which exceeds the City's goal of 0.5 acres per 1,000 residents.

Table 6-4
Existing Conditions: Adequacy of Open Space Resources

Total Population		Open Space Acreage			Open Space Ratios			Open Space Goals		
		Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
Residential (½-Mile) Study Area										
Residents	27,272	38.60	9.91	28.69	1.415	0.363	1.052	2.5	2.0	0.5

Note: Ratios in acres per 1,000 people.
Sources: U.S. Census Bureau, ACS 2011–2015 5-Year Estimates; NYC Parks; AKRF field visits, April 2017.

QUALITATIVE ASSESSMENT

Although the study area would fall short of the City's guideline ratio, the mix of recreational open space (approximately 26 percent active and 74 percent passive) would be appropriate for the residential age distribution. As noted above, the study area includes a particularly high percentage of adults, as compared with Manhattan and New York City as a whole (refer to **Table 6-2**) with 20 to 64 year olds comprising over 73 percent of the study area population. As indicated in the *CEQR Technical Manual*, adults use both active and passive resources; court facilities, such as basketball and handball courts, and sports facilities, such as football or soccer fields, as well as walkways, grass lawns, plazas and seating areas. Seven of the study area's 18 open spaces include active amenities, while 17 of the study area's 18 open spaces include passive amenities (see **Table 6-3**). In addition, and as noted in **Table 6-3**, most are in good or excellent condition.

The deficiency of open space resources within the study area is partially ameliorated by several factors. There is a total of approximately 1.89 acres of additional open space contained within the boundaries of four other open space resources in the study area. While these open space resources were conservatively excluded from the quantitative analysis, it is likely that they are used by people that live in the study area. The four open spaces include the Elliot Houses (1.16 acres), the Chelsea Houses (0.49 acres), Bob's Park (0.05 acres), and Alice's Garden (0.18 acres). Open space within the Elliot and Chelsea Houses has been excluded from the quantitative analysis because NYCHA property and open space resources are solely for the purpose of the residents within those developments. Although Bob's Park and Alice's Garden are publicly accessible they have been conservatively excluded from the quantitative analysis because they are privately operated and entry requires a $2.00 fee and a key. The extensive private recreational facilities (i.e., ice rink, swimming pool, driving range, etc.) at Chelsea Piers are in

the study area, but not counted in the quantitative analysis because they are not free to the public.

In addition, Hudson River Park and the adjacent Route 9A Bikeway are major open space destinations. Both Hudson River Park and the Route 9A Bikeway extend well beyond the boundaries of the ½-mile study area. In total Hudson River Park is approximately 550 acres, which includes water areas, while the entire Route 9A Bikeway is approximately 8.54 acres. Study area residents likely visit the areas of Hudson River Park and the Route 9A Bikeway outside of the study area. The High Line also extends outside of the study area and residents are anticipated to make use of the park areas outside of the study area as well. Other passive open spaces just east of the study area boundary include a plaza outside of the Fashion Institute of Technology (0.07 acres), One Penn Plaza (1.15 acres), and Two Penn Plaza (0.42 acres). There are also active open space resources just outside the study area boundary. Clemente Clark Moore Park, an NYC Parks operated resource, is a primarily active 0.49 acre open space that features swings, play equipment, and sprinklers, as well as seating, and picnic tables.

D. THE FUTURE WITHOUT THE PROPOSED ACTIONS (NO ACTION CONDITION)

STUDY AREA POPULATION

As described in Chapter 1, "Project Description," absent the proposed actions (the No Action condition), it is conservatively assumed that the existing structures will remain on the Project Area with uses similar to or the same as existing uses. Furthermore, it is assumed that any improvements to the structures or sites would be minimal. In the No Action condition, it is expected that current land use trends and general development patterns will continue. These trends and patterns are characterized by a mix of uses and primarily include residential, commercial, and community facility development. As detailed in Chapter 2, "Analytical Framework," there are a total of 52 development projects within the open space study area anticipated to be complete by the build year. As indicated in **Table 6-5**, the anticipated No Action development is expected to increase the study area's population to 36,162.[4]

OPEN SPACE RESOURCES

Two open space resources are expected to be completed in the No Action condition. An approximately 5.0-acre open space is anticipated in connection with a mixed-use project at the Eastern Rail Yards. The open space will be located between West 33rd Street and West 30th Street. The open space will include amenities such as landscaped areas, gardens, and a plaza. Another 2.5-acre open space is anticipated in connection with a mixed-use project at Pier 57. Pier 57 is located at West 15th Street and Twelfth Avenue/Route 9A. The open space will be would consist of walkways and landscaped areas. All together, the two open space resources would introduce 7.5-acres of open space to the study area.

ASSESSMENT OF OPEN SPACE ADEQUACY

The following analysis of the adequacy of open space resources within the study area takes into consideration the ratios of active, passive, and total open space resources per 1,000 residents.

[4] The No Action residential population is the sum of the existing residential population (27,272) and the residential population (8,890) associated with known No Build developments.

QUANTITATIVE ASSESSMENT

In the No Action condition, the residential population in the study area is expected to increase to 36,162. With the addition of the 7.50 acres of additional passive open space anticipated to be introduced by Eastern Rail Yards, the amount of open space in the study area will increase to 46.10 acres, with 9.91 acres of active open space and 36.19 acres of passive open space. With the additional residents and increase in open space, the total open space ratio will decrease to 1.275 acres per 1,000 residents, remaining below both the City's median of 1.5 acres per 1,000 residents and the City's planning goal of 2.5 acres per 1,000 residents. The active open space ratio will decrease to 0.274 acres per 1,000 residents, and will remain below the City's planning goal of 2.0 acres per 1,000 residents; the passive open space ratio would also decrease to 1.001 acres per 1,000 residents but would remain above the City's planning goal of 0.5 acres per 1,000 residents. **Table 6-5** summarizes the open space ratios in the No Action condition.

Table 6-5
No Action Condition: Adequacy of Open Space Resources

		Open Space Acreage			Open Space Ratios			Open Space Goals		
Total Population		**Total**	**Active**	**Passive**	**Total**	**Active**	**Passive**	**Total**	**Active**	**Passive**
Residential (½-Mile) Study Area										
Residents	36,162	46.10	9.91	36.19	1.275	0.274	1.001	2.5	2.0	0.5
Note: Ratios in acres per 1,000 people										
Sources: U.S. Census Bureau, ACS 2011–2015 5-Year Estimates; DPR; AKRF field visits, April 2017										

QUALITATIVE ASSESSMENT

In the No Action condition the study area would continue to contain a mix of recreational facilities. With the addition of the two open space resources, open space amenities would be approximately 22 percent active and 78 percent passive. Open space ratios per 1,000 residents will remain below the guideline goal of 2.5 acres per 1,000 residents and the citywide median of 1.5 acres per 1,000 residents.

As shown in **Table 6-3**, the study area open spaces include a variety of open spaces appropriate for the study area population. As noted in Section C, "Existing Conditions," the deficiency of open resources within the study area is partially ameliorated by including the four open spaces included in the qualitative assessment.

E. THE FUTURE WITH THE PROPOSED ACTIONS (WITH ACTION CONDITION)

By the 2022 build year, the proposed actions are expected to result in a net increase of 1,242 dwelling units, 2,049 new residents, compared with the No Action condition.

DIRECT EFFECTS

According to the *CEQR Technical Manual*, direct effects occur when a project results in the direct displacement/alteration of existing open space within the study area, changes the use of an open space so that it no longer serves the same user population, limits public access to an open space, or results in increased noise, air pollutant emissions, odor, or shadows that would temporarily or permanently affect the usefulness of a public open space. The potential for the proposed projects to result in shadows, air quality, and noise effects on open spaces in the study area is discussed in Chapter 7, "Shadows," Chapter 15, "Air Quality," Chapter 17, "Noise," and Chapter 20, "Construction."

No publicly accessible open space resources would be physically displaced as a result of the proposed projects. The air quality analysis shows that there would be no significant adverse impacts from mobile or stationary sources. Therefore, the proposed projects would not have any air quality impacts on open space resources.

The noise analysis finds that the proposed actions would not result in any significant adverse noise impacts. Therefore, the proposed projects would not have any noise impacts on open space resources.

While the shadows analysis shows that the proposed actions would result in significant adverse shadow impacts to the vegetation on the High Line on the March 21/September 21 analysis day, the analysis concludes that there would be no adverse impact to the character of the High Line; users of the High Line would continue to find sunlit areas available in adjacent and nearby portions of this linear park during the periods when project generated shadow would fall.

As described in Chapter 20, "Construction," areas on the High Line directly across West 30th Street from the construction work areas would experience noise levels in the mid 60s to high 70s dBA. As with existing conditions, the predicted noise levels during construction at this open space would exceed the levels recommended by CEQR for passive open spaces (55 dBA L_{10}). The High Line at these locations would experience increases of up to approximately 14 dBA compared with No Action levels for approximately a 38 month period during construction. While this is not desirable, 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. In addition, construction activities would only occur for a limited number of hours per day, and for a limited time period at any location. Any effects from construction noise would be a temporary condition limited to a small portion of the High Line and there would be no adverse impact to the character and overall utility of the High Line.

INDIRECT EFFECTS

According to the *CEQR Technical Manual*, a proposed action may result in a significant indirect impact on open space resources if it would reduce the open space ratio and consequently result in the overburdening of existing facilities or further exacerbating a deficiency in open space.

STUDY AREA POPULATION

In the With Action condition, the proposed actions would rezone an area containing project site A, project site B, and Lot 38. The proposed actions would introduce an estimated 2,049 new residents over the No Action condition. As indicated in **Table 6-6**, the additional population is expected to increase the total study area population to 38,212.

Based on the age distribution found in the existing study area, the population anticipated to be generated by the proposed actions is expected to have a somewhat higher percentage of adults (73.6 percent), ages 20 to 64, than Manhattan (69.0 percent) and New York City (63.7 percent) as a whole. The study area also has a higher percentage of seniors (13.7 percent), ages 65 and over, than that of New York City (12.7 percent) as a whole.

By understanding the age distribution, the study area population's open space needs can be determined. A larger population of adults would place an equal demand on both active and passive open space resources, while seniors would place a higher demand on just passive open space resources. Open spaces appropriate to the adult age group feature active amenities such as

basketball courts, ball fields for field sports, tracks, greenways, and passive amenities as well, such as seating areas, pathways, and esplanades.

ASSESSMENT OF OPEN SPACE ADEQUACY

The proposed actions would not result in any new publicly accessible open spaces. As such, the study area would be served by approximately 46.10 acres of open space (including approximately 36.19 acres of passive space and 9.91 acres of active space) in the 2022 With Action condition.

In the With Action condition, with the additional residents and open space introduced by the proposed project, the total open space ratio in the study area would decrease to 1.206 acres per 1,000 residents (from 1.275 in the No Action condition). The active open space ratio would decrease to 0.259 acres per 1,000 residents (from 0.275 in the No Action condition), and the passive open space ratio would decrease to 0.947 acres per 1,000 residents (from 1.001 in the No Action condition). **Table 6-6** summarizes the open space ratios in the With Action condition.

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

		Open Space Acreage			Open Space Ratios			Open Space Goals		
Total Population		**Total**	**Active**	**Passive**	**Total**	**Active**	**Passive**	**Total**	**Active**	**Passive**
Residential (½-Mile) Study Area										
Residents	38,212	46.10	9.91	36.19	1.206	0.259	0.947	2.5	2.0	0.5
Note: Ratios in acres per 1,000 people.										
Sources: U.S. Census Bureau, ACS 2011–2015 5-Year Estimates; NYC Parks; AKRF field visits, April 2017; DOB.										

Quantitative Assessment

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

In addition, as described above, the study area would be served by approximately 46.10 acres of open space, including approximately 9.91 acres of active space and 36.19 acres of passive space in the 2022 With Action condition. With the existing age distribution open space within the study area is appropriately skewed towards passive open space with an approximately 22 and 78 percent split of active and passive open space amenities, respectively.

Table 6-7
Open Space Ratios Summary

Ratio	City Goal (acres per 1,000 residents)	No Action Condition	With Action Condition	Percent Change
Total	2.50	1.275	1.206	-5.41%
Active	2.00	0.274	0.259	-5.47%
Passive	0.50	1.001	0.947	-5.39%

According to the *CEQR Technical Manual*, an action may result in a significant adverse open space impact if it would reduce the open space ratio by more than 5 percent in areas that are

currently below the City's median community district open space ratio of 1.5 acres per 1,000 residents. As noted in **Table 6-6**, the open space ratios for the study area are below the City's open space goal and the median community district ratio. In addition, as noted in **Table 6-7**, the proposed projects would result in a decrease of the total open space ratio by 5.41 percent, the active open space ratio by 5.47 percent, and the passive open space ratio by 5.39 percent. Therefore, a qualitative assessment of the proposed actions is provided below in order to determine the overall impact significance.

Qualitative Assessment

Improvements to Hudson River Park

The proposed actions would support open spaces within the study area by enabling improvements and repairs to Hudson River Park, a critical open space asset and an important amenity for neighborhoods in the surrounding area and beyond. As described in Chapter 1, "Project Description," there are a number of incomplete park areas within the Community Board 4 area. HRPT has committed to work with Community Board 4 to prioritize improvements that could be funded by the transfer. Options include an over-water pedestrian platform between West 58th and West 59th Streets, completion of Pier 97 as a public recreation pier, construction of an upland park in the area adjacent to Pier 97, construction of permanent esplanade and improved vehicular circulation in the upland area between the northern edge of Pier 79 and Pier 84, construction of new park in the upland area between West 29th Street and the southern edge of Pier 76, infrastructure restoration of the historic Baltimore & Ohio Railroad Float Transfer Bridge at Pier 66a, and upgrades to Chelsea Waterside Park. In addition, HRPT has stated that it intends to set aside 20 percent of the total value of the transfers for future capital maintenance needs within Community Board 4. These funds would be for capital maintenance and reconstruction of park areas such as: pile repairs, dock repairs, bulkhead repairs, playgrounds, paving, landscaping, lighting and utility repairs or replacement, roof or other structural repairs and replacements at park buildings (as opposed to park/commercial buildings as defined in the Act), or other capitally eligible park items. The proposed actions would be supportive of a key destination open space resource, serving residents in the study area and throughout the City. Therefore, the proposed actions would enable necessary support for open space used by the study area residents, as well as the City as a whole.

Proposed On-Site Recreational Amenities

The project sites would include a range of amenities, including swimming pools, gym facilities and passive and active recreational space. These amenity spaces would serve as another recreational resource for residents of the proposed projects and would help meet some of the residents' open space needs. Project site A would include a total amenity area in excess of 30,000 gsf dispersed amongst the cellar, 2nd, and 37th floors. This would include more than 15,000 gsf of outdoor terraces on the 2nd, 6th, and 37th floors. Amenity program elements include a gym, a pool, a locker room with showers, multiple indoor lounges on multiple floors, sundecks on multiple floors with loungers and patio furniture, kids playroom, indoor screening room, outdoor screening area, BBQ area, and outdoor activity area (for yoga and cross fitness).

Project site B would have a full floor of amenity space of approximately 5,030 gsf, including a swimming pool, locker rooms with showers, a gym facility and an indoor lounge. In addition, there will be an approximately 357-gsf outdoor terrace that complements both the pool and lounge areas, and serves as an outdoor seating and viewing area on the 21st floor.

Consideration of Other Open Spaces

Although the total and active open space ratios in the study area would fall below the City's planning goals in both the No Action and With Action conditions, there are four additional qualitative open space resources, as discussed in Section C, "Existing Conditions" (see **Table 6-3**). Two of these are NYCHA developments within the study area. Approximately 2,326 residents[5] live in the Elliot and Chelsea Houses, making up approximately 7 percent of the study area. The recreation areas within these two NYCHA developments offer a total of 1.65 acres of open space (0.81 acres of passive space, 0.85 acres of active space), featuring playgrounds, seating areas and a plaza. These open space resources are solely for the use of NYCHA residents. With a split of 48 percent and 52 percent active and passive recreational space respectively, NYCHA recreation areas lessen the demand placed on publicly accessible open space resources within the residential study area. Overall, while these areas were not included in the open space inventory and quantitative analysis as they are primarily meant for use by residents of the housing developments, they would help serve the recreational needs of the study area.

The Hudson River is located one block west of the Project Area. Although it was not included in the quantitative analysis, the Hudson River including the portion within Hudson River Park is a recreational resource that residents of the study are able to use to help meet their active open space needs. For example, Pier 66, located within the open space study area by West 26th Street, includes a boathouse for sailing, canoeing, and other maritime activities. In fact, more than 400 of the 550 total acres associated with the Hudson River Park are located in the Hudson River and such boating facilities are available at limited locations along the waterfront.[6] While the quantitative analysis accounts for Pier 66, it does not include water areas where users can take advantage of various maritime activities, and therefore residents have access to these additional recreational areas in the Hudson River to meet some of their recreational needs. The extensive private recreational facilities (i.e., ice rink, swimming pool, driving range, etc.) at Chelsea Piers are in the study area, but not counted in the quantitative analysis because they are not free to the public.

In addition, residents within the study area would have access to other open space resources located just outside of the study area. The Project Area is located at the crossroads of major linear parks that allow for the connectivity of open space throughout the study area. In particular, Hudson River Park (approximately 550 acres in total, of which approximately 17.28 acres are in the study area), the Route 9A Bikeway (approximately 8.54 acres in total, of which approximately 2.18 acres are in the study area), and the High Line (approximately 6.73 acres in total, of which approximately 4.92 acres are in the study area), extend well beyond the boundaries of the open space study area and provide additional space for both active and passive recreation. These open spaces are destinations that serve local residents in the study area as well as visitors from throughout the city and provide extensive areas for active recreational activities that are popular among adults, such as jogging and biking. In particular, given the relatively high proportion of study area population who are adults, rather than children, teenagers, or senior citizens, the extended areas of these open space resources serve many of the active open space needs of the area. In addition, as analyzed in the No Action condition, Eastern Rail Yards will feature the public square and gardens that will not only provide new open space and amenities to

[5] NYCHA Development Data Book 2016.

[6] https://www.hudsonriverpark.org/explore-the-park/on-the-water

residents in the study area, but will also provide for increased connectivity of open space within the study area. Completion of the open space at the Eastern Railyards will allow residents from the Project Area to more easily access open spaces to the north, such as Hudson Park. Therefore, residents are likely to take advantage of the connectivity of open spaces in the study area and are likely to utilize portions of these linear open spaces beyond the extent of the open space study area.

Overall, these resources offer residents in the study area access to additional open space amenities, and these additional qualitative considerations may be taken into account in the determination of impacts.

DETERMINING IMPACT SIGNIFICANCE

As noted above, the proposed actions would result in small decreases to open space ratios as a result of new residential population. The decreases in total, active, and passive open space ratios would be less than 5.5 percent (see **Table 6-7** above). With respect to the reductions in open space within the residential study area, the total and active open space ratios would remain below the City's guideline ratios of 2.5 acres and 2.0 acres per 1,000 residents, respectively, in the With Action condition. The total residential study area open space ratio would decrease by 5.41 percent to 1.206 acres per 1,000 residents; the active residential study area open space ratio would decline by 5.47 percent to 0.259 acres per 1,000 residents; and the passive residential study area open space ratio would decline by 5.39 percent to 0.947 acres per 1,000 residents—less than half of a percentage point above the CEQR threshold.

As noted in the *CEQR Technical Manual*, the determination of what constitutes a significant adverse open space impact is not based solely on the results of the quantitative assessment and may also take into account qualitative factors. These factors include new improvements to Hudson River Park enabled by the proposed actions, new recreational amenities in the proposed buildings, and existing large, linear open spaces that connect to the north and the south of the study area. Nonetheless, the proposed actions would result in a significant adverse open space impact due to the increased user population. Possible measures to address the impact are discussed in Chapter 21, "Mitigation." ✷