

A. INTRODUCTION

The purpose of the construction open space analysis is to assess the effects of the Extended Build-Out Scenario on open space conditions in the study area during the construction of Phase II of the Project. The 2006 Final Environmental Impact Statement (FEIS) identified a temporary significant adverse open space impact in the non-residential (¼-mile) study area that would begin during Phase I (no indirect impacts were found in the residential ½-mile study area in the 2006 FEIS). The build-out of Phase II would gradually eliminate the temporary significant adverse impact as Phase II open space resources are made available in connection with the completion of the Phase II buildings. Under the Extended Build-Out Scenario, the duration of the temporary impact would be longer than it would be under the construction schedule anticipated in the 2006 FEIS. Therefore, this chapter provides a comparison of the estimated duration of the temporary significant adverse impact under the Extended Build-Out Scenario with the estimated duration under the schedule anticipated in the 2006 FEIS.

In addition, this chapter examines the potential for construction activities to affect open space during a prolonged construction period for Phase II under the Extended Build-Out Scenario. Consistent with the methodologies of the *City Environmental Quality Review (CEQR) Technical Manual*, this assessment addresses the potential for both direct and indirect effects on open space resources in the study area during the construction of Phase II of the Project during a prolonged construction period. The Project would not directly displace any existing open space resources. Therefore, the direct effects analysis focuses on the potential effects of air emissions, noise, and vibration from construction activities during the Extended Build-Out Scenario on study area open spaces. The indirect impacts analysis evaluates the availability and adequacy of open space resources in the study area during the construction period for Phase II of the Project under the Extended Build-Out Scenario under the three illustrative construction phasing plans, following the methodologies presented in the *CEQR Technical Manual*.

PRINCIPAL CONCLUSIONS

The construction open space analysis consists of two components. Since the 2006 FEIS identified a temporary significant adverse impact on passive open space resources in the non-residential study area upon the completion of Phase I, the analysis first compares the duration of that impact under the Extended Build-Out Scenario with the duration that would have been expected under the schedule anticipated in the 2006 FEIS. The analysis then assesses the potential for impacts from construction activities during a prolonged construction period for Phase II under the Extended Build-Out Scenario, including potential direct and indirect effects on open space resources in the study area.

ANALYSIS OF TEMPORARY SIGNIFICANT ADVERSE IMPACT ON PASSIVE OPEN SPACE RESOURCES IN NON-RESIDENTIAL STUDY AREA IDENTIFIED IN THE 2006 FEIS

Under the Extended Build-Out Scenario, the temporary significant adverse impact on the ratio of acres of passive open space per 1,000 workers (the passive worker ratio) in the non-residential study area associated with Phase I of the Project would be eliminated during construction of Phase II by 2029 or 2031 (depending on the illustrative construction phasing plan being analyzed), when approximately 3.36 to 3.41 acres of new publicly accessible passive open space would be provided by the Phase II development.

Therefore, compared with the Phase II schedule analyzed in the 2006 FEIS, the Extended Build-Out Scenario would prolong the temporary significant adverse impact on the passive worker ratio in the non-residential study area that was identified in the 2006 FEIS by between approximately 7 and 9 years. The analysis uses the commercial mixed-use variation and assumes that all of the Phase I buildings are built by 2018.

ANALYSIS OF ADEQUACY OF OPEN SPACE RESOURCES DURING THE PHASE II CONSTRUCTION PERIOD UNDER THE EXTENDED BUILD-OUT SCENARIO

Indirect Effects

Under all three construction phasing plans, the ratio of acres of passive open space in the non-residential study area per 1,000 workers (the passive worker ratio) would gradually increase as Phase II buildings come online and add new passive open space resources to the ¼-mile non-residential study area¹. Overall, Phase II of the Project would improve the passive worker ratio, and at no point during the build out of Phase II would the percentage change in the passive worker ratio from the Future Without Phase II to the Future With Phase II be negative. Therefore, there would be no significant adverse indirect impacts in the non-residential open space study area due to the construction of Phase II.

With regard to the residential study area, the ratio of total acres of open space (i.e., combined passive and active publicly accessible open space) in the residential study area per 1,000 residents (the total residential ratio) and the ratio of acres of passive open space in the residential study area per 1,000 residents (the passive residential ratio) would gradually increase over time, whereas the ratio of acres of active open space in the residential study area per 1,000 residents (the active residential ratio) would gradually decrease with time. It should be noted that—as described in Chapter 4C, “Operational Open Space”—study area residents would also continue to have access to resources that are not included in the quantitative analysis, including two destination open space resources (Fort Greene Park and Prospect Park) that are within walking distance of the Phase II project site.

At no point during the build out of Phase II under the Extended Build-Out Scenario would the percentage change in the total residential ratio from the Future Without Phase II to the Future With Phase II be negative, under Construction Phasing Plan 1 and 3. Under Construction Phasing Plan 2, there would be a 0.3 percent decrease in the total residential ratio after the

¹ As described in Chapter 4C, “Operational Open Space,” the *CEQR Technical Manual* recommends a ¼-mile study area for the non-residential study area because this is the area in which workers are considered likely to utilize open space resources. A ½-mile study area is used for the residential study area.

completion of the first Phase II building (Building 15, which would provide 0.13 acres of open space) in 2021, after which the ratio would steadily increase. This temporary decrease of less than 1 percent in the total residential ratio would not be considered a significant adverse impact, due to the small size of the decrease, the relatively short duration of this condition, the new open space resources that would be provided as Phase II buildings are constructed, and the availability of open space resources not included in the quantitative analysis, including Prospect Park and Fort Greene Park.

The passive residential ratio would increase over the construction period of Phase II under the Extended Build-Out Scenario. Compared with the Future Without Phase II, at no point during the build out of Phase II would the percentage change in the passive residential ratio from the Future Without Phase II to the Future With Phase II be negative, under all three Construction Phasing Plans. Upon the completion of Phase II in 2035, the overall increase in the passive residential ratio would be 36 percent.

The active residential ratio would gradually decrease over the Phase II construction period under the Extended Build-Out Scenario, with a maximum decrease of approximately 6.9 percent under Construction Phasing Plans 1 and 3 (occurring after the completion of Building 9, the seventh Phase II building to be completed), and with a maximum decrease of approximately 10.4 percent under Construction Phasing Plan 2 (occurring after the completion of Building 12, the second to last Phase II building). However, as additional active features come online, the active residential ratio would improve slightly, and under all three construction phasing plans, at the completion of Phase II in 2035, would decrease by approximately 5.6 percent.

The overall effect of Phase II of the Project would be to improve the availability of publicly accessible open space in the study area. Due to the new open space resources that would be provided by Phase II, and the availability of open space resources not included in the quantitative analysis (including Prospect Park and Fort Greene Park, two destination parks within walking distance of the project site), the decreases in the active residential ratio would not be considered a significant adverse impact. Overall, there would be no significant adverse indirect open space impacts associated with Phase II of the Project under the Extended Build-Out Scenario, under any of the three construction phasing plans.

Direct Effects

Phase II would not result in any direct displacement of existing open space resources. As discussed in Chapters 3I and 3J, no significant adverse impacts on study area open spaces due to air emissions, noise, or vibration are anticipated during the construction of Phase II. Therefore, there would not be any significant adverse impacts due to direct effects on study area open spaces during the Extended Build-Out Scenario under any of the illustrative construction phasing plans.

Noise levels in areas where Project open spaces would be developed exceed CEQR guidelines for existing and Future Without Phase II conditions. At Project open space locations, at certain times, on-site construction activities under any of the three analyzed illustrative construction phasing plans would result in noise level increases. Open space areas with a line of sight to active construction activities would experience further elevated noise levels during those activities. While these noise levels are not desirable, there is no effective practical mitigation that could be implemented to avoid these levels during construction. Noise levels in many of the city's parks and open space areas that are located near heavily trafficked roadways and/or near construction sites experience comparable and sometimes higher noise levels.

B. SUMMARY OF FINDINGS OF PREVIOUS ENVIRONMENTAL REVIEWS

The 2006 FEIS noted that construction activities would not displace any existing open space resources and while certain existing and Project open spaces would be temporarily affected by noise from construction activities, access to these open spaces would not be impeded at any point during the construction period. The 2006 FEIS also noted that the use of the proposed open spaces to be constructed as part of the Project would be temporarily affected by the construction of adjacent buildings. The 2006 FEIS, however, identified a temporary significant adverse impact with respect to open space resources upon the completion of Phase I of the Project, due to the additional population in the non-residential study area that would result from operation of the Phase I development that would be partially mitigated by the open space that would be introduced as part of the Phase II program. The 2006 FEIS also identified noise-related impacts during Phase I construction only on certain open space areas, including Brooklyn Bear's Pacific Street Community Garden, the Dean Playground, and South Oxford Park. However, with respect to the Dean Playground, the impact would be partially mitigated by the provision of an amenity to the park users. The 2006 FEIS did not identify any significant adverse noise-related impacts on open spaces during Phase II construction.

C. FUTURE WITH PHASE II CONSTRUCTION ACTIVITIES

OPEN SPACE

The Supplemental EIS (SEIS) open space assessment analyzes the three illustrative construction phasing plans described in Chapter 3A, "Construction Overview." These illustrative construction phasing plans have been developed to illustrate how the timing of the construction of certain project components may vary and to provide for a reasonably conservative analysis of the range of environmental effects associated with a delayed build-out of Phase II.

ANALYSIS OF TEMPORARY SIGNIFICANT ADVERSE IMPACT ON PASSIVE OPEN SPACE RESOURCES IN NON-RESIDENTIAL STUDY AREA IDENTIFIED IN THE 2006 FEIS

The 2006 FEIS identified a temporary significant adverse open space impact in the non-residential (1/4-mile) study area upon the completion of Phase I (assumed in that FEIS to be in 2010), due to the decrease in the ratio of acres of passive open space per 1,000 workers (the passive worker ratio). The 2006 FEIS found that this impact would continue until the Phase II open space is phased in and that, by the completion of Phase II (assumed in that FEIS to be in 2016), the temporary significant adverse impact would be fully mitigated by the eight acres of publicly accessible open space constructed between the completion of Phase I and the completion of Phase II.

The build-out of Phase II would gradually eliminate the temporary significant adverse impact as Phase II open space resources are made available in connection with the completion of the Phase II buildings. Since the Extended Build-Out Scenario would prolong construction of Phase II, this analysis provides a comparison of the estimated duration of the temporary significant adverse impact under the Extended Build-Out Scenario with the estimated duration under the schedule anticipated in the 2006 FEIS.

The analysis begins with an assessment of how much Phase II development would be required to eliminate the temporary significant adverse impact on the passive worker ratio that is associated

with Phase I. **Table 3E-1** presents the summary of assumptions for population changes and open space changes associated with each building of Phase II of the Project. The new worker population and acres of passive open space presented in **Table 3E-1** are used in this analysis to assess the change in the passive worker ratio as each new Phase II building is completed.

Table 3E-1
Summary of Phase II Population and Open Space Changes

Building	New Residential Pop.¹	New Worker Pop.²	Acres of New Total Open Space³	Acres of New Passive Open Space³	Acres of New Active Open Space³
5	1,243	68	0.51	0.51	0
6	867	66	0.87	0.84	0.03
7	1,467	78	0.78	0.72	0.06
8	1,017	51	0.93	0.80	0.13
9	1,338	57	1.00	0.82	0.18
10	912	49	0.98	0.86	0.12
11	715	54	0.53	0.53	0
12	768	54	0.79	0.79	0
13	779	55	0.90	0.74	0.16
14	610	51	0.58	0.46	0.12
15	839	52	0.13	0.13	0
TOTAL	10,555	635	8.0	7.2	0.8
Notes:					
¹ Assuming an average household size of 2.14					
² Assuming 1 worker per: 25 housing units; 400 sf retail uses; 250 sf office uses; and 50 parking spaces.					
³ Open space acreages are derived from the <i>Brooklyn Arena & Atlantic Yards Design Guidelines</i> (November 2006).					

This analysis evaluates the duration of the temporary significant adverse indirect impact on the passive worker ratio in the non-residential study area associated with Phase I, which would be gradually eliminated as new open spaces associated with the Phase II buildings come on line.

In order to provide a comparison of the estimated duration of the impact under the Extended Build-Out Scenario with an estimated duration under the schedule anticipated in the 2006 FEIS, this analysis assumes a baseline condition without any Phase I development and assumes that all of the Phase I buildings would be substantially complete by 2018. The analysis also assumes that the first Phase II building would be complete by 2021. Background development projects that are expected to be built in the Future Without Phase II (see Chapter 2, "Analysis Framework") are also incorporated. This analysis uses the Commercial Mixed-Use Variation as a reasonable worst-case environmental condition to represent the maximum number of workers that would be introduced with the Phase I buildings.

To establish a baseline condition in 2021, and using updated worker population data and open space information, the ratio of acres of passive open space per 1,000 workers in 2021 without Phase I of the Project, is presented below in **Table 3E-2**.

Table 3E-2

2021: Projected Adequacy of Open Space Resources Without Phase I

Total Population		Open Space Acreage	Open Space Ratio (Acres per 1,000 People)	DCP Open Space Guidelines
		Passive	Passive	Passive
Non-residential (¼-Mile) Study Area				
Workers	12,953	4.33	0.334	0.15

Completion of Phase I of the Project prior to the completion of the first Phase II building in 2021 would change the baseline conditions presented in **Table 3E-2** by adding workers associated with Phase I, and accounting for the removal of temporary Phase I open space. Specifically, Phase I would add up to approximately 5,681 workers to the non-residential study area, and the Daily News Plaza (the interim open space that is currently provided on the arena block), would be eliminated as Building 1 and the Urban Room would be constructed in its place. The effect of these changes on the availability of passive space in the non-residential study area in 2021 is shown below in **Table 3E-3**.

Table 3E-3

2021: Projected Adequacy of Open Space Resources With Phase I

Total Population		Open Space Acreage	Open Space Ratio (Acres per 1,000 People)	Percent Change from Without Phase I to With Phase I
		Passive	Passive	Passive
Non-residential (¼-Mile) Study Area				
Workers	18,634	3.73	0.200	-40.1%

As shown in **Table 3E-3**, accounting for the completion of Phase I of the Project, in 2021 there would be a 40.1 percent decrease in the ratio of acres of passive open space per 1,000 workers in the non-residential study area. The 2006 FEIS disclosed this condition as a significant adverse impact, although the numbers presented in **Table 3E-3** differ from those presented in the 2006 FEIS as they reflect updated data and changes in background conditions. **Table 3E-4** presents an assessment of the duration of this significant adverse impact through Phase II construction for the three illustrative construction phasing plans under the Extended Build-Out Scenario. The determination of conditions summarized in **Table 3E-4** takes into account the new passive open space resources and the population of workers that would be introduced by each building, and the estimated average construction worker population on the Phase II project site at this time.

Table 3E-4
Changes to Passive Open Space Ratios in the Non-Residential Study Area

Construction Phasing Plan 1		Construction Phasing Plan 2		Construction Phasing Plan 3	
Year (Building) ¹	Percent Change ²	Year (Building) ¹	Percent Change ²	Year (Building) ¹	Percent Change ²
2021 (14)	-34.1%	2021 (15)	-39.2%	2021 (14)	-34.7%
2022 (13)	-21.9%	2022 (5)	-32.3%	2027 (13)	-22.2%
2024 (12)	-11.1%	2023 (14)	-25.4%	2028 (12)	-11.4%
2025 (11)	-3.3%	2026 (6)	-12.3%	2029 (11)	-3.9%
2026 (15)	-1.5%	2028 (7)	-0.9%	2030 (15)	-2.1%
2029 (8)	10.18%	2029 (8)	10.5%	2031 (8)	9.6%

Notes: ¹The Phase II building that comes online in each year is indicated in parentheses. Table does not include Phase II buildings constructed after elimination of the deficit in passive open space in the non-residential study area resulting from Phase I.
²The percent change shown is the change in the ratio of acres of passive open space in the non-residential study area per 1,000 workers, from the Future Without the Project to the Future With the Project.

As shown in **Table 3E-4**, the significant adverse impact on the passive worker ratio would be alleviated as each Phase II building comes on line, under each of the three illustrative construction phasing plans. There would be no adverse effect on passive open spaces resources in the non-residential study area in 2029 under Construction Phasing Plan 1 and Construction Phasing Plan 2, and in 2031 under Construction Phasing Plan 3. Under Construction Phasing Plan 1, the significant adverse impact would be eliminated in 2029, after six buildings providing 3.36 acres of new publicly accessible passive open space have come on line (and accounting for an additional population of up to 664 workers, including construction workers). The impact would be eliminated in 2029 under Construction Phasing Plan 2, after six buildings come online, which represents the provision of approximately 3.41 acres of new publicly accessible passive open space (and accounting for an additional population of up to 713 workers, including construction workers). The significant adverse impact would be eliminated after six buildings have come online under Construction Phasing Plan 3, which represents the introduction of 3.36 acres of new publicly accessible passive open space and an addition population of up to 759 workers (including construction workers). The impact would not be eliminated until 2031 under Construction Phasing Plan 3, as this plan assumes a delay between the completion of the initial Phase II building and the completion of later buildings. Progress would not be made towards eliminating the significant adverse impact during the period that construction is assumed to be suspended under Construction Phasing Plan 3.

Overall, this analysis finds that under the Extended Build-Out Scenario the significant adverse impact on the ratio of passive open space in the non-residential study area associated with the completion of Phase I would be eliminated some time during the period from 2029 through 2031. The elimination of the significant adverse impact would require approximately 3.36 to 3.41 acres of new publicly accessible passive open space to be provided (when the new worker and construction worker population would be expected to be approximately 664 to 713, depending on the illustrative construction phasing plan).

Comparison of the Estimated Duration of the Temporary Significant Adverse Open Space Impact

The analysis presented above indicates that under the Extended Build-Out Scenario the temporary significant adverse impact on the passive worker ratio in the non-residential study

area associated with Phase I of the Project would be eliminated by 2029 or 2031. This is when approximately 3.36 to 3.41 acres of new publicly accessible passive open space would be provided by Phase II development (when the new worker and construction worker population would be expected to be approximately 664 to 713, depending on the illustrative construction phasing plan).

According to the construction schedule assumed in the 2006 FEIS, this condition would be achieved following the completion of Building 8 in 2014, when approximately 3.46 acres of new publicly accessible passive open space would be constructed, and approximately between 713 and 808 workers would have been introduced by the new Phase II building and project site construction activities.¹ Therefore, utilizing the 2006 FEIS construction schedule, the temporary significant adverse impact on passive open space resources within the ¼-mile study area associated with Phase I (which was assumed to be completed in 2010), would have been eliminated four years after the completion of Phase I.

Under the Extended Build-Out Scenario, the temporary significant adverse impact would continue from the completion of Phase I—assumed to be by 2018 for purposes of this analysis—through 2029 or 2031 (depending on the construction phasing plan), for a duration of between 11 and 13 years.

Therefore, compared with the schedule analyzed in the 2006 FEIS, the Extended Build-Out Scenario would prolong the temporary significant adverse impact on the passive worker ratio in the non-residential study area that was identified in the 2006 FEIS by between approximately 7 and 9 years.

ANALYSIS OF ADEQUACY OF OPEN SPACE RESOURCES DURING THE PHASE II CONSTRUCTION PERIOD UNDER THE EXTENDED BUILD-OUT SCENARIO

This section assesses the availability and adequacy of open space resources during the construction period for Phase II of the Project under the Extended Build-Out Scenario, including consideration of the potential direct and indirect effects of construction activities. The assessment of direct effects includes consideration of construction-related noise and air emissions on the quality of the open space resources. The indirect assessment applies the methodologies of Chapter 4C, “Operational Open Space” to determine how open space ratios for the non-residential (¼-mile) and residential (½-mile) study areas could change over the course of the Extended Build-Out Scenario.

Analysis Assumptions

The analysis considers conditions during the construction period when there would be notable changes in the available open spaces within the Phase II project site, including the addition of new temporary or permanent open spaces, or when a new population of open space users would be introduced as a result of the completion and operation of a Phase II Project building (see **Table 3E-1** for the summary of assumptions for population changes and open space changes associated with each building of Phase II of the Project). The analysis also accounts for construction workers who would be expected to be present on the Phase II project site.

¹ The 2006 FEIS construction schedule for Phase II anticipated that Building 15 would be completed first, in 2012, followed by Buildings 6 and 5 later in 2012, Buildings 7 and 14 in 2013, and Building 8 in 2014.

As with Chapter 4C, “Operational Open Space,” the quantitative assessment provided below compares the Future With Phase II to the Future Without Phase II in order to determine the changes in open space conditions that are attributable to Phase II of the Project under the Extended Build-Out Scenario. In addition to the background development projects that are expected to be built in the Future Without Phase II (see Chapter 2, “Analysis Framework”), the analysis assumes that the five Phase I buildings of the Project—Buildings 1, 2, 3, and 4 and Site 5—would be constructed by 2018, prior to the completion of any Phase II buildings, and are therefore accounted for in the Future Without Phase II condition.

The buildings will be built pursuant to the Design Guidelines, which provide programmatic specifications and an open space plan that designates a minimum amount of publicly accessible open space that would be associated with each building. The design guidelines contemplate that the Phase II open space would be built out as each building in Phase II is constructed, and that certain publicly accessible open space would be provided in connection with the construction of each building. The open space provided may be in either a permanent or temporary condition as necessary to respond to site and construction logistics and would further, to the extent practicable, the general goal of creating a cohesive open space design. Thus, publicly accessible open space would be provided on the project site following the completion of each Phase II building with associated open space, with the amount of open space increasing over time.

It is assumed for the purposes of analysis that a buffer area between adjacent development parcels would not be available as open space until the neighboring parcels have been developed. In addition, it is assumed that none of the open space that would be located in what is currently the street bed of Pacific Street on Block 1121/1129 would be available until the seven buildings on that block are completed.

There would also be instances where the provision of open space in its final, permanent configuration would not be feasible, but where open space would be provided in a temporary condition. This could occur when the open space features contemplated by the design guidelines overlap on a number of development parcels, and will only be able to be completed according to the final design when two or more buildings are completed.

Therefore, as each Phase II building is completed, a combination of permanent and temporary open spaces would be provided. The project sponsors anticipate that the temporary open space uses on the Phase II project site blocks would contain only passive features, some of which would be replaced by active open space features when the construction on each block (or in the case of Block 1121/1129, construction on both of those blocks) is complete. While some permanent active resources may come on line prior to the build out of the entire block, it is assumed for the purposes of conservative analysis that no active features would put into place until the entire block is completed.

As described above and in Chapter 2, “Analysis Framework,” three construction phasing plans have been developed for analysis in this SEIS; below, each phasing plan is considered in this analysis.

CONSTRUCTION PHASING PLAN 1

Under Construction Phasing Plan 1, the four buildings on Block 1129 would be built first, followed by Building 15 on Block 1128, the three buildings on Block 1121, and the three remaining buildings on Block 1120. **Table 3E-5** summarizes the open space conditions on the Phase II project site during the construction period, including calculating the passive worker ratio, total residential ratio, passive residential ratio, and active residential ratio as each Phase II building comes online. In addition, the table summarizes the percent change in open space conditions associated with the completion of each Phase II building, in comparison to the Future Without Phase II.

Table 3E-5

Summary of Open Space Conditions under Illustrative Construction Phasing Plan 1

Analysis Year ¹	Building	Non-Residential (¼-Mile) Study Area		Residential (½-Mile) Study Area					
		Passive/Workers Ratio	Passive/Workers Ratio % Change	Total/Residents Ratio	Total/Residents Ratio % Change	Passive/Residents Ratio	Passive/Residents Ratio % Change	Active/Residents Ratio	Active/Residents Ratio % Change
2021	14	0.259	9.3%	0.312	1.3%	0.168	2.4%	0.143	-0.7%
2022	13	0.307	29.5%	0.319	3.6%	0.177	7.9%	0.142	-1.4%
2024	12	0.349	47.3%	0.324	5.2%	0.184	12.2%	0.140	-2.8%
2025	11	0.380	60.3%	0.328	6.5%	0.189	15.2%	0.139	-3.5%
2026	15	0.387	63.3%	0.326	5.8%	0.188	14.6%	0.138	-4.2%
2028	8	0.432	82.3%	0.331	7.5%	0.195	18.9%	0.136	-5.6%
2029	9	0.484	104.2%	0.337	9.4%	0.203	23.8%	0.134	-6.9%
2032	10	0.536	126.2%	0.352	14.3%	0.211	28.7%	0.141	-2.1%
2033	5	0.561	136.7%	0.352	14.3%	0.213	29.9%	0.139	-3.5%
2033	6	0.611	157.8%	0.358	16.2%	0.221	34.8%	0.137	-4.9%
2035	7	0.667	181.4%	0.362	17.5%	0.226	37.8%	0.136	-5.6%

Notes: ¹It is assumed that under all three construction phasing plans, construction of Phase II of the Project under the Extended Build-Out Scenario would commence in 2018, with the first Phase II building completed in 2021.

Indirect Effects Analysis Under Illustrative Construction Phasing Plan 1

As shown in **Table 3E-5**, the overall effect of Phase II of the Project on the availability of open space resources would be positive.

The ratio of acres of passive open space per 1,000 workers in the non-residential study area would continuously increase over time, as additional open space resources are added to the Phase II project site. Beginning in 2021 with the completion of Building 14, the passive worker ratio would be 0.259, which represents an increase of 9.3 percent compared with the Future Without Phase II. After 2021, this ratio would gradually increase, reaching 0.307 in 2022 (29.5 percent increase compared with the Future Without Phase II), 0.380 in 2025 (60.3 percent increase compared with the Future Without Phase II), and 0.611 in 2033 (157.8 percent increase compared with the Future Without Phase II). With the completion of the last Phase II building (Building 7) in 2035, the passive worker ratio would increase to 0.667 (181.4 percent increase compared with the Future Without Phase II). Overall, Phase II would improve the passive worker ratio, and at no point during the build out of Phase II of the Project under the Extended Build-Out Scenario would the percentage change in the ratio from the Future Without Phase II to the Future With Phase II be negative. Therefore, there would be no significant adverse indirect

impacts in the non-residential open space study area due to the construction of Phase II of the Project.

With regard to the residential study area, the total residential ratio and the passive residential ratio would gradually increase over time, whereas the active residential ratio would gradually decrease with time. With the completion of Building 14 in 2021, the total residential ratio would be 0.312, which represents a 1.3 percent increase compared with the Future Without Phase II. After 2021, the total ratio would continue to increase, reaching 0.319 in 2022 (3.6 percent increase compared with the Future Without Phase II), 0.337 in 2029 (9.4 percent increase compared with the Future Without Phase II), 0.352 in 2032 (14.3 percent increase compared with the Future Without Phase II) and 0.362 in 2035 after the completion of Building 7, the final Phase II building, under Construction Phasing Plan 1 (17.5 percent increase compared with the Future Without Phase II). Overall, Phase II of the Project under the Extended Build-Out Scenario would improve the total residential ratio, and at no point during the build out of Phase II would the percentage change in the ratio from the Future Without Phase II to the Future With Phase II be negative.

The passive residential ratio would increase over the construction period, from 0.168 in 2021 (2.4 percent increase compared with the Future Without Phase II), to 0.203 in 2029 (23.8 percent increase compared with the Future Without Phase II), to 0.226 in 2035 (37.8 percent increase compared with the Future Without Phase II). At no point during the build out of Phase II of the Project under the Extended Build-Out Scenario would the percentage change in the passive residential ratio from the Future Without Phase II to the Future With Phase II be negative.

The active residential ratio would generally decline over the construction period of Phase II of the Project; in 2021, following the completion of the first Phase II building (Building 14), the ratio would be 0.143 (0.7 percent decrease compared with the Future Without Phase II). Prior to the completion of Building 10 in 2032, and the associated replacement of temporary passive open space features by permanent active and passive open space uses, there would be a temporary condition where no active open space uses would yet have been introduced to the Phase II project site. By 2029, the four buildings on Block 1129, Building 15 on Block 1128, and two buildings on Block 1121 (Buildings 8 and 9) would be completed. The active residential ratio would be 0.134 in 2029, which represents a 6.9 percent decrease compared with the Future Without Phase II. Upon the completion of Building 10 in 2032, the build out of Block 1121/1129 would be complete, and temporary passive features would be replaced by permanent passive and active features. At this time, the active residential ratio would increase from 0.134 to 0.141 (2.1 percent decrease compared with the Future Without Phase II), due to the new active features that would be provided. Following this improvement, the ratio would decrease over time as additional residents are added to the Phase II project site as buildings are completed, such that by 2035, the active residential ratio would be 0.136 (5.6 percent decrease compared with the Future Without Phase II).

While the active residential ratio would decrease by up to 6.9 percent (in 2029, following the completion of Building 9), the decrease upon the completion of Building 7, the final Phase II building, would be 5.6 percent. The overall effect of Phase II would be to improve the availability of publicly accessible open space in the study area. Further, as described in Chapter 4C, “Operational Open Space,” study area residents would continue to have access to resources that are not included in the quantitative analysis, including two destination open space resources—Fort Greene Park and Prospect Park—that are within walking distance of the Phase II project site. Due to the new open space resources that would be provided as Phase II is

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constructed, and the availability of open space resources not included in the quantitative analysis, the decreases in the active residential ratio would not be considered a significant adverse impact. Overall, there would be no significant adverse indirect open space impacts associated with Phase II of the Project by 2035, under Construction Phasing Plan 1.

Direct Effects Analysis under Illustrative Construction Phasing Plan 1

The construction of Phase II would not directly displace any existing publicly accessible open space resources. As discussed in Chapters 3I and 3J, no significant adverse impacts on study area open spaces due to air emissions, noise, or vibration are anticipated during the construction of Phase II. Therefore, there would not be any significant adverse impacts due to direct effects on study area open spaces, during the Extended Build-Out Scenario under Construction Phasing Plan 1.

Noise levels in areas where Project open spaces would be developed exceed CEQR guidelines for existing and Future Without Phase II conditions. At Project open space locations, at certain times, on-site construction activities under Construction Phasing Plan 1 would result in noise level increases. Open space areas with a line of sight to active construction activities would experience further elevated noise levels during those activities. While these noise levels are not desirable, there is no effective practical mitigation that could be implemented to avoid these levels during construction. Noise levels in many of the city's parks and open space areas that are located near heavily trafficked roadways and/or near construction sites experience comparable and sometimes higher noise levels.

CONSTRUCTION PHASING PLAN 2

Under Construction Phasing Plan 2, Building 15 on Block 1128 would be built first, followed by Building 5 on Block 1120, Building 14 on Block 1129, the remaining two buildings on Block 1120, and the remaining six buildings on Block 1121/1129. **Table 3E-6** summarizes the open space conditions on the Phase II project site during the construction period, including calculating the passive worker ratio, total residential ratio, passive residential ratio, and active residential ratio as each Phase II Project building comes online. In addition, the table summarizes the percent change in open space conditions associated with the completion of each Phase II building, in comparison to the Future Without Phase II.

Table 3E-6

Summary of Open Space Conditions under Illustrative Construction Phasing Plan 2

Analysis Year ¹	Building	Non-Residential (¼-Mile) Study Area		Residential (½-Mile) Study Area					
		Passive/Workers Ratio	Passive/Workers Ratio % Change	Total/Residents Ratio	Total/Residents Ratio % Change	Passive/Residents Ratio	Passive/Residents Ratio % Change	Active/Residents Ratio	Active/Residents Ratio % Change
2021	15	0.239	0.8%	0.307	-0.3%	0.164	0%	0.143	-0.7%
2022	5	0.266	12.2%	0.308	0%	0.167	1.8%	0.141	-2.1%
2023	14	0.293	23.6%	0.311	1.0%	0.171	4.3%	0.139	-3.5%
2026	6	0.345	45.6%	0.318	3.2%	0.180	9.8%	0.138	-4.2%
2028	7	0.388	63.7%	0.323	4.9%	0.186	13.4%	0.137	-4.9%
2029	8	0.434	83.1%	0.328	6.5%	0.193	17.7%	0.135	-6.2%
2030	9	0.486	105.1%	0.333	8.1%	0.200	22.0%	0.133	-7.6%
2031	10	0.540	127.8%	0.340	10.4%	0.209	27.4%	0.131	-9.0%
2032	13	0.587	147.7%	0.346	12.3%	0.216	31.7%	0.130	-9.7%
2034	12	0.627	164.6%	0.351	14.0%	0.222	35.4%	0.129	-10.4%
2035	11	0.667	181.4%	0.362	17.5%	0.226	37.8%	0.136	-5.6%

Notes: ¹It is assumed that under all three construction phasing plans, construction of Phase II of the Project under the Extended Build-Out Scenario would commence in 2018, with the first Phase II building completed in 2021.

Indirect Effects Analysis under Illustrative Construction Phasing Plan 2

As shown in **Table 3E-6**, the overall effect of Phase II of the Project on the availability of open space resources would be positive.

The ratio of acres of passive open space per 1,000 workers in the non-residential study area would continuously increase over time, as additional open space resources are added to the Phase II project site. Beginning in 2021 with the completion of Building 15, the passive worker ratio would be 0.239, which represents an increase of 0.8 percent compared with the Future Without Phase II. After 2021, this ratio would gradually increase, reaching 0.388 in 2028 (63.7 percent increase compared with the Future Without Phase II), 0.540 in 2031 (127.8 percent increase compared with the Future Without Phase II), and 0.627 in 2034 (164.6 percent increase compared with the Future Without Phase II). With the completion of the last Phase II building—Building 11—in 2035, the passive worker ratio would increase to 0.667 (181.4 percent increase compared with the Future Without Phase II). Overall, Phase II would improve the passive worker ratio, and at no point during the build out of Phase II of the Project under the Extended Build-Out Scenario would the percentage change in the ratio from the Future Without Phase II to the Future With Phase II be negative. Therefore, there would be no significant adverse indirect impacts in the non-residential open space study area due to the construction of Phase II of the Project.

With regard to the residential study area, the total residential ratio and the passive residential ratio would gradually increase over time, whereas the active residential ratio would gradually decrease with time. With the completion of Building 15 in 2021, the total residential ratio would be 0.307, which represents a 0.3 percent decrease compared with the Future Without Phase II. This decrease is due to the fact that Building 15 would add a sizable number of residents to the study area, but a modest amount of open space (see **Table 3E-1**). With the completion of Building 5 in 2022, the total residential ratio would continue to be 0.308 and the change in this ratio compared with the Future Without Phase II would be 0 percent. By 2023, with the

completion of Building 14, the percent change in the total residential ratio compared with the Future Without Phase II would be 1.0 percent, and by 2026, with the completion of Building 6, there would be a 3.2 percent increase. After 2026, the total residential ratio would continue to increase, reaching 0.323 by 2028 (4.9 percent increase compared with the Future Without Phase II) and 0.340 by 2031 (10.4 percent increase compared with the Future Without Phase II) and 0.362 in 2035 upon the completion of the Project (17.5 percent increase compared with the Future Without Phase II). Overall, Phase II of the Project under the Extended Build-Out Scenario would improve the total residential ratio. Although the residential ratio would decrease by less than 1 percent in 2021, this temporary decline in the ratio would not be considered a significant adverse impact, due to the small size of the decrease, the relatively short duration of this condition, the new open space resources that would be provided by Phase II, and the availability of other nearby open space resources that residents would have access to (most notably, Prospect Park and Fort Greene Park), which are not included in the quantitative analysis.

The passive residential ratio would increase over the construction period of Phase II of the Project, from 0.164 in 2021 (0 percent increase compared with the Future Without Phase II), to 0.186 in 2028 (13.4 percent increase compared with the Future Without Phase II), to 0.226 in 2035 (37.8 percent increase compared with the Future Without Phase II). At no point during the build out of Phase II would the percentage change in the ratio from the Future Without Phase II to the Future With Phase II be negative.

The active residential ratio would generally decline over the construction period of Phase II of the Project; in 2021, following the completion of the first Phase II building (Building 15), the ratio would be 0.143 (0.7 percent decrease compared with the Future Without Phase II). The first active open space features on the project site would come online following the completion of Building 7 in 2028, at which time Block 1120 would be operational. At this time, the active residential ratio would be 0.137 (4.9 percent decrease compared with the Future Without Phase II). The active residential ratio would continue to decline as new buildings come online, until 2034, when the ratio would be 0.129 (10.4 percent decrease compared with the Future Without Phase II). At this time, no active features would yet have come online on Block 1121/1129. Following the completion of Building 11 in 2035, the build out of Block 1121/1129 would be complete, and temporary passive features would be replaced by permanent passive and active features. Thus, in 2035, the active residential ratio would increase from 0.129 to 0.136 (5.6 percent decrease compared with the Future Without Phase II), due to the new active features that would be provided.

While the active residential ratio would decrease by up to 10.4 percent (in 2034 following the completion of Building 12), the decrease upon the completion of Building 11, the final Phase II building, would be 5.6 percent. The overall effect of Phase II would be to improve the availability of publicly accessible open space in the study area. Further, as described in Chapter 4C “Operational Open Space,” study area residents would continue to have access to resources that are not included in the quantitative analysis, including two destination open space resources—Fort Greene Park and Prospect Park—that are within walking distance of the project site. Due to the new open space resources that would be provided by the Project as Phase II is constructed, and the availability of open space resources not included in the quantitative analysis, the decreases in the active residential ratio would not be considered a significant adverse impact. Overall, there would be no significant adverse indirect open space impacts associated with Phase II of the Project by 2035, under Construction Phasing Plan 2.

Direct Effects Analysis under Illustrative Construction Phasing Plan 2

The construction of Phase II would not directly displace any existing publicly accessible open space resources. As discussed in Chapters 3I and 3J, no significant adverse impacts on study area open spaces due to air emissions, noise, or vibration are anticipated during the construction of Phase II. Therefore, there would not be any significant adverse impacts due to direct effects on study area open spaces, during the Extended Build-Out Scenario under Construction Phasing Plan 2.

Noise levels in areas where Project open spaces would be developed exceed CEQR guidelines for existing and Future Without Phase II conditions. At Project open space locations, at certain times, on-site construction activities under Construction Phasing Plan 2 would result in noise level increases. Open space areas with a line of sight to active construction activities would experience further elevated noise levels during those activities. While these noise levels are not desirable, there is no effective practical mitigation that could be implemented to avoid these levels during construction. Noise levels in many of the city's parks and open space areas that are located near heavily trafficked roadways and/or near construction sites experience comparable and sometimes higher noise levels.

CONSTRUCTION PHASING PLAN 3

As described earlier in this chapter, Construction Phasing Plan 3 would result in the build out of Phase II of the Project in the same sequence as Construction Phasing Plan 1, except that after the initial construction of certain buildings there would be a delay, followed by more intense construction activity until Project completion in 2035. **Table 3E-7** summarizes the open space conditions on the Phase II project site during the construction period, including calculating the passive worker ratio, total residential ratio, passive residential ratio, and active residential ratio as each Phase II Project building comes online. In addition, the table summarizes the percent change in open space conditions associated with the completion of each Phase II building, in comparison to the Future Without Phase II.

Indirect Effects Analysis under Illustrative Construction Phasing Plan 3

As shown in **Table 3E-7**, the overall effect of Phase II of the Project on the availability of open space resources would be positive.

The ratio of acres of passive open space per 1,000 workers in the non-residential study area would continuously increase over time, as additional open space resources are added to the Phase II project site. Conditions under Construction Phasing Plan 3 for the passive worker ratio are anticipated to be similar to those of Construction Phasing Plan 1, except that Construction Phasing Plan 3 would result in a greater number of construction workers on the Phase II project site, due to the higher intensity of construction activities (as described above, Construction Phasing Plan 3 anticipates that after the initial construction of certain buildings there would be a delay, followed by more intense construction activity until Project completion in 2035).

Table 3E-7

Summary of Open Space Conditions under Illustrative Construction Phasing Plan 3

Analysis Year ¹	Building	Non-Residential (¼-Mile) Study Area		Residential (½-Mile) Study Area					
		Passive/Workers Ratio	Passive/Workers Ratio % Change	Total/Residents Ratio	Total/Residents Ratio % Change	Passive/Residents Ratio	Passive/Residents Ratio % Change	Active/Residents Ratio	Active/Residents Ratio % Change
2021	14	0.257	8.4%	0.312	1.3%	0.168	2.4%	0.143	-0.7%
2027	13	0.305	28.7%	0.319	3.6%	0.177	7.9%	0.142	-1.4%
2028	12	0.347	46.4%	0.324	5.2%	0.184	12.2%	0.140	-2.8%
2029	11	0.378	59.5%	0.328	6.5%	0.189	15.2%	0.139	-3.5%
2030	15	0.384	62.0%	0.326	5.8%	0.188	14.6%	0.138	-4.2%
2031	8	0.429	81.0%	0.331	7.5%	0.195	18.9%	0.136	-5.6%
2032	9	0.481	103.0%	0.337	9.4%	0.203	23.8%	0.134	-6.9%
2033	10	0.533	124.9%	0.352	14.3%	0.211	28.7%	0.141	-2.1%
2033	5	0.558	135.4%	0.352	14.3%	0.213	29.9%	0.139	-3.5%
2034	6	0.608	156.5%	0.358	16.2%	0.221	34.8%	0.137	-4.9%
2035	7	0.667	181.4%	0.362	17.5%	0.226	37.8%	0.136	-5.6%

Notes: ¹It is assumed that under all three construction phasing plans, construction of Phase II of the Project under the Extended Build-Out Scenario would commence in 2018, with the first Phase II building completed in 2021.

Beginning in 2021 with the completion of Building 14, the passive worker ratio would be 0.257, which represents an increase of 8.4 percent compared with the Future Without Phase II. After 2021, this ratio would gradually increase, reaching 0.305 in 2022 (28.7 percent increase compared with the Future Without Phase II), 0.378 in 2025 (59.5 percent increase compared with the Future Without Phase II), and 0.608 in 2033 (156.5 percent increase compared with the Future Without Phase II). With the completion of the last Phase II building (Building 7) in 2035, the passive worker ratio would increase to 0.667 (181.4 percent increase compared with the Future Without Phase II). Overall, Phase II would improve the passive worker ratio, and at no point during the build out of Phase II of the Project under the Extended Build-Out Scenario would the percentage change in the ratio from the Future Without Phase II to the Future With Phase II be negative. Therefore, there would be no significant adverse indirect impacts in the non-residential open space study area due to the construction of Phase II of the Project.

With regard to conditions in the residential study area, Construction Phasing Plan 3 would result in the same effects on open space resources as Construction Phasing Plan 1, except that most changes would occur in later years. The percentage change in the residential open space ratios during the construction of Phase II under Construction Phasing Plan 3 would not exceed those that would occur under Construction Phasing Plan 1, as analyzed above. As no additional significant adverse impacts in the residential study area were identified during the course of Phase II construction due to Construction Phasing Plan 1, similarly, Construction Phasing Plan 3 would not have the potential to result in any additional significant adverse open space impacts in the residential study area.

Direct Effects under Illustrative Construction Phasing Plan 3

The construction of Phase II would not directly displace any existing publicly accessible open space resources. As discussed in Chapters 3I and 3J, no significant adverse impacts on study area open spaces due to air emissions, noise, or vibration are anticipated during the construction of Phase II. Therefore, there would not be any significant adverse impacts due to direct effects

on study area open spaces, during the Extended Build-Out Scenario under Construction Phasing Plan 3.

Noise levels in areas where Project open spaces would be developed exceed CEQR guidelines for existing and Future Without Phase II conditions. At Project open space locations, at certain times, on-site construction activities under Construction Phasing Plan 3 would result in noise level increases. Open space areas with a line of sight to active construction activities would experience further elevated noise levels during those activities. While these noise levels are not desirable, there is no effective practical mitigation that could be implemented to avoid these levels during construction. Noise levels in many of the city's parks and open space areas that are located near heavily trafficked roadways and/or near construction sites experience comparable and sometimes higher noise levels. *