

**A. INTRODUCTION**

The impact of Hurricane Sandy highlighted the need for the City of New York (the City) to increase its efforts to protect vulnerable populations and critical infrastructure in light of increased storm frequency and intensity and sea level rise. To address this vulnerability and reduce risks associated with flooding and sea level rise, the City has proposed the East Side Coastal Resiliency (ESCR) Project (the proposed project) which would install a flood protection system along a portion of the east side of Manhattan. To implement the proposed project, the City has entered into a grant agreement with the U.S. Department of Housing and Urban Development (HUD) to disburse Community Development Block Grant-Disaster Recovery (CDBG-DR) Funds for the design and construction of the proposed project. The City is the grantee of the CDBG-DR funds for Hurricane Sandy, which would be provided to the City through its New York City Office of Management and Budget (OMB) acting under HUD's authority. The City also allocated additional funding towards the proposed project.

This Environmental Impact Statement (EIS) has been prepared pursuant to the National Environmental Policy Act (NEPA). Consistent with the regulations implementing NEPA, its purpose is to evaluate the short- and long-term adverse effects, both beneficial and adverse, to the built and natural environment that would result both from the construction and operation of the proposed project. Because the proposed project requires both state and local approvals, the EIS also complies with the State Environmental Quality Review Act (SEQRA) and City Environmental Quality Review (CEQR) set forth in Executive Order 91 of 1977 and subsequent amendments. As the lead agency managing the disbursement of federal funds, OMB is also the City's lead agency with respect to NEPA and pursuant to 24 CFR Part 58 (Environmental Review Procedures for Entities assuming HUD Environmental Responsibilities). Because the proposed project would require considerable construction in City parkland, the New York City Department of Parks and Recreation (NYC Parks) is the City's lead agency for addressing the SEQRA and CEQR review requirements. OMB and NYC Parks, with the cooperation of involved and interested agencies at City, State, and federal levels, have therefore prepared this EIS in accordance with the statutory obligations of NEPA, SEQRA, and CEQR.

The EIS examines the City's proposal to install a flood protection system that would be primarily constructed on City property. The proposed system is a combination of floodwalls, levees, and closure structures coupled with infrastructure improvements and park enhancements that, together, would reduce the adverse effects of a design storm event on the community it would protect. The principal objectives of the Proposed Project are as follows: (1) provide a reliable coastal flood protection system against the design storm event for the protected area; (2) improve access to, and enhance open space resources along the waterfront, including John V. Lindsay East River Park (East River Park) and Stuyvesant Cove Park; (3) respond quickly to the urgent need for flood protection and resiliency, particularly for communities that have a large concentration of residents in affordable and public housing units along the proposed project area; and (4) achieve implementation milestones and comply with the conditions attached to funding allocations as

established by HUD, including scheduling milestones. Additionally, design considerations for the proposed project include: (1) reliability of the proposed coastal flood protection system; (2) urban design compatibility and enhancements; (3) improving the ecology of East River Park; (4) minimizing environmental effects, including construction-related effects, and disruptions to public right of way; (5) constructability; (6) operational needs; (7) minimizing use of pre-storm event deployable structures; (8) the Federal Emergency Management Agency (FEMA) accreditation; (9) scheduling that meets HUD milestones; and (10) cost effectiveness.

This chapter outlines the specific analysis framework used to complete this EIS. It describes the reasoning behind the chosen analysis year(s) and study area(s), and outlines the methodology used to establish baseline conditions from which the environmental effects are analyzed.

### **B. ORGANIZATION OF THE ENVIRONMENTAL IMPACT STATEMENT**

This EIS considers both the short-term (construction) and long-term (operational and, where relevant, maintenance) effects of each alternative under consideration for implementation of the proposed project. These alternatives have been evaluated for potential adverse effects to the project site and applicable study areas during storm and non-storm operational conditions for all relevant potential environmental effect categories in accordance with the *CEQR Technical Manual* as well as the applicable state and federal guidelines. The proposed project is subject to categories of environmental effects pursuant to 24 CFR Part 58.5 – Related Federal laws and authorities and 24 CFR Part 58.6 – Other Requirements; however, the Farmland Protection Act, Sole Source Aquifers, Coastal Barriers Resources Act, and Runway Protection/Clear Zone are not considered to be areas of concern for the proposed project.

#### **STORM AND NON-STORM CONDITIONS**

Components of the proposed project have the potential to result in different effects under the two future operational conditions for certain technical areas: storm and non-storm, and so the proposed project is evaluated in this EIS under both operational conditions where appropriate. Storm conditions are defined as flood events that meet the criteria of the design storm event (the 100-year flood events with sea level rise to 2050s) for when the protection system would be fully deployed and engaged. This design storm event reflects FEMA 100-year storm tide, which is 10.9 feet NAVD88, and is associated with the coastal analysis used to develop the Preliminary Flood Insurance Rate Maps (PFIRMs) for New York City that were released on January 30, 2015.<sup>1</sup> Although the PFIRMs are still preliminary, the storm tide elevations are higher than the storm tides associated with FEMA's 2007 Effective Flood Insurance Rate Maps (FIRMs). The City's Local Law 96 currently requires the use of the higher of the two storm tides (City of New York Law Department 2013) in the design of coastal protection features. This design storm event also includes an additional 30 inches of increased surface water elevation to address sea level rise projections through the 2050s.

For the purposes of this flood protection system design, non-storm conditions are defined as typical day-to-day conditions without the occurrence of a design storm event. These non-storm

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<sup>1</sup> In FEMA terminology the storm tide is referred to as the stillwater elevation and the 100-year event is referred to as the 1 percent-annual-chance event.

conditions include typical dry weather days as well as typical rainfall and high tide event days without storm surges coupled with a high tide above the 100-year storm.

### **CATEGORIES OF ENVIRONMENTAL EFFECTS**

As appropriate, in accordance with the *CEQR Technical Manual*, the following categories have been determined to warrant analysis for adverse effects during non-storm and/or storm operational conditions: land use, zoning, and public policy; socioeconomic conditions; open space; historic and cultural resources; urban design and visual character; natural resources; hazardous materials; water and sewer infrastructure; transportation; neighborhood character; and environmental justice.

Based on the guidance of the 2014 *CEQR Technical Manual*, the following impact categories do not warrant further analysis for effects during typical operational conditions: community facilities and services; shadows; noise; air quality; energy; greenhouse gases; and solid waste and sanitation services; and public health. Screening analyses were undertaken to determine that these impact categories would not result in long-term operational effects (see **Appendix B**). Specifically, based on current information, during non-storm operational conditions the alternatives would not alter, displace, or overcrowd community facilities and services such as schools, libraries, child care facilities, healthcare facilities, or fire and police protection; result in new structures or additions to existing structures greater than 50 feet, or be located adjacent to, or across from, a sunlight-sensitive resource; generate any mobile or stationary sources of noise; increase or redistribute traffic, create any other mobile sources of pollutants, add new users near mobile sources, create new stationary sources of pollutants; significantly affect the transmission or generation of energy; involve power generation (not including emergency backup power) or result in development of 350,000 square feet or greater; or result in the generation of 50 tons per week or more of solid waste. .

Furthermore, this EIS evaluates the potential for construction effects under the proposed project in the following technical areas: socioeconomic conditions; open space; historic and cultural resources; urban design and visual character; natural resources; hazardous materials; water and sewer infrastructure; energy; transportation; air quality; greenhouse gas; noise; and public health.

Each category discusses the existing conditions (affected environment) and conditions in the future for each evaluated alternative. The technical analysis identification of potential significant adverse effects is focused on the incremental changes to the affected environment that would occur under the alternatives that are being considered as compared with the No Action Alternative. The No Action Alternative includes a discussion of projects expected to be completed independent of the proposed project in addition to the baseline growth within the affected environment for each applicable category.

### **C. PROPOSED PROJECT AREA (PROTECTED AREA)**

The proposed project area begins to the south at Montgomery Street and extends north along the waterfront to East 25th Street and is composed of two sub-areas: Project Area One and Project Area Two. Project Area One extends from Montgomery Street on the south to the north end of East River Park at about East 13th Street. Project Area One consists primarily of the Franklin Delano Roosevelt East River Drive (the FDR Drive) right-of-way, a portion of Pier 42 and Corlears Hook Park as well as East River Park. The majority of Project Area One is within East River Park. Project Area Two extends north and east from Project Area One, from East 13th Street to East 25th Street. In addition to the FDR Drive right-of-way, Project Area Two includes the Consolidated Edison Company of New York (Con Edison) East 13th Street Substation and the

East River Generating Station, Murphy Brothers Playground, Stuyvesant Cove Park, Asser Levy Recreational Center and Playground, and in-street segments along East 20th Street, East 25th Street, the Veteran Affairs (VA) Medical Center, and along and under the FDR Drive.

The area that would be protected under the proposed project (the protected area) includes lands within the FEMA 100-year special flood hazard area (SFHA). In addition, the protected area also takes into consideration the 90th percentile projection of sea level rise to the 2050s. The protected area is a broader geographic area that is intended to cover the area of consideration for studies of project elements with a broader geographic effect and is generally bounded by East 25th Street to the north, Pitt Street, Ridge Street, Avenue A, First Avenue, and Second Avenue to the west, Montgomery Street to the south, and the U.S. Piershead line in the East River to the east and includes portions of the Lower East Side and East Village neighborhoods, Stuyvesant Town, and Peter Cooper Village, as well as East River Park and Stuyvesant Cove Park inland of the flood alignment (see Figure 1.0-2).

### **D. ANALYSIS YEAR**

The environmental setting for the technical analyses for the proposed project is not the current conditions, but is the conditions as they would exist at the completion of its construction. Therefore, future conditions in the absence of the proposed project are projected to compare potential project effects. This projection is made for a particular year, generally referred to under NEPA/SEQRA/CEQR as the “analysis year,” which is the year when the proposed project would be substantially operational. For this analysis, it is expected that construction of the proposed project would take approximately 5 years (see Chapter 2.0, “Project Alternatives,” for further details) with construction commencing in spring of 2020 and completed in 2025. However, for the Preferred Alternative (Alternative 4), it is anticipated that construction would also commence in the spring of 2020 but with a construction duration of approximately 3.5 years, resulting in a 2023 build year. This shorter construction duration of the Preferred Alternative is primarily due to less disruption to the FDR Drive since flood protection in East River Park would be primarily along the East River rather than along the FDR Drive. This substantially reduces the construction and logistical complexities associated with working in or in close proximity to the FDR Drive and the sensitive Con Edison transmission lines. Chapter 2.0, “Project Alternatives,” provides further details regarding the alternatives analyzed in the EIS.

### **E. STUDY AREAS**

Study areas relevant to each analysis category are defined by the geographic areas with the potential to be affected by the proposed project for each impact category and as informed by *CEQR Technical Manual* guidance. Study areas therefore differ depending on the category.

### **F. METHODOLOGIES FOR TECHNICAL ANALYSES**

The analyses contained in this EIS have been developed in conformance with NEPA, SEQRA, and CEQR regulations and guidelines. The methodologies utilized for each analysis are presented in each technical area’s respective chapter.

### **AFFECTED ENVIRONMENT**

For each technical area to be assessed in the EIS, the existing conditions in the project area will be described. The analysis framework begins with an assessment of existing conditions, which

serves as a starting point for the projection of future conditions both with and without the proposed project and the analysis of adverse effects.

**NO ACTION ALTERNATIVE (ALTERNATIVE 1)**

The No Action Alternative assumes that no new comprehensive coastal protection system is installed in the proposed project area by the 2025 analysis year presented in this EIS. The No Action Alternative establishes the context to assess and compare the effects among the project alternatives where relevant. In the absence of this system, the existing neighborhoods within the protected area would remain at risk to coastal flooding during design storm events.

**WITH ACTION ALTERNATIVES (ALTERNATIVES 2 THROUGH 5)**

The EIS will evaluate the potential adverse effects of the proposed project for the 2025 analysis year based on the proposed designs for each of the With Action Alternatives. In addition, for analysis purposes, a reasonable worst-case conceptual construction phasing and schedule was developed to illustrate how the construction of the proposed project could occur over a 3.5-year to 5-year period, depending on the project alternative. \*