A. INTRODUCTION

An open space assessment may be necessary if a proposed project could potentially have a direct or indirect effect on open space resources in the area. According to the New York City Environmental Quality Review Technical Manual (*CEQR Technical Manual*), a direct open space impact would "physically change, diminish, or eliminate an open space or reduce its utilization or aesthetic value." An indirect effect may occur when the population generated by a proposed project would be sufficient to noticeably diminish the ability of an area's open space to serve the existing or future population. According to the guidelines established in the *CEQR Technical Manual*, a project that would add more than 200 residents or 500 employees, or a similar substantial number of other users to an area, is typically assessed for any potential indirect effects on open space. The Proposed Action would add new residents to the area, and therefore has the potential to affect the way residents of the surrounding community use parks, playgrounds, and other open spaces in the area.

The Proposed Action would not result in a direct effect on open space. As described in Chapter 1, "Project Description," compared to future conditions without the Proposed Action, the reasonable worst case developments scenario (RWCDS) analyzed in this document consists of 124 residential units, an approximately 18,036 sf museum, a 12,196 sf day care facility (100 children capacity), approximately 2,350 sf of office space, as well as a net reduction of 300 public parking spaces. The RWCDS associated with the Proposed Action would add a total of approximately 315 new residents to the area, as well as an estimated 74 workers.

This increase in new residents exceeds the *CEQR Technical Manual* threshold of 200 residents for indirect effects, and therefore a detailed quantitative open space assessment was conducted to determine whether the increase in user population due to the Proposed Action would significantly reduce the amount of open space available for the area's population. This entails the calculation of the existing open space ratio, as well as the open space ratios in the future without and with the Proposed Action in place. The open space ratio is expressed as the amount of public open space acreage per 1,000 user population.

The Proposed Action would not exceed the 500-employee (or other daytime user) CEQR screening threshold, and therefore an assessment of the effects of the new worker population associated with the Proposed Action is not warranted. As such, this chapter focuses exclusively on the Proposed Action's residential demands on open space resources. Although the number of workers/daytime population added by the Proposed Action does not trigger the CEQR threshold for analysis, the open space needs of the worker/daytime population within the defined residential study area are accounted for in the analysis, as discussed below.

B. METHODOLOGY AND OPEN SPACE STUDY AREA

With an inventory of available 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 can 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 includes:

- Characteristics of the two open space user groups; residents and workers. To determine the number of residents in the study area, census data have been compiled for census tracts comprising the open space study area. Because the study area is characterized by a workforce that may also use open spaces, the number of employees in the study area has also been calculated, based on reverse journey-to-work census data.
- An inventory of all publicly accessible passive and active recreational facilities in the study area.
- An assessment of the quantitative ratio of open space in the study area by computing the ratio of open space acreage to the population in the study area and comparing this open space ratio with certain guidelines. For the residential population, there are generally two guidelines that are used to evaluate residential open space ratios. The New York City Department of City Planning (NYCDCP) generally recommends a comparison to the median ratio for community districts in New York City, which is 1.5 acres per 1,000 residents. Alternately, NYCDCP has established an optimal level, or planning goal, of 2.5 acres per 1,000 residents. To determine the adequacy of open space resources for the working, or daytime, population, NYCDCP has established a ratio of 0.15 acres of passive open space per 1,000 workers as representing a reasonable amount of open space. The needs of workers and residential populations are also considered together in the study area because it is assumed that both will use the same passive open spaces. Therefore, a weighted average of the amount of passive open space necessary to meet the NYCDCP guideline of 0.5 acres of passive open space per 1,000 residents and 0.15 acres of passive open space per 1,000 workers is considered in this analysis.
- An evaluation of qualitative factors affecting open space use, including barriers to access, description of active and passive uses, and characteristics of user groups.
- A final determination of the adequacy of open space in the study area.

Open Space Study Area

In accordance with the guidelines established in the *CEQR Technical Manual*, a reasonable walking distance that users would travel to reach local open space and recreational resources generally defines the open space study area. That distance is typically a half-mile radius for residential projects, and a quarter-mile radius for commercial projects with a substantial worker population. Because the worker population generated by the Proposed Action falls below the threshold of 500 additional employees, a half-mile radius around the boundaries of the proposed rezoning area is the appropriate study area boundary for the Proposed Action.

Per *CEQR Technical Manual* guidelines, census tracts with 50 percent or more of their area located within a half-mile radius of the proposed rezoning area were included in the calculation of population and open space; those with less than 50 percent of their area in the half-mile radius were excluded. Figure 3-1 shows the resultant open space study area for the Proposed Action. The study area does not include the Bronx because it is largely inaccessible due to the natural boundaries formed by the Harlem River. As shown in Figure 3-1, the open space study area includes 13 census tracts in their entirety.

C. EXISTING CONDITIONS

Study Area Population

Residential Population

To determine the residential population served by existing open space resources, 2000 Census data were compiled for the census tracts comprising the study area. In addition, in order to more accurately reflect the study area's current estimated population, a 0.5 percent annual background growth rate, was applied. As shown in Figure 3-1, the open space study area is comprised of 13 census tracts in their entirety, as well as a portion of a 14th tract.[1] Table 3-1 shows the 2000 Census total population figures for each census tract in the study area, as well as for the study area as a whole. As noted above, in order to more accurately reflect 2009 conditions, the study area's total 2000 population was increased by 4.5 percent (0.5 percent per year).

As shown in Table 3-1, 2000 Census data indicate that the study area had a residential population of approximately 76,158 people in 2000, and it is estimated that the study area's 2009 adjusted population is approximately 79,585 residents. Although the census data presented in Table F-1 do not include the new population added since 2000, for analysis purposes, it is assumed that these new residents have a similar age breakdown to the rest of the sub-area.

As shown in Table 3-1, the median population age for individual census tracts within the study area ranges from a high of 40.4 years (census tract 236) to a low of 30.0 years (census tract 243.02). The average median age for the census tracts comprising the study area is 32.6 years, which is younger than the 35.7 median age for Manhattan as a whole. Approximately 58.7 percent of the study area's population falls between the ages of 20 and 64, similar to the percentage for Manhattan as a whole (58.8 percent). Approximately 11.1 percent of the study area's residents are 65 years of age and older, slightly less than the average for Manhattan (11.5 percent). As shown in Table 3-1, approximately 7.2 percent of the study area's residents are under the age of 5, and 23 percent are between the ages of five and nineteen. These percentages are similar to the percentages Manhattan in the same age groups (7.4 and 22.3 percent, respectively).

[1] Census tract 311, which is comprised of Highbridge Park, extends all the way to Dyckman Street in northern Manhattan. Therefore, only the portion of block 1016 of census tract 311 that falls within a half-mile radius is included in the study area.

TABLE 3-1
Study Area Residential Population, Age Group Distribution, and Worker Population

Census Tract	Residential Population (2000)	Under 5 Years		5 - 19 Years		20 - 64 Years		65+ Years		Median Age	Worker/ Daytime Population
		#	%	#	%	#	%	#	%		
231.01	5,961	367	6.2%	1,127	18.9%	3,752	62.9%	715	12.0%	34.1	870
231.02	990	110	11.1%	249	25.2%	581	58.7%	50	5.1%	30.1	55
233	6,054	430	7.1%	1,316	21.7%	3,738	61.7%	570	9.4%	32.8	830
234	3,530	276	7.8%	893	25.3%	2,112	59.8%	249	7.1%	30.3	550
235.01	6,134	440	7.2%	1,373	22.4%	3,625	59.1%	696	11.3%	33.2	640
235.02	2,040	189	9.3%	480	23.5%	1,165	57.1%	206	10.1%	30.3	110
236	5,688	321	5.6%	1,130	19.9%	2,963	52.1%	1,274	22.4%	40.4	435
237	7,260	530	7.3%	1,620	22.3%	4,432	61.0%	678	9.3%	31.5	550
239	2,686	206	7.7%	590	22.0%	1,500	55.8%	390	14.5%	33.8	265
241	8,295	517	6.2%	1,583	19.1%	4,870	58.7%	1,325	16.0%	35.9	930
243.01	4,296	288	6.7%	994	23.1%	2,702	62.9%	312	7.3%	31.3	625
243.02	7,386	567	7.7%	2,282	30.9%	3,745	50.7%	792	10.7%	30.0	310
245	15,838	1,229	7.8%	3,880	24.5%	9,517	60.1%	1,212	7.7%	30.4	1,480
311*	N.A.*										N.A.*
Study Area Total:	**76,158**	**5,470**	**7.2%**	**17,517**	**23.0%**	**44,702**	**58.7%**	**8,469**	**11.1%**	**32.6**	**7,650**
Adjusted 2009 Population (1)	**79,585**										**7,994**
Manhattan:	**1,537,195**	**76,048**	**7.4%**	**217,832**	**22.3%**	**1,056,539**	**58.8%**	**186,776**	**11.5%**	**35.7**	**2,089,920**

Source: 2000 U.S. Census Data; Summary File 1, Tables P-1 and P-104; and CTPP, Table P-1.

* Only that portion of block 1016 of census tract 311 falling within a half-mile radius is included in the study area. Census tract 311, which extends all the way to Dyckman Street in northern Manhattan, is comprised of Highbridge Park, and has a total of 19 residents and 35 workers associated with it.

(1) 2009 resident and worker population estimated by increasing 2000 population by 4.5% (0.5 percent per year).

With these demographic characteristics, the study area has need for a range of active and passive recreation facilities, including those geared toward both children and adults. A population's age characteristics can affect the use of open space and the type of open space that would be most appropriate for that population. 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 har3-surfaced open spaces, which are important for ball playing, running, skipping rope, etc. Children ages 10 through 14 use playground equipment, court spaces, little league fields, and ball fields. Teenagers' and young adults' needs tend toward court game facilities such as basketball and field sports. Adults between the ages of 20 and 64 continue to use court game facilities and fields for sports, as well as more individualized recreation such as rollerblading, biking, and jogging, requiring bike paths, promenades, and vehicle-free roadways. Adults also gather with families for picnicking, a3-hoc active sports such as frisbee, and recreational activities in which all ages can participate. Senior citizens engage in active recreation such as handball, tennis, gardening, and swimming, as well as recreational activities that require passive facilities.

Non-Residential/Worker Population

Although there is no quantitative analysis dedicated exclusively to the non-residential population within the defined study area, the *CEQR Technical Manual* calls for a quantitative analysis of the passive open space needs of the non-residential population within the residential study area. Therefore, a combined passive open space ratio for the entire study area population (including both residents and non-residents) is calculated to assess the adequacy of the passive open space resources during the day when both of these user groups could be utilizing the spaces.

As shown in Table 3-1, based on 2000 Census Journey to Work data compiled by NYCDCP, the worker population for the study area is estimated at approximately 7,650 workers. Using a 0.5 percent annual background growth rate, the current (2009) worker population is estimated at approximately 7,994 for the study area.

Total User Population

As detailed above, within the defined study area, the current total residential and non-residential population is estimated at 87,579. This count conservatively assumes that the residential and non-residential populations are entirely distinct from each other. It is possible that some area residents may also work in the study area, and as such there is likely to be some double-counting of the daily user population in the study area, resulting in a more conservative analysis.

Inventory of Publicly Accessible Open Space Resources

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

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 with benches, walkways, and picnicking areas. However, some passive spaces can be used for both passive and active recreation, such as a lawn or promenade with benches, which can also be used for ball playing, jogging or rollerblading.

Publicly accessible open space facilities within the study area were inventoried in March 2009 and identified by their location, size, owner, type, utilization, equipment, hours, and condition of available open space. The condition of each open space facility was categorized as "Excellent," "Good", "Fair", or "Poor." A facility was considered in excellent condition if the area was clean, attractive, and all equipment was present and in good repair. A good facility had minor problems such as litter, or older but operative equipment. A fair facility was one which was poorly maintained, had broken or missing equipment, or other factors which would diminish the facility's attractiveness. A poor facility exhibited characteristics such as serious deficiencies in cleanliness, security, and landscaping. Determinations were made subjectively, based on a visual assessment of the facilities.

Similarly, judgments as to the intensity of use of the facilities were qualitative, based on an observed degree of activity or utilization. If a facility seemed to be at or near capacity, i.e., the majority of benches or equipment was in use, then utilization was considered heavy. If the facility or equipment was in use, but could accommodate additional users, utilization was considered moderate. If a playground or sitting area had few people, usage was considered light.

Table 3-2, "Open Space Inventory", identifies the address, ownership, hours, acreages of active and passive open spaces in the study area, and their condition and utilization. Figure 3-2 provides a map of their locations. The Map Key number provided in the first column of Table 3-2 indicates the appropriate marker for each open space in Figure F-2.

As shown in Table 3-2, the study area has a number of publicly accessible open space facilities, ranging from large neighborhood parks to playgrounds and small community gardens. In total, 26 resources have been identified for quantitative analysis purposes, totaling about 74.72 acres, within the study area boundary. Of these 74.72 acres, approximately 33% (or 24.50 acres) is dedicated to active recreation, such as jogging, ball playing, and playground activities. The other 67% (or 50.22 acres) is devoted to passive pursuits. Approximately 41% of the study area's total acreage is located within two open space facilities, Highbridge Park and Jackie Robinson Park.

Highbridge Park is a 118.75-acre park that extends from West 155th Street north to Dyckman Street, between Edgecombe and Amsterdam Avenues. This park derives its name from New York City's oldest standing bridge, the High Bridge (1848), which was built to carry the Old Croton Aqueduct over the Harlem River, and was assembled piecemeal between 1867 and the 1960s, with the bulk being acquired through condemnation from 1895 to 1901. The park is widely known for its important landmarks, the Highbridge tower and the High Bridge (the city's oldest standing bridge), and also offers natural beauty and recreational fun, including a recreation center with pool, open vistas and an unusual geologic makeup. Among its strongest features are the magnificent cliffs and large rock outcroppings that dominate the park. The Highbridge Recreation Center and Pool were erected on the site of the former reservoir in 1936. The facility at Highbridge Park was one of eleven city pools built with labor supplied by the Works Progress Association and opened during the hot summer of 1936. Several playgrounds and ballfields have been constructed throughout the park over the last century.

The open space study area includes that portion of Highbridge Park that extends north from West 155th Street to approximately 165th Street, which falls within a half-mile radius. For analysis purposes, approximately 15% of the park's land acreage (an estimated 17.81 acres) is assumed to be included within the defined open space study area.

Jackie Robinson Park is a 12.77-acre park that extends from West 155th Street south to 145th Street, between Bradhurst and Edgecombe Avenues, which provides ten blocks of recreational resources. Originally built as a neighborhood playground to encourage organized play for city children, and one of the ten original parks to receive a City pool, Jackie Robinson Park's history is steeped with efforts to bring the neighborhood together in recreational fun. Along with its pool opening in 1936, a recreation center was created the same year. Equipped with traditional cardiovascular equipment, weight room, and gymnasium, the recreation center also boasts a library, Computer Resource Center, and an arts & crafts room, among other features. The park's other features two baseball diamonds, basketball courts, volleyball courts, and two playgrounds, one with a water play area. In addition, the park includes a bandshell that hosts concerts throughout the warm season. One

Figure 3-1
Open Space Study Area

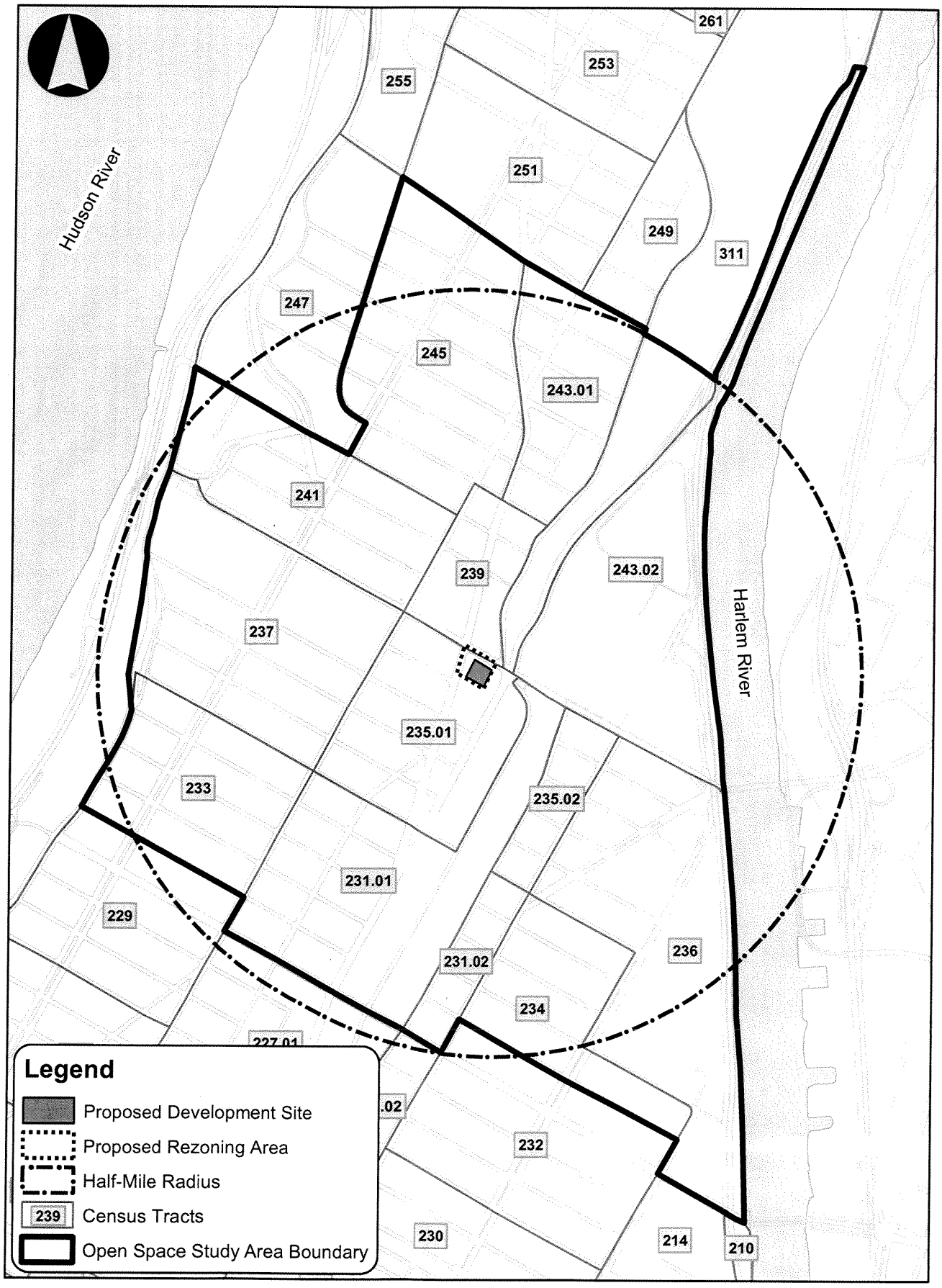


TABLE 3-2
Existing Open Space and Recreational Resources in the Study Area

MAP KEY #	NAME	ADDRESS	OWNER/ AGENCY	DESCRIPTION	HOURS OF ACCESS	TOTAL ACRES	ACTIVE		PASSIVE		CONDITION & UTILIZATION
							%	Acres	%	Acres	
1	Highbridge Park	W. 155th & Dyckman Sts., Edgecombe & Amsterdam Aves.	NYCDPR	Trees, benches, paths, playground, handball, basketball, baseball field, volleyball court, pool, exercise equipment, dog run, BBQ areas, picnic area, historic bridge	closes at dusk	17.81	20	3.56	80	14.25	good condition / high utilization
2	Jackie Robinson Park	Bradhurst & Edgecombe Aves., W. 145th to W. 155th Sts.	NYCDPR	Trees, benches, paths, playground, basketball, baseball field, pool, recreation center	closes at dusk	12.77	80	10.22	20	2.55	good condition / moderate utilization
3	Trinity Cemetery	W. 155thSt., Amsterdam Ave., W. 153rd, Riverside Drive	Trinity Church Corp.	Historic cemetery, trees, benches, paths	Sun-Sat 9am-5pm	24.00	0	0.00	100	24.00	good condition / low utilization
4	Harlem River Driveway	W. 155th St., 10th Ave. & Harlem River	NYCDPR	Bikeway/greenway		5.33	50	2.67	50	2.67	Good condition / low utilization
5	Orville and Wilbur Playground	St. Nicholas Ave & W. 156th St.	NYCDPR	Benches, playground, basketball, handball court, volleyball court	closes at dusk	0.58	100	0.58	0	0.00	good condition / high utilization
6	Holcombe Rucker Playground	W 155th St., 8th Ave. to Harlem River Drive	NYCDPR	Benches, playground, basketball, handball court, baseball field	closes at dusk	3.13	100	3.13	0	0.00	good condition / high utilization
7	Powell Malls	7th Ave., W. 110 to W. 152nd Sts.	NYCDPR	Plantings, benches, paths, trees	24 hours/day	0.35	0	0.00	100	0.35	good condition / low utilization
8	Col. Charles Young Triangle	7th Ave., Macombs Pl, at W. 153rd St.	NYCDPR	Trees, benches, walking path, plantings	24 hours/day	1.15	0	0.00	100	1.15	good condition / low utilization
9	Harlem Lane Playground	Harlem River, W. 151st to W. 154th Sts.	NYCDPR	Basketball court, playground, trees, benches	closes at dusk	1.64	100	1.64	0	0.00	good condition / high utilization
10	Bill "Bojangle" Robinson Playground	W. 150th St., 7th Ave.	NYCDPR	Playground, Basketball court, benches	closes at dusk	0.17	100	0.17	0	0.00	good condition / high utilization
11	Frederick Johnson Park	7th Ave., W. 150th to W. 151st Sts.	NYCDPR	Tennis courts, handball courts, playground, chess tables, benches, paths	closes at dusk	2.45	80	1.96	20	0.49	good condition / high utilization
12	Carmansville Playground	Amsterdam Ave., W. 151st to W. 152nd Sts.	NYCDPR	Playground, handball courts, benches	closes at dusk	0.57	100	0.57	0	0.00	good condition / high utilization
13	Morris Jumel Ecological Garden	455-457 W. 162nd St. & Edgecombe & St. Nicholas/ Amsterdam Aves.	NYCDPR / CENYC	Community garden with plantings, benches	M:12-2PM, Sat:12-4PM, Sun:12-4PM	0.10	0	0.00	100	0.10	good condition / low utilization
14	Roger Morris Park	Jumel Terr. to Edgecombe Ave., W. 160th to W. 162nd Sts.	NYCDPR	Historic mansion and open space	We3-Sun 10am-4pm	1.52	0	0.00	100	1.52	good condition / low utilization
15	Broadway Malls (3)	Broadway, W. 156th to W. 168th Sts.	NYCDPR	Plantings, benches, paths, trees	24 hours/day	0.86	0	0.00	100	0.86	good condition / low utilization
16	Broadway Malls (3)	Broadway, W. 135th to W. 156th Sts.	NYCDPR	Plantings, benches, paths, trees	24 hours/day	1.10	0	0.00	100	1.10	good condition / low utilization
17	Senior Citizens Sculpture Garden	W. 153rd St. & St. Nicholas & Amsterdam Aves.	CENYC/ NYCDPR /NYCDEP	Trees, benches, path, garden, sculptures	M-F 9am-4pm	0.41	0	0.00	100	0.41	good condition / low utilization
18	Mo' Pals	545 W. 147th St. & Broadway and Amsterdam Aves.	TPL/ CENYC	Community garden	M-Sat 10:00am-12:00pm, 2:00-4:00pm	0.04	0	0.00	100	0.04	good condition / low utilization

TABLE 3-2
Existing Open Space and Recreational Resources in the Study Area

MAP KEY #	NAME	ADDRESS	OWNER/ AGENCY	DESCRIPTION	HOURS OF ACCESS	TOTAL ACRES	ACTIVE		PASSIVE		CONDITION & UTILIZATION
							%	Acres	%	Acres	
19	Garden Beautiful/W. 153rd Harlemites	263-265 W. 153rd St. & Macombs Place	NYCHPD / CENYC	Community Garden, plantings, benches	M-Sat. 12pm-7pm	0.09	0	0.00	100	0.09	good condition / low utilization
20	Bradhurst Avenue Garden	Bradhurst Ave. & W. 152nd St.	NYCDPR/ NYCHPD / CENYC	Community garden, picnic area, benches	M-F 12pm-5pm	0.09	0	0.00	100	0.09	moderate condition/low utilization
21	William A. Harris Garden	W. 153rd Street & St. Nicholas Ave.	CENYC/ NYCDPR/ NYCDEP	Garden, trees, benches, trellis, picnic bench	M-F 12:00-8:00pm, Sat-Sun 12:00-8:00pm	0.09	0	0.00	100	0.09	good condition / moderate utilization
22	Donnellan Square	St Nicholas Ave., W. 150th St. to St Nicholas Pl.	NYCDPR	Community garden with plantings, trees, benches	closes at dusk	0.04	0	0.00	100	0.04	good condition / low utilization
23	Greenstreets	W. 155th St. & St. Nicholas Place	NYCDPR	Planted triangle	24 hours/day	0.12	0	0.00	100	0.12	good condition
24	Greenstreet	W. 157th St. & Broadway	NYCDPR	Planted triangle	24 hours/day	0.08	0	0.00	100	0.08	good condition / low utilization
25	Greenstreet	Riverside Drive and W. 156th St.	NYCDPR	Planted triangle	24 hours/day	0.18	0	0.00	100	0.18	good condition / low utilization
26	Greenstreet	W. 161st St. & Amsterdam Ave.	NYCDPR	Planted triangle	24 hours/day	0.05	0	0.00	100	0.05	good condition / low utilization
				TOTAL FOR QUANTITATIVE ANALYSIS		**74.72**	**33**	**24.50**	**67**	**50.22**	
RESOURCES NOT INCLUDED IN QUANTITATIEV ANALYSIS											
A	Convent Garden	Convent & St. Nicholas Aves. & W. 151st & 152nd Sts.	NYCDPR / CENYC	Community garden, plantings, gazebo, picnic benches	Sat: 10am-2pm	0.13	0	0.00	100	0.09	good condition / low utilization
B	Maggie's Garden	564 W. 149th St. Between Amsterdam Ave. & Broadway	NYRP/ CENYC	Gravel path, shrubs, threes, vegetables, benches	Summer: Sun-M: 10-4:30PM, Fall: Sun-M: 11-4PM	0.08	0	0.00	100	0.08	good condition / low utilization
C	Edgecombe Park/ Edgecombe Avenue Garden Park Sanctuary	339-341 Edgecombe Ave. & W. 149th and W. 150th Sts.	NYCDPR / CENYC	Community garden, benches	Sat. 8am-1pm	0.22	0	0.00	100	0.11	good condition / low utilization
D	C.S.46 - "Tappan School Garden of Heroes"	2987 Frederick Douglass Blvd. & Harlem River Drive	NYCDOE / CENYC	School community garden	N/A	2.00	0	0.00	100	2.00	good condition / low utilization
E	P.S. 4/Duke Ellington Harmony Garden	500 W. 160th St.	NYCDOE / CENYC	School community garden	N/A	0.15	0	0.00	100	0.15	good condition / low utilization
F	Lucille Mcleary Garden	499 W. 150th St., Amsterdam Ave. & Broadway	NYRP	Garden, gravel path, picnic area	N/A	0.03	0	0.00	100	0.03	good condition / low utilization

NYCDPR = New York City Department of Parks and Recreation
NYCDOE = New York City Department of Education
NYCDEP = New York City Department of Environmental Protection
CENYC = The Council on the Environment of NYC
NYRP = New York Restoration Project
TPL = Trust for Public Land

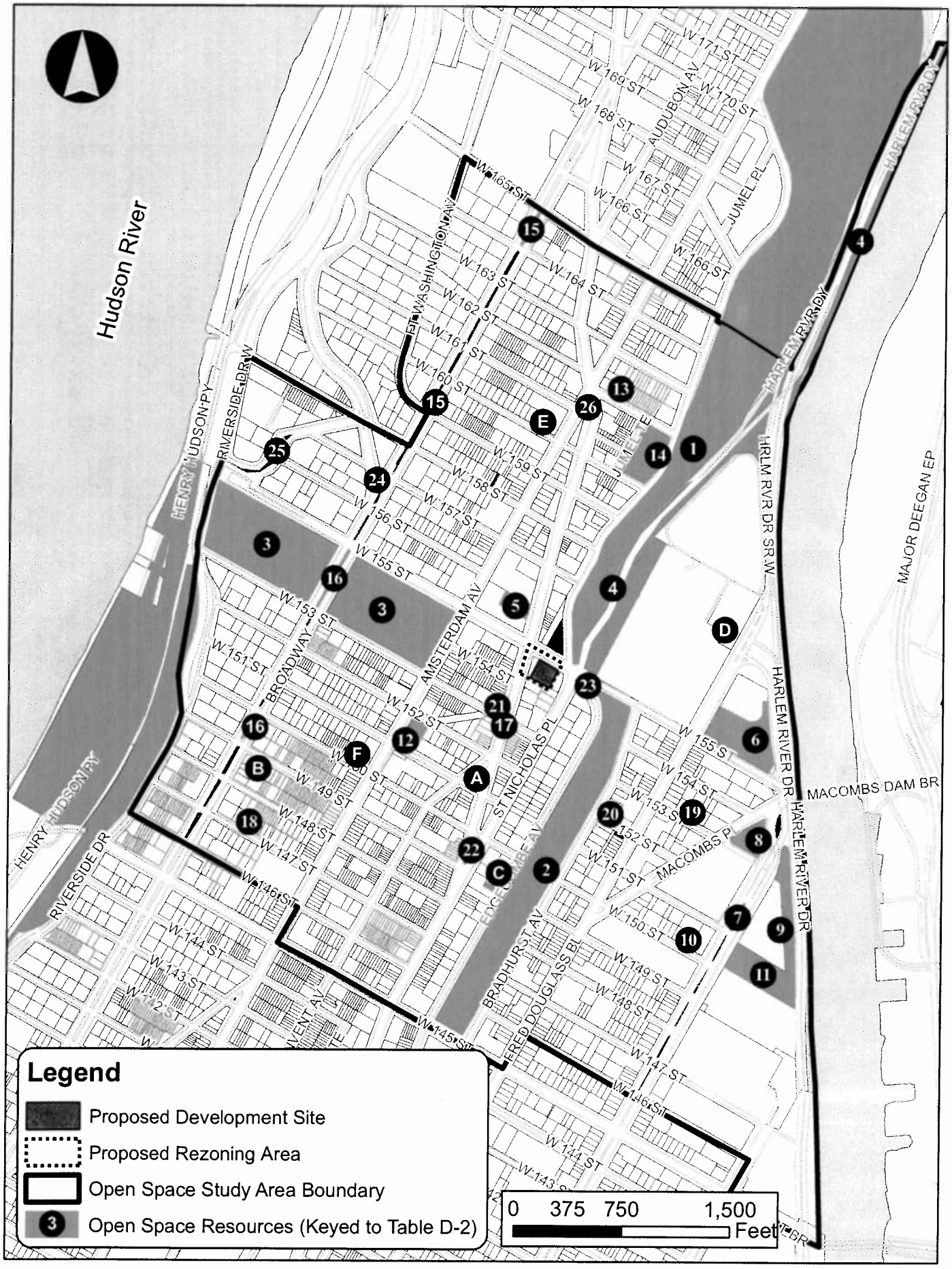
Notes:

(1) As Highbridge Park extends all the way to Dyckman Avenue in northern Manhattan, only that portion that falls within a half-mile radius, estimated at 15%, is included in the quantitative analysis.

(2) As the Harlem River Driveway extends all the way to Sherman Creek in northern Manhattan, only that portion that falls within a half-mile radius, estimated at 16%, is included in the quantitative analysis.

(3) Portions of two segments of the Broadway Malls fall within the study area, estimated at 75% of the segment between W. 156th and W.168th Streets, and 50% of the segment between W. 135th and W. 156th Streets.

Figure 3-2
Open Space Resources



of four spaces designated Historic Harlem Parks, the park is noted for its strong connection with the community.

The study area also includes the 24-acre Trinity Cemetery, which lies on both sides of Broadway between 153rd and 155th Streets. Calvert Vaux, co-designer of Central Park in Manhattan and Prospect Park in Brooklyn, designed a Gothic-style bridge across Broadway on the south side of 155th Street, which linked the two properties owned by Trinity Church. The bridge stood from 1872 to 1911, when it was demolished to make way for a large chapel on the eastern corner. The only remaining active cemetery in Manhattan, this quiet retreat includes giant hundre3-year-old oaks and elms overlooking grassy knolls and manicured walkways, and provides seating and views of the Hudson River.

A portion of the 32.7-acre Harlem River Driveway also falls within the study area. This greenway/bikeway extends from West 155th Street to 10th Avenue along the Harlem River. The open space study area includes that portion of that extends north from West 155th Street to approximately 173rd Street. For analysis purposes, approximately 16% of the Harlem River Driveway's acreage (an estimated 5.33 acres) is assumed to be included within the defined open space study area. Another resource in the study area is Roger Morris Park, which includes Manhattan's oldest surviving house, Morris-Jumel Mansion. Today, Morris-Jumel Mansion and Roger Morris Park are part of the Jumel Terrace Historic District. The house features nine restored, period rooms including George Washington's office. Morris-Jumel Mansion is owned by NYCDPR, is a member of the Historic House Trust of New York City, and operated by Morris-Jumel Mansion, Inc.

The remaining open spaces within the study area are comprised mostly of neighborhood playgrounds, smaller parks, seating areas or community gardens. Playgrounds in the study area include the 3.13-acre Holcombe Rucker Playground, the 1.64-acre Harlem Lane Playground, the 0.58-acre Orville and Wilbur Playground, and the 0.57-acre Carmansville Playground.

In addition to the above resources, there are several community gardens within the study area (identified by letters A through F in Figure 3-1 and Table 3-2), as well as two larger open space resources located just outside the study area boundaries, which are not included in the quantitative analysis. These facilities are discussed in the qualitative assessment below.

Quantitative Analysis of Open Space Adequacy

The NYC Department of City Planning (DCP) has established quantitative measures for determining the adequacy of open and recreational space within a neighborhood. As 1.5 acres of total open space per 1,000 residents is the median community district ratio in New York City, it generally represents adequate open space conditions and is used as the CEQR standard for this project. As an optimal planning goal, the City tries to achieve an overall residential open space ratio (OSR) of 2.5 acres per 1,000-user population (80 percent active and 20 percent passive) for large-scale plans and proposals. However, this goal is often not feasible for many areas of the city (especially higher density ones), but serves as a benchmark that represents an area that is well served by open spaces.

In the study area, there are a total of 74.72 acres of open space, including 50.22 acres of passive open space and 24.50 acres of active open space. Based on the current residential population of

79,585, the overall residential open space ratio is 0.94 acres of open space per 1,000 residents. However, the study area's residential population is particularly underserved with respect to active open space. The active open space ratio is 0.31 acres per 1,000-residents (see Table 3-3), which is substantially less than the planning goal of 2.0 acres per 1,000 residents.

With a combined residential and worker population of 87,579, the combined passive open space ratio in the study area is 0.57, which is higher than the recommended weighted average ratio of 0.47 acres per 1,000 residents and workers (refer to Table 3-3). Thus, with respect to the guidelines, it can be summarized that the study area in total is relatively well served by its amount of open space, it has abundant passive space and less than adequate active space.

TABLE 3-3
Adequacy of Open Space Resources in the Study Area – Existing Conditions

	Total Population	Open Space Acreage			Open Space Ratios Per 1,000-People			DCP Open Space Guidelines		
		Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
Residents	79,585	74.72	24.50	50.22	0.94	0.31	0.63	2.50	2.00	0.50
Combined Non-Residents & Residents	87,579				N.A.	N.A.	0.57	N.A.	N.A.	0.47*

Notes:
* Weighted average combining 0.15 acres per 1,000-non-residents and 0.50 acres per 1,000-residents.

Qualitative Analysis of Open Space Adequacy

The apparent deficiency of open space resources within the defined study area may be ameliorated by several factors. First, all 26 sites are considered to be in good or excellent condition. The study area contains a good mix of recreational facilities, with 33 percent dedicated to active uses and 67 percent to passive recreation. A wide variety of options to the open space user are available, from sitting areas and walking paths to jungle gyms, basketball and handball courts, ball fields, dog runs, wading pools and sprinklers.

Second, it should be noted that only 15% of Highbridge Park's acreage was included in the quantitative analysis, as well as only 16% of the Harlem River Driveway. While only a small portion of these two resources fall within the defined study area, it is likely that residents in this area make use of greater portions of these significant resources, particularly for active recreational activities, such as biking and jogging. Moreover, several open space facilities located within the open space study area were not taken into account as part of the quantitative analysis but their presence should be noted. As shown in Table 3-2, there are a number of community gardens that were not included in the quantitative assessment because they either had limited hours or did not have posted hours. Although they are not included in the quantitative analysis, these community gardens are open to the public by appointment or on special occasions, and provide additional passive recreational opportunities. Similarly, open spaces associated with NYCHA housing developments also provide some passive and active open space, but are conservatively not included in the quantitative analysis.

In addition, there are number of open space resources that fall just outside the study area boundary, which are not included in the quantitative analysis but could be used by people willing to travel slightly farther. These include portions of Riverside Park and Fort Washington Park (50 acres and

160 acres, respectively) along the Hudson River, as well as the 6.42-acre Col. Charles Young Playground, located just to the south of the study area boundary. Although these open spaces are located just outside the open space study area boundary, it is likely that both residents and workers at least occasionally take advantage of the recreational resources that these parks have to offer.

D. THE FUTURE WITHOUT THE PROPOSED ACTION (NO-ACTION)

Open Space Study Area Population

As described in Chapter 2, "Land Use, Zoning, and Public Policy," in the 2012 future without the Proposed Action, there are a number of planned and proposed developments expected to be constructed within an approximate ½-mile radius of the proposed rezoning area. These new developments would increase both the residential and non-residential populations in the study area. Some of the larger projects include a rezoning on West 155th Street that is expected to result in a new development with approximately 272 new residential units and 32,800 sf of retail, which is expected to add approximately 1,293 residents and 60 workers to the study area. In addition, in order to account for other developments that are expected in the area, an annual background growth rate of 0.5% per year (1.5 percent total) was applied to the 2009 residential and daytime populations to estimate the 2012 populations in the future without the Proposed Action.

As such, the defined study area's residential population is estimated at 82,072 in the future without the Proposed Action, and the worker population is estimated at approximately 8,174. Therefore, within the defined study area, the total residential and non-residential population in 2012 is estimated at 90,246.

Open Space Resources

The existing open space resources in the study area are expected to remain essentially unchanged in the future without the Proposed Action. Therefore, the open space acreage in the study area is conservatively assumed to remain unchanged in the future without the Proposed Action, at 74.72 total acres, with approximately 50.22 acres for passive recreation, and 24.50 acres for active recreation.

Quantitative Assessment of Open Space Adequacy

As discussed above, it is anticipated that new development in the study area will result in an increase in the population in the future without the Proposed Action, whereas the open space acreage would remain unchanged. Therefore, as shown in Table 3-4, the total open space ratio in the study area would decrease, from 0.94 acres/1,000 residents under existing conditions to 0.91 acres per 1,000 residents in the No-Action. The active open space ratio would also decrease slightly, from 0.31 acres per 1,000 residents under existing conditions to 0.30 acres per 1,000 residents, which would remain significantly below the NYCDCP planning goal of 2.0 acres per 1,000 residents.

With a combined residential and non-residential population of 90,246, the combined passive open space ratio in the study area would decrease from 0.57 acres per 1,000 persons under existing conditions to 0.56 acres per 1,000 persons, which would continue to be higher than the recommended weighted average ratio of 0.47 acres per 1,000 residents and non-residents (refer to Table 3-4).

The open space ratios in the study area would remain significantly below the guidelines for adequacy in the future without the Proposed Action. However, as noted above, the calculated ratios are somewhat conservative, as there are a few significant resources both within and just outside the defined study area, which are conservatively not included in this quantitative analysis.

TABLE 3-4
Adequacy of Open Space Resources in the Study Area – No-Action Conditions

	Total Population	Open Space Acreage			Open Space Ratios Per 1,000-People			DCP Open Space Guidelines		
		Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
Residents	82,072	74.72	24.50	50.22	0.91	0.30	0.61	2.50	2.00	0.50
Combined Non-Residents & Residents	90,246				N.A.	N.A.	0.56	N.A.	N.A.	0.47*

Notes:
* Weighted average combining 0.15 acres per 1,000-non-residents and 0.50 acres per 1,000-residents.

Qualitative Analysis of Open Space Adequacy

The open space ratios would remain substantially below the guideline of adequacy in the future without the Proposed Action. As under existing conditions, larger open space areas that are located just beyond the open space study area would add considerable accessible active and passive open space for the residential population, whereas community gardens and greenstreets provide additional passive recreational opportunities.

E. PROBABLE IMPACTS OF THE PROPOSED ACTION

The Proposed Action would facilitate the construction of a new mixe3-use building on the Proposed Development Site. The Proposed Development would consist of a 13-story building containing approximately 124 residential units, all of which would be affordable; an approximately 18,036 sf Faith Ringgold Children's Museum of Art and Storytelling; a 12,196 sf day care facility and early childhood center; 2,350 sf of non-profit program and office space; and a 114-space below-grade accessory parking garage.

Study Area Population

As detailed in Chapter 1, "Project Description," compared to future conditions without the Proposed Action, the RWCDS analyzed in this document consists of 124 residential units, an

approximately 18,036 sf museum, a 12,196 sf day care facility (100 children capacity), approximately 2,350 sf of office space, as well as a net reduction of 300 public parking spaces. The RWCDS associated with the Proposed Action would add a total of approximately315 new residents to the area, as well as an estimated 74 workers.

Open Space Resources

No new open space resources are anticipated to be developed as part of the RWCDS. Therefore, the open space resources within the study area would remain unchanged from No-Action conditions. However, it should be noted that the Quality Housing Program, which provides specific requirements for outdoor and indoor recreational space, is required in the proposed R8A zoning district, as discussed in the qualitative assessment below. Pursuant to the Quality Housing requirements, the Proposed Development is expected to contain an approximately 6,545 sf roof terrace, which would provide accessible private open space to the additional residents associated with the Proposed Development, and which tends to partially offset demands on area public open spaces. In addition, as described in Chapter 1, "Project Description," the Proposed Action would include a reciprocal easement swap that would enable the applicant to locate its main entrance to the Proposed Development on St. Nicholas Avenue through a publicly-accessible landscaped plaza, estimated at approximately 4,597 (0.10 acre).

Quantitative Analysis of Open Space Adequacy

As the Proposed Action would not add any new public open space, the study area's total open space acreage would remain unchanged. As shown in Table 3-5, with approximately 74.72 acres of total open space serving a residential population of 82,539, the total open space ratio is projected to remain unchanged compared to No-Action conditions, at 0.91 acres per 1,000 residents. Likewise, the active open space ratio would remain unchanged at 0.30 acres per 1,000 residents.

TABLE 3-5
Adequacy of Open Space Resources in the Study Area –
2012 No-Action and With-Action Conditions

	Total Population	Open Space Acreage			Open Space Ratios Per 1,000-People			DCP Open Space Guidelines		
		Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
NO-BUILD CONDITIONS										
Residents	82,072	74.72	24.50	50.22	0.91	0.30	0.61	2.50	2.00	0.50
Combined Non-Residents & Residents	90,246				N.A.	N.A.	0.56	N.A.	N.A.	0.47*
BUILD CONDITIONS										
Residents	82,387	74.72	24.50	50.22	0.91	0.30	0.61	2.50	2.00	0.50
Combined Non-Residents & Residents	90,635				N.A.	N.A.	0.55	N.A.	N.A.	0.47*

Notes:
* Weighted average combining 0.15 acres per 1,000-non-residents and 0.50 acres per 1,000-residents.

As shown in Table 3-5, the recommended weighted average passive open space ratio for the study area would continue to be 0.47 acres per 1,000 users in the future with the Proposed Action. The combined passive open space ratio for residents and nonresidents in the study area would decrease slightly, to 0.55 acres per 1,000 users (compared to 0.56 acres per 1,000 users in the No-Action), but would continue to be above the recommended weighted average.

Qualitative Analysis of Open Space Adequacy

Given that the total open space ratio and active open space ratio resulting from the Proposed Action would remain unchanged compared to No-Action conditions, the introduction of new population resulting from the action would not noticeably affect the utilization of the area's open spaces. In the future with the Proposed Action, ratios of open space to residents would continue to be lower than the measure of open space adequacy and the optimal planning goals furnished by NYCDCP. However, the population to be generated by the Proposed Action is not expected to have any special characteristics, such as a disproportionately younger or older population, that would place heavy demand on facilities that cater to specific user groups. Moreover, because residents in the future with the Proposed Action are expected to exhibit similar characteristics to the current residents of the study area, the breakdown in population by age group is expected to remain the same.

The 2000 Census indicates that approximately 59 percent of the population in the study area falls between the ages of 20 and 64. According to the *CEQR Technical Manual* this population uses "court game facilities and fields for sports, as well as more individualized recreation such as rollerblading, biking, and jogging. Adults also gather with families for pick-nicking, a3-hoc active sports such as Frisbee, and recreational activities in which all ages can participate." Per this definition, open space resources in the future with the Proposed Action would generally be suitable to meet the needs of the user population.

It should also be noted that the proposed zoning district would require that any new residential development adhere to Quality Housing Program regulations. These regulations require the residential developments to include amenities such as tree plantings, landscaping, and recreational space. These open space amenities would improve open space conditions on the site and help alleviate future open space shortfalls. However, as this recreational space would not be public space, it would not improve the study area's open space ratios and the shortfalls in the open space ratios in the quantitative analysis described above would remain.

F. CONCLUSION

According to the *CEQR Technical Manual*, a proposed action may result in a significant adverse impact on open space resources if (a) there would be direct displacement/alteration of existing open space within the study area that has a significant adverse effect on existing users; or (b) it would reduce the open space ratio and consequently result in overburdening existing facilities or further exacerbates a deficiency in open space. The *CEQR Technical Manual* also states, "if the area exhibits a low open space ratio indicating a shortfall of open space, even a small decrease in the ratio as a result of the action may cause an adverse effect." A five percent or greater decrease

in the open space ratio is considered to be "substantial," and a decrease of less than one percent is generally considered to be insignificant unless open space resources are extremely limited.

The Proposed Action would not result in a significant adverse open space impact. As noted above, the Proposed Action would not result in any direct displacement or alteration of existing open space resources in the study area. It would also not result in a decrease in the total open space ratio compared to No-Action conditions. As such, the Proposed Action is not expected to noticeably diminish the ability of the study area's open spaces to serve its residential population in the future with the Proposed Action.

While the ratios of open space to residents would continue to be lower than the measure of open space adequacy and the optimal planning goals furnished by NYCDCP in the future with the Proposed Action, there are a number of qualitative factors that are taken into consideration that would ameliorate the overall deficiency. In addition, as described above, the Proposed Development would include a rooftop accessory recreation space that would add approximately 6,545 sf (0.15 acres) of open space for the exclusive use of the residents, as well as an approximately 0.1-acre publicly accessible landscaped entry plaza. While not included in the quantitative analysis, these facilities would offset some of the additional demand resulting from the new residents. Also, larger open space areas that are located just beyond the open space study area would add considerable accessible active and passive open space for the residential population, whereas community gardens and greenstreets provide additional passive recreational opportunities. Therefore, the Proposed Action would not result in a significant adverse impact on open space resources.