

A. INTRODUCTION

This chapter presents an analysis of the potential for the Proposed Actions to affect natural resources in accordance with the 2021 *City Environmental Quality Review (CEQR) Technical Manual*. The *CEQR Technical Manual* defines natural resources as water resources, including surface water bodies and groundwater; wetland resources, including freshwater and tidal wetlands; upland resources, including beaches, dunes, and bluffs, thickets, grasslands, meadows, and old fields, woodlands and forests, and gardens and other ornamental landscaping; and built resources, including piers and other waterfront structures. This chapter also discusses the avoidance, minimization, and mitigation measures proposed to reduce the potential for impacts to natural resources due to the Proposed Actions.

PRINCIPAL CONCLUSIONS

The Proposed Actions would result in development within the 1 percent annual chance floodplain; however, most of the development would be raised above the base flood elevation (BFE) on the platform. In addition, the regraded West 33rd Street would also be raised above BFE. The coastal floodplain would not be functionally altered or otherwise affected by additional structures, and the Proposed Actions would not result in significant adverse impacts to the floodplain.

There are no wetlands within the Development Site and the vicinity of outfalls discharging stormwater to the Hudson River. Therefore, the Proposed Actions would not have a significant adverse impact on wetlands.

As discussed in Chapter 10, "Hazardous Materials," groundwater recovered during construction dewatering would be treated prior to discharge, and site-specific construction health and safety plans (CHASPs) and remedial action plans (RAPs) would be implemented during ground disturbance to protect workers from potential contaminants in the groundwater. The Proposed Actions would not be expected to result in significant adverse impacts to the flow, quality, or quantity of groundwater.

The Proposed Actions would not remove or alter high quality ecological communities or wildlife habitat within the Development Site, and the urban-adapted wildlife expected within the Development Site would find similar habitat in the vicinity of the Development Site. The Proposed Actions would not impact the ecological communities within the High Line or the wildlife using them. In addition, post-construction landscaping described in Chapter 5, "Open Space," would improve the ecological communities and wildlife habitat within the Development Site. The design of the open space will consider a native plant palette, suited to the particulars of the site and the nuances of its urban context. Native

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plant material will help to support biodiversity, water efficiency, plant hardiness, improved soil structure and fertility, while also enabling more efficient operations and maintenance.

The Proposed Actions would not have a significant adverse impact on ecological communities or wildlife.

The Proposed Actions would not impact threatened, endangered, special concern, or candidate species with the potential to occur within 0.5 miles of the Development Site.

As discussed in Chapter 20, "Construction," the Proposed Actions would not involve construction in, over, or adjacent to the Hudson River, and erosion and sediment control measures would reduce the likelihood of construction materials to impact water quality in the Hudson River. In addition, as discussed in Chapter 11, "Water and Sewer Infrastructure," the North River Wastewater Resource Recovery Facility (WRRF) would still have the capacity to treat the sanitary wastewater produced as a result of the Proposed Actions. As also discussed in Chapter 11, "Water and Sewer Infrastructure," the Proposed Actions would not result in an increase in stormwater runoff to the combined sewer system, as the Development Site would be served by separated sewers. Stormwater collected on the platform would be detained on-site and discharged to storm sewers including potentially the existing Long Island Rail Road (LIRR) private storm sewer on the Development Site serving the Western Rail Yard. Similarly, stormwater collected on the portion of the Development Site not covered by the platform or buildings would be conveyed to the existing LIRR storm sewer. Therefore, the Proposed Actions would not have a significant impact on aquatic resources in the Hudson River.

B. REGULATORY CONTEXT AND METHODOLOGY

METHODOLOGY

STUDY AREA

As described in Chapter 1, "Project Description," the Development Site comprises the entire area bounded by West 30th and West 33rd Streets and Eleventh and Twelfth Avenues (see Figure 1-1). For the analysis of floodplains, groundwater, and terrestrial resources, the study area is limited to the Development Site and its immediate surroundings (i.e., the adjacent roadways and a small portion of the High Line) because of the highly developed nature of the surrounding area. Information about threatened, endangered, or special concern species and significant natural communities was obtained from the area within 0.5 miles of the Development Site. The study area for aquatic resources and wetlands comprises the lower Hudson River, with a focus on the area of the Hudson River in the vicinity of the Development Site with the potential to receive stormwater runoff in the With Action condition (see **Figure 9-1**).

EXISTING CONDITIONS

The following data sources were used to identify the existing conditions for floodplains, wetlands, groundwater, terrestrial and aquatic resources, and protected species:

- New York State Department of Environmental Conservation (DEC) Environmental Resource (ERM) and Environmental Assessment Form (EAF) mappers;



- Federal Emergency Management Agency (FEMA) preliminary Flood Insurance Rate Maps (FIRMs), published January 2015;
- United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) mapper;
- New York State (NYS) 2000–2005 and ongoing 2020–2024 Breeding Bird Atlas (BBA) and 1990–1999 Amphibian and Reptile (Herp) Atlas Project results;
- USFWS Information for Planning and Consultation (IPaC) System list of federally endangered, threatened, proposed, and candidate species;
- National Oceanic and Atmospheric Administration (NOAA Fisheries) Greater Atlantic Region Endangered Species Act (ESA) Section 7, and Essential Fish Habitat (EFH) mappers;
- New York City Department of Environmental Protection (DEP) Harbor Water Quality Survey data; and
- Additional information cited from scientific literature.

THE FUTURE WITHOUT THE PROPOSED ACTIONS

As described in Chapter 1, “Project Description,” in the No Action condition, it is assumed that the Development Site would be developed with 4.5 million zoning square feet (5,009,725 gross square feet) of residential, commercial, and community facility space by the 2030 build year (see Figure 1-9 in Chapter 1, “Project Description”). Site B would be developed with a primarily residential tower building with space for a local cultural institution, ground floor retail, a public school, a daycare center, and a parking garage. Site C-1 would be developed with an office tower with retail space and a parking garage, and Site C-2 would be developed with a residential tower building. Site A would not be developed by the 2030 build year. The grade of West 33rd Street would not be altered in the No Action condition. In addition, approximately 4.31 acres of publicly accessible open space would be developed on the Development Site under the No Action condition. Development under the No Action condition would require the construction of a platform over approximately two-thirds of the Development Site to enclose the railyard.

THE FUTURE WITH THE PROPOSED ACTIONS

Proposed Project

As described in Chapter 1, “Project Description,” in the With Action condition, the Proposed Actions would facilitate the development of the Development Site with new mixed use buildings containing residential, commercial, and community facility space, a hotel resort with new public open space (the “Proposed Project”). Site A would be developed with a residential tower building (Building A) with ground floor retail space on Site A. Site B would be developed with a tower building (Building B) with office space, a local cultural institution, ground floor retail, a daycare center, and a public school. Site C would be developed with a hotel resort with gaming, with a tower rising above a 5-story (up to 200-foot-tall) podium. To facilitate the Proposed Project, the grade of West 33rd Street would be adjusted to align with the approximate grade of Eleventh Avenue and enhance public access to the development. There would be 5.63 acres of publicly accessible open space on the Development Site in the With Action condition. As described in Chapter 5, “Open Space,” this would include approximately 4.58 acres of

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new open space and the 1.05 acres of existing open space on-site that is part of the High Line. The new public open space would introduce 0.4 acres of active space (anticipated to potentially include a playground and sport courts) and 4.18 acres of passive space (including landscaping, seating, lawns, and walkways). As with the No Action condition, the With Action condition would require the construction of a platform over approximately two-thirds of the Development Site to enclose the railyard, and the new open space to be created on the Development Site in the No Action condition and With Action condition would be atop this platform.

Compared to the No Action condition, the With Action condition would include the development of Site A with a primarily residential tower building, change the size and primary use of the building at Site B (from primarily residential, to primarily office), and change the size and development of Site C from residential and office uses to a hotel resort with gaming facility. In addition, the With Action condition would change the grade of West 33rd Street to align with the development at Site C. The With Action condition includes 1.32 acres of additional new open space to be created on the Development Site when compared to the No Action condition.

Alternative Scenario

As described in Chapter 1, “Project Description,” in the Alternative Scenario, the Proposed Actions would facilitate the same development as the Proposed Project on Site A and Site B, the same amount (5.63 acres) of publicly accessible open space, and would also require the construction of a platform over two-thirds of the railyard. However, in comparison to the Proposed Project, on Site C the Alternative Scenario would facilitate the development of three adjacent office and residential buildings (i.e., Building C-1, Building C-2, and Building C-3) and a parking garage, rather than a gaming facility and hotel resort complex. Building C-1 would contain an office tower on a podium with commercial amenities and ground floor retail. Building C-2 and Building C-3 would share a podium and each building would be a residential tower with ground floor retail space and below-grade LIRR infrastructure space.

The primary differences between the No Action condition and the Alternative Scenario are the development of Site A with a residential building, the inclusion of more open space, and a grade change along West 33rd street to enhance public access to the Development Site.

This analysis considers both the Proposed Project and the Alternative Scenario.

FEDERAL REGULATIONS

- ***Migratory Bird Treaty Act (50 CFR 10, 20, 21, EO 13186)***: The Migratory Bird Treaty Act (MBTA) of 1918 was implemented following the 1916 convention between the U.S. and Great Britain (on behalf of Canada) for the protection of birds migrating between the U.S. and Canada. Subsequent amendments implemented treaties between the U.S. and Mexico, Japan, and the former Soviet Union. The MBTA makes it unlawful to pursue, hunt, take, capture, kill, or sell birds listed therein. Over 800 species are currently protected under the Act. The statute applies equally to both live and dead birds, and grants full protection to any bird parts, including feathers, eggs, and nests.

- ***Magnuson-Stevens Fishery Conservation and Management Act (16 USC §§ 1801 et seq.)***: Section 305(b)(2)-(4) of the Magnuson-Stevens Fishery Conservation and Management Act outlines the process for NOAA Fisheries' National Marine Fisheries Service and the Regional Fishery Management Councils (in this case, the Mid-Atlantic Fishery Management Council) to comment on activities proposed by federal agencies (issuing permits or funding projects) that may adversely impact areas designated as EFH. EFH is defined as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (16 USC §1802[10]). Adverse impacts on EFH, as defined in 50 CFR 600.910(A), include any impact that reduces the quality and/or quantity of EFH. Adverse impacts may include direct impacts, such as physical disruption or the release of contaminants; indirect impacts, such as the loss of prey or reduction in the fecundity (number of offspring produced) of a managed species; and site-specific or habitat-wide impacts that may include individual, cumulative, or synergetic consequences of a federal action. Discharges associated with the Proposed Actions have the potential to impact EFH; therefore, potential effects of the Proposed Actions on EFH are assessed.
- ***Clean Water Act (33 USC §§ 1251 – 1387)***: The objective of the Clean Water Act (CWA) is to restore and maintain the chemical, physical, and biological integrity of the waters of the United States. It regulates point sources of water pollution, such as discharges of municipal sewage, industrial wastewater, and stormwater runoff; the discharge of dredged or fill material into navigable waters and other waters; and non-point source pollution (e.g., runoff from streets, construction sites) that enter water bodies from sources other than through an outfall or other outlet. Applicants for discharges to navigable waters in New York must obtain a Section 401 Water Quality Certificate from DEC. Section 404 of the CWA regulates the discharge of dredged or fill material into waters of the United States, including to regulated wetlands.
- ***Endangered Species Act of 1973 (16 USC §§ 1531 to 1544)***: The Endangered Species Act (ESA) recognizes that endangered species of wildlife and plants are of aesthetic, ecological, educational, historical, recreational, and scientific value to the nation and its people. The ESA provides for the protection of critical habitats on which endangered or threatened species depend for survival. The ESA also prohibits the importation, exportation, taking, possession, and other activities involving illegally taken species covered under the ESA, and interstate or foreign commercial activities.

NEW YORK STATE REGULATIONS

- ***State Pollutant Discharge Elimination System (ECL Article 3, Title 3; Article 15; Article 17, Titles 3, 5, 7, 8; Article 21; Article 70; Title 1; Article 71, Title 19; Implementing Regulations 6 NYCRR Articles 2, 3)***: Title 8 of Article 17, Environmental Conservation Law (ECL), Water Pollution Control, authorized the creation of the State Pollutant Discharge Elimination System (SPDES) to regulate discharges to New York State's waters pursuant to a delegation by the United States Environmental Protection Agency (EPA) to New York State of permitting authority pursuant to the CWA. Activities requiring a SPDES permit include point source discharges of wastewater into surface or groundwater of the state, constructing or operating a disposal system (sewage treatment plant), discharge of stormwater, and construction activities that disturb one or more acres.

NEW YORK CITY REGULATIONS

- **New York City Local Law 3 (NYCRR Chapter 5):** Local Law 3 of 2010 amended Section 18-107 of the Administrative Code of the City of New York and codifies the New York City Department of Parks and Recreation's (NYC Parks) authority to regulate the replacement of trees on or within jurisdiction of NYC Parks, which includes all trees growing in the public right-of-way and on land mapped as City parkland. The law requires permits from NYC Parks for the removal of trees within NYC Parks jurisdiction and requires replacement of trees that are removed. The law protects against the unauthorized removal, destruction, irreparable damage, and injury to trees under the jurisdiction of NYC Parks.
- **New York City Local Law 15 (INT. NO. 1482-B):** Local Law 15 of 2020 amended Section 28-101.4.3 of the Administrative Code of the City of New York to require all new construction and renovation projects (where glazing is to be replaced) to use bird-friendly materials. Local Law 15 also amends Section 1402.1 of the New York City Building Code by adding bird-friendly building design and construction requirements. The law applies to all projects filed on or after January 10, 2021.

C. EXISTING CONDITIONS

FLOODPLAINS

Figure 9-2 presents the floodplain boundaries for the Development Site according to the FEMA preliminary FIRMs for New York City released in January 2015. The Development Site is mostly within the 1 percent annual chance floodplain in Zone AE with BFE of +11 feet and +12 feet North American Vertical Datum of 1988 (NAVD88). Small portions of the Development Site along West 33rd Street and West 30th Street fall within the 0.2 percent annual chance floodplain. The Limit of Moderate Wave Action marks the inland limit of the Coastal A Zone (which includes part of Zone AE) in which wave heights can be between 1.5 and 3 feet high, is parallel to the western border of the Development Site along the median between New York State Route 9A and Twelfth Avenue, outside the Development Site. The Hudson River shoreline near the Development Site is bulkheaded.

WETLANDS

Based on the USFWS NWI maps (see **Figure 9-3**) and DEC tidal and freshwater maps (see **Figure 9-4**), there are no DEC-classified surface waters, no DEC-regulated freshwater wetlands, and no NWI mapped wetlands within the Development Site.

The NWI maps the lower Hudson River within the aquatic study area as subtidal estuarine wetland habitat with an unconsolidated bottom (E1UBL). DEC generally maps the lower Hudson River as littoral zone tidal wetlands (LZ), which are defined as permanently flooded lands under waters less than or equal to 6 feet of tidal waters at mean low water (MLW) that are not included in another tidal wetland category, except for the portion of the river adjacent to the Development Site (see **Figure 9-3**).



- Study Area
- 1% Annual Chance of Flooding
- 0.2% Annual Chance of Flooding
- Limit of Moderate Wave Action

0 400 FEET





GROUNDWATER

As described in Chapter 10, “Hazardous Materials,” groundwater and soil contamination within the Development Site would be expected at levels consistent with the presence of historic urban fill. There are no EPA-designated Sole Source Aquifers or New York State-designed Principal or Primary Aquifers within the study area. Groundwater in New York City is not a source of drinking water. New York City’s drinking water is supplied through a system of upstate reservoirs. Groundwater levels west of Eleventh Avenue are 5 to 7 feet below ground surface and vary by approximately 4 feet with the tidal cycle of the Hudson River. Groundwater within the study area is expected to flow towards the Hudson River. Actual groundwater depth and flow direction within the study area may be influenced by other factors, such as subway lines, underground utilities, and building basements.

TERRESTRIAL RESOURCES

ECOLOGICAL COMMUNITIES

The ecological communities present within the Development Site are best described by Edinger et al. (2014) as terrestrial cultural communities, defined as “communities that are either created or maintained by human activities, or are modified by human influence to such a degree that the physical conformations of the substrate (e.g., soil, bedrock, etc.), or the biological composition of the resident community is substantially different from the character of the substrate or community as it existed prior to human influence.” Terrestrial cultural communities within the study area include the paved road/path,¹ urban structure exterior,² railroad,³ and flower/herb garden⁴ communities (Edinger et al. 2014). The paved road/path community includes the sidewalks and surrounding streets within the study area (e.g., West 30th Street, West 33rd Street, Eleventh Avenue, and Twelfth Avenue). The railroad community comprises the existing railyards within the Development Site. The urban structure exterior community comprises the existing commercial buildings within the Development Site. These communities are unvegetated and provide limited ecological value. The flower/herb garden community consists of planted gardens found along the High Line, an elevated linear park built on a former railroad trestle which cuts through the Development Site and extends eastward beyond the Development Site boundaries. Vegetation found within the flower/herb garden

¹ Edinger et al. 2014 defines the paved road/path community as “a road or pathway that is paved with asphalt, concrete, brick, stone, etc. There may be sparse vegetation rooted in cracks in the paved surface.”

² Edinger et al. 2014 defines the urban structure exterior community as “the exterior surfaces of metal, wood, or concrete structures (such as commercial buildings, apartment buildings, houses, bridges) or any structural surface composed of inorganic materials (glass, plastics, etc.) in an urban or densely populated suburban area.”

³ Edinger et al. 2014 defines the railroad community as “a permanent road having a line of steel tracks fixed to wood ties and laid on a gravel roadbed that provides a track for cars or equipment drawn by locomotives or propelled by self-contained motors.”

⁴ Edinger et al. 2014 defines the flower/herb garden community as “residential, commercial, or horticultural land cultivated for the production of ornamental herbs and shrubs. This community includes gardens cultivated for the production of culinary herbs.”

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communities consists of trees, shrubs, wildflowers, and grasses that are generally selected for their vigor and benefit to wildlife, particularly pollinators.

WILDLIFE

Wildlife habitat within the study area is limited to areas influenced by human disturbance and small vegetated areas (i.e., the High Line). These habitats provide limited value to wildlife. The Development Site is situated in a developed landscape and is comprised of buildings, railyards, and asphalt, with extremely limited vegetative cover. The planted gardens present along the High Line may provide habitat for some wildlife species, primarily pollinators; as such, only the most urban-adapted, habitat generalist species which tolerate high levels of habitat degradation and human activity have the potential to occur within the study area.

Birds

The New York State BBA is a periodic census of the distribution of breeding birds across New York State. The most recently completed census was conducted from 2000 to 2005, which documented eight bird species as confirmed, possible, or probable breeders in Block 5751D, which contains the Development Site. The ongoing 2020–2024 census listed 11 bird species as confirmed, probable, or possible breeders within the Weehawken SE Block containing the Development Site. **Table 9-1** lists the species identified in both censuses as of February 7, 2024. The survey blocks, which are significantly larger than the Development Site, comprise diverse habitat types and contain larger, less disturbed areas with sufficient habitat to support these species (e.g., city parks and greenways, vegetated wetlands, and the Hudson River). In contrast, the Development Site contains habitat that is suitable only for urban-adapted, disturbance-tolerant, and generally non-native bird species. Bird species considered most likely to use the limited habitat available within the Development Site for breeding purposes include European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*) and rock dove (*Columba livia*).

Mammals

The Development Site contains limited habitat for mammals. Only the most urban-adapted, disturbance-tolerant mammal species have the potential to use the habitat available within the Development Site. These species include Norway rat (*Rattus norvegicus*), gray squirrel (*Sciurus carolinensis*), feral cat (*Felis catus*), and common raccoon (*Procyon lotor*).

Reptiles and Amphibians

The New York State Herp Atlas Project was a state-wide survey conducted from 1990 to 1990 to document the geographic distribution of New York's reptile and amphibian species. The Herp Atlas did not record any reptile and amphibian species within the Weehawken USGS Quadrangle, which contains the Development Site. The Development Site lacks suitable habitat for reptiles and amphibians. Therefore, reptiles and amphibians do not have the potential to occur within the Development Site.

Table 9-1

Birds Documented during the NYS 2000–2005 Second Breeding Bird Atlas (Block 5751D) and NYS Third Breeding Bird Atlas (Weehawken SE Block)

Common Name	Scientific Name	2000–2005	2020–2024
Canada goose	<i>Branta canadensis</i>		X
Northern cardinal	<i>Cardinalis cardinalis</i>	X	
House finch	<i>Carpodacus mexicanus</i>	X	
Rock dove	<i>Columba livia</i>	X	X
Fish crow	<i>Corvus ossifragus</i>		X
American kestrel	<i>Falco sparverius</i>	X	
Barn swallow	<i>Hirundo rustica</i>		X
Herring gull	<i>Larus argentatus</i>		X
Northern mockingbird	<i>Mimus polyglottos</i>	X	
House sparrow	<i>Passer domesticus</i>	X	X
European starling	<i>Sturnus vulgaris</i>	X	X
American robin	<i>Turdus migratorius</i>		X
Common grackle	<i>Quiscalus quiscula</i>		X
Mourning dove	<i>Zenaida macroura</i>	X	X
Canada goose	<i>Branta canadensis</i>		X

Notes: The NYS 2020–2024 BBA is ongoing. Available data are uploaded by volunteer citizen scientists and occasionally reviewed by eBird regional reviewers. Survey blocks are roughly 9 square miles and are a subset of the 7.5' United States Geological Survey (USGS) Topo Quad in which the survey block is located (the USGS Topo Quads are broken up into six smaller blocks). The survey blocks from the Third BBA do not correlate directly with the Second BBA survey blocks. As of February 7, 2024, the Weehawken SE Block for the 2020–2024 BBA is considered “incomplete.” Additional species may be included in the species log for the Weehawken SE Block as the 2020–2024 survey progresses. Only birds identified to species and with “confirmed,” “probable,” or “possible” breeding evidence are included in the table.

Bolded species are considered to have the potential to breed within the Development Site.

Sources:
 DEC 2000–2005 Second BBA for Block 5751D. Available from dec.ny.gov/cfm/xtapps/bba (Accessed February 7, 2024).
 DEC 2020–2024 Third BBA for Weehawken SE Block. Available from ebird.org/atlasny (Accessed February 7, 2024).

THREATENED, ENDANGERED, AND SPECIAL CONCERN SPECIES

A review of the USFWS IPaC System for federally listed, endangered, threatened, candidate, or proposed species, and their critical habitat indicated that northern long-eared bat (*Myotis septentrionalis*, federally and state-listed endangered) and monarch butterfly (*Danaus plexippus*, federal candidate for listing) have the potential to occur within the study area. The DEC EAF Mapper identified Atlantic sturgeon (*Acipenser oxyrinchus*, federally and state-listed endangered) and shortnose sturgeon (*Acipenser brevirostrum*, federally and state-listed endangered) as having the potential to occur within the Hudson River in the study area. The NOAA Fisheries ESA Section 7 Mapper identifies the Hudson River within the study area as critical habitat for Atlantic sturgeon. The DEC ERM also identifies yellow bumblebee (*Bombus fervidus*) as having the potential to occur in the study area. The bumblebee is not state or federally listed but is considered “vulnerable” in New York, and because a portion of the High Line, which is known to provide habitat for pollinators, is located on the Development Site the yellow bumblebee is included in this section. These species are described below.

NORTHERN LONG-EARED BAT

The northern long-eared bat is a temperate insectivorous bat. This species hibernates in caves or mines during winter. Outside of the winter hibernation period, northern long-eared bats generally inhabit mature, closed-canopy, deciduous or mixed forests within heavily forested landscapes (Owen et al. 2003; Carter and Feldhamer 2005; Ford et al. 2005), usually within 60 miles of their hibernaculum (Caceres and Barclay 2000, USFWS 2014). The northern long-eared bat is sensitive to urbanization and fragmentation. Although this species may occur in urbanized areas (Whitaker et al. 2004; Johnson et al. 2008) and may occasionally use buildings and other artificial structures rather than trees for roosting (Timpone et al. 2010; USFWS 2015), urban northern long-eared bats tend to occur near large, forested parks and other green spaces with abundant tree cover (Johnson et al. 2008). Trees in highly developed urban areas are generally unsuitable for northern long-eared bat (USFWS 2014). Based on habitat preferences (i.e., mature, undisturbed, unfragmented forests), northern long-eared bat is not considered to have the potential to occur within the study area.

MONARCH BUTTERFLY

The monarch butterfly is identified by USFWS as a candidate species for listing but does not currently have any protection under Section 7 of the ESA. Adult monarch butterflies feed on nectar and rely on open, wildflower-rich meadows, grasslands, and roadsides for foraging habitat (National Park Service [NPS] 2023). The monarch butterfly requires milkweed (*Asclepias* sp.), the larval host plant of this species, to complete its life cycle. Monarch butterflies breed and lay eggs on *Asclepias* milkweed plants, which later provide a critical food source for larval development (USFWS 2024). The portion of the High Line that is located on the Development Site and extends through the surrounding study area contains vegetation and flowering plants, including milkweed, that may provide suitable foraging and breeding habitat for monarch butterflies.

YELLOW BUMBLEBEE

Yellow bumblebees are generalist foragers which nest both above and below ground (Colla et al. 2011). This species often uses long grass and haystacks for aboveground nesting habitat and abandoned underground rodent nests for belowground nesting habitat. Suitable overwintering sites for yellow bumblebees include rotting logs, mulch, and loose soil (Schweitzer et al. 2012). Foraging habitat for yellow bumblebees includes vegetated environments with abundant wildflower species, preferably with high species richness and overlapping bloom periods to ensure nectar availability throughout the growing season (Schweitzer et al. 2012). Select food plants for yellow bumblebee include vetches, clovers, honeysuckles, thistles, bee balms, *Penstemon*, and *Lythrum* species (Colla et al. 2011). The portion of the High Line that is located on the Development Site and extends through the surrounding study area contains vegetation and flowering plants that may provide suitable foraging habitat for yellow bumblebee.

ATLANTIC STURGEON

Critical habitat for Atlantic sturgeon has been designated for the length of the tidal Hudson River from lower Manhattan to the Federal Dam at Troy. The waters of the study area are within the critical habitat boundaries. According to the NOAA Fisheries Section 7 Mapper,

juvenile, subadult, and adult Atlantic sturgeon have the potential to be present in the lower Hudson River in the study area for migration and foraging behaviors. The Atlantic sturgeon is an anadromous (migrating from salt water to spawn in fresh water) bottom-feeding fish. In the Hudson River, adult Atlantic sturgeon migrate from the ocean to the Hudson River to spawn from late April to early July (Smith 1985, Stegemann 1999). After spawning, female sturgeon migrate back to the ocean, while male sturgeon remain in the river until October or November. Any Atlantic sturgeon that occur in the lower Hudson River would be migratory individuals and would likely remain in the deeper waters of the navigation channel.

SHORTNOSE STURGEON

According to the NOAA Fisheries Section 7 Mapper, juvenile and adult shortnose sturgeon have the potential to be present in the lower Hudson River in the study area for migration and foraging behaviors. Juvenile shortnose sturgeon may also overwinter in the lower Hudson River.

The shortnose sturgeon is an anadromous bottom-feeding fish which inhabits the Hudson River from lower Manhattan to the Federal Dam at Troy. Shortnose sturgeon may occasionally occur in areas of the lower Hudson River south of the George Washington Bridge, however, spawning, nursery, and overwintering areas are located well upstream of the study area (Bain 1997). Although larvae can be found in brackish zones, juveniles (fish ranging from two to eight years old) are predominately confined to freshwater reaches above the salt front, far upriver from the study area. Long-term Hudson River monitoring data, collected by the New York Utilities and others since the 1970s, have indicated that shortnose sturgeon inhabit deepwater habitats and are in greatest abundance north of the Tappan Zee Bridge. Shortnose sturgeon typically use the lower Hudson River as a migratory corridor to and from spawning habitats upstream of the study area and prefer deep waters like those in the federal navigation channel well offshore from the Development Site.

AQUATIC RESOURCES

WATER QUALITY

DEC classifies the lower Hudson River in the study area as a Class I saline surface water. Recommended uses for Class I surface waters include secondary contact recreation⁵ and fishing, and water quality should be suitable for fish propagation and survival. The lower Hudson River is included in the 2018 Final Section 303(d) List of Impaired Waters for polychlorinated biphenyls (PCBs) and other toxics, which may include mercury, dioxins/furans, PAHs, pesticides, and heavy metals (DEC 2018). The Draft 2020–2022 Section 303(d) List of Impaired Waters proposes to list the lower Hudson River as impaired for site-specific enterococci, and to delist it for PCBs and other toxics (DEC 2022).

The study area is within the Inner Harbor study area for the DEP Harbor Survey monitoring program. As in the rest of the Harbor, water quality within the Inner Harbor

⁵ “Secondary contact recreation” means recreational activities where the probability of water ingestion is minimal and includes, but is not limited to, boating and fishing.

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has improved since the 1970s because of measures undertaken by New York City (e.g., improvements to wastewater treatment plants and increased capture of stormwater runoff) (DEP 2013). Recent water quality data collected year-round (2012–2022) from DEP Harbor Survey Station N4 are presented in **Table 9-2** to characterize existing water quality conditions in the lower Hudson River. Station N4 is in the Hudson River approximately 0.6 miles upstream from the Development Site.

Table 9-2
DEP Water Quality Data for Sampling Station N4 (2011–2021)

Parameter [Use Class I Standard]	Surface Waters			Bottom Waters		
	Min	Max	Avg	Min	Max	Avg
Temperature (°F) [No standard]	32.5	85.0	66.7	34.6	78.7	64.7
Salinity (psu) [No standard]	2.3	26.1	14.3	13.7	27.6	23.0
Dissolved oxygen (mg/L) [Never less than 4 mg/L]	3.5	14.5	7.1	3.1	12.4	5.9
Fecal coliform (cells/100 mL) [Monthly geometric mean no more than 200 cells/100mL from 5 or more samples] ⁽¹⁾	2	4,000	179.4	-	-	-
Enterococcus (colony forming units (cfu)/100mL) [EPA Standard = 35 cfu/100mL] ⁽²⁾	1	790	24.5	-	-	-
Secchi transparency (ft) [No standard]	0.5	4	2.3	-	-	-
Total suspended solids (mg/L) [None from wastes that impair usage]	0.3	63.9	5.5	-	-	-
Notes: ⁽¹⁾ Compliance with the fecal coliform and enterococcus standards is based on a monthly geometric mean comprising at least 5 measurements, for which data are not available to calculate, and are not calculated on the basis of the maximum values presented here for each parameter. ⁽²⁾ DEC does not identify a standard for enterococcus; however, EPA provides a standard for bathing of 35 cfu/100mL. Sources: DEP Harbor Survey Water Quality Data 2012–2022; 6 NYCRR Part 703 Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations; EPA Recreational Water Quality Criteria (Office of Water 820-F-12-058)						

Between 2012 and 2022, surface water temperatures ranged from about 32°F to 85°F with an average of 66°F at Station N4. Salinity ranged from 2 to 26 psu with an average of about 15 psu at the surface, and from 14 to 28 psu with an average of 23 psu in bottom waters. Average dissolved oxygen levels averaged around 7 mg/L in surface and bottom waters. Dissolved oxygen fell below the standard in two samples in surface waters and 14 samples in bottom waters over the 10-year period. Average fecal coliform and enterococcus levels are comparable to those found in other open waters of the Harbor, and neither fecal coliform nor enterococcus levels have exceeded the standards at any of the DEP Harbor Survey monitoring sites in recent years (DEP 2021).

AQUATIC BIOTA

The lower Hudson River supports a diverse and productive aquatic community of finfish, invertebrates, and plankton species. Both catadromous (species which migrate from freshwater and spawn in the open sea) and anadromous fish species use the lower

Hudson River for spawning, nursery, migratory, and foraging habitat. The World Fish Migration Lower Hudson & Harbor Fish Count, conducted by Columbia University, recorded 47 fish species within the lower Hudson River over the 2015–2023 sampling period. The most numerous species identified during this survey include Atlantic menhaden (*Brevoortia tyrannus*), bay anchovy (*Anchoa mitchilli*), mummichog (*Fundulus heteroclitus*), Atlantic silverside (*Menidia menidia*), striped killifish (*Fundulus majalis*), Atlantic tomcod (*Microgadus tomcod*), Atlantic herring (*Clupea harengus*), fourspine stickleback (*Apeltes quadracus*), striped bass (*Morone saxatilis*), and winter flounder (*Pseudopleuronectes americanus*) (Columbia Climate School Lamont-Doherty Earth Observatory 2015–2023).

Major benthic invertebrate groups in the New York-New Jersey Harbor Estuary, which includes the lower Hudson River, include aquatic earthworms (oligochaetes), segmented worms (polychaetes), snails (gastropods), bivalves, barnacles, cumaceans, amphipods, isopods, crabs, and shrimp (EEA, Inc. 1988, EA Engineering, Science, and Technology 1990, Coastal Environmental Services 1987, PBS&J 1998). Benthic invertebrates documented in the lower Hudson River during a 2017 species richness study include ragworms (*Hediste diversicolor*), chain tunicates (*Botrylloides violaceus*), mussels (*Mytilus* sp.), barnacles (*Amphibalanus* sp.), eastern mud snails (*Trinta obsoleta*), mud tube worms (*Streblospio benedicti*), slipper snails (*Crepidula plana*), and oyster drills (*Urosalpinx cinerea*) (Carter and Rosin 2017). The zooplankton community within the lower Hudson River includes *Tintinnopsis* spp. and nauplius of copepods, and the phytoplankton community includes diatoms, dinoflagellates, and green algae (DEP 2007, Brosnan and O'Shea 1995). The most common benthic macroalgae, or large multicellular algae, present in the study area includes sea lettuce (*Ulva* sp.), green fleece (*Codium fragile*), and brown algae (*Fucus* sp.) (PBS&J 1998). Limited light penetration, extensively developed shorelines, and fast-moving currents in the lower Hudson River limit the growth of submerged aquatic vegetation (SAV) in the study area (Olson et al. 1996).

ESSENTIAL FISH HABITAT

NOAA Fisheries defines EFH as waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. **Table 9-3** lists the species and life stages of fish NOAA Fisheries has identified as having EFH in the portion of the Hudson River in the study area.

Table 9-3

Essential Fish Habitat Designated Species in the Study Area

Species		Life Stage			
Common Name	Scientific Name	Eggs	Larvae	Juveniles	Adults
Atlantic butterfish	<i>Peprilus triacanthus</i>		X		
Atlantic herring	<i>Clupea harengus</i>		X	X	X
Bluefish	<i>Pomatomus saltatrix</i>			X	X
Clearnose skate	<i>Raja eglanteria</i>			X	X
Little skate	<i>Leucoraja erinacea</i>			X	X
Longfin inshore squid	<i>Doryteuthis pealeii</i>	X			
Red hake	<i>Urophycis chuss</i>	X	X	X	X
Summer flounder	<i>Paralichthys dentatus</i>		X	X	X
Windowpane flounder	<i>Scophthalmus aquosus</i>	X	X	X	X
Winter flounder	<i>Pseudopleuronectes americanus</i>	X	X	X	X
Winter skate	<i>Leucoraja ocellata</i>			X	X
Source: NOAA Fisheries EFH Mapper. Accessed on February 8, 2024. Available at habitat.noaa.gov/protection/efh/habitatmapper.html .					

SIGNIFICANT COASTAL FISH AND WILDLIFE HABITAT

The New York State Department of State (NYSDOS) has designated 15 Significant Coastal Fish and Wildlife Habitats (SCFWH) within New York City. The Lower Hudson Reach SCFWH comprises the 19-mile stretch of the Hudson River extending from Battery Park north to Yonkers, which includes the study area. The Lower Hudson Reach SCFWH includes areas of deepwater habitat, shallow habitat, piers, and interpier basins. NYSDOS designated the Lower Hudson Reach as a SCFWH in part because it provides an important wintering habitat for young-of-year, yearling, and older striped bass. In addition, the Lower Hudson Reach is one of the few large tidal river mouth habitats in the northeastern U.S. and is part of the greater Hudson River Estuary system, which supports a diverse and historically highly productive ecosystem of fish and invertebrate species (Briggs and Waldman 2002, NYSDOS 1992). The Lower Hudson Reach provides important habitat for larval, juvenile, and adult striped bass, yearling winter flounder, juvenile bluefish (*Pomatomus saltatrix*) and weakfish (*Cynoscion regalis*), and adult Atlantic sturgeon and shortnose sturgeon. Surveys have also identified significant populations of summer flounder (*Paralichthys dentatus*), white perch (*Morone americana*), Atlantic tomcod, Atlantic silversides, bay anchovy, American shad (*Alosa sapidissima*), blue crab (*Callinectes sapidus*), and American eel (*Anguilla rostrata*) within the Lower Hudson Reach (NYSDOS 1992). Plankton surveys within the Lower Hudson Reach have identified substantial numbers of essential planktonic prey species, including copepods (Copepoda), rotifers (Rotifera), mysid shrimp (*Mysis* sp.), nematodes (Nematoda), oligochaetes (Oligochaeta), polychaetes (Polychaeta), and amphipods (Amphipoda) (NYSDOS 1992). The Lower Hudson Reach provides overwintering habitat for a diverse number of waterfowl species, including canvasbacks (*Aythya valisineria*), scaup (*Aythya marila*), mergansers (*Mergus* sp.), mallards (*Anas platyrhynchos*), and Canada geese (*Branta canadensis*) (NYSDOS 1992).

D. THE FUTURE WITHOUT THE PROPOSED ACTIONS

As described above and in Chapter 1, “Project Description,” it is assumed that Site B, Site C-1, and Site C-2 on the Development Site will be developed in the No Action condition, while Site A will not be developed by the 2030 build year. It is anticipated that there will be approximately 4.31 acres of new publicly accessible open space created on the Development Site in the No Action condition. In the No Action condition, the Development Site would contain approximately 4.31 acres of publicly accessible open space, including approximately 3.26 acres of new open space to be created as part of the No Action development and 1.05 acres of existing open space (on-site portion the High Line). As shown in Table 5-4 of Chapter 5, “Open Space,” the new publicly accessible open space will contain approximately 3.03 acres of passive space. As shown in Figure 5-3, the publicly accessible open space will be located primarily at the center of the Development Site, spanning the width of the site from Eleventh Avenue to Twelfth Avenue. There will also be open space in the southwestern corner of the site and a narrow strip leading to West 33rd Street. It is currently contemplated that the open space will contain a playground, walking paths, landscaping, and seating and lawn areas. The new open space will be created atop the platform to be constructed over approximately two-thirds of the Development Site.

FLOODPLAINS

The No Action condition will occur within the 1 percent annual chance floodplain, which is affected by tidal flooding. Coastal floodplains are influenced by astronomical tide and meteorological forces (e.g., northeasters and hurricanes) and not by fluvial flooding (e.g., streams overflowing their banks) (FEMA 2013). Therefore, unlike a riverine floodplain, the coastal floodplain within the Development Site will not be functionally altered or otherwise affected by additional structures. It is anticipated that all development on the Development Site platform with the No Action condition will be elevated above the BFE, including all critical life-safety equipment; mechanical, electrical, and plumbing (MEP) equipment as required under Appendix G of the New York City Building Code.

WETLANDS

As described in Chapter 11, “Water and Sewer Infrastructure,” to accommodate development in the Development Site, an Amended Drainage Plan (ADP) was developed by DEP that identifies improvements to the existing storm and combined sewer system infrastructure that are necessary to accommodate the full build out of the Hudson Yards area. The ADP identifies replacement of the existing combined sewer in West 33rd Street, on the north side of the Development Site, with a separate storm sewer and sanitary sewer. The new storm sewer along West 33rd Street will divert existing stormwater runoff from the combined sewer system. DEP designed the sewers proposed in the ADP to be adequate to handle the flows that will be discharged from the Development Site as well as the adjacent Hudson Yards area. In the No Action condition, it is assumed that this sewer improvement will be completed to serve the development on the Development Site, as required by the ADP. Other changes to the water supply and sewer infrastructure serving the Development Site will be made in the No Action condition to maintain service to the LIRR facilities that will be located underneath the platform, and after the platform is fully built, the existing storm sewers on the LIRR facilities will be diverted to the sanitary

Western Rail Yard Modifications

sewer system within the study area, and the existing track-level catch basins will act as floor drains. This will result in a minimal increase in stormwater flows to the sanitary sewer discharging to the combined sewer on West 30th Street, and ultimately the North River WRRF.

GROUNDWATER

Although below-grade structures will result in highly localized modification of groundwater flow patterns, groundwater will be expected to continue flowing toward the Hudson River around these structures.

TERRESTRIAL RESOURCES

ECOLOGICAL COMMUNITIES

Under the No Action condition, the flower/herb garden ecological communities, vegetation, and wildlife habitat within the High Line will be unchanged from the existing condition. The No Action scenario assumes the development of mixed-use towers on Site B and Site C by 2031. These large-scale buildings will cast shadows on the portion of the High Line that extends through the Development Site. The final design for the portion of the High Line that extends through the Development Site is still in development. NYC Parks will determine the specific program and design in consideration of the context of the resource in an area with multiple tall, large-scale buildings. Landscaping present within the Development Site, including planted trees, will enhance the ecological communities within the Development Site when compared to the existing conditions. The open space will include native understory plantings, shrubs, and ground covers that work in concert with larger shade trees to create a more robust and diverse natural environment.

WILDLIFE

Most bird collisions with buildings occur near ground level and during the daytime, because the glass reflects images of vegetation or sky that birds cannot distinguish from the real thing. Nighttime collisions with tall buildings are relatively uncommon.^{6,7,8,9} The new buildings to be constructed on the Development Site in the No Action condition will be expected to comply with New York City building code requirements for the use of bird-friendly materials, and as such, will not increase the potential for daytime bird collisions. Under the No Action condition, the flower/herb garden ecological communities within the

⁶ Gelb, Y., and N. Delacretaz. 2006. Avian window strike mortality at an urban office building. *Kingbird* 56:190-198.

⁷ Gelb, Y., and N. Delacretaz. 2009. Windows and vegetation: primary factors in Manhattan bird collisions. *Northeastern Naturalist* 16:455-470.

⁸ Klem, D. Jr., C. J. Farmer, N. Delacretaz, Y. Gelb and P.G. Saenger. 2009. Architectural and landscape risk factors associated with bird-glass collisions in an urban environment. *Wilson Journal of Ornithology* 121: 126-134.

⁹ Loss S.R., T. Will, S.S. Loss, and P.P. Marra. 2014. Bird-building collisions in the United States: Estimates of annual mortality and species vulnerability. *Condor* 116:8-23.

High Line will not be affected and the landscaping planted within the Development Site will enhance habitat for wildlife.

THREATENED, ENDANGERED, AND SPECIAL CONCERN SPECIES

The No Action condition will not affect the flower/herb garden community on the High Line that provides habitat for pollinators. Under the No Action condition, the habitats available in the Hudson River used by Atlantic and shortnose sturgeon are expected to be similar to those available under the existing conditions.

AQUATIC RESOURCES

Under the No Action condition, discharges to the Hudson River from the North River WRRF will continue to be within the SPDES permit limits and water quality of the Hudson River will be similar to the existing conditions. Stormwater runoff will be primarily detained on-site for reuse. Any overflow of stormwater collected on the platform will be conveyed to storm sewers. Similarly, in areas not covered by the platform (i.e., the southern portion of the Development Site), runoff from the No Action condition will be conveyed to storm sewers for discharge to the Hudson River: this “terra firma” area is planned for improvements to the LIRR facilities under the No Action condition, as described above, which will include a stormwater management system to convey stormwater collected in this area to the existing LIRR storm sewer.¹⁰ As stormwater runoff in this area currently drains into the existing combined sewer system within West 30th Street, this modification will result in a reduction of flows to the combined sewer and an increase in direct stormwater discharge to the Hudson River from the Development Site.

E. THE FUTURE WITH THE PROPOSED ACTIONS

FLOODPLAINS

CONSTRUCTION

Tidal flooding is the primary cause of flood damage in New York City. Construction of the With Action condition (either scenario) would not alter tidal flooding because it would not affect coastal forces, prevailing winds, or tidal flow, and it would not affect the coastal floodplain within the Development Site. The platform would be built at an elevation of +33.66 feet NAVD88. Therefore, all features located at Site C would be above the current 1 percent annual chance floodplain elevation and would remain so through 2100. The building at Site A would be constructed in accordance with Appendix G, “Flood Resistant Construction,” of the New York City Building Code, and designed to resist hydrostatic, hydrodynamic, and other flood-related loads, including the effects of buoyancy. The New

¹⁰ Following the completion of the 2009 FEIS, the Applicant entered into a Restrictive Declaration with New York City, which incorporates commitments associated with the design and construction of the platform and new development on the Development Site. The Restrictive Declaration requires the installation of drainage mechanisms on the southern terra firma portion of the Development Site to convey stormwater to the LIRR storm sewer and outfall. The Restrictive Declaration allows for, but does not require, other portions of the Development Site to be connected to the LIRR sewer, subject to a separate agreement between LIRR and the Applicant.

Western Rail Yard Modifications

York City Panel on Climate Change (NPCC) projects that sea levels are likely to increase by up to 36 inches by 2100 under its “Mid scenario” projection and by up to 75 inches by 2100 under its “High scenario” projection. The ground floor at Building A, containing residential amenities and retail space, would be floodproofed up to a design flood elevation (DFE) of +17 feet NAVD88 and would be protected throughout the useful life of the building under the Mid scenario of sea level rise. The proposed ground floor retail space within the building at Site B would be within the current 1 percent annual chance floodplain but would be floodproofed up to the DFE of +16 feet NAVD88. The proposed sport courts at the southwest corner of the Development Site would be within the current 1 percent annual chance floodplain and would remain above the MHHW elevation through their useful life under the Mid scenario of sea level rise. Therefore, construction of the With Action condition (either scenario) would not have the potential to result in significant adverse impacts to the 1 percent or 0.2 percent annual chance floodplains or result in additional flooding adjacent to the Development Site.

OPERATION

Like the No Action condition, the With Action condition (either scenario) would occur within the 1 percent annual chance floodplain, which is affected by tidal flooding. Coastal floodplains are influenced by astronomical tide and meteorological forces (e.g., northeasters and hurricanes) and not by fluvial flooding (e.g., streams overflowing their banks) (FEMA 2013). Therefore, unlike a riverine floodplain, the coastal floodplain within the Development Site would not be functionally altered or otherwise affected by additional structures on the Development Site, including the development of Site A.

The grade of West 33rd Street would be adjusted in the With Action condition (either scenario) to provide access aligned with the development on Site C, resulting in West 33rd Street being raised above the BFE.

All development on the platform would be elevated above the BFE, including critical life-safety, MEP equipment, and support services for the With Action condition (either scenario), thereby minimizing the potential for these components to be damaged by flooding. The Proposed Project and the Alternative Scenario would be designed to protect commercial, parking, lobby, and other non-critical non-residential spaces up to anticipated design flood levels of 17 feet NAVD88 at Site A and 16 feet NAVD88 at Sites B and C. The Proposed Project and the Alternative Scenario would be resilient to project flood increases under the New York City Panel on Climate Change (NPCC) high-end estimate through the 2080s.

Therefore, the operation of the With Action condition (either scenario) would not have the potential to result in significant adverse impacts to the 1 percent or 0.2 percent annual chance floodplains or result in additional flooding adjacent to the Development Site.

WETLANDS

CONSTRUCTION

The study area does not contain DEC-mapped tidal wetlands or DEC-regulated adjacent area. There are no DEC-mapped tidal wetlands in the vicinity of the outfalls at West 30th Street. The With Action condition (either scenario) would not involve any in-water construction that would affect tidal wetlands. Erosion and sediment control measures

implemented in accordance with the Stormwater Pollution Prevention Plan (SWPPP) prepared under the SPDES General Permit would minimize the discharge of sediment to the lower Hudson River during construction activities. Therefore, construction of the With Action condition would not result in significant adverse impacts to wetlands within the aquatic study area.

OPERATION

As with the No Action condition, stormwater runoff from operation of the With Action condition (either scenario) would not have the potential to adversely affect tidal wetlands as there are no tidal wetlands in the vicinity of the outfall at West 30th Street. As described more fully in Chapter 11, "Water and Sewer Infrastructure," the North River WRRF has capacity to treat all potential sanitary wastewater from either scenario in accordance with its SPDES permit prior to discharging it the lower Hudson River. Therefore, the operation of the With Action condition in either scenario would not result in significant adverse impacts to wetlands in the Hudson River.

GROUNDWATER

CONSTRUCTION

Groundwater recovered during temporary construction dewatering would be treated in accordance with DEP requirements (if discharged to a sanitary or combined sewer) or DEC requirements (if discharged to an outfall leading to surface waters) prior to discharge in the With Action condition.

To avoid exposing construction workers and the public to potential existing groundwater contaminants, demolition, disposal, excavation, dewatering, and other construction activities would be performed in accordance with all applicable federal, state, and local regulations and guidelines. As such, site-specific RAPs and CHASP would be implemented during ground disturbance to protect workers, the public, and the environment from exposure to groundwater contaminants. Therefore, operation of the With Action condition (either scenario) would not result in significant adverse impacts to groundwater.

OPERATION

As described above, groundwater in Manhattan is not used as a source of potable water. Therefore, operation of the With Action condition would not have the potential to affect drinking water supplies.

Like the No Action condition, although the platform foundation supports and the regrading of West 33rd Street would have the potential to modify localized groundwater flow patterns, groundwater would be expected to continue to flow around these structures toward the Hudson River. No parking structures are proposed at Site A, which would be developed in the With Action condition (either scenario). The overall direction of groundwater flow would not be adversely affected by the permanent placement of the platform foundation supports, and these structures would not change the quality or quantity of groundwater. Therefore, construction of the With Action condition (either scenario) would not result in significant adverse impacts to groundwater.

TERRESTRIAL RESOURCES

ECOLOGICAL COMMUNITIES

Construction

As discussed in Chapter 20, "Construction," construction activities within the study area would not remove or alter high quality ecological communities or wildlife habitat. Construction of the With Action condition (either scenario) would not disturb the flower/herb garden community planted within the High Line because all construction activities and staging would occur within the Development Site and Affected Area. Therefore, construction of the With Action condition (either scenario) would not result in significant adverse impacts to wildlife habitat or terrestrial ecological communities.

Operation

Operation of the With Action condition (either scenario) would not adversely affect ecological communities, vegetation, and wildlife habitat within the High Line. As detailed in Chapter 6, "Shadows," the Proposed Actions, like the No Action scenario, would result in shadows on the High Line of substantial extent and duration. These shadows on the High Line are consistent with those anticipated from the development analyzed in the 2009 FEIS; however, the 2009 FEIS accounted for project-generated shadows from the Site 5 development (current Site A), while the current No Action scenario assumes that Site A would not be developed before 2031, resulting in a larger increment of project-generated shadow. The final design for the portion of the High Line that extends through the Development Site is still in development. NYC Parks will consider these shadow effects and the context of the High Line within an area with multiple tall, large-scale buildings when determining its specific program and design.

Further, implementation of a post-construction landscaping plan, including the planting of trees within the Development Site, would enhance ecological communities within the Development Site. While the With Action condition (either scenario) would include the creation of more open space than the No Action condition, the landscaped areas would improve ecological communities within the Development Site compared to existing conditions. As shown in Figures 5-4 and 5-5 of Chapter 5, "Open Space," the new publicly accessible open space on the Development Site would consist of a network of spaces that would vary in character and purpose, including expansive lawns, landscaped areas, walking paths, seating areas, plazas, and a dog run. Extensive landscaping, seating, planting, and other public amenities would be provided throughout the open area. The design of the open space will consider a native plant palette, suited to the particulars of the site and the nuances of its urban context. Native plant material will help to support biodiversity, water efficiency, plant hardiness, improved soil structure and fertility, while also enabling more efficient operations and maintenance. Open space on the Development Site would also be designed with shade tolerant vegetation to account for the anticipated shadows from surrounding new development. Therefore, the With Action condition (either scenario) would not result in significant adverse impacts to terrestrial ecological communities.

WILDLIFE

Construction

As detailed above, wildlife within the Development Site is limited to the most urban-adapted, disturbance-tolerant species. The new development on the Development Site associated with the construction of the With Action condition (either scenario) would likely result in the temporary displacement of wildlife; however, similar habitat would be available in the vicinity of the Development Site and the temporary disturbance of individuals of urban-adapted species would not result in adverse impacts to wildlife. Indirect impacts to wildlife due to construction noise would also be minimal, as urban-adapted species are acclimated to the ambient noises of an urban environment. Therefore, construction of the With Action condition (either scenario) would not result in significant adverse impacts to wildlife.

Operation

Like the No Action condition, the new buildings to be constructed in the With Action condition (either scenario) would comply with New York City building code requirements for the use of bird-friendly materials to avoid bird collisions with the developments within the Development Site. Specifically, the exterior wall envelope and any associated openings would be composed of bird-friendly materials up to 75 feet above grade. Bird-friendly glass is defined as “glass or glazing that has, or has been treated to have, a maximum threat factor of 25 as defined by the Bird Collision Threat Rating Calculation Spreadsheet created by the American Bird Conservatory and adopted as pilot credit SSpc55 by the United States Green Building Council based upon the Council's Leadership in Energy and Environmental Design (LEED) credit system.” Bird-friendly glass types typically have low reflectivity, surface markings like etched or fritted lines, dots, or other markings, or reflect ultraviolet light that birds can see, which enables them to recognize the glass as a solid barrier to avoid. Materials other than bird-friendly materials would not exceed an aggregate of 10 square feet within any 10-foot-by-10-foot square area of exterior wall below 75 feet above grade. Building materials would be designed to be in full compliance with Section 1403.8 of the New York City building code to minimize the potential for bird collisions. Therefore, the With Action condition (either scenario) would not result in significant daytime bird collisions, above what would be expected under the No Action condition, or significant adverse impacts to wildlife.

THREATENED, ENDANGERED, AND SPECIAL CONCERN SPECIES

CONSTRUCTION

Construction activities within the study area would not affect existing flower/herb garden habitat on the High Line; therefore, construction of the With Action condition (either scenario) would not have an adverse impact on the yellow bumblebee or monarch butterfly.

No suitable habitat for northern long-eared bat exists within the study area, and construction of the With Action condition (either scenario) would not result in an adverse impact on this species.

Western Rail Yard Modifications

As described in Chapter 20, “Construction,” neither of the With Action condition scenarios (the Proposed Project and the Alternative Scenario) would result in temporary or permanent installation of structures within the lower Hudson River, and therefore, would not result in disturbance of substrate characteristics or changes in water depth within the lower Hudson River during construction of the With Action Condition. Similarly, construction of the With Action Condition would not generate any new sources of underwater noise, require dredging, or result in a change in vessel traffic or in prey quantity or quality within the lower Hudson River. Stormwater runoff during construction would be managed in accordance with the SWPPP prepared for the project such that the discharge of stormwater during construction of the With Action condition would not result in any permanent impacts to water quality in the lower Hudson River. For these reasons, construction of the With Action condition would not adversely affect Atlantic sturgeon or shortnose sturgeon, or critical habitat for Atlantic sturgeon.

OPERATION

Operation of the With Action condition (either scenario) would not adversely impact the yellow bumblebee or monarch butterfly within the study area because it would not impact the flower/herb garden community on the High Line that provides habitat for pollinators. In addition, post-construction landscaping in the open space areas would have the potential to provide additional habitat for these species.

No suitable habitat for northern long-eared bat exists within the study area, and operation of the With Action condition (either scenario) would not have an adverse impact on this species.

As described in Chapter 11, “Water and Sewer Infrastructure,” post-construction stormwater runoff would be managed in accordance with the SWPPP for the Development Site developed by the Applicant, as required by the Restrictive Declaration, and would not result in any permanent changes to water quality. As with the No Action condition, the With Action condition (either scenario) would result in an increase in rooftop area on the Development Site and the resulting runoff coefficient as compared to the existing condition; however, it would not result in an increase in stormwater runoff to the combined sewer system, as the Development Site would be served by separated sewers. As discussed above, stormwater collected on the platform would be primarily detained on-site for reuse, and any overflow of stormwater collected on the platform would be conveyed to storm sewers, including potentially the existing LIRR private storm sewer serving the Western Rail Yard. In addition, stormwater collected on the small “terra firma” portion of the Development Site not covered by the platform or buildings would be conveyed to the existing LIRR storm sewer.

The incremental increase in sanitary sewage conveyed to the North River WRRF would not be expected to result in an exceedance of the WRRF’s permitted capacity of 170 mgd or adversely affect compliance of the WRRF effluent with its SPDES permit limits. The With Action condition (either scenario) would not result in adverse effects on water quality in the lower Hudson River due to additional discharges from the North River WRRF, and the operation of the With Action condition would have no effect on Atlantic sturgeon or shortnose sturgeon, or critical habitat for Atlantic sturgeon.

AQUATIC RESOURCES

CONSTRUCTION

As discussed in Chapter 20, “Construction,” construction of the With Action condition (either scenario) would not involve construction in, over, or adjacent to the Hudson River.

During construction, stormwater would be discharged to existing outfalls that drain stormwater from the Development Site to the Hudson River, or to the New York City sewer system from which they are directed to municipal wastewater treatment facilities for treatment before discharge to the lower Hudson River. Erosion and sediment control measures implemented in accordance with the SWPPP prepared by the Applicant under the SPDES General Permit would minimize the discharge of materials to the lower Hudson River during landside construction, thereby minimizing the potential for impacts to water quality.

All contaminated material, including soil excavated and removed during construction activities, would be transported offsite for disposal at a licensed facility in accordance with applicable regulatory requirements.

With the implementation of these measures, construction activities occurring from the With Action condition (either scenario) would not result in significant adverse impacts to water quality, aquatic biota, EFH or the Lower Hudson Reach SCFWH.

OPERATION

Although additional discharge of sanitary sewage would occur because of the With Action condition, the incremental increase would not be expected to cause the North River WRRF to exceed its permitted daily flow limit of 170 mgd or adversely affect compliance of the North River WRRF effluent with its SPDES permit limits. As detailed in Chapter 11, “Water and Sewer Infrastructure,” the Proposed Project and the Alternative Scenario would both be required to utilize low-flow plumbing fixtures, which would help to further reduce sanitary flows to the North River WRRF. Stormwater infrastructure would be constructed to support the new structures on the Development Site, and stormwater runoff would be primarily detained on-site for reuse. In areas not covered by the platform, runoff from the With Action condition (either scenario) would be conveyed to storm sewers, diverting runoff from the combined sewer and reducing the likelihood for additional CSOs to the Hudson River. The With Action condition (either scenario) would not result in an increase in stormwater runoff to the combined sewer system, as the Development Site would be served by separated sewers. As discussed above, stormwater collected on the platform would be primarily detained on-site for reuse, and any overflow of stormwater collected on the platform would be conveyed to storm sewers, including potentially the existing LIRR private storm sewer. In addition, stormwater collected on the small “terra firma” portion of the Development Site not covered by the platform or buildings would be conveyed to the existing LIRR storm sewer.

Therefore, operation of the With Action condition (either scenario) would not have an adverse impact on aquatic resources in the lower Hudson River, including water quality, and therefore, would have no significant adverse impact on aquatic biota, EFH, and the Lower Hudson Reach SCFWH. *