

A. INTRODUCTION

The National Environmental Policy Act (NEPA) of 1969 requires that environmental impact statements (EISs) identify the potential significant environmental effects of an action, including environmental effects that are indirect and cumulative. Similarly, the New York State Environmental Quality Review Act (SEQRA) regulations identify that the contents of an EIS include an evaluation of cumulative impacts and secondary impacts [6 New York Codes, Rules, and Regulations (NYCRR) § 617.9 (b)(5)(iii)(a) and (d)]. Council on Environmental Quality (CEQ) regulations implementing NEPA define indirect and cumulative effects, respectively, as follows:

- “Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.” [Title 40, Code of Federal Regulations, Section 1508.1(i)(2) (40 CFR 1508.1(i)(2))]
- “Cumulative effects, which are effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.” [40 CFR 1508.1(i)(3)]

Effects may be beneficial or detrimental.

SEQRA defines a secondary (indirect) impact as one which is reasonably foreseeable, occurs at a later time or at a greater distance, and is likely the result of the action. There should be a reasonably close causal relationship between the action and the environmental impacts.

The 2021 *City Environmental Quality Review Technical Manual (CTM)* indicates that the potential for growth inducing impacts in the City is limited, but that an analysis of the growth-inducing aspects of a proposed project may be appropriate when a proposal:

- Adds substantial new land use, new residents, or new employment that could induce additional development of a similar kind or of support uses, such as retail establishments to serve new residential uses; and/or
- Introduces or greatly expands infrastructure capacity.

This chapter summarizes the indirect and cumulative effects assessments of the feasible alternatives under consideration for implementation of the Proposed Project, which consist of Alternative 2 – Rezoning Alternative; Alternative 3 – the Non-Rezoning Alternative; and Alternative 4 – the Midblock Bulk Alternative.

B. PRINCIPAL CONCLUSIONS

Indirect Effects

The potential for the Proposed Project under the Rezoning Alternative, the Non-Rezoning Alternative, and the Midblock Bulk Alternative to result in significant adverse impacts due to indirect effects has been studied in accordance with applicable City Environmental Quality Review (CEQR), SEQRA, and NEPA guidance. The analyses considered indirect effects that could occur if the Proposed Project induced economic or demographic growth outside the Project Sites, due to demands generated by the population directly introduced by the Proposed Project or due to effects on the area's built environment through indirect or contextual changes. Refer to the individual technical assessments in **Chapters 05.01 to 05.20** for impact determinations and whether they are due to indirect impacts, as applicable.

Cumulative Effects

The Proposed Project, in combination with development projects expected to be completed independent of the Proposed Project (the No-Action developments), would result in changes in the future conditions of the respective study areas of the various technical analysis chapters. The analysis methodologies and the criteria for determining significant adverse impacts used in the EIS are generally based on cumulative effects. The Proposed Project would not result in any other cumulative impacts beyond those disclosed in the technical analysis chapters in the EIS. For all three feasible alternatives analyzed in detail, significant adverse impacts have been identified for several technical areas due to the addition of incremental effects associated with the Proposed Project to future baseline conditions under the No-Action Alternative. In other words, these impacts are attributable to the cumulative effects of both the Proposed Project and other known planned developments and conditions in the surrounding area. These affected areas include: shadows; transportation (traffic and pedestrian conditions); and construction (noise, traffic, and pedestrians).¹ Where significant adverse impacts have been identified, measures have been, and will continue to be, examined to avoid, mitigate, or minimize these impacts and are summarized in each respective chapter as well as collectively in **Chapter 05.21, "Mitigation."** The summary of anticipated impacts, which also can be characterized as cumulative impacts given the analysis methodologies used in the EIS, is incorporated herein by reference. Although the principal objective of environmental review is to determine if the Proposed Project has the potential to result in significant adverse impacts and identify if such impacts can be mitigated, the EIS also indicates that the Proposed Project would have beneficial cumulative effects by improving the quality of life and housing stability for existing residents of the Fulton and Elliott-Chelsea Houses (FEC) Project Sites with the replacement of the existing New York City Housing Authority (NYCHA) dwelling units (DUs) to Section 8 project-based vouchers (PBV) DUs, expanded community facility spaces, and qualitative improvements to accessory open space, while also providing new commercial space and affordable and market-rate DUs to address the critical shortage of affordable housing and housing in general in New York City. The market-rate DUs would financially support the

¹ Under all three alternatives, the Proposed Project would also result in significant adverse historic and cultural resources impacts due to the demolition of the State and National Register eligible Elliott-Chelsea Houses. However, these impacts are not considered cumulative as they are only attributable to the Proposed Project. See **Chapter 05.06, "Historic and Cultural Resources,"** for more information.

Permanent Affordability Commitment Together (PACT) portion and affordable housing components of the Proposed Project.

C. INDIRECT EFFECTS

The *CTM* advises that direct effects occur as a direct result of a proposed project—for example, demolition of a historic building on the Project Sites. In contrast, indirect effects are generally wider-ranging consequences and include effects such as changes in land use patterns that may result from a new development.

The analysis of environmental effects provided in the EIS technical analysis chapters, in accordance with applicable CEQR, SEQRA, and NEPA guidance, accounts for indirect effects where appropriate.

For example, the assessment in **Chapter 05.01, “Land Use, Zoning, and Public Policy,”** considers the potential for the Proposed Project to induce new off-site development or economic or demographic changes that would indirectly impact the ¼-mile secondary study area; the assessment in **Chapter 05.02, “Socioeconomic Conditions,”** considers the potential for indirect residential, business, or institutional displacement; and the assessment in **Chapter 05.20, “Environmental Justice,”** considers whether the Proposed Project would result in environmental and health effects on minority and low-income populations as well as disadvantaged communities and environmental justice populations, including due to indirect effects. The analyses in those chapters determined that the Proposed Project would not result in significant adverse direct or indirect impacts related to those areas.

Generally, this is because the areas surrounding the Project Sites are well developed and are experiencing ongoing trends that would occur regardless of the Proposed Project. Furthermore, the new commercial and community facility services would serve populations that are either already present in the neighborhood or directly introduced by the Proposed Project. As such, the Proposed Project is not expected to indirectly induce new populations to be based in the area. Projects that would be more likely to induce new property development or economic growth are those that would remove obstacles to population growth, such as the extension of transportation systems (roadways or transit lines) and/or public utilities to previously underserved areas. These characteristics are not applicable to the Proposed Project.

Another type of indirect effect relates to demands generated by the project-generated population. For example, the Proposed Project would not have any direct effects on schools, as it would not physically alter, eliminate, or impede access to an existing school, but the Proposed Project would have indirect effects on schools given that the increase in DUs would be expected to increase enrollment at local schools. Other examples of this type of indirect effects include increased user populations for public open space and increased generation of solid waste. For each of these technical areas, the analysis concluded that the Proposed Project would not result in significant adverse indirect impacts. Refer to **Chapters 05.03, “Community Facilities and Services,” 05.04, “Open Space,” and 05.11, “Solid Waste and Sanitation Services,”** respectively, for details.

In addition, another type of indirect effect relates to changes in the area's built environment that could result in significant adverse indirect or contextual impacts on nearby buildings or on the area more generally. Indirect effects of this nature have the potential to affect historic and cultural resources, urban design and visual resources, natural resources, and neighborhood character. For each of those technical areas, the analysis concluded that the Proposed Project would not result in significant adverse indirect impacts. Refer to **Chapters 05.06, 05.07, "Urban Design and Visual Resources," 05.08, "Natural Resources," and 05.18, "Neighborhood Character,"** respectively.

D. CUMULATIVE EFFECTS

Cumulative impacts result from the incremental consequences of an action (i.e., the Proposed Project) when added to other past, present, and reasonably foreseeable future actions. The cumulative effects of an action may be undetectable when viewed in the individual context of direct and even indirect impacts, but nevertheless can eventually lead to a measurable environmental change. Such effects are the net result of both the Proposed Project and other projects planned near and around the Project Sites. According to the *CTM*, cumulative impacts are two or more individual effects on the environment that, when taken together, are significant or that compound or increase other environmental effects.

The various technical analysis chapters in the EIS address cumulative impacts by comprehensively defining the environmental setting expected under the 2041 No-Action Alternative, including a discussion of No-Action developments, and the baseline growth in the No-Action Alternative. While the criteria for determining significant adverse impacts vary for each technical area based on applicable CEQR, SEQRA, and NEPA guidance, they are generally based on the effects of the Proposed Project added to baseline No-Action Alternative conditions.

Accordingly, the EIS considers, as the future baseline condition, the combination of existing conditions together with known development plans, recently approved land use actions, public policies, projected population and employment growth, and other general background growth. The potential significant adverse impacts of the Proposed Project were assessed in comparison to the future baseline condition (the No-Action Alternative). This includes conditions under the Rezoning Alternative, the Non-Rezoning Alternative, and the Midblock Bulk Alternative.

Methodology

Each technical analysis chapter's "Methodology" section describes how the No-Action Alternative baseline is defined and identifies how the impact determination is made, based on the change to baseline conditions due to the Proposed Project's incremental effects. In other words, the impact determinations disclosed in each of the technical analyses in **Chapter 05.01 to 05.20** are based on a consideration of cumulative effects. Those analyses and their impact determinations are incorporated herein by reference and, given that cumulative effects are accounted for, additional analysis herein is not warranted. However, information on the methodologies used to account for cumulative effects is summarized below.

The framework for the consideration of cumulative effects is established in **Chapter 05.01**, with the identification of anticipated land use study area No-Action developments. As detailed in the

chapter's **Table 05.01-3**, there are approximately nine anticipated development projects in the ¼-mile land use study area that are anticipated to be complete by 2041. The table lists these individual projects and their collective development program.

These No-Action developments are considered in the impact determination provided for this chapter. As indicated therein, the Proposed Project under all three feasible alternatives would not result in significant adverse impacts to land use, zoning, and public policy. This determination is based on a consideration of the effects of the Proposed Project added to future baseline No-Action Alternative conditions (i.e., cumulative effects).

For certain technical analysis areas requiring study areas of different sizes than the ¼-mile land use study area, any other anticipated future development independent of the Proposed Project expected to occur by 2041 has also been identified. For example, the open space analysis uses a ½-mile radius study area, and as such future developments located outside the land use study area but within the open space study area are also identified to establish the No-Action Alternative conditions for the open space study area. Another example is the historic resources analysis, which uses a 400-foot radius study area for its architectural effects analysis and therefore only considers future development within that area.

Furthermore, certain technical areas use other prescribed methodologies to establish No-Action Alternative baseline conditions and to make impact determinations based on cumulative effects. For informational purposes, examples from the schools, noise, traffic, and construction analyses are summarized below. Refer to their respective chapters for further details.

As discussed in **Chapter 05.03**, the schools analysis considers both the incremental change in school enrollment due to the Proposed Project and the total projected utilization rate of schools with and without the Proposed Project. The projections of future enrollment under the No-Action Alternative are provided by the New York City School Construction Authority (SCA) and includes data on the number of new elementary and intermediate students expected from new housing (No-Action developments) in Sub-district 3 of Community School District (CSD) 2 based on its capital planning work. As such, the schools analysis and impact determinations for the Proposed Project include the cumulative effects of all anticipated future enrollment changes.²

Likewise, another example of an analysis that accounts for cumulative effects, but with a different methodological approach than for land use, is the noise analysis. As discussed in **Chapter 05.16, "Noise Abatement and Control,"** the determination of whether acceptable interior noise levels would be provided for the Project Sites and for other properties potentially affected by the Proposed Project uses a methodology based on monitoring of existing noise levels and modeling future noise levels based on projected changes in noise-generating sources. This accounts for both future (i.e., No-Action Alternative), baseline noise levels and the incremental change in noise due to the Proposed Project. The required window/wall attenuation for the Project Sites' buildings was identified based on the cumulative effects of future baseline conditions and the Proposed Project.

² As noted in **Chapter 05.03**, for conservative analysis purposes, the new public school anticipated to be constructed at the Western Rail Yards was not included in the analysis, as development plans have not been finalized. In the future with the Proposed Project, it is anticipated that this school would provide more elementary school seats in the study area than detailed in **Chapter 05.03**.

Likewise, the traffic analysis is another example of how cumulative effects are considered. As discussed in **Chapter 05.13, “Transportation,”** the criteria for significant adverse traffic impacts considers both the incremental increase in approach delay at study area intersections and the resulting overall duration of delay. For example, if a lane group would operate at Level of Service (LOS) F, which is indicative of very congested conditions, a project-generated increase in delay of 4.0 or more seconds compared to the No-Action Alternative is considered a significant impact. However, an increase in delay of 4.0 or more seconds compared to the No-Action Alternative would not be considered a significant impact if the intersection operates at LOS A, B, C, or D, which are indicative of no or lower congestion. The No-Action Alternative conditions accounts for the effects of transportation demand generated by No-Action developments and background growth added to existing travel demand. Accordingly, the analysis of the Proposed Project incorporates consideration of cumulative effects of both the Proposed Project and other changes to future conditions.

The potential for cumulative effects related to construction were considered for the Proposed Project. However, there is very little potential for cumulative construction impacts from the No-Action developments in combination with the Proposed Project as they are not located on the same blocks or facing the same blockfronts as the Project Sites. The Proposed Project’s incremental development, which would occur over 16 years across the six partial blocks on which the Project Sites are located, in combination with the study area No-Action developments, would be consistent with trends throughout Manhattan Community District 4. In this and many other parts of the City, underutilized properties are being redeveloped or expanded with residential and mixed-use development that leverages the extensive existing public transportation system and other public services and infrastructure.

Impact Determinations

For all three feasible alternatives analyzed in detail, significant adverse impacts have been identified for several technical areas due to the addition of incremental effects associated with the Proposed Project to future baseline conditions under the No-Action Alternative. In other words, these impacts are attributable to the cumulative effects of both the Proposed Project and other known planned developments and conditions in the surrounding area. These affected areas include: shadows (refer to **Chapter 05.05, “Shadows”**); transportation (traffic and pedestrian conditions) (refer to **Chapter 05.13**); and construction (noise, traffic, and pedestrians) (refer to **Chapter 05.19, “Construction”**).