A. INTRODUCTION

Per the guidance of the 2021 *City Environmental Quality Review Technical Manual* (*CTM*), this chapter identifies whether there are natural resources within or near the Project Sites and assesses potential impacts on natural resources that may occur as a result of the Proposed Project. This assessment includes a preliminary screening of available information to identify natural and aquatic resources that may be present on or near the Project Sites. A natural resource is defined by the *CTM* as (1) the City's biodiversity (plants, wildlife, and other organisms); (2) any aquatic or terrestrial areas capable of providing suitable habitat to sustain the life processes of plants, wildlife, and other organisms; and (3) any areas capable of functioning in support of the ecological systems that maintain the City's environmental stability.[1] The natural resources assessment determines the potential for a proposed project to affect natural resources and, if so, whether any effects would amount to a significant adverse impact to those resources.

This chapter will include a description of the applicable Federal, State and local regulations and programs; an inventory and description of existing conditions; and an assessment of impact as a result the Proposed Project.

As discussed in **Chapter 02.0, "Project Alternatives,"** there are four feasible alternatives under consideration for implementation of the Proposed Project. These include: Alternative 2 – the Rezoning Alternative, which has been identified as the Preferred Alternative and is referred to by the latter term for the remainder of this chapter; Alternative 3 – the Non-Rezoning Alternative; Alternative 4 – the Midblock Bulk Alternative; and Alternative 7 – the City of Yes (COY) Alternative. A discussion of Alternative 5 – the Rehabilitation and Infill Alternative, which has been determined to be infeasible, is presented in **Chapter 05.22, "Rehabilitation and Infill Alternative Analysis."** Refer to **Chapter 04.0, "Analysis Framework," Table 04.0-4,** for information on the analysis approach for the four feasible alternatives for each technical area.

B. PRINCIPAL CONCLUSIONS

An adverse impact on a natural resource might occur when: (1) there is the presence of a natural resource on or near the site of the project; and (2) disturbance of that resource caused by the project.[2] As the Project Sites and immediate environs are an urbanized environment, no natural resources are present on or near them, and as such there are no habitats for endangered wildlife species within either Project Site. Therefore, the Proposed Project would not result in significant adverse natural resources impacts.

[1] "Chapter 11 – Natural Resources," CEQR City Environmental Quality Review Technical Manual, New York City Mayor's Office of Environmental Coordination, page 1, 2021.
[2] "Chapter 11 – Natural Resources," CEQR City Environmental Quality Review Technical Manual, New York City Mayor's Office of Environmental Coordination, page 11, 2021.

C. METHODOLOGY

The physical and biological components of the Project Sites, including geology and soil composition, groundwater levels, surface water quality, floodplains, wetlands, vegetation, wildlife habitats, and threatened/endangered animals and plants have been identified and characterized using information been obtained from the New York State Department of Environmental Conservation (NYSDEC) Natural Heritage program, the USFWS IPaC website, as well as secondary sources of information for New York City, as identified in the *CTM*. The natural resources assessment also considers whether the Proposed Project would be compliant with applicable Federal, State, and City policies pertaining to natural resources in the vicinity of the Project Sites. Those policies are discussed in the following section under the sub-heading **"Regulatory Context"** of **Section D, "Affected Environment."**

Study Area and Data Sources

Three study areas have been defined, which include two primary study areas identified as the Fulton Houses Primary Study Area and Elliott-Chelsea Houses Primary Study Area, as well as one secondary study area, identified as the Natural Resources Secondary Study Area. A secondary study area is delineated by a quarter-mile radius around the Project Sites, adjusted to include lots whose area is more than 50 percent included in the quarter-mile radius, as identified in **Figure 05.08-1**. The study area is used to identify natural resources in the vicinity that are either: related to applicable Federal, State, and City policies governing the management of natural resources; or, that potentially could be affected by changes occurring at the Project Sites (such as changes to surface water run-off, habitat alteration, etc.). More specifically, the secondary study area facilitates identification of ecological communities and significant habitat as part of the broader context of ecologically related natural resources, such as floodplains, water resources, and wetlands. However, consideration of the potential for the Proposed Project to affect off-site natural resources is also based on the specific characteristics of such resources and as such their presence within a quarter-mile of the Project Sites does not necessarily indicate that there is a potential for the Proposed Project to affect these resources.

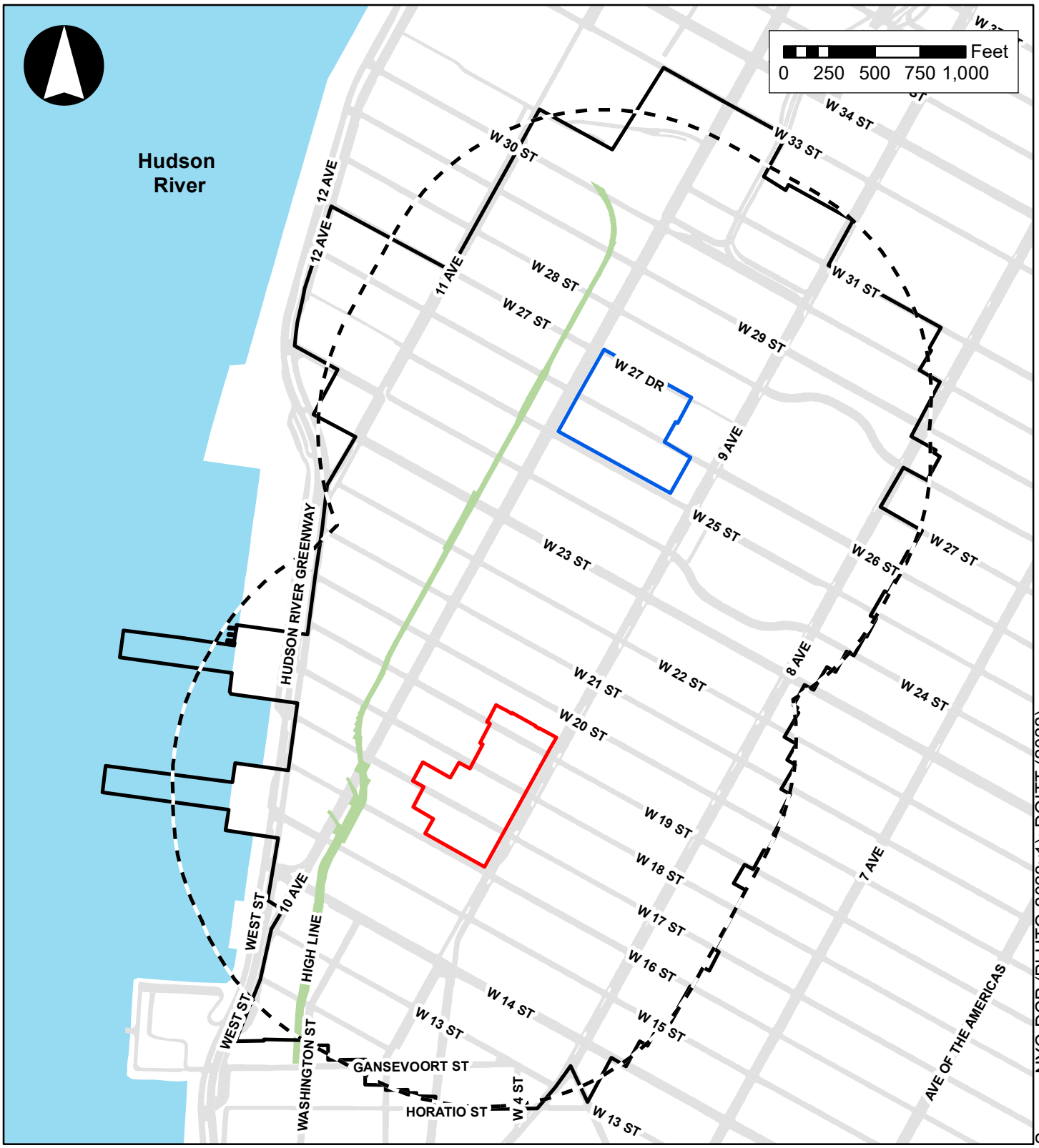
Geologic and Soil Resources

The natural resource assessment includes a review of publicly available data sources such as the United States Geological Survey (USGS) topographic mapping and United States Department of Agriculture (USDA) soil surveys and available aerial imagery.

Groundwater and Aquifers

The natural resource assessment includes a review of publicly available data sources such as USGS water resource mapping, data from NYSDEC's Environmental Mapper (GIS) and available aerial imagery.

Natural Resources Study Area



Source: NYC DCP (PLUTO 2023v1); DOITT (2022)

Legend

- Elliott-Chelsea Houses Primary Study Area
- Fulton Houses Primary Study Area
- 1/4-Mile Radius
- Natural Resources Secondary Study Area

Floodplains

The natural resource assessment includes a review of publicly available data sources such as the Federal Emergency Management Agency (FEMA) floodplain mapping as well as available aerial imagery. Coastal floods come from sources such as the Atlantic and Pacific Oceans, the Gulf of Mexico and large lakes (such as the Great Lakes), bays, and tidal rivers that are big enough to have large waves or that can be affected by storm surge.[3] In New York City, this includes the Atlantic Ocean and its inland connections such as the Long Island Sound and the East River, as well as the Hudson River, which can be sources of coastal flooding during astronomic tide and meteorological forces, such as nor'easters and hurricanes. FEMA identifies and analyzes coastal flood hazards, providing accurate flood hazard data to help drive communities toward mitigation actions and achieve greater resilience. As part of the coastal mapping process, FEMA conducts flood hazard analysis and mapping studies to produce Flood Insurance Rate Maps (FIRMs).[4]

Surface Waters and Wetlands, Wild and Scenic Rivers, Water Quality, and Aquatic Biota

The natural resource assessment includes a review of publicly available data sources such as the National Wetlands Inventory (NWI) mapping, NYSDEC coastal wetlands mapping, NYSDEC freshwater wetlands mapping. Coordination with the NYSDEC Natural Heritage Program and USFWS has been conducted to identify potential impacts resulting from the Proposed Project to endangered, threatened, or special concern terrestrial species in the study area. The assessment also includes a study of available aerial imagery.

D. AFFECTED ENVIRONMENT

The natural resources assessment considers subsurface and surface conditions on the Project Sites and vicinity, including geology, soils, groundwater, surface waters, wetlands, wild and scenic rivers, floodplains, vegetative communities, wildlife habitat, as well as threatened and endangered species habitat.

Regulatory Context

Various Federal, State and City agencies promulgate programs that relate to the management of natural resources. Those most relevant to the assessment of natural resources for the Proposed Project are discussed below.

[3] Federal Emergency Management Agency, *Coastal Hazards & Flood Mapping: A Visual Guide.* https://www.fema.gov/sites/default/files/documents/fema_coastal-glossary.pdf

[4] Federal Emergency Management Agency, *The Coastal Flood Hazard Analysis and Mapping Process.* https://www.fema.gov/sites/default/files/documents/fema_coastal-mapping_infographic_3-22-2021.pdf

Federal

- ***Presidential EO 11988 entitled "Floodplain Management" and 24 CFR 55***

  The Floodplain Management Executive Order (EO) requires Federal agencies to avoid, to the extent possible, the long-term and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative. FEMA has the primary Federal jurisdiction for administration of EO 11988. FEMA guidance for compliance with EO 11988 is found at Title 44 of the Code of Federal Regulations part 9 (44 CFR 9). For HUD, whose approval is required to facilitate the Proposed Project, 24 CFR 55 specifically states HUD must comply with EO 11988.

  As detailed in **Chapter 05.01, "Land Use, Zoning, and Public Policy,"** although the Project Sites are not currently within the FEMA designated 100-year floodplain, nearly all of the Fulton Houses Project Site and portions of the Elliott-Chelsea Houses Project Site are located within the future 2080s 100-year floodplain, as indicated by CISA data reflected in the Flood Hazard Mapper used by the City for Waterfront Revitalization Program (WRP) consistency assessments (refer to **Figure 05.01-9** in **Chapter 05.01**). In addition, as discussed below, the Federal Flood Standard Support Tool determined that portions of the Project Sites are located in coastal Federal Flood Risk Management Standard (FFRMS) floodplains. As such, EO 13690, establishing the FFRMS, as described further below, also applies to the Proposed Project.[5]

  The applicable HUD regulations for EO 11988 include an Eight-Step Decision Making Process. The analysis being prepared to satisfy this process considers why the Proposed Project must be situated within the floodplain and identifies the full range of effects associated with the Proposed Project. Further, the analysis requires a discussion of any reasonable alternative to locating the Proposed Project in a floodplain. This draft analysis and notice are provided in **Appendix B.2**.

- ***Presidential EO 13690 entitled "Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input"***

  On April 23, 2024, HUD published a Final Rule to update 24 CFR 55, streamlining floodplain management and wetlands regulations to better address flood risk. Under the updated rule, HUD or the responsible entity (RE) shall define the Federal Flood Risk Management Standard (FFRMS) floodplain using the following process:

  (1) The climate-informed science approach (CISA) to identify the area having an elevated flood risk during the anticipated life of the project if data is available and actionable. Data is available and actionable for a particular project where:

[5] EO 14148 and EO 14154, both signed January 20, 2025, revoked EO 14030 which had reinstated EO 13690; therefore, EO 13690 was effectively revoked. However, at the time this EIS was prepared, the regulations implementing the FFRMS remained in effect.

(i) The data can be accessed via a tool, resource, or other process developed or identified by a Federal agency or agencies to define the floodplain using the CISA, and
(ii) HUD has adopted the particular tool, resource, or other process through a Federal Register publication for comment.

(2) If CISA data is not available or actionable but FEMA has defined the 0.2-percent-annual-chance floodplain, those areas that FEMA has designated as within the 0.2-percent-annual-chance floodplain; or

(3) If neither CISA data nor FEMA-mapped 0.2-percent-annual-chance floodplain data is available, those areas that result from adding an additional two feet to the base flood elevation as established by the effective FIRM or FIS or—if available—FEMA-provided interim or preliminary maps or studies or advisory base flood elevations.

EO 13690 reinforces the important concepts outlined in EO 11988, such as avoiding adverse impacts in a floodplain and minimizing potential harm if an action must be located in a floodplain. EO 13690 and the FFRMS expand upon these tenets and concepts by requiring agencies to use a higher vertical flood elevation and corresponding horizontal floodplain instead of the base flood elevation (BFE) for federally funded projects to address current and future flood risk and to ensure that projects last their respective lifespan.

To address EOs 11988 and 13690 and the Eight-Step Decision Making Process for the Proposed Project, HPD in its role as RE utilized the Federal Flood Standard Support Tool, which assists federal agencies and their partners in determining if a federally funded project is situated within a Federal Flood Risk Management Standard (FFRMS) floodplain.[6] The Federal Flood Standard Support Tool determined that the western portion of the Fulton Houses Project Site and the southwestern corner of the Elliott-Chelsea Houses Project Site are located in coastal FFRMS floodplains. The estimated sea-level rise for these portions of the Project Sites would be two feet in 2050, corresponding to a FFRMS flood elevation of 11 feet North American Vertical Datum of 1988 (NAVD88), and four feet in 2100, with a FFRMS flood elevation of 13 feet NAVD88. NAVD88 is the datum used on Federal Emergency Management Agency (FEMA) Digital Flood Insurance Rate Maps (DFIRMs) for Base Flood Elevations (BFEs).

As outlined above and provided in **Appendix B.2**, the draft Eight-Step Decision Making Process analysis considers why the Proposed Project must be situated within the floodplain, identifies the full range of effects associated with the Proposed Project, and discusses any reasonable alternative to locating the Proposed Project in a floodplain.

[6] EO 14148 and EO 14154, both signed January 20, 2025, revoked EO 14030, which includes the Federal Flood Standard Support Tool developed to determine if new federally funded projects will be located within a Federal Flood Risk Management Standard floodplain. The Tool is no longer accessible online. However, at the time this EIS was prepared, the Federal Flood Standard Support Tool was still available and, as such, used for this analysis. https://floodstandard.climate.gov/message.html

- ***Federal Coastal Zone Management Program***

  The program is a voluntary partnership between the Federal government and US coastal and Great Lakes states and territories authorized by the Coastal Zone Management Act (CZMA) of 1972 to address national coastal issues. The program is administered by NOAA.

  The act provides the basis for protecting, restoring, and responsibly developing our nation's diverse coastal communities and resources. To meet the goals of the CZMA, the national program takes a comprehensive approach to coastal resource management—balancing the often competing and occasionally conflicting demands of coastal resource use, economic development, and conservation.[7]

New York State

- ***The State Pollutant Discharge Elimination System***

  The State Pollutant Discharge and Elimination System (SPDES) was created to regulate discharges to the State's waters to protect and maintain surface and groundwater resources. Construction activities that disturb one acre of land or more must obtain coverage under the SPDES General Permit for Stormwater Discharges from Construction Activity; therefore, an analysis of the Proposed Project's compliance with this regulation is required.

- ***Waterfront Revitalization of Coastal Areas and Inland Waterways Act (Sections 910-921, Executive Law, Implementing Regulations 6 NYCRR Part 600 Et. Seq)***

  The Waterfront Revitalization of Coastal Areas and Inland Waterways Act offers local governments the opportunity to participate in the State's Coastal Management Program (CMP), on a voluntary basis, by preparing and adopting local waterfront revitalization programs (LWRPs) providing more detailed implementation of the State's CMP through use of existing broad powers such as zoning and site plan review. When an LWRP is approved by the New York State Secretary of State, State agencies' actions must be consistent with the approved LWRP to the maximum extent practicable. When the Federal government concurs with the incorporation of an LWRP into the CMP, Federal agencies' actions must be consistent with the approved addition to the CMP.

  - 19 NYCRR Parts 600, 601, 602, and 603 provide the rules and regulations that implement each of the provisions of the Waterfront Revitalization of Coastal Areas and Inland Waterways Act including, but not limited to, the required content of an LWRP, the processes of review and approval of an LWRP, or LWRP amendments.
  - As New York City has an LWRP, this is further discussed below under "Local."

[7] NOAA Office for Coastal Management (website), National Oceanic and Atmospheric Administration. https://coast.noaa.gov/czm/about/

City

- ***New York City Waterfront Revitalization Program***

  The New York City Waterfront Revitalization Program (WRP) is the City's principal coastal zone management tool. The WRP was originally adopted in 1982 and approved by the New York State Department of State (NYSDOS) for inclusion in the New York State CMP. The WRP encourages coordination among all levels of government to promote sound waterfront planning and requires consideration of the program's goals in making land use decisions. The NYSDOS administers the program at the State level, and the Department of City Planning (DCP) administers it in the City. The WRP was revised and approved by the City Council in October 1999. In August 2002, NYSDOS and Federal authorities (i.e. the USACE and the USFWS) adopted the City's ten WRP policies for most of the properties located within its boundaries. In October 2013, the City Council approved revisions to the WRP in order to proactively advance the long-term goals laid out in Vision 2020: The New York City Comprehensive Waterfront Plan, released in 2011. The changes solidified New York City's leadership in the area of sustainability and climate resilience planning as one of the first major cities in the US to incorporate climate change considerations into the City's Coastal Zone Management Program. They also promote a range of ecological objectives and strategies, facilitate interagency review of permitting to preserve and enhance maritime infrastructure, and support a thriving, sustainable working waterfront. The New York State Secretary of State approved the revisions to the WRP on February 3, 2016. The US Secretary of Commerce concurred with the State's request to incorporate the WRP into the New York State CMP. **Chapter 05.01,** includes a discussion of the Proposed Project's consistency with New York City's WRP and is incorporated herein by reference.

- ***New York City Street Tree Zoning Amendment and Local Law 3 of 2010.***

  The City of New York passed a zoning text amendment that requires trees to be planted along the curb of City streets following the construction of new buildings and certain types of alterations citywide. All applicants must apply to Parks for street tree planting permits. The current zoning requires all new buildings and all enlargements exceeding 20 percent of the floor area to have one tree for every 25 feet of road frontage, including existing trees. Like other zoning rules, these requirements must be satisfied in order for the builder to obtain a Certificate of Occupancy. Species shall be selected from the list of approved street trees for New York City. The methodology used to determine the number and size of trees to be replanted (e.g., caliper replacement method) is determined in consultation with Parks in accordance with this zoning requirement and local law and Chapter 5 Title 56 of the Rules of the City of New York (RCNY). As applicable, the Proposed Project must comply with the street trees rules.

- ***Flood Resilience Zoning Text Amendment.***

  In 2021 the City of New York passed a zoning text to encourage flood-resilient building construction throughout designated flood zones. The purpose of this zoning text amendment was to remove regulatory barriers that would hinder or prevent the reconstruction of storm-damaged properties. The amendment enables new and existing buildings to comply with new,

higher flood elevations issued by FEMA and new requirements to the New York City Building Code. Building to these new standards will reduce vulnerability to future floods and help avoid higher flood insurance premiums.

- ***Local Law 15 of 2020; Bird Friendly Building Design***

  Effective January 10, 2021, new buildings and alterations that replace all exterior glazing of a building must comply with bird friendly design construction requirements to reduce bird strike fatalities. Requirements include installing bird-friendly materials uniformly on 90 percent of facades up to 75 feet and up to 12 feet above green roofs and installing bird-friendly materials at all glass railings and other hazardous elements, regardless of how high they are located on a building exterior. As defined in the NYC Building Code, bird-friendly materials (BFMs) are materials that have a maximum threat factor of 25 in accordance with the American Bird Conservancy (ABC) Bird Collision Deterrence Material Threat Factor Reference Standard, or with the ABC Bird-friendly Materials Evaluation Program at Carnegie Museum's Avian Research Center Test Protocol, or with a relevant American Society for Testing and Materials (ASTM) standard.

- ***Unified Stormwater Rule (15 RCNY, Chapters 19.1 and 31)***

  In 2022 the City adopted amendments to the rules that govern management of construction and post-construction stormwater sources, which is referred to as the Unified Stormwater Rule. This rule's objectives include reduction in combined sewer overflows and flooding, increase in green space, greater consistency across stormwater programs, flexibility in design options and improvements in water quality. To achieve this, the amended rules update onsite stormwater volume requirements and maximum stormwater release rates for both combined and storm sewer systems and reference the New York City Stormwater Manual (Appendix to Chapter 19.1 of Title 15 of the RCNY) for applicable stormwater technical requirements, including stormwater management practice hierarchies and stormwater management practice selection checklists. **Chapter 05.10, "Water and Sewer Infrastructure,"** discusses the applicability of Unified Stormwater Rule to the Proposed Project and is incorporated herein by reference.

Existing Conditions

Geologic and Soil Resources

The native surficial geology of Manhattan consists of unconsolidated glacial deposits made up of sand, gravel, clay, and boulders ranging from zero feet below land surface to greater than 250 feet below land surface. This unconsolidated material was deposited as a result of the Pleistocene

glaciation.[8,9] The island of Manhattan is underlain by metamorphic bedrock consisting of Harrison/Ravenswood Gneiss.[10]

The surficial soils in the study areas consists of highly modified urban soils. The Manhattan shoreline has been subject to intense anthropogenic modification, including the filling of coastal areas, to expand usable land surface. The westernmost portion of the study area, which was historically part of the Hudson River, was filled approximately 150 years ago and has been modified numerous times since. However, the Proposed Project would neither directly or indirectly cause a noticeable decrease in the ability of geological and soil resources within the study area to serve designated function.

Chapter 05.09, "Hazardous Materials," discusses the results of the Remedial Investigation Report (Phase II), aka, Site Investigation Report, that was conducted for the first-stage construction sites at Fulton 1 and Elliott-Chelsea 1. The report characterizes the findings of soil investigation conducted at tested locations and the full report is provided in **Appendix G.4**. Like the first-stage construction sites, all locations of new buildings and improvements on the Project Sites will be subject to site investigation, testing, remediation (as warranted), and site closure report requirements as part of the redevelopment process, and subject to DEP review and approvals of these documents. With these required processes in place, the potential for impacts pertaining to hazardous materials would be avoided. Refer to **Chapter 05.09** for details, which is incorporated herein by reference.

Therefore, the Proposed Project does not have the potential to adversely affect geologic and soil resources and further assessment is not warranted.

Groundwater and Aquifers

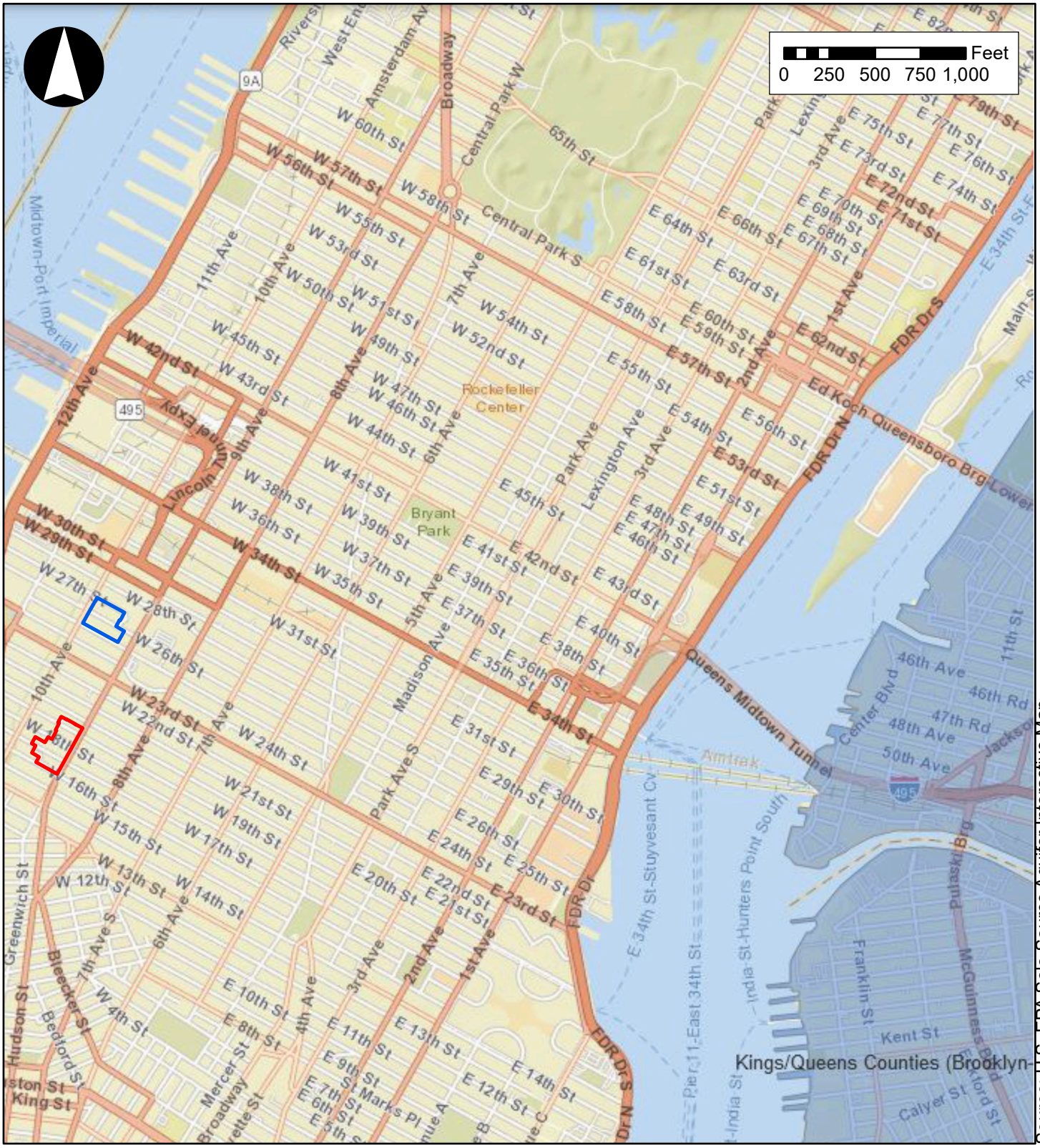
The aforementioned Site Investigation Report (Phase II) for the first-stage development sites determined that the depth of the groundwater at those locations ranges from 13.5 to 15 feet below ground surface (bgs). Refer to the report in **Appendix G.4**. Although all five boroughs contain ground water and some small water-bearing areas can be found beneath Manhattan and the Bronx, these are not used for drinking water supply. Per the US Environmental Protection Agency (EPA), there is no sole source aquifer located under Manhattan (refer to **Figure 05.08-2**). As such, the Proposed Project would not have the potential to adversely affect a sole source aquifer or drinking water supplies. Groundwater is not used as a potable water supply in the area, and the Proposed Project would not result in groundwater withdrawal. Therefore, the Proposed Project would not have the potential to or affect the quality of any sole source aquifer or result in adverse impacts to

[8] Perlmutter, N.M., and Arnow, T. 1953, *Ground water in Bronx, New York, and Richmond Counties with Summary Data on Kings and Queens Counties,* No. GW-32. New York City, New York: New York State Water Power and Control Commission.

[9] Stumm, F., Chu, A., Joesten, P. K., and Lane Jr, J. W. 2007, "Geohydrologic assessment of fractured crystalline bedrock on the southern part of Manhattan, New York, through the use of advanced borehole geophysical methods," Journal of Geophysics and Engineering, 4(3), 245.

[10] Baskerville, C. A. and Mose, D. 1989, "The separation of the Hartland formation and the Ravenswood granodiorite from the Fordham gneiss at Cameron's Line in the New York City area," Northern Geology, v. 11, p. 22-28.

Sole Source Aquifers



Source: U.S. EPA Sole Source Aquifer Interactive Map

Legend

- Elliott-Chelsea Houses
- Fulton Houses
- Sole Source Aquifers

groundwater resources on or near the Project Sites and would not violate 40 CFR 149 and further assessment is not warranted.

Floodplains

As indicated by CISA data reflected in the Flood Hazard Mapper and shown in **Figure 05.01-9** in **Chapter 05.01**, nearly all of the Fulton Houses Project Site and portions of Elliott-Chelsea Houses Project Site are located within the future 2080s 100-year floodplain. Refer to **Chapter 05.01** for more information and an assessment of the Proposed Project's effects related to current and future floodplain conditions, which is incorporated herein by reference. Additionally, as noted above in the discussion of EO 11988, an Eight-Step Decision Making Process analysis is required for the Proposed Project and is provided in **Appendix B.2**.

Surface Waters and Wetlands, Wild and Scenic Rivers, Water Quality, and Aquatic Biota

The Project Sites are inland properties located, at their closest, approximately 950 feet from the water, i.e., the Hudson River shoreline. The Hudson River is designated as "littoral zone," a New York State tidal wetland category defined as including all lands under tidal waters which are not included in any other tidal wetland category, extending seaward from shore to a depth of six feet at mean low water.[11] The area between Hudson River and the Project Sites is highly urbanized with bulkheads along the waterfront, buildings higher in elevation, other structures, and public streets. The Fulton Houses Project Site is one and a half blocks east of the waterfront and the Elliott-Chelsea Houses Project Site is two blocks east of the waterfront. The only effects of the Proposed Project on the Hudson River would be due to potential incremental increases in combined sewer overflows (CSOs) and discharges of treated sewage from the North River Water Resource Recovery Facility (WRRF); see **Chapter 05.10** for details. As noted in the discussion in that chapter and summarized above in the discussion of Unified Stormwater Rule, the City of New York is taking a comprehensive approach to addressing stormwater management at new development sites citywide.

There are no other surface waters or wetlands on or in close proximity to the Project Sites that could be affected by the Proposed Project. Furthermore, there are no designated Wild or Scenic Rivers within or adjacent to the Project Sites as designated by the US Department of the Interior (DOI).[12] As such, the Proposed Project does not have the potential to affect surface waters and wetlands, wild and scenic rivers, water quality, and aquatic biota and further assessment is not warranted.

Wildlife

The Project Sites and study area are comprised of an urbanized, built environment with buildings, structures, streets, parking areas and landscaping. With the exception of lawns and planted trees and bushes, the Project Sites do not represent a significant source of native plant diversity, vegetated ecological communities, or natural wildlife habitat. As such, the Project Sites are

[11] Tidal Wetlands Categories - NYSDEC (Website), New York Department of Environmental Conservation. https://www.dec.ny.gov/lands/5120.html

[12] National Wild and Scenic River System (website), US Department of Interior. https://www.rivers.gov/map

essentially devoid of significant natural resources that might otherwise be subject to potential direct effects from the Proposed Project.

Species that have adapted to urban conditions, such as raccoons (*Procyon lotor*), Eastern grey squirrels (*Sciurus carolinensis*) and other creatures are the most likely primary wildlife residents in the Project Sites and study area. This would apply to bird species as well. Species such as pigeons (*Columbia* spp.), sparrows (*Passer* spp.) and European starlings (*Sturnus vulgaris*) are the most likely to be found within the Project Sites and surrounding study area.

Threatened, Endangered, and Special Concern Species and Significant Habitat Areas

The USFWS Information, Planning and Consultation (IPaC) website identified the Monarch butterfly (*Danaus plexippus*, candidate) species as occurring in or near both the Project Sites. IPaC also identified Northern long-eared bat (NLEB; *Myotis septentrionalis*, endangered) as occurring in or near the Fulton Houses Project Site.

In December 2024, USFWS announced its intent to list the Monarch butterfly as a "threatened species" under Section 4(d) of the ESA due to significant population declines. Today, the eastern migratory population is estimated to have declined by approximately 80 percent since the 1980s, with a 56 to 74 percent chance of extinction by 2080. This decision follows years of environmental concerns regarding their survival amid climate change and habitat loss due to agricultural expansion and usage of herbicides affecting plant growth essential for caterpillars. Efforts to list the Monarch butterfly as threatened began in 2014, sparked by conservation groups, followed by a lawsuit that was settled in 2022 requiring the Federal government to make a final decision on the listing.[13]

Monarch butterflies are notable pollinators recognized for their long migrations and importance as pollinators. Though originally from North America, Monarchs have spread globally with non-migratory populations found in various regions. Migratory Monarchs in North America are split into eastern and western populations, separated by the Rocky Mountains. Because Monarchs are not able to survive cold temperatures in the Northeast, the eastern population migrates over 2,000 miles to Mexico for the winter, while the western population only migrates 300 to 1,000 miles and overwinters in groves in California. Due to the length of each migration, it takes multiple generations of butterflies to complete one full journey. For many Monarch populations, the migration route leads through New York City, where butterflies are dependent on places to roost during the night as they only fly during the day and take advantage of vegetation and designated "Monarch Waystations" set up around the City. While Monarchs have been sighted in Manhattan, it is unlikely that the Project Sites serve as critical habitats, as they do not have vegetation typically provided in Waystations that would be required beyond trees and grass. Monarch caterpillar larvae exclusively feed on milkweed, which is planted in waystations, such as nearby Hudson River Park's two-acre Habitat Garden, located between W. 26th and W. 29th Streets. Having a Certified Monarch Waystation within a half-mile distance to the Project Sites, it is likely that the removal

[13] Fish and Wildlife Service Proposes Endangered Species Act Protection for Monarch Butterfly, Urges Increased Public Engagement to Help Save the Species (website), US Fish and Wildlife Service, accessed January 21, 2025. https://www.fws.gov/press-release/2024-12/monarch-butterfly-proposed-endangered-species-act-protection

of trees from the landscape would not harm Monarch butterflies and their continued use of the nearby Waystations.[14]

Regarding the NLEB, its Federal endangered listing was the result of a dramatic population decline throughout most of the species' range. These declines have been caused by white-nose syndrome (WNS), a disease caused by an invasive fungus that ultimately causes affected hibernating bats to starve to death over the winter.[15] It was listed as a threatened species effective May 4th, 2015 and subsequently reclassified an endangered species, effective March 31st, 2023.[16]

Prior to 2006, the NLEB was frequently detected in the forests of every county of New York State with the exception of the five counties of New York City. New York County, i.e., Manhattan, is located in the federally designated "WNS Zone" as it is within 150 miles of counties where WNS infections are documented.[17]

Since NLEB feed predominantly on flying insects, they hibernate through the late fall and early spring to save energy when food is not available. Most known hibernation sites are caves or abandoned mines. In contrast to their hibernation periods, the NLEB typically roosts in trees from late spring through early fall. Female NLEBs and young are particularly vulnerable in June and July when they are unable to fly. The closest maternity roosts, active detections (mist net captures and acoustic recordings), and hibernacula have been reported for the NLEB in several areas of Long Island (particularly in the eastern portion), including the towns of Brookhaven, East Hampton, Riverhead, Southampton, and Southold.[18] These locations are approximately 60 miles or more east of the Project Sites.

Removal of trees from the landscape is generally not considered harmful unless there are potentially bats within the trees during the time they are removed from the landscape. NYSDEC imposes no restrictions on tree cutting unless a project is located within 5 miles of a known hibernation site or 1.5 miles of a documented summer occurrence.[19]

Regulations pursuant to the Federal Endangered Species Act, referred to as the final 4(d) rule, define activities that are not permitted in the WNS zone. Of potential relevance to the Proposed Project, "incidental take" of the NLEB is prohibited. *Take* is defined as actions that "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any endangered species while *incidental take* is defined as take that is "incidental to, and not the purpose of, the carrying out of an otherwise

[14] Catch the Magnificent Monarch Migration (website), Hudson River Park, accessed January 21, 2025. https://hudsonriverpark.org/monarch-migration/

[15] Northern Long-eared Bat - NYSDEC (website), NYS Department of Environmental Conservation, accessed December 11, 2023. http://www.dec.ny.gov/nature/animals-fish-plants/northern-long-eared-bat

[16] Department of the Interior – Fish and Wildlife Service. 2023. *Endangered and Threatened Wildlife and Plants; Endangered Species Status for Northern Long-Eared Bat; Delay of Effective Date*, 88 Federal Register, page 4908.https://www.federalregister.gov/documents/2023/01/26/2023-01656/endangered-and-threatened-wildlife-and-plants-endangered-species-status-for-northern-long-eared-bat

[17] US Fish and Wildlife Service, *Northern Long-Eared Bat Final 4(d) Rule, White-Nose Syndrome Zone Around WNS/Pd Positive Counties/Districts,* 2020. https://www.fws.gov/sites/default/files/documents/WNSZone.pdf

[18] Bat Impact Assessment for the Proposed Empire Offshore Wind: Empire Wind Project (EW 1 and EW 2) in the New York Bight, 2022, 13. https://www.boem.gov/sites/default/files/documents/renewable-energy/Public_EOW%20COP%20Appendix%20S_BATS.pdf

[19] Northern Long-eared Bat - NYSDEC (website), NYS Department of Environmental Conservation, accessed December 11, 2023. http://www.dec.ny.gov/nature/animals-fish-plants/northern-long-eared-bat

lawful activity." As it relates to the NLEB in the WNS zone, incidental take is prohibited under the following circumstances: (1) if it occurs within a hibernacula; (2) if it results from tree removal activities and the activity occurs within 0.25 mile (0.4 km) of a known, occupied hibernacula or the activity cuts or destroys a known, occupied maternity roost tree or other trees within a 150-foot radius from the maternity roost tree during the pup season from June 1st through July 31st.[20]

IPaC identified no critical habitats at either of the Project Sites.

E. ENVIRONMENTAL EFFECTS

A detailed description of the alternatives analyzed in this chapter is presented in **Chapter 2.0.** As noted above in **Section D** above, further assessment of geology, soils, groundwater, aquifers, surface waters, wetlands, water quality, and aquatic biota is not warranted. Other areas of concern are assessed below.

Alternative 1 – No-Action Alternative

The No-Action Alternative is the 2041 future condition without the Proposed Project and assumes that natural resources within the study area are generally unchanged from existing conditions.

Floodplains

As discussed in **Chapter 05.01**, nearly all of the Fulton Houses Project Site and portions of the Elliott-Chelsea Houses Project Site are located within the future 2080s 100-year floodplain. The floodplains within and adjacent to the Project Sites are coastal floodplains, which are influenced by astronomic tide and meteorological forces (e.g., nor'easters and hurricanes) rather than fluvial flooding. They are not affected by the placement of obstructions (e.g., buildings) within the floodplain.

Under the No-Action Alternative, because there would be no new construction on the Project Sites, the Proposed Project would not be required to comply with the current and any future changes in the New York City Building Code requirements for new buildings, the recently adopted flood resilience zoning text for construction of new buildings or expansions within the 100- and 500-year floodplain, and all other applicable City and State flooding and erosion regulations relating to new construction or expansions, including New York City Administrative Code, Title 28, Section 104.9 (Coastal Zones and Water-Sensitive Inland Zones). As such, there would be the potential for public losses due to flood damage on buildings and the exposure of public utilities to flood hazard. As discussed in **Chapter 05.01**, under the No-Action Alternative some of the current buildings have ground floor residential units, e.g., ground floor dwelling units (DUs) in Chelsea 1 at 425 W. 25th Street/428-430 W. 26th Street that, if the future DFE is higher than the current ground floor elevation would not be permitted to continue residential occupancy at the current elevation. Such units would require retrofits to raise floors or if that is not feasible would require

[20] US Fish & Wildlife Service, "Northern Long-Eared Bat - Final 4(d) Rule: Questions and Answers," 2016, US Fish & Wildlife Service. Accessed December 11, 2023. https://www.fws.gov/sites/default/files/documents/NLEB-4drule-FAQ-2016.pdf

relocation, which in either case is likely to be costly. Currently, there is no funding in place to propose any such capital projects. Therefore, there is no plan for this work to occur by the 2041 build year, leaving the Project Site residents vulnerable to flood hazards.

Alternative 2 – Preferred Alternative, Alternative 3 – Non-Rezoning Alternative, Alternative 4 – Midblock Bulk Alternative, and Alternative 7 – COY Alternative

Floodplains

Construction and Operation

As noted under the No-Action Alternative, the floodplains within and adjacent to the Project Sites are coastal floodplains, which are not affected by the placement of obstructions (e.g., buildings) within the floodplain and therefore the development of the Project Sites would not result in significant adverse impacts to flood levels, flood risk, or the flow of flood waters within the Project Sites or in other nearby portions of the Chelsea neighborhood.

The design and construction of the Proposed Project would comply with the current and any future changes in the New York City Building Code requirements, including "Appendix G: Flood Resistant Construction," any future changes in the floodplain zones designated by FEMA, the flood resilience zoning text (approved in 2021) for the applicable building category (if applicable), new elevation requirements per 24 CFR 55 (new construction must be elevated at least two feet above the base flood elevation), and all other applicable City and State flooding and erosion regulations, including New York City Administrative Code, Title 28, Section 104.9 (Coastal Zones and Water-Sensitive Inland Zones). Therefore, the Proposed Project would minimize the potential for public and private losses due to flood damage and reduce the exposure of public utilities to flood hazards. Accordingly, the Proposed Project would not result in any significant adverse impacts related to floodplains. Refer to **Chapter 05.01** and specifically the assessment of the Proposed Project's consistency with Policy 6.2 of the WRP for additional information and assessment. Refer to **Appendix B.2** for the draft Eight-Step Decision Making Process analysis, which is required for the Proposed Project due to applicable EO 11988.

Wildlife

Construction and Operation

Construction of the Proposed Project would not have significant adverse impacts to wildlife at either the individual or population level. The terrestrial wildlife habitat in the area is presently extremely limited and adapted to urban activities. As such, the Proposed Project would not eliminate or degrade quality wildlife habitat. Overall, construction of the Proposed Project would not have significant adverse impacts to wildlife or wildlife habitat within the Project Sites or in the surrounding area.

Operation of the Proposed Project would not result in significant adverse impacts to wildlife resources. Similar to the No-Action Alternative, the Project Sites would offer urban conditions

that can serve as habitat for species that have adapted to such conditions. Examples include gray squirrel, rock pigeon, house sparrow, and European starling. Increases in human activity that would occur as a result of the Proposed Project would not be expected to adversely affect wildlife because wildlife in the area is limited to urban-adapted species.

Bird Collisions

As the Proposed Project would result in the development of new mixed-use apartment towers less than a quarter-mile from the Hudson River, this could potentially increase the frequency of bird collisions at the Project Sites, although such incidences may already exist with the 18 mid- and high-rise buildings currently present.

Most passerine species migrate at night. Over land, they usually fly at 2,100 to 2,400 feet. Over water, migration takes place at a much higher altitude, from 6,000 to 12,000 feet. Weather conditions often affect the migratory altitude as birds may fly higher or lower to avoid or take advantage of prevailing winds.[21] The Proposed Project would result in new buildings up to approximately 428.5 feet tall (inclusive of rooftop mechanical bulkheads). As such, the proposed buildings would not extend into the air space commonly used by migrating birds.

Daytime bird collisions with buildings with lower-story reflective glass windows commonly occur throughout New York City.[22] While the landscaping of the Proposed Project could be home to some common resident bird species (e.g., European Starling, House Sparrow, Rock Dove), these species seldom collide with buildings as compared to migratory birds, which are not usually found on the Project Sites. Because the landscaping on the Proposed Project would be generally similar to the existing landscaping at the Project Sites, it is unlikely that the Project Sites would become more attractive as a stopover for migratory birds than under the No-Action Alternative.

Furthermore, the Proposed Project is required to comply with Local Law 15 of 2020, which took effect January 10, 2021.[23] It identifies requirements for "Bird Friendly Building Design" including that new buildings and alterations employ glazing and other materials that reduce bird strike fatalities. This is expected to further minimize the potential for bird collisions.

Threatened, Endangered, and Special Concern Species and Significant Habitat Areas

As discussed under **Section D**, the IPaC website identified the NLEB (*Myotis septentrionalis*, endangered) as occurring in or near the Fulton Houses Project Site and Monarch butterfly (*Danaus plexippus*, candidate) species as occurring in or near both Project Sites. IPaC identified no critical habitats at the Project Sites.

[21] The Basics of Bird Migration: How, Why, And Where (website), Cornell Lab- All About Birds. http://www.birds.cornell.edu/AllAboutBirds/studying/migration/pathways

[22] Gelb, Y., and N. Delacretaz, 2006, "Avian window strike mortality at an urban office building," Kingbird 56(3):190-198.

[23] New York City Department of Buildings. 2020, Bird Friendly Building Design & Construction Requirements Guidance document: Local Law 15 of 2020, Version 1.0. New York City: NYC Department of Buildings. https://www.nyc.gov/assets/buildings/bldgs_bulletins/bird_friendly_guidance_document.pdf

Monarch Butterfly

Submissions by a project representative to the IPaC System for the Project Sites resulted in a determination of the presence of the Monarch butterfly and advised that there are no critical habitats within the project area, i.e., Project Sites, under the jurisdiction of USFWS Long Island Ecological Services Field Office (refer to **Appendix F.1**). In addition, a Certified Monarch Waystation is located within a half-mile of the Project Sites in Hudson River Park, providing a habitat for migratory populations.

As there is no critical habitat for the Monarch butterfly occurring on or near the Project Sites, the Proposed Project (under the Preferred Alternative, the Non-Rezoning Alternative, the Midblock Bulk Alternative, or the COY Alternative) would not have the potential to adversely affect the species and no further assessment is warranted.

Northern Long-Eared Bat (NLEB)

While the Project Sites are located within the WNS Zone and IPaC identified them as potentially present on or near the Fulton Houses Project Site, a 2022 report citing information from NYSDEC indicates that there is no evidence of the NLEB in New York County (refer to footnote [15] for source).

The information provided by the IPaC website aside, the lack of documentation from other sources of the presence of the NLEB in Manhattan is consistent with information about its typical habitat. Research has found the propensity for the NLEB is to remain in or near forested habitat and to generally avoid open areas.[24] The Project Sites and their surroundings are open areas, i.e., not forested, with scattered trees typical of an urbanized area and as such are not a suitable habitat for the NLEB.[25]

A submission by a project representative to the IPaC System resulted in a determination of "No Effect" on the NLEB (refer to **Appendix F.2**). Accordingly, based on this determination, the Proposed Project would not jeopardize listed species or adversely modify critical habitat.

In conclusion, the Proposed Project would not result in any significant adverse natural resources impacts related to threatened, endangered, and special concern species and significant habitat

[24] US Fish and Wildlife Service, Midwest Regio, 2023. *Standing Analysis and Implementation Plan – Northern Long-Eared Bat Assisted Determination Key, Version 1.0*, Bloomington, MN: US Fish and Wildlife Service, Midwest Region. https://www.fws.gov/sites/default/files/documents/Standing%20Analysis%20Version%201.0%20March%202023.pdf

[25] Western EcoSystems Technology, Inc, 2019, *Northern Long-Eared Bat Desktop Habitat Assessment: Tatanka Ridge Wind Project, Deuel County, South Dakota.* Golden Valley, Minnesota. https://puc.sd.gov/commission/dockets/electric/2019/el19-026/appendixh.pdf
According to *Northern Long-Eared Bat Desktop Habitat Assessment: Tatanka Ridge Wind Project, Deuel County, South Dakota* by Western EcoSystems Technology: "USFWS staff suggested that they will be using 10 acres as the minimum forested patch size for suitable summer habitat moving forward. To facilitate a consistent approach for NLEB habitat review across the species range, this habitat assessment uses 10 acres as the minimum forested patch size considered suitable summer habitat for the NLEB."

areas. This finding is based on Project Sites location in an urbanized area and the area's lack of relevant habitat.

Summary

Based on the above information, no significant adverse natural resources impacts would result and no further assessment is warranted.