Chapter 5: Open Space

A. INTRODUCTION

This chapter assesses the potential impacts of the Proposed Actions on open space resources. Open space is defined in the 2020 *City Environmental Quality Review (CEQR) Technical Manual* as publicly accessible, publicly or privately owned land that is available for leisure, play, sport, or serves to protect and enhance the natural environment. Public open space is accessible to the public on a consistent 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; greenways; and plazas designated through regulatory approvals (such as zoning). Private open space is not considered publicly accessible if it is only available to limited users or is not available to the public on a regular or consistent basis. Examples of private open space are natural areas with no public access, front and rear yards, rooftop recreational facilities, stoops, and landscaped grounds used by community facilities, such as public and private educational institutions where the open space is accessible only to the institution-related population.

Open spaces can be characterized as either active or passive depending on the activities the space allows. In many cases, open space may be used for both active and passive recreation. Open space that is used for sports, exercise, or active play is classified as active open space. Passive open space is used for relaxation, such as sitting or strolling.

A proposed project's effects on open space resources may be either direct or indirect. A project may result in direct effects when the proposed project would encroach on, or cause a loss of, open space. Direct effects may also result from changes in an open space such that it no longer serves the same user population. Other direct effects include the introduction of new noise, air pollutant emissions, odors, or shadows on public open space that may alter its usability. Indirect effects may occur when the population generated by the proposed project overtaxes the capacity of existing open spaces so that their utility or level of service to the future population of the affected area would be substantially or noticeably diminished. Per the *CEQR Technical Manual*, an open space assessment should be conducted if a project would have a direct effect on open space (such as eliminating or altering a public open space) or an indirect effect (such as the introduction of a substantial new population that could place added demand on an area's open spaces). As discussed in Chapter 1, "Project Description," the Proposed Actions would change the zoning in the Project Area to allow residential use and expanded commercial uses in the Project Area, the added demand placed on area open spaces attributed to the Proposed Actions is considered in this chapter.

PRINCIPAL CONCLUSIONS

The Proposed Actions would result in significant adverse impact to open space due to the added residential demand placed on active and passive open spaces in an area that has limited available open space resources. The Project Area has been identified as underserved in terms of open space and recreation, which is a condition that is expected to continue in the future both with and without the Proposed Actions (i.e., the "No Action" and "With Action" conditions). Typically, a reduction

in the open space ratio exceeding five percent is considered to be significant. However, if an area that has a very low open space ratio, such as the Project Area, a reduction as small as one percent may be considered significant.

DIRECT EFFECTS

The Proposed Actions would not result in any direct effects related to encroachments on or loss of open space, changes in open space such that it no longer serves the same user population, or results in impacts due to noise, air, or odor emission that may affect its usability.

The Proposed Actions would result in a significant adverse shadows impact on three publicly accessible open space resources (Grand Canal Court, the Greenstreet next to Grand Canal Court, and Petrosino Square) and a planned open space on East 4th Street west of Bowery that will be developed in connection with a City infrastructure project.

Incremental shadow from the Proposed Actions would pass across a portion of Grand Canal Court from in the morning in every season, covering larges areas at times, and significantly altering the use of the resource for users seeking sun. With regard to the adjacent Greenstreet, in the spring, summer, and fall, incremental shadow primarily from Projected Development Site 6 would fall on the space for four to five hours, throughout the morning, covering much or all of the space at times, particularly in the March to May and July to September periods, and would significantly alter the health of the trees. Incremental shadow from the Proposed Actions would pass across a portion of Petrosino Square in the late spring and summer during the afternoon to early evening, covering portions of this popular resource and fully eliminating the remaining sunlit area for a large part of this period. Incremental shadow from the Proposed Actions would also affect a future New York City Department of Environmental Preservation (DEP) open space located on East 4th Street between Lafayette Street and Bowery. Long durations and large extents of incremental shadow would occur in all seasons, including periods when remaining sunlight would be eliminated, so that the incremental shadow would cause significant impacts to this future planned open space.

INDIRECT EFFECTS

The detailed analysis of open space concluded that with the Proposed Actions the total open space ratio would decrease by 2.00 percent, to 0.567 acres per 1,000 residents; the active open space ratio would decrease by 2.03 percent, to 0.208 acres per 1,000 residents; and the passive open space ratio would decrease by 1.99 percent, to 0.359 acres per 1,000 residents. Although these reductions in open space ratios do not exceed five percent, which is generally used as a guide in determining a significant adverse impact under CEQR, the Project Area is located in an area that has been identified as underserved. Therefore, consistent with CEQR, a one percent decline in open space ratios is used as the threshold to determine an impact. As a result, it is concluded that the Proposed Actions would result in a significant adverse impact to total, active, and passive open space.

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, air pollutant emissions, odor, or shadows that would temporarily or permanently affect the usefulness of a public open space. Since no open space resources would be directly affected or displaced by the Proposed Actions, this chapter uses information from Chapter 6, "Shadows," Chapter 10, "Hazardous Materials," Chapter 15, "Air Quality," and Chapter 17, "Noise," 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 there are increases in either residential or non-residential populations that noticeably diminish open space capacity. 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.

If a project is located within an area which is neither underserved nor well-served, an open space assessment is conducted if that project would generate more than 200 residents or 500 employees. The threshold for an assessment of open space adequacy in underserved areas is the introduction of more than 50 or more residents or 125 or more workers, while for areas well-served by open space, the threshold for assessment is more than 350 residents or 750 workers. The Project Area is located in an area that is considered to be underserved by open space and recreational facilities. Because the existing ratio of population per acre of open space is far below the City's goal of 2.5 acres of open space per 1000 residents and the Proposed Actions are anticipated to introduce a large residential population to the study area, a one percent change in open space ratios was used as the threshold for a significant adverse impact.

In accordance with *CEQR Technical Manual* guidelines, the open space analysis is based on the projected development expected under the Proposed Actions. As discussed in Chapter 1, "Project Description," by the 2031 analysis year the Proposed Actions are expected to introduce a net increase of approximately 1,829 dwelling units (DUs), which would generate a projected residential population of approximately 3,457 residents introduced to the Project Area compared with the No Action condition. An analysis of indirect effects on open space resources is warranted, as the residential population anticipated to be introduced by the Proposed Actions is greater than the CEQR analysis threshold of 50 or more incremental residents. Because there would be no net increase in the number of workers introduced by the Proposed Actions, the CEQR analysis threshold of 125 or more incremental workers would not be exceeded. Consistent with *CEQR Technical Manual* methodology, this chapter will focus solely on the indirect effects of the Proposed Actions on open space for residential users.

STUDY AREA

The *CEQR Technical Manual* recommends establishing a study area or areas as the first step in an open space assessment. The study area is based on the distances that open space users are likely to walk to an open space. Residents are assumed to walk approximately 20 minutes, or a half-mile, to an open space.

As the Proposed Actions would introduce a new residential population above the 50-person threshold, the adequacy of open space resources was assessed for the residential study area (generally defined as the area within a half-mile of the Project Area). As demographic data is

provided at the census tract level, the study area is adjusted to include all census tracts with at least 50 percent of their area within the half-mile Project Area boundary.

As shown in **Figure 5-1**, the residential study area includes Census Tracts 8, 16, 18, 27, 29, 30.01, 30.02, 21, 32, 33, 34, 36.01, 36.02, 37, 38, 39, 40, 41, 42, 43, 45, 47, 48, 49, 50, 55.01, 55.02, 57, 59, 61, 63, 65, and 67. It is generally bounded by 14th Street, 19th Street, and 21th Street to the north; 1st Avenue, Avenue B, Clinton Street, Norfolk Street, Rutgers Street, and Pike Street to the east; the East River, Catherine Slip, Madison Street, the Brooklyn Bridge, Park Row, Reade Street, and Chambers Street to the south; and the Hudson River, Hudson Street, Barrow Street, Sixth Avenue, and Park Avenue to the west.

ANALYSIS FRAMEWORK

The *CEQR Technical Manual* methodology recommends conducting an initial quantitative assessment to determine whether a more detailed analysis is appropriate but also recognizes that for projects that introduce a large population in an area that is neither well-served nor underserved by open space, it may be clear that a full, detailed analysis should be conducted. Because the Proposed Actions would introduce a sizeable new residential population to the study area, a detailed analysis was conducted.

Based on the inventory of available open space resources and potential users, the adequacy of open space in the study area is 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 open space adequacy 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 assessment considers:

- Characteristics of the residents likely to utilize study area open spaces. To determine the number of residents in the study area, 2014–2018 American Community Survey (ACS) data have been compiled for those census tracts defining the residential open space study area.
- An inventory of all publicly accessible passive and active recreational facilities in the open space study area.
- 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 residential population in the study area and comparing this open space ratio with open space adequacy guidelines. According to the *CEQR Technical Manual*, in New York City local open space ratios vary widely, and the median ratio citywide at the Community District (CD) level is 1.5 acres of open space per 1,000 residents. Typically, for the assessment of both direct and indirect effects, citywide local norms have been calculated 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. According to the *CEQR Technical Manual*, for large-scale projects (and for planning purposes) the City also seeks to attain a planning goal of a balance of 80 percent active open space and 20 percent passive open space.
- An assessment of expected changes in future levels of open space supply and demand in the 2031 Build Year both in the No Action and With Action conditions. Open space adequacy in the No Action condition is based on planned development projects within the open space study



Open Space Study Area

SOHO/NOHO NEIGHBORHOOD PLAN

Figure 5-1

area. To estimate the residential population expected in the study area in the No Action condition, an average household size of 1.93 persons was applied to the number of new housing DUs expected in the study area.[1] Any new open space or recreational facilities that are anticipated to be operational by the analysis year or changes to existing resources are also taken into account.

- Open space ratios are determined for both the No Action and With Action conditions and compared to determine potential changes to open space adequacy in the 2031 Build Year.
- An evaluation of qualitative factors affecting open space use, including weekend and weekday utilization and the condition of facility equipment.
- A determination of the adequacy of open spaces in the open space study area under the existing, No Action, and With Action conditions.

IMPACT ASSESSMENT

The assessment of the potential for significant adverse impacts on open space is both quantitative and qualitative. According to the *CEQR Technical Manual*, a total open space ratio decrease approaching or exceeding five percent suggests that a potential for a significant adverse open space impact may exist and warrants further consideration. In this analysis however, a one percent change is used for given the currently low open space ratio and limited active space resources in the study area. It is recognized that the open space ratios of the *CEQR Technical Manual* 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 in the study area. Determinations as to what constitutes a significant adverse open space impact are not based solely on the quantified results, but also qualitative considerations—such as the distribution of open space, whether an area is considered "well-served" or "underserved" for open space, the distance to regional parks, the connectivity of open spaces, and any additional open space provided by the project—should be considered in a determination of significance.

C. EXISTING CONDITIONS

STUDY AREA POPULATION

As shown in **Table 5-1**, based on the 2014–2018 ACS, the study area has a total population of 166,785 persons.

AGE DISTRIBUTION

Table 5-2 summarizes the age distribution of the residential population in the study area and compares this distribution to the age distributions of Manhattan and New York City as a whole. As shown in **Table 5-2**, the study area age distribution is similar to Manhattan and New York City as a whole; however, its working adult population (residents 20 to 64 years old) comprises a greater proportion of its population at 70.5 percent, when compared with that of Manhattan (67.5 percent) and New York City (62.8 percent).

[1] The combined average household size for the census tracts within the study area.

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 five years old or younger use traditional playgrounds that have play equipment for toddlers and preschool children. Children ages five through nine typically use traditional playgrounds as well as grassy and hard-surfaced open spaces, which are important for activities such as ball playing, running, or skipping rope, for example. Children ages 10 through 14 typically use playground equipment, court spaces, and ball fields. Teenagers and young adults (ages 15 to 19) tend toward court game facilities, such as basketball and field sports. Adults (ages 20 to 64) use court game facilities and sports fields, along with more individualized recreation such as rollerblading, biking, and jogging that require bike paths 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. The range of age groups present in the study area indicates a need for active and passive recreation facilities, flexible facilities, and open space areas that can be used for both active and passive recreation, like paths or promenades for running, open areas for informal sports, and benches for seating.

Table 5-1
Study Area Residential Population

Census Tract	Population
8	8,933
16	7,133
18	7,490
27	1,431
29	6,365
30.01	3,952
30.02	2,915
31	2,659
32	7,822
33	5,241
34	6,410
36.01	3,190
36.02	3,082
37	2,579
38	8,864
39	6,090
40	8,234
41	8,051
42	5,202
43	3,931
45	1,015
47	2,236
48	6,249
49	4,410
50	5,202
55.01	4,597
55.02	2,059
57	2,769
59	5,475
61	4,962
63	6,492
65	6,423
67	5,262
Total	**166,785**

Sources: U.S. Census Bureau ACS 2014–2018 (5-Year Estimates).

Table 5-2
Study Area Population Age Distribution

Age Category	Study Area		Manhattan		New York City	
	Persons	Percent	Persons	Percent	Persons	Percent
Under 5 Years	5,651	3.4%	79,896	4.9%	551,869	6.5%
5 to 9 Years	4,021	2.4%	62,969	3.9%	476,567	5.6%
10 to 14 Years	3,538	2.1%	59,051	3.6%	464,704	5.5%
15 to 19 Years	10,082	6.0%	68,674	4.2%	455,674	5.4%
20 to 64 Years	117,754	70.5%	1,102,847	67.5%	5,305,538	62.8%
65 Years and Over	25,739	15.4%	257,178	15.8%	1,189,361	14.1%
Totals	**166,785**	**100%**	**1,630,615**	**100%**	**8,443,713**	**100%**

Source: U.S. Census Bureau ACS 2014–2018 (5-Year Estimates).

INVENTORY OF PUBLICLY ACCESSIBLE OPEN SPACES

According to the *CEQR Technical Manual*, open space resources in the open space inventory may include public or private space that may be used for active and/or passive recreational purposes. The *CEQR Technical Manual* defines publicly accessible open space as facilities open to the public at designated hours on a regular basis, and they are 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 only considered qualitatively.

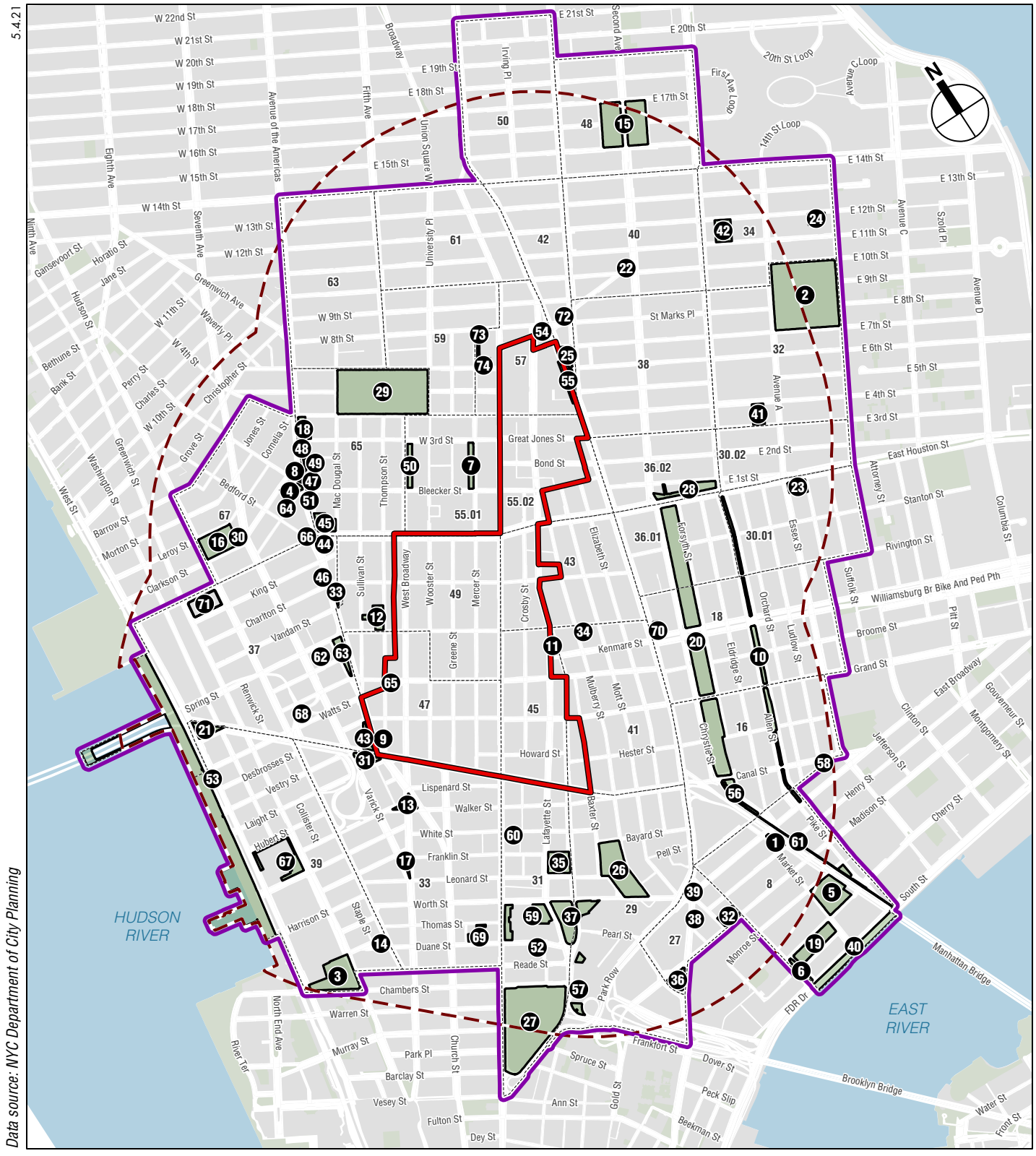
Field surveys and secondary sources (including the New York City Department of Parks & Recreation [NYC Parks] online database) were used to determine the number, availability, and condition of publicly accessible open space resources within the study area.

An open space is determined to be active or passive based on the design and equipment of the open space. Active open space is the part of a park 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 other paved areas for active recreation. Passive open space is used for sitting, strolling, and relaxation; these spaces typically contain benches, walkways, and picnicking areas. However, some passive 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.

All publicly accessible open space and recreational resources in the open space study area are shown in **Table 5-3**. As presented in **Table 5-3** and shown on **Figure 5-2**, there are 76 publicly accessible open spaces in the study area, providing approximately 93.73 acres of public open space, with 35.09 acres of active open space and 58.64 acres of passive open space.

To ensure a conservative analysis, open spaces on New York City Housing Authority (NYCHA) developments are considered only in the qualitative assessment. These open space resources are intended for use by NYCHA residents and not the general public. Similarly, community gardens located on NYC Parks-controlled property, gardens operating under the City's GreenThumb program, or gardens on private property operated by a non-governmental organization—such as a foundation or local community development organization—are considered in the qualitative assessment. These resources are presented in **Table 5-4** and shown on **Figure 5-3**.

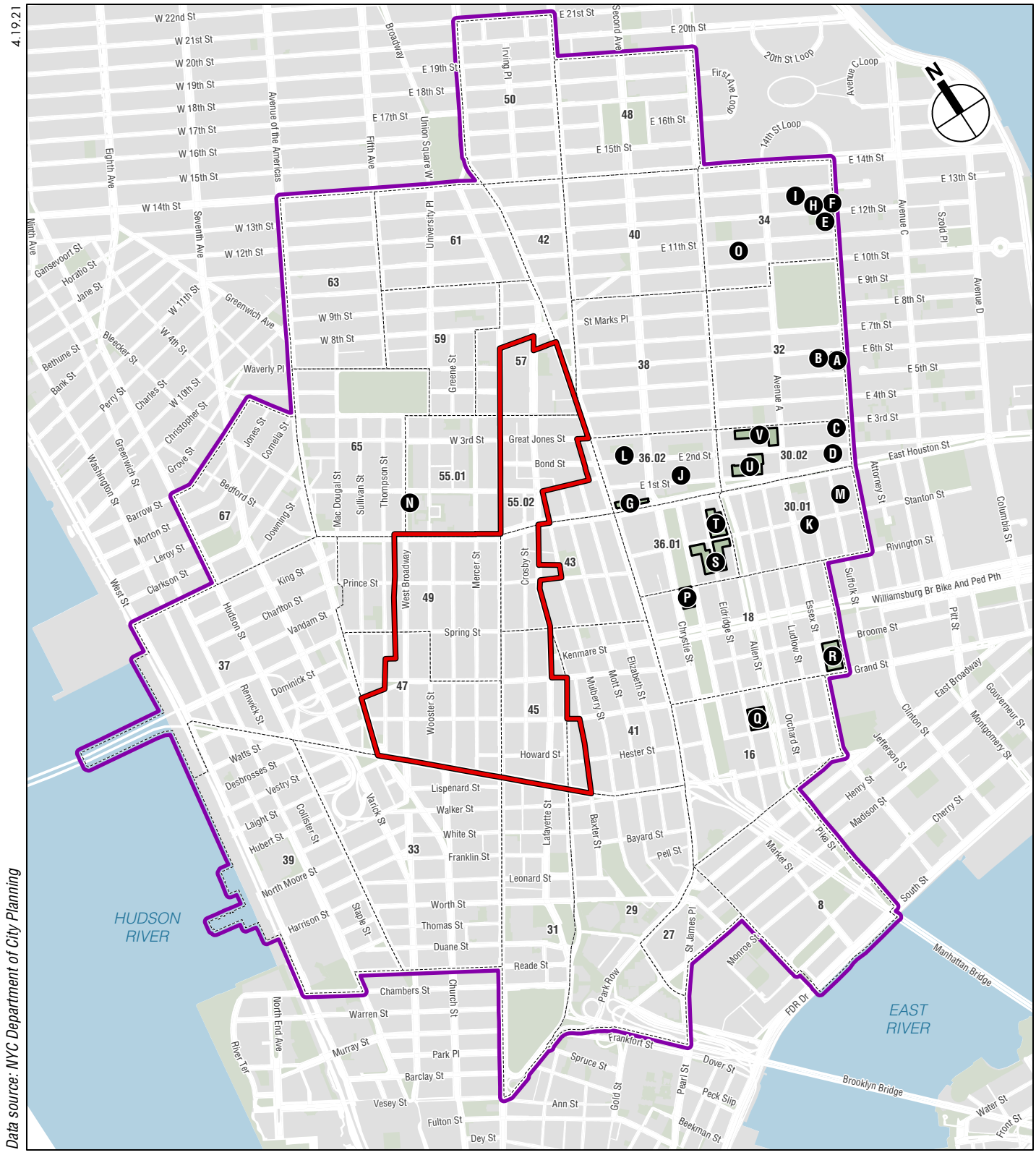
As shown in **Table 5-3**, the study area includes 74 publicly accessible open space and recreational resources that provide a total of 93.73 acres of public open space, of which approximately 35.09 acres (37 percent) are used for active recreation and approximately 58.64 acres (63 percent) are used for passive recreation.



Open Space Study Area and Resources

SOHO/NOHO NEIGHBORHOOD PLAN

Figure 5-2



Open Spaces Included in the Qualitative Assessment

SOHO/NOHO NEIGHBORHOOD PLAN

Figure 5-3

Table 5-3
Study Area Quantified Open Space Resources

Map No.[1]	Name	Location	Owner/ Agency	Acres	Active		Passive		Condition	Utilization	Amenities
					Acres	%	Acres	%			
Residential Study Area (1/2-mile perimeter)											
1	Sophie Irene Loeb Playground	Henry Street, Market Street, East Broadway	NYC Parks	0.12	0.06	50%	0.06	50%	Good	Low	Playground, seating areas with benches
2	Tompkins Square Park	Avenue A, Avenue B, East 7th Street, and East 10th Street	NYC Parks	10.50	2.63	25%	7.88	75%	Fair	High	Basketball courts, benches, bathrooms, dog-friendly areas, eateries, fitness equipment, handball courts, outdoor pools, playgrounds, spray showers, wifi hotspots, lawn areas
3	Washington Market Park	Chambers Street between Greenwich Street and West Street	NYC Parks	2.15	1.72	80%	0.43	20%	Excellent	Moderate	Playground, garden, benches, grass field, gazebo, picnic tables, spray fountain, basketball courts, tennis courts, bathrooms
4	Downing Street Playground	Downing Street and Sixth Avenue	NYC Parks	0.22	0.22	100%	0	0%	Good	Moderate	Playgrounds, spray showers, bathrooms
5	Coleman Square Playground	Cherry Street, Pike Street, Monroe Street	NYC Parks	2.61	2.61	100%	0	0%	Fair	Low	Baseball field, handball courts, playground, skate park, bathroom, dog-friendly areas and spray shower
6	Catherine Slip Malls/Park	Catherine Slip between Cherry and South Streets	NYC Parks	0.25	0	0%	0.25	0%	Good	Moderate	Benches, landscaping
7	Mercer Playground	Mercer Street between Bleecker Street and West 3rd Street	NYC Parks	0.45	0.43	95%	0.02	5%	Excellent	High	Benches, fountain, spray showers, playground, active paths
8	Father Demo Square	Sixth Avenue, Bleecker Street, and Carmine Street	NYC Parks	0.25	0	0%	0.25	100%	Excellent	High	Benches, fountain, landscaping
9	Grand Canal Court	Thompson Street, Canal Street, and Sixth Avenue	NYC Parks	0.13	0.13	100%	0	0%	Good	Low	Basketball court, playground
10	Allen Street Center/Pike Slip Greenway	Allen Street and Pike Street/Slip between Houston Street and South Street	NYC Parks	3.50	0.88	25%	02.63	75%	Good	Moderate	Bikeway, walkway, benches, tables, landscaping, comfort station
11	Petrosino Square	Cleveland Place, Kenmare Street, and Lafayette Street	NYC Parks	0.05	0	0%	0.05	100%	Good	High	Seating areas with benches, water fountains, landscaped areas
12	Vesuvio Playground	Spring Street and Thompson Street	NYC Parks	0.64	0.61	95%	0.03	5%	Excellent	High	Spray shower, playground, basketball courts, handball courts, bocce courts, outdoor pool, bathrooms benches, tables, chess, plantings, landscaping
13	Tribeca Park	Walker Street, Beach Street, between John's Lane and Sixth Avenue	NYC Parks/DOT	0.32	0	0%	0.32	100%	Good	Moderate	Benches, landscaping, sculpture
14	Duane Park	Hudson Street, Duane Street, and Thomas Street	NYC Parks	0.12	0	0%	0.12	100%	Excellent	Moderate	Benches and trees

Table 5-3 (cont'd)
Study Area Quantified Open Space Resources

Map No.[1]	Name	Location	Owner/ Agency	Acres	Active		Passive		Condition	Utilization	Amenities
					Acres	%	Acres	%			
Residential Study Area (1/2-mile perimeter) (continued)											
15	Stuyvesant Square	Rutherford Place to North Perlman Place, East 15th Street to East 17th Street	NYC Parks	3.93	0	0%	3.93	100%	Good	Moderate	Dog-friendly areas, benches, great trees, landscaping, water fountains, wifi hotspots, statues
16	James J. Walker Park	Hudson Street, Leroy Street, Clarkson Street, and Seventh Avenue	NYC Parks	1.67	1.5	90%	.17	10%	Good	Low	Benches, tree coverage, soccer field, playground, bocce court, baseball field, handball courts, spray showers, wifi hotspots
17	Finn Square	Franklin Street, Varick Street, West Broadway	DOT	0.12	0	0%	0.12	100%	Adequate	Low	Landscaping,bench
18	West 4th Street Courts	Sixth Avenue, West 3rd Street, and West 4th Street	NYC Parks	0.42	0.27	65%	0.15	35%	Excellent	High	Basketball courts, handball courts, playground and Golden Swan Garden
19	Tanahey Playground	Cherry Street to Waters Street, West Catherine Slip to Market Slip	NYC Parks	1.25	0.94	75%	0.31	25%	Good	Low	Basketball courts, playgrounds, roller hockey, seating areas with benches
20	Sara D. Roosevelt Park	East Houston Street to Canal Street, between Chrystie Street and Forsyth Street	NYC Parks	7.85	6.28	80%	1.57	20%	Good	High	Basketball, handball, and volleyball courts, playgrounds, spray showers, soccer fields, comfort stations, benches, landscaping
21	Canal Park	Canal Street between West Street and Washington Street	NYC Parks/DOT	0.67	0	0%	0.67	100%	Excellent	Low	Benches, trees, landscaping
22	Abe Lebewhol Park	East 10th Street and 2nd Avenue	NYC Parks	0.16	0	0%	0.16	100%	Fair	Moderate	Benches, landscaping, statue
23	ABC Playground	East Houston Street, Essex Street, Norfolk Street	NYC Parks	0.45	0.41	90%	0.05	10%	Good	High	Basketball, playground equipment, water fountain, benches, animal sculptures, slides, hopscotch
24	Joseph C. Sauer Park	East 12th Street between Avenue A and Avenue B	NYC Parks	0.40	0.20	50%	0.20	50%	Excellent	Low	Playgrounds, spray showers, benches, chess tables, synthetic turf field
25	Cooper Triangle	3rd Avenue to 4th Avenue, East 6th Street to East 7th Street	NYC Parks	0.17	0	0%	0.17	100%	Good	Moderate	Benches, trees, statue
26	Columbus Park	Baxter Street, Mulberry Street, Bayard Street, and Worth Street	NYC Parks	3.23	1.94	60%	1.29	40%	Good	High	Benches, bathrooms, a pavilion, chess tables, a statue, a soccer field, a volleyball court, tree coverage, water fountains, playground equipment, swings, basketball courts, ping-pong
27	City Hall Park	Broadway, Park Row, and Chambers Street	NYC Parks	8.08	0	0%	8.08	100%	Good	High	A large fountain, a plaza area, art installations, landscaped areas, tree coverage, statues, chess tables, wifi hotspots, eateries, benches
28	First Park	Houston Street, East 1st Street, 1st Avenue	NYC Parks	0.76	0.68	90%	0.08	10%	Good	High	Trees, landscaping, playground, spray showers, benches, handball courts, basketball courts, artwork, fountain, food concession

Table 5-3 (cont'd)
Study Area Quantified Open Space Resources

Map No.[1]	Name	Location	Owner/ Agency	Acres	Active		Passive		Condition	Utilization	Amenities
					Acres	%	Acres	%			
Residential Study Area (1/2-mile perimeter) (continued)											
29	Washington Square Park	5th Avenue, Waverly Place, West 4th Street, and MacDougal Street	NYC Parks	9.75	2.44	25%	7.31	75%	Excellent	High	Grand fountain, dog parks, playground, paved areas, seating areas with benches, lawn areas, landscaping, bathrooms, great trees, spray showers, wifi hotspots, eateries
30	Tony Dapolito Recreation Center	Carmine Street, Leroy Street, and Seventh Avenue	NYC Parks	0.21	0.21	100%	0	0%	Fair	Moderate	Indoor and outdoor pools, running tracks, wifi hot spots, gym, volleyball courts
31	Albert Capsouto Park	Laight Street, Canal Street, and Varick Street	NYC Parks/DOT	0.37	0	0%	0.37	100%	Excellent	Low	Landscaping, benches, chess tables, sculpture, historic plaques, lawn areas
32	Playground One	Madison Street between Catherine and Oliver Streets	NYC Parks	0.44	0.40	90%	0.04	10%	Excellent	Low	Basketball courts, playgrounds, spray showers, seating, storytelling area
33	Father Fagan Park	Sixth Avenue, Prince Street and Spring Street	NYC Parks/DOT	0.15	0	0%	0.15	100%	Good	Moderate	Benches and tree coverage
34	DeSalvio Playground	Spring Street and Mulberry Street	NYC Parks	0.27	0.20	75%	0.07	25%	Excellent	High	Basketball court, horizontal climbing wall, playground equipment, spray showers, seating areas, gaming tables
35	Collect Pond Park	Leonard Street, Centre Street, and Lafayette Street	NYC Parks	0.99	0	0%	0.99	100%	Good	Moderate	A pond, a plaza area, planters, water fountains, tree coverage, tables, benches
36	James Madison Plaza	Pearl Street, Madison Street, and St. James Place	NYC Parks	0.36	0	0%	0.36	100%	Good	Low	Monument, benches, plaza, game tables
37	Thomas Paine Park	Lafayette Street, Centre Street, and Worth Street	NYC Parks	1.88	0	0%	1.88	100%	Good	Moderate	Benches, lawn areas, a plaza area, a large fountain, statues, a garden, tree coverage, Wifi hotspots
38	St. James Triangle	St. James Place and Oliver Street	NYC Parks	0.04	0	0%	0.04	100%	Good	Low	Pathway, bench, plants
39	Kimlau Square	Chatham Sq., Oliver St., and E. Broadway	NYC Parks	0.24	0	0%	0.24	100%	Good	Moderate	Monuments, benches, pathway
40	East River Waterfront Esplanade	South Street and East River waterfront	NYC Parks	2.11	1.06	50%	1.06	50%	Good	High	Bike and pedestrian paths, benches
41	McKinley Playground	Avenue A, East 3rd Street, and East 4th Street	NYC Parks/DOE	0.56	0.50	90%	0.06	10%	Fair	Moderate	Basketball courts, bathrooms, playgrounds
42	Lower East Side Playground	East 11th Street and East 12th Street between 1st Avenue and Avenue A	NYC Parks/DOE	0.83	0.42	50%	0.42	50%	Good	High	Basketball courts, soccer, volleyball court, playground
43	Duarte Square	Sixth Avenue, Canal Street, and Grand Street	NYC Parks	0.45	0	0%	0.45	100%	Fair	Low	Statue of Juan Pablo Duarte, benches, tree coverage, Citibike station
44	Playground of the Americas	Sixth Avenue and West Houston Street	NYC Parks	0.08	0.08	100%	0	0%	Excellent	Low	Playground, tree coverage, benches, landscaping
45	William F. Passannante Ballfield	West Houston Street, Sixth Avenue, MacDougal Street	NYC Parks	0.61	0.61	100%	0	0%	Excellent	Moderate	Athletic Fields (baseball, softball), athletic courts (basketball), drinking fountain, playground
46	Charlton Plaza	Sixth Avenue and Charlton Street	NYC Parks	0.04	0	0%	0.04	100%	Excellent	Low	Benches, game tables, landscaping, and mural artwork

Table 5-3 (cont'd)
Study Area Quantified Open Space Resources

Map No.[1]	Name	Location	Owner/ Agency	Acres	Active		Passive		Condition	Utilization	Amenities
					Acres	%	Acres	%			
Residential Study Area (1/2-mile perimeter) (continued)											
47	Minetta Triangle	Northeast corner of Sixth Avenue and Minetta Street	NYC Parks	0.7	0	0%	0.7	100%	Excellent	Low	Landscaping, benches
48	Minetta Playground	Minetta Lane, West 3rd Street, and Sixth Avenue	NYC Parks	0.21	0.15	70%	0.06	30%	Excellent	Moderate	Playground, benches, sitting area, play houses
49	Minetta Green	Southeast corner of Minetta lane and Sixth Avenue	NYC Parks	0.06	0	0%	0.06	100%	Excellent	Low	Landscaping, path, garden
50	Fiorello La Guardia Park	La Guardia Place between Bleecker Street and West 3rd Street	NYC Parks	0.55	0.11	20%	0.44	80%	Excellent	High	Playground, pedestrian pathways, benches, landscaping, trees
51	Little Red Square	Northeast corner of Sixth Avenue and Bleecker Street	NYC Parks/DOT	0.04	0	0%	0.04	100%	Good	Moderate	Benches, trees
52	African Burial Ground National Monument	Duane Street between Elk Street and Broadway	NPS	0.11	0	0%	0.11	100%	Good	Moderate	Monument, landscaped areas, a plaza area, benches
53	Hudson River Park & Route 9A Greenway	Hudson River/West Street between King Street and Harrison Street	HRPT/DOT	13.18	6.59	50%	6.59	50%	Excellent	High	Greenway (Bike and Pedestrian Path), waterfront esplanade with pedestrian path and seating, lawn areas, tables and chairs, basketball courts, sculptures, beach volleyball, minigolf, playgrounds, spray fountains, Tribeca skatepark, a boating facility, a turf field, lawn, dog-friendly areas, kayaking, tennis courts
54	Astor Place Plaza	East 8th and 8th Streets between Lafayette Street and Fourth Avenue	DOT	0.30	0.24	80%	0.06	20%	Excellent	High	Pedestrian Plaza with Alamo sculpture, tables and chairs, benches, plantings, trees
55	Cooper Square Plaza (The Village Plaza)	Cooper Square between East 5th Street and East 6th Street	DOT	0.65	0	0%	0.65	100%	Excellent	Moderate	Trees, plantings, benches
56	Forsyth Street Plaza	Canal Street, Forsyth Street, Manhattan Bridge	DOT	0.23	0.12	50%	0.12	50%	Excellent	Moderate	Plantings, trees, benches, drinking fountain, bike lane
57	David M. Dinkins Municipal Building Plaza	Centre Street, Park Row, and Foley Square	DCAS	2.52	0	0%	2.52	100%	Fair	Moderate	Food and beverage huts, moveable tables and chairs, a seating area with benches, large planters, benches, a large art sculpture, grassy areas, tree coverage, chess tables
58	Division Street Plaza	Canal Street, Division Street, and Ludlow Street	DOT	0.07	0.06	85%	0.01	15%	Fair	Low	Street plaza featuring granite block bollards, benches, and plantings
59	Jacob K Javits Federal Building Plazas[2]	Lafayette Street, Duane Street, Broadway, and Worth Street	USAGSA	1.39	0	0%	1.39	100%	Good	Moderate	Plaza areas, benches, landscaped areas, planters, a fountain, sculptures
60	Mandarin Plaza POPS	Broadway and White Street	Private (POPS)	0.08	0	0%	0.08	100%	Fair	Low	Large planters, water fountain, pergola, seating area with benches, bike racks

Table 5-3 (cont'd)
Study Area Quantified Open Space Resources

Map No.[1]	Name	Location	Owner/ Agency	Acres	Active		Passive		Condition	Utilization	Amenities
					Acres	%	Acres	%			
Residential Study Area (1/2-mile perimeter) (continued)											
61	Manhattan Bridge Bikeway	Manhattan Bridge between Canal Street and the East River	DOT	0.4	0.42	100%	0	0%	Good	High	Bike pathway
62	The Dominick POPS	Spring Street between Varick Street and Sixth Avenue	Private (POPS)	0.16	0	0%	0.16	100%	Excellent	Moderate	Benches, landscaping and trees, tables and chairs
63	Soho Square	Sixth Avenue and Spring Street	NYC Parks/DOT	0.58	0	0%	0.58	100%	Good	Moderate	Gen. Jose Artigas Monument, benches, tree coverage
64	Winston Churchill Square	Downing Street and Sixth Avenue	NYC Parks	0.05	0	0%	0.05	100%	Good	Moderate	Benches, landscaping, sculpture
65	Open Space at the Watts and Broome	Watts Street, Broome Street, and Thompson Street	NYC Parks/DOT	0.04	0	0%	0.04	100%	Good	Moderate	Benches and landscaping
66	Open Space at the corner of West Houston and Bedford	West Houston and Bedford	NYC Parks/DOT	0.02	0	0%	0.02	100%	Excellent	Moderate	Benches and landscaping
67	Salmon Smith Barney Plaza	Greenwich Street and North Moore Street	Private (POPS)	0.47	0	0%	0.47	100%	Excellent	Low	Benches, trees, tables, shade structures
68	Freeman Plaza	Broome Street, Varick Street, Watts Street, and Hudson Streets (Entrance to Holland Tunnel)	DOT	0.78	0	0%	0.78	100%	Good	Moderate	Tables and chairs, lawn chairs, trees, benches
69	Tribeca Tower POPS	Duane Street between Broadway and Trimble Place	Private (POPS)	0.23	0	0%	0.23	100%	Good	Low	Landscaping, seating areas
70	CitizenM Bowery POPS	Northeast corner of Bowery and Delancey Street	Private (POPS)	0.08	0	0%	0.08	100%	Excellent	Moderate	Landscaping, tables and chairs, benches
71	375 Hudson Street POPS	Block bounded by West Houston Street, Hudson Street, King Street, and Greenwich Street	Private (POPS)	0.30	0	0%	0.30	100%	Good	Low	Planters
72	51 Astor Place POPS	Northwest corner of Astor Place and Third Avenue	Private (POPS)	0.10	0	0%	0.10	100%	Excellent	Moderate	Benches, landscaping
73	Georgetown Plaza POPS	East 8th Street, Broadway, and Mercer Street	Private (POPS)	0.25	0	0%	0.25	100%	Fair	Low	Landscaping, fountain, seating
74	300 Mercer Street POPS	Waverly Place, Mercer Street, and Broadway	Private (POPS)	0,31	0	0%	0.31	100%	Fair	Low	Landscaping, fountain, seating
			Totals	93.73	35.09	37%	58.64	63%			

Note: [1] See **Figure 5-2**.
[2] Undergoing partial reconstruction.
Sources: AKRF Fieldwork March 2021; NYC Parks Open Space Database

Table 5-4
Open Spaces included in the Qualitative Assessment

Map No.	Name	Location	Owner/Program	Type
A	6th Street and Avenue B Community Garden	78-72 Avenue B	Greenthumb	Community Garden
B	The Creative Little Garden	530 East 6th Street	Greenthumb	Community Garden
C	Miracle Garden	194-196 East 3rd Street	Greenthumb	Community Garden
D	Hope Garden	193 East 2nd Street	Greenthumb	Community Garden
E	Down to Earth Garden (Children's Garden)	546 East 12th Street	Greenthumb	Community Garden
F	Vamos A Sembrar	198 Avenue B	Greenthumb	Community Garden
G	Liz Christy Garden	110 East Houston Street	Greenthumb	Community Garden
H	El Sol Brillante Jr.	537 East 12th Street	Greenthumb	Community Garden
I	Dias Y Flores	520-522 East 13th Street	Greenthumb	Community Garden
J	First Street Garden	48 East 1st Street	Greenthumb	Community Garden
K	Children's Magical Garden	174 Suffolk Street	Greenthumb	Community Garden
L	Alberts Garden	16-18 East 2nd Street	MLT	Community Garden
M	Dorothy Strelsin Memorial Garden	174 Suffolk Street	Greenthumb	Community Garden
N	LaGuardia Corner Community Garden	511 LaGuardia Place	DOT	Community Garden
O	11th Street Community Garden	422 East 11th Street	Greenthumb	Community Garden
P	M'finda Kalunga Garden	179 Chrystie Street	Greenthumb	Community Garden
Q	45 Allen Street NYCHA	45 Allen Street	NYCHA	NYCHA Development Open Space
R	Seward Park Extension NYCHA	60-64 Essex Street	NYCHA	NYCHA Open Space
S	Lower East Side I Infill NYCHA	175 Eldridge Street, 190 Forsyth Street, 45-49 Stanton Street, 200-216 Eldridge Street, 201-215 Eldridge Street, 71-77 Stanton Street	NYCHA	NYCHA Open Space
T	Hernandez NYCHA	187-189 Allen Street	NYCHA	NYCHA Open Space
U	Meltzer Tower NYCHA	94 East First Street	NYCHA	NYCHA Open Space
V	First Houses NYCHA	29-41 Avenue A, 114-138 East 3rd Street	NYCHA	NYCHA Open Space
W	Elizabeth Street Garden	Elizabeth Street between Prince Street and Spring Street	DCAS	Privately-operated Garden (open to public certain hours)

Note: [1] See **Figure 5-3**
Sources: AKRF fieldwork March 2021; NYC Parks Open Space Database

Of the 74 open space resources in the study area, 12 provide more than two acres of open space: Tompkins Square Park (#2), Washington Market Park (#3), Coleman Square Playground (#5), Allen Street Center/Pike Slip Greenway (#10), Stuyvesant Square (#15), Sara D. Roosevelt Park (#20), Columbus Park (#26), City Hall Park (#27), Washington Square Park (#30), East River Waterfront Esplanade (#41), Hudson River Park and Route 9A Bikeway (#54), and David M. Dinkins Municipal Building Plaza (#58) (see **Figure 5-1**).

Tompkins Square Park, a large park located at the heart of the Alphabet City neighborhood, provides approximately 10.50 acres of open space, of which approximately 2.63 acres (25 percent) are used for active recreation and 7.88 acres (75 percent) are used for passive recreation. Active amenities in Tompkins Square Park include basketball courts, fitness equipment, handball courts, outdoor pools, playgrounds, and spray showers. Passive amenities include benches, bathrooms, eateries Wi-Fi hotspots, and lawn areas.

Washington Market Park, a neighborhood park located in the Tribeca neighborhood, provides approximately 2.15 acres of open space, of which approximately 1.72 acres (80 percent) are used for active recreation and 0.43 acres (20 percent) are used for passive recreation. Active amenities in Washington Market Park include playgrounds, a spray fountain, basketball courts, and tennis courts. Passive amenities include gardens, benches, a grass field, gazebo, picnic tables, and bathrooms.

Coleman Square Playground, located in the Two Bridges neighborhood at the foot of the Manhattan Bridge, provides approximately 2.61 acres of open space, the entirety of which is used for active recreation. Coleman Square Playground's amenities include a baseball field, handball courts, playground, skate park, bathroom, dog-friendly areas, and a spray shower.

The Allen Street Center/Pike Slip Greenway, a linear open space resource spanning the Lower East Side and Two Bridges neighborhoods, provides approximately 3.50 acres of open space, of which approximately 0.88 (25 percent) are used for active recreation and 2.63 acres (75 percent) are used for passive recreation. The Allen Street Center/Pike Slip Greenway's active amenities include a bikeway, while passive amenities include a walkway, benches, tables, landscaping, and a comfort station.

Stuyvesant Square, located in the Gramercy Park neighborhood on either side of 2nd Avenue, provides approximately 3.93 acres of open space, the entirety of which is used for passive recreation. Amenities in Stuyvesant Square include dog-friendly areas, benches, great trees, landscaping, water fountains, Wi-Fi hotspots, and statues.

Sara D. Roosevelt Park, another linear open space resource located in the Lower East Side neighborhood, provides approximately 7.85 acres of open space, of which approximately 6.28 acres (80 percent) are used for active recreation and 1.57 acres (20 percent) are used for passive recreation. Active amenities in Sara D. Roosevelt Park include basketball courts, handball courts, volleyball courts, playgrounds, spray showers, and soccer fields. Passive amenities include comfort stations, benches, and landscaping.

Columbus Park, a neighborhood park located at the border of the Lower Manhattan Civic Center neighborhood and the Chinatown neighborhood, provides approximately 3.23 acres of open space, of which approximately 1.94 acres (60 percent) are used for active recreation and 1.29 acres (40 percent) are used for passive recreation. Columbus Park's active amenities include a soccer field, a volleyball court, playgrounds, swings, basketball courts, and table tennis. Passive amenities include benches, bathrooms, a pavilion, chess tables, a statue, tree coverage, and water fountains.

City Hall Park, a well-known park which draws visitors from throughout the City, is located in the Civic Center neighborhood of Lower Manhattan. It provides 8.08 acres of open space, all of which is used for passive recreation. Amenities include a large fountain, a plaza area, art installations, landscaped areas, tree coverage, statues, chess tables, Wi-Fi hotspots, eateries, and benches.

Washington Square Park, among the best-known of the City's public parks, is located in Greenwich Village and provides 9.75 acres of open space. The iconic Washington Square Arch,

situated at the terminus of Fifth Avenue, commemorates the centennial of George Washington's inauguration as President. Approximately 2.44 acres (25 percent) is used for active recreation and 7.31 acres is used for passive recreation. Amenities in Washington Square Park include a grand fountain, dog parks, playground, paved areas, seating areas with benches, lawn areas, landscaping, bathrooms, great trees, spray showers, Wi-Fi hotspots, and eateries.

A portion of the East River Esplanade, a linear open space resource which spans Manhattan's East River waterfront from the Battery to the Harlem River with only small gaps, is located in the study area. Waterfront esplanades are multi-use spaces that allow both active or passive recreation; and of the 2.11 acres of this resource in the study area, approximately half (1.06 acres) is assumed to be used for active recreation and the other half for passive recreation. Amenities include bike and pedestrian paths as well as benches.

Hudson River Park and the Route 9A Bikeway is another waterfront open space that extends along the Hudson River to the west of Route 9A from Chambers Street in the south to West 60th Street in the north. The park also includes numerous piers. Approximately 13.18 acres is within the study area and, like the East River Esplanade, approximately half of the area (6.59 acres) is assumed to be used for active recreation and the other half for passive recreation. Amenities include the Route 9A greenway (Bike and Pedestrian Path), the waterfront esplanade with pedestrian path and seating, lawn areas, tables and chairs, basketball courts, sculptures, beach volleyball, minigolf, playgrounds, spray fountains, Tribeca skatepark, a boating facility, a turf field, dog-friendly areas, kayaking, and tennis courts.

The plaza surrounding the David M. Dinkins Municipal Building (1 Centre Street) in the Lower Manhattan Civic Center neighborhood is the final open space resource in the study area that is larger than two acres. The plaza contains 2.52 acres of open space, the entirety of which is used for passive recreation. Amenities include food and beverage huts, moveable tables and chairs, a seating area with benches, large planters, benches, a large art sculpture, grassy areas, tree coverage, and chess tables.

The other open space resources in the study area are less than two acres in size and are comprised of a mix of open space types, including several programmed primarily for active use with features such as basketball courts, playgrounds, or spray showers, while others are programmed primarily with passive features such as benches and landscaping. The open space resources are distributed throughout the study area, but concentrations can be found in the Lower Manhattan Civic Center, Two Bridges, Greenwich Village, and Lower East Side neighborhoods.

In addition to the open spaces described above, the study area includes other open space resources that are not included in the quantitative assessment, such as community gardens (e.g., the 6th Street and Avenue B Community Garden or the Miracle Garden). These open spaces are listed in **Table 5-4** and shown on **Figure 5-3**. Other such open spaces include those within the NYCHA campuses such as the Seward Park Extension, Lower East Side I Infill, or Meltzer Tower developments that provide landscaped grounds, children's play equipment, basketball and handball courts, planted walkways, and seating areas within the campuses.

ASSESSMENT OF OPEN SPACE ADEQUACY

Consistent with the *CEQR Technical Manual,* the assessment of open space adequacy in the study area takes into consideration the ratios of active, passive, and total open space resources per 1,000 residents. According to the 2014–2018 ACS 5-Year Estimates, the study area is estimated to have a total residential population of 166,785 residents.

QUANTITATIVE ASSESSMENT

Based on *CEQR Technical Manual* methodology, the study area has a total open space ratio of 0.562 acres per 1,000 residents, an active open space ratio of 0.210 acres per 1,000 residents, and a passive open space ratio of 0.352 acres per 1,000 residents (see **Table 5-5**). This is lower than the City's recommended guidelines of 2.5 acres of total open space per 1,000 residents, as well as the City recommended 2.0 acres of active open space per 1,000 residents and 0.5 acres of passive open space per 1,000 residents. As such, there is an existing shortfall of both passive and active open space in the study area.

Table 5-5
Adequacy of Open Space Resources in the Study Area: Existing Conditions

		Open Space Acreage			Open Space Ratios per 1,000 Persons			*CEQR Technical Manual* Open Space Guidelines		
	Population	Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
Residential (1/2-mile) Study Area										
Residents	166,785	93.73	35.09	58.64	0.562	0.210	0.352	2.5	2.0	0.5

Note: There may be a small discrepancy within the number values above due to rounding.
Sources: ACS 2014-2018 5-Year Estimates; NYC Parks; AKRF Field Survey, March 2021.

QUALITATIVE ASSESSMENT

As discussed above under the quantitative assessment, approximately 37 percent of the open space in the study area is dedicated to active recreation and approximately 63 percent is dedicated to passive recreation. Although the study area contains a mix of recreational facilities, the open space ratios still fall below the CEQR goal of 2.5 acres per 1,000 residents and the citywide median of 1.5 acres per 1,000 residents. Furthermore, both the active and passive open space ratios fall below the CEQR-recommended 2.0 acres of active open space and 0.5 acres of passive open space per 1,000 residents, respectively.

As shown in **Table 5-3**, the study area open spaces include a wide variety of actively programmed spaces appropriate for all age groups, including children, teenagers, adults, and seniors. As noted in **Table 5-2**, the study area includes a higher percentage of working-age adults (ages 20 to 64), as compared with Manhattan and New York City as a whole. As indicated in the *CEQR Technical Manual*, adults tend to utilize active recreational amenities (such as handball and basketball courts) as well as open lawns and other passive recreational amenities, and open spaces within the study area include such facilities (see **Table 5-3**). Of the 74 open spaces in the study area, 63 are in good or excellent condition, and 24 are noted to have low utilization.

Approximately 13.9 percent of the study area population is younger residents (ages 19 and younger). As stated in the *CEQR Technical Manual*, children in this age group require a variety of active recreational playgrounds with sports facilities, such as basketball and handball courts, similar to the adult population. These amenities are available at many of the open space resources listed in **Table 5-3**.

In addition to the quantified open space resources in the study area, there are additional open spaces such as community gardens, which are accessible to the public during specified hours (see **Table 5-4**).

Area residents also have access to destination open spaces not identified in the quantitative analysis and located outside of the study area. As shown in **Figure 5-1**, the 6.51-acre Union Square Park is

located directly to the north of the study area, Hudson River Park continues north along the river outside of the study area, and downtown open spaces such as Battery Park and the 9/11 Memorial are located to the south of the study area providing further opportunities for both passive and active recreation near study area residents. Additionally, the large Brooklyn Bridge Park is located within walking distance directly across the Brooklyn and Manhattan Bridges from the study area.

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

In the No Action condition only limited development is projected in the Project Area. As detailed in Chapter 1, "Project Description," in the No Action condition it is expected that existing conditions will remain. Under the RWCDS, the total No Action development is comprised of 32 existing DUs, 115,052 gross square feet (gsf) of local retail space, 207,576 gsf of office space, a 39,000-gsf parking garage, and 23,084 gsf of manufacturing space (warehouse and industrial).

Within the larger open space study area, 57 developments are anticipated to be constructed in the No Action condition, with a total of approximately 899 DUs. Assuming the same average household size that was used to estimate the With Action population of the Project Area (1.89 persons per DU for Manhattan CD 2), the study area population is expected to increase by approximately 1,738 residents by 2031 as a result of these developments, to approximately 168,523 residents.

OPEN SPACE RESOURCES

As shown in **Table 5-6**, the No Action condition would result in 3.79 acres of new publicly accessible open spaces. This would include a new publicly accessible open spaces associated with New York University's (NYU) expansion (3.96 acres, including 0.68 acres replacing existing public open space) and two NYC Parks capital projects that are proposed to create parks on two sites that are part of a planned New York City Department of Environmental Protection (DEP) infrastructure project. The two sites are located at Bowery and East 4th Street (0.22 acres) and Grand and Lafayette Streets (0.29 acres). The new open spaces associated with NYU's expansion will generally replace existing private open spaces, but will also remove approximately 0.68 acres of existing publicly accessible open space including a portion of the Mercer Playground. NYU will introduce a total of approximately 3.28 acres of open space to the study area. As a result of these four projects, total publicly accessible open space in the study area would increase by 3.79 acres, from 93.73 acres in the existing condition to 97.52 acres in the No Action condition.

Table 5-6
Additional Publicly Accessible Open Space Introduced In the No Action Condition

Name	Location	Program	Total Acres	Active Acres	Passive Acres
NYU Expansion Open Spaces	West 3rd Street, Mercer Street, Houston Street, and LaGuardia Place	Seating, landscaping, lawn area, play gardens, playground	3.28	0.65	2.63
Bowery & East 4th Street DEP Site	East 4th Street between Bowery and Lafayette Street	Benches, landscaping, drinking fountain, turf area, plaza	0.22	0	0.22
Grand & Lafayette Streets DEP Site	Northwest corner of Grand and Lafayette Streets	Benches, landscaping, drinking fountain, turf area, plaza	0.29	0	0.29
Total New Open Space Introduced			**3.79**	**0.65**	**3.14**
No Action Condition Total Open Space			**97.52**	**35.74**	**61.78**

Sources: NYU Core FEIS (CEQR# 11DCP121M), Haven Green EAS (CEQR# 18HPD105M), NYC Parks Capital Project Tracker

ASSESSMENT OF OPEN SPACE ADEQUACY

QUANTITATIVE ASSESSMENT

In the No Action condition, the total open space available to study area residents would increase to 97.52 acres, compared with 93.73 acres in the existing condition. Total active recreational space would also increase from 35.09 acres in the existing condition to 35.74 acres in the No Action condition. Passive open space would increase from 58.64 acres in the existing condition to 61.78 acres in the No Action condition, as shown in **Table 5-7**. While the total active and passive open space acreage would increase, the total residential population is also anticipated to increase from 166,785 residents in the existing condition to 168,523 residents in the No Action condition by the 2031 Build Year as a result of several proposed developments.

Table 5-7
Adequacy of Open Space Resources in the Study Area: No Action Condition

		Open Space Acreage			Open Space Ratios per 1,000 Persons			*CEQR Technical Manual* Open Space Guidelines		
	Population	Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
Residential (1/2-Mile) Study Area										
Residents	168,523	97.52	35.74	61.78	0.579	0.212	0.367	2.5	2.0	0.5

Note: There may be a small discrepancy within the number values above due to rounding.
Sources: ACS 2014-2018 5-Year Estimates, NYC Parks, AKRF Field Survey, March 2021

Therefore, the total open space ratio is projected to increase to 0.579 acres per 1,000 residents in the No Action condition, as compared to 0.562 acres per 1,000 residents in the existing condition. The active open space ratio is anticipated to increase slightly (to 0.212 acres per 1,000 residents) in the No Action condition and the passive open space ratio is anticipated to increase from 0.352 acres per 1,000 residents to 0.367 acres per 1,000 residents in the No Action condition. Despite these increases, residents in the study area will continue to be underserved by open space in the No Action condition (including both active and passive open space) according to *CEQR Technical Manual* open space guidelines of 2.5 acres of total open space per 1,000 residents, 0.5 acres of passive open space per 1,000 residents, and 2.0 acres of active open space per 1,000 residents.

QUALITATIVE ASSESSMENT

In the No Action condition, approximately 37 percent of the open space in the study area is dedicated to active recreation and approximately 63 percent is dedicated to passive recreation. Although the study area contains a mix of recreational facilities, as stated above, the quantitative open space ratios still fall well below the guideline goal of 2.5 acres per 1,000 residents and the citywide median of 1.5 acres per 1,000 residents. In addition, both the active and passive open space ratios fall below recommended ratios per 1,000 residents.

As in the existing condition, study area open spaces include a wide variety of actively programmed spaces appropriate for all age groups within the study area, including children, teenagers, adults, and seniors. The new open spaces introduced by NYU's expansion will include features suitable for children and teenagers (play gardens and playgrounds) as well as features suitable for adults and seniors (seating, landscaping, and lawn areas). The development of open space resources at the two DEP sites is also anticipated to feature similarly suitable passive amenities.

As shown in **Table 5-4**, additional open spaces not considered in the quantitative assessment that are available to study area residents include community gardens and other open spaces that are accessible to some residents during specified hours. NYCHA recreational facilities, while serving the NYCHA population, will not serve the entire study area population and as such are not included in the quantitative assessment. This includes the Elizabeth Street Garden, which is assumed to continue as a privately operated garden that is open to the public during specific, limited times of the day.[2] As in the existing condition, beyond open spaces identified within the study area, residents—particularly those at the periphery of the study area—have access to destination open spaces, including Union Square Park, additional areas of Hudson River Park, Battery Park, and the 9/11 Memorial.

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

DIRECT EFFECTS

The Proposed Actions would not result in any direct effects related to encroachments on, or loss of open space, changes in open space such that it no longer serves the same user population, or results in impacts due to noise, air, or odor emission that may affect its usability.

The Proposed Actions would result in a significant adverse shadows impact on three publicly accessible open space resources (Grand Canal Court, the Greenstreet next to Grand Canal Court, and Petrosino Square) and a planned future open space on East 4th Street west of Bowery that would be developed in connection with a DEP infrastructure project.

Incremental shadow from the Proposed Actions would pass across a portion of Grand Canal Court in the morning in every season, covering larges areas at times, and significantly altering the use of the resource for users seeking sun. With regard to the adjacent Greenstreet, in the spring, summer, and fall seasons, incremental shadow primarily from Projected Development Site 6 would fall on the space for four to five hours throughout the morning, covering much or all of the space at times, particularly in the March to May and July to September periods, and would significantly alter the health of the trees. Incremental shadow from the Proposed Actions would pass across a portion of Petrosino Square in the late spring and summer seasons during the afternoon to early evening, covering portions of this popular resource and fully eliminating the remaining sunlit area for a large part of this period. Incremental shadow from the Proposed Actions would also affect a future DEP open space located on East 4th Street between Lafayette Street and Bowery. Long durations and large extents of incremental shadow would occur in all seasons,

[2] A proposed New York City Department of Housing Preservation and Development (HPD)-sponsored development known as Haven Green could result in the redevelopment of the Elizabeth Street Garden, a 0.46 acre passive open space located on Block 493, Lot 30. The Elizabeth Street Garden is under the jurisdiction of the Department of Citywide Administrative Services (DCAS) and is subject to a month-to-month lease for use a sculpture garden that is open to the public at certain hours. The Haven Green proposal would result in a mixed-use development containing 123 units of senior housing, approximately 4,500 sf of local retail, 12,800 sf of community facility space, and 0.15 acres of publicly accessible passive open space. Due to ongoing litigation between plaintiffs in opposition to the Haven Green proposal and the City of New York, the Draft Environmental Impact Statement assumes that the existing 0.46-acre sculpture garden would remain on the site in the No Action condition. As necessary, based on the outcome of the lawsuit, the status of the Elizabeth Street Garden will be updated and revised for all relevant analyses in the Final Environmental Impact Statement.

including periods when remaining sunlight would be eliminated, so that the incremental shadow would cause significant impacts to this future planned open space. See Chapter 6, "Shadows," for more information.

INDIRECT EFFECTS

The Proposed Actions are expected to introduce an estimated 3,457 new residents to the Project Area over the No Action condition (see Chapter 1, "Project Description"). As shown in **Table 5-8**, the study area's residential population is expected to increase from 168,523 in the No Action condition to 171,980 in the With Action condition.

Table 5-8
With Action Open Space Study Area Population

	No Action Population	With Action Population
Residential (½-Mile) Study Area		
Residents	168,523	171,980

OPEN SPACE RESOURCES

As stated above, the Proposed Actions are not expected to affect the inventory of open space resources in the Project Area or study area. Therefore, the open space acreage in the With Action condition would remain the same as in the No Action Condition.

ASSESSMENT OF OPEN SPACE ADEQUACY

QUANTITATIVE ASSESSMENT

Under the With Action condition, the total open space available to study area residents remains at 97.52 acres, with approximately 35.74 acres of active open space and 61.78 acres of passive open space. The open space ratios in the With Action condition are presented in **Table 5-9**, and are based on the study area population increasing from 168,523 residents in the No Action condition to 171,980 residents in the With Action condition.

Table 5-9
Adequacy of Open Space Resources in the Study Area: With Action Condition

		Open Space Acreage			Open Space Ratios per 1,000 Persons			*CEQR Technical Manual* Open Space Guidelines		
	Population	Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
Residential (1/2-Mile) Study Area										
Residents	171,980	97.52	35.74	61.78	0.567	0.208	0.359	2.5	2.0	0.5

Note: There may be a small discrepancy within the number values above due to rounding.
Sources: ACS 2014–2018 5-Year Estimates; NYC Parks; AKRF Field Survey, March 2021.

Therefore, the total open space ratio is anticipated to decrease in the With Action condition, from 0.579 acres per 1,000 residents in the No Action condition to 0.567 acres per 1,000 residents in the With Action condition. The active open space ratio is anticipated to decrease from 0.212 acres per 1,000 residents in the No Action condition to 0.208 acres per 1,000 residents in the With Action Condition. The passive open space ratio is anticipated to decrease from 0.367 acres per 1,000 residents in the No Action condition to 0.359 acres per 1,000 residents in the With Action

condition. As a result, under the With Action condition, study area residents would continue to be underserved by open space (including both active and passive open space) based on the *CEQR Technical Manual* open space guidelines of 2.5 acres of total open space per 1,000 residents, 0.5 acres of passive open space per 1,000 residents, and 2.0 acres of active open space per 1,000 residents.

QUALITATIVE ASSESSMENT

The profile of the population under the Proposed Actions is expected to be similar to the existing population and is not expected to have any special or unique characteristics that would place added demands on open spaces that cater to a specific user group. As in the existing and No Action conditions, under the With Action condition study area open spaces would include a wide variety of open space amenities appropriate for all ages.

Additional qualitative considerations relate to private recreational facilities. The contextual zoning proposed throughout the Project Area would require indoor recreational space as well as exterior open space for tenants in accordance with Quality Housing regulations, and some adults could reasonably be expected to use such facilities in the new buildings and exterior passive spaces. As discussed above, future residents would also have access to nearby destination open spaces, such as Union Square Park, additional areas of Hudson River Park, Battery Park, and the 9/11 Memorial. The Community Gardens and other open spaces shown in **Table 5-4** that are not considered in the quantitative assessment would be available to project residents during specified hours.

DETERMINING IMPACT SIGNIFICANCE

According to the *CEQR Technical Manual*, the significance of a project's potential open space impacts takes into consideration both quantitative and qualitative factors. A project may have a significant adverse open space impact if it would reduce the total open space ratio by more than five percent in areas that are currently below the City's median community district open space ratio of 1.5 acres per 1,000 residents. These reductions may result in overburdening existing facilities or further exacerbating a deficiency in open space. As the Project Area is located in an area that is considered by the City to be underserved by open space and recreational facilities and the Proposed Actions are anticipated to introduce a new residential population to the study area, a one percent change in open space ratios was used as the threshold for a significant adverse impact. **Table 5-10** presents the percent change from the No Action condition to the With Action condition for the study area.

Table 5-10
Open Space Ratio Summary

Ratio	*CEQR Technical Manual* Open Space Guideline	Open Space Ratios per 1,000			Percent Change (No Action to With Action)
		Existing	No Action	With Action	
Total	2.5	0.562	0.579	0.567	-2.00%
Active	2.0	0.210	0.212	0.208	-2.03%
Passive	0.5	0.352	0.367	0.359	-1.99%

In the With Action condition the total, active, and passive open space ratios would remain below the City's guideline ratios of 2.5 acres, 2.0 acres, and 0.5 acres per 1,000 residents, respectively. As shown in **Table 5-10**, in the With Action condition, the total open space ratio would decrease by 2.00 percent as compared with the No Action condition. The active open space ratio would decrease by 2.03 percent as compared with the No Action condition. The passive open space ratio

would decrease by approximately 1.99 percent as compared with the No Action condition. Based on these reductions, the Proposed Actions would result in a significant adverse impact to open space primarily due to the underserved nature of the study area and decreases between the No Action and With Action conditions. Potential mitigation measures to address the significant adverse impact are discussed in Chapter 21, "Mitigation."

The reduction in active open space in the With Action condition is expected to affect the study area's adult and teenager population, which comprise approximately 70.5 percent of the total study area population. Both groups use court facilities (e.g., basketball courts) and sports fields, such as football or soccer fields. They may also use facilities that provide more individualized recreation, such as cycle paths and other grade-separated jogging paths. The With Action condition would also result in a small decrease in the passive open space ratio, which is expected to primarily affect seniors (who comprise approximately 15 percent of the total study area population). However, there is more passive than active open space in the study area and the passive open space ratio in the With Action condition is closer to the *CEQR Technical Manual*'s recommended guidelines (0.359 acres per 1,000 residents compared to a guideline of 0.500 acres per 1,000 residents).

According to the *CEQR Technical Manual*, open space ratios are often not attainable for many areas of the City and do not constitute an absolute impact threshold. Rather, they are benchmarks that represent how well an area is served by its open space. For large-scale land use proposals, such as area-wide rezonings that could introduce a large population and increased demand on open space, qualitative considerations are taken into account when assessing the effects of a change in the open space ratio, and a determination of impact significance should consider the balance of passive and active open space resources appropriate to support the affected population.

Passive and active open space users have different needs, and very often active open space users are willing to travel farther than passive open space users. The Project Area is located in a transit-rich area, and some open space users may rely on transit to reach open spaces that are farther away. Residents also have access to nearby destination open spaces, Union Square Park, East River Park, additional areas of Hudson River Park, Battery Park, and the 9/11 Memorial. Walk times to these open spaces range between 5 and 15 minutes. While these destination open spaces are just beyond the boundaries of the study area, they are within a 5- to 15-minute walk from portions of the study area and would therefore provide amenities that could serve the area's population. Considered in relation to the quantitative changes identified above, the open space resources described in the qualitative assessment would address some of the anticipated demand for active and passive open space in the study area.

As described above, open space ratios would decrease by approximately two percent, which would constitute a significant adverse impact related to total, active, and passive open space under CEQR guidance. Total, active, and passive open space ratios would remain below the City's goals for adequate access to public open space. Because the Proposed Actions would introduce a substantial new residential population that would overburden passive and active open spaces in an area already exhibiting a shortage of open space, the Proposed Actions would result in a significant adverse indirect impact. Potential mitigation measures to reduce or eliminate the significant adverse open space impact are considered in Chapter 21, "Mitigation." ✷