9 NATURAL RESOURCES

9.1 Introduction

Per the 2021 *CEQR Technical Manual*, natural resources are defined as the City's biodiversity (plants, wildlife, and other organisms), aquatic or terrestrial habitats that are able to sustain the life processes, and areas that can support ecological systems that maintain the City's environmental stability. Although any aspect of the City's biodiversity may be considered in a CEQR evaluation, species classified as sensitive, vulnerable, rare, of special concern, threatened, endangered or otherwise worthy of protection are given individual consideration.

This chapter examines the potential impacts of the Proposed Actions on terrestrial and aquatic natural resources. It describes:

- Regulatory programs that encompass groundwater, floodplains, wildlife, threatened or endangered species, aquatic resources and/or other natural resources within the Project Area;
- Existing groundwater, floodplains and natural resources within the Project Area, as well as water quality, aquatic and terrestrial biota, and threatened or endangered species and species of special concern;
- Conditions of the groundwater, floodplains, water quality and natural resources under the future without the Proposed Actions (the No-Action Condition); and
- Potential effects of the Proposed Actions on the groundwater, floodplains, water quality, and natural resources (the With-Action Condition).

A natural resources assessment may be appropriate if a natural resource is present on or near the project site and the project would directly or indirectly cause a disturbance of that resource. The Project Area is located along the Bronx River, a natural resource as defined in Chapter 11, Section 100 of the *CEQR Technical Manual*. Further analysis is warranted since the Proposed Actions have the potential to create a significant adverse impact on natural resources.

The Study Area for this report includes the Proposed Rezoning Area and all areas within 400 feet of the outer edge of the Proposed Rezoning Area.

9.2 Principal Conclusions

The Proposed Actions would not result in a significant adverse impact to natural resources. Both the terrestrial and aquatic portions of the development sites are largely developed, with little vegetation and pervious surface present. As such, the Proposed Rezoning Area is not anticipated to serve as habitat for significant populations of wildlife. All new development would occur in-board of the existing waterfront infrastructure and would not increase the footprint of existing disturbance along the Bronx River. No freshwater wetlands are located in the Proposed Rezoning Area, and no state- or federally-listed threatened or endangered species are likely to use the Proposed Rezoning Area as a habitat. The portion of the Bronx River that runs along the Proposed Rezoning Area's eastern edge is tidal and unfavorable to support aquatic vegetation. While the Proposed Development would result in prolonged incremental shading on portions of the Bronx River, with incorporation of the proposed restoration measures discussed below, the Proposed Actions would not result in significant adverse impacts to natural resources as a result of incremental shadows.

The Proposed Actions would introduce new landscaped areas to the terrestrial portion of the Proposed Rezoning Area, expanding the diversity of flora on the development sites and potentially providing new habitat for wildlife. Additionally, the Proposed Development would include several restoration measures to lessen the effects of shading on the Bronx River. The proposed restoration measures would include provision of shade-tolerant tree species and informational signage near the shoreline; provision of funding for marshland vegetation plantings, or other mutually agreed upon measure, to improve fish habitat in the vicinity of the Project Site (in coordination with the New York City Department of Parks and Recreation [NYC Parks]); and pending New York State Department of Environmental Conservation (NYSDEC) approval, installation of sufficiently sized submerged reef balls or similar structures to increase habitat complexity for migratory fish and shellfish. Details of these proposed measures are being developed in coordination with the New York City Department of Environmental Protection (NYCDEP) and NYC Parks and will be finalized before the Final EIS is issued. These commitments would be memorialized in a Restrictive Declaration tied to Projected Development Sites 1 and 2. Therefore, new development in the Proposed Rezoning Area would not have the potential to adversely affect terrestrial or aquatic resources, threatened and endangered species, or wetlands.

9.3 Methodology

Per the *CEQR Technical Manual*, an assessment of natural resources is appropriate if a natural resource exists on or near a development site, and if a proposed action involves disturbance of that resource. A natural resources assessment considers species in the context of the surrounding environment, habitat, or ecosystem, and examines the potential for a proposed action to adversely impact these resources.

Both direct and indirect effects to natural resources are considered when evaluating the need for an assessment. Direct effects are activities that directly alter the condition of a

resource. Indirect effects occur when changes on a site alter conditions to adjacent or nearby resources or on the site after construction has ended.

Regulatory Setting

In addition to regulatory programs, federal, state, and local (New York City) legislation may provide protections for natural resources in the Proposed Rezoning Area and were considered in this analysis. These protections are reviewed below to determine their applicability to the Proposed Rezoning Area, including the Project Site.

Federal

Clean Water Act (33 U.S. Code [USC] §§ 1251-1387)

The objective of the Clean Water Act - also known as the Federal Water Pollution Control Act - is to restore and maintain the chemical, physical, and biological integrity of the waters of the United States. The Clean Water Act 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 enters water bodies from sources other than from outfalls.

Permitting pursuant to Section 404 of the Clean Water Act is administered by the U.S. Army Corps of Engineers (USACE). Pursuant to Section 401 of the Clean Water Act, applicants for discharges to navigable waters in New York State, such as the Bronx River, must also obtain a Water Quality Certification from the New York State Department of Environmental Conservation (NYSDEC).

The applicant will submit an application to USACE for Section 10/404 Nationwide Permit (NWP) Nos. 7 and 13 for the Proposed Actions. The applicant will also submit an application to NYSDEC for tidal wetlands and protection of waters permits, and a Water Quality Certification.

Rivers and Harbors Act of 1899, Section 10

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from the Secretary of the Army - acting through the USACE - to construct a structure in or over a navigable water of the United States; excavate from or deposit material in these waters; or obstruct or alter a navigable water of the United States. The purpose of the Act is to protect navigation and navigable channels. Structures placed in or over navigable waters, such as pilings, piers, or bridge abutments up to the mean high water (MHW) line are regulated by this Act. Permitting pursuant to Section 10 of the Rivers and Harbors Act is administered by the USACE.

As stated above, the applicant will submit an application to USACE for Section 10/404 NWP Nos. 7 and 13 for the Proposed Actions.

Federal Endangered Species Act of 1973 (16 USC §§ 1531-1544)

The federal Endangered Species Act of 1973 (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 protects endangered and threatened species and the critical habitats that these species depend on. The ESA also prohibits the

importation, exportation, taking, possession, and other activities that involve illegally taken species that are covered under the ESA. The Act also regulates interstate or foreign commercial activities involving endangered or threaten species. Permitting for activities regulated under the ESA is administered by the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS).

As discussed later in this chapter, no ESA-regulated species are anticipated to be impacted by the Proposed Actions.

Magnuson-Stevens Act (16 USC §§ 1801 TO 1883)

Section 305(b)(2)-(4) of the Magnuson-Stevens Act outlines the process for the National Marine Fisheries Service (NMFS) and the Regional Fishery Management Councils (in this case, the Mid-Atlantic Fishery Management Council) to comment on actions that are proposed by federal agencies that may adversely impact areas designated as Essential Fish Habitat (EFH). These actions may include the issuance of permits, authorization, or funding for projects.

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 impacts that reduce the quality 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; or
- Site-specific or habitat-wide impacts that may include individual, cumulative, or synergetic consequences of a federal action.

As discussed below, the project is designed to minimize disturbance of water area outside of the current footprint of in-water structures. As such, this project is not anticipated to impact any areas of EFH.

New York State

Freshwater Wetlands Act, Article 24, ECL, Implementing Regulations 6 NYCRR § 662-665

As defined in Article 24 of the Environmental Conservation Law, freshwater wetlands include land and water areas shown on the freshwater wetlands map that support certain categories of aquatic or semi-aquatic vegetation, do not support vegetation that is neither aquatic nor semi-aquatic, are surrounded by lands that reflect the qualities listed above, or are submerged. The NYSDEC administers the Freshwater Wetlands regulatory program and maps the State's freshwater wetlands. A permit is required for various land uses and activities within regulated Freshwater Wetlands or Adjacent Areas, which extend 100 feet from the edge of the wetland, or farther, at the discretion of NYSDEC. Freshwater wetlands smaller than 12.4 acres in size are not regulated by the State unless they are considered to have unusual local importance.

No Freshwater Wetlands are mapped on or in the vicinity of the Study Area.

Tidal Wetlands Act, Article 25, ECL, Implementing Regulations 6 NYCRR § 661

In New York State, tidal wetlands include the Hudson River and the marine shores, bays, inlets, canals, and estuaries of Long Island, New York City, and Westchester County. The NYSDEC administers the Tidal Wetlands regulatory program and maps the State's tidal wetlands. A permit is required for various land uses and activities within regulated Tidal Wetlands and Tidal Wetland Adjacent Areas, which in New York City extend up to 150 feet inland from a Tidal Wetland boundary, with certain exceptions.

One intertidal wetland is located in the Study Area, southeast of the Proposed Rezoning Area and in Starlight Park. This wetland is not anticipated to be impacted as a result of the Proposed Actions. The waterfront structures in the Proposed Rezoning Area are adjacent to the Bronx River's littoral zone; therefore, the Applicant will require a tidal wetlands permit for work relating to the waterfront structures.

Protection of Waters Program, Article 15, Title 5 ECL, Implementing Regulations 6 NYCRR § 608

The NYSDEC administers the Protection of Waters Program to preserve and prevent undesirable impacts to rivers, streams, lakes, ponds, and other surface waters. Through this program, the NYSDEC has established regulations and permitting requirements that are compatible with the preservation, protection, and enhancement of the present and potential values of the water resources. These regulations and permitted requirements also protect the public health and welfare, and are consistent with the reasonable economic and social development of New York State. Under the Protection of Waters Program, all New York State waters are assigned a class and a standard designation based on existing or expected best usage of each water or waterway segment.

It is expected that the applicant will request a Protection of Waters permit from NYSDEC for the Proposed Actions.

State Pollutant Discharge Elimination System (SPDES), (ECL Article 3, Title 3; Article 15; Article 17, Titles 3, 5, 7, and 8; Article 21; Article 70; Article 71, Title 19; Implementing Regulations 6 NYCRR Chapter 10 Article 2)

The NYSDEC administers the State Pollutant Discharge Elimination System (SPDES) to define the State's authority to regulate pollution from wastewater and storm water discharges to the State's waterways and groundwater systems. Activities requiring a SPDES permit include: point source discharges of wastewater into surface or ground waters of the State, including the intake and discharge of water for cooling purposes; construction or operation of a disposal system (sewage treatment plant); discharge of stormwater; and construction activities that disturb one acre or more.

It is expected that the applicant will submit an application for a SPDES permit to NYSDEC for the Proposed Actions.

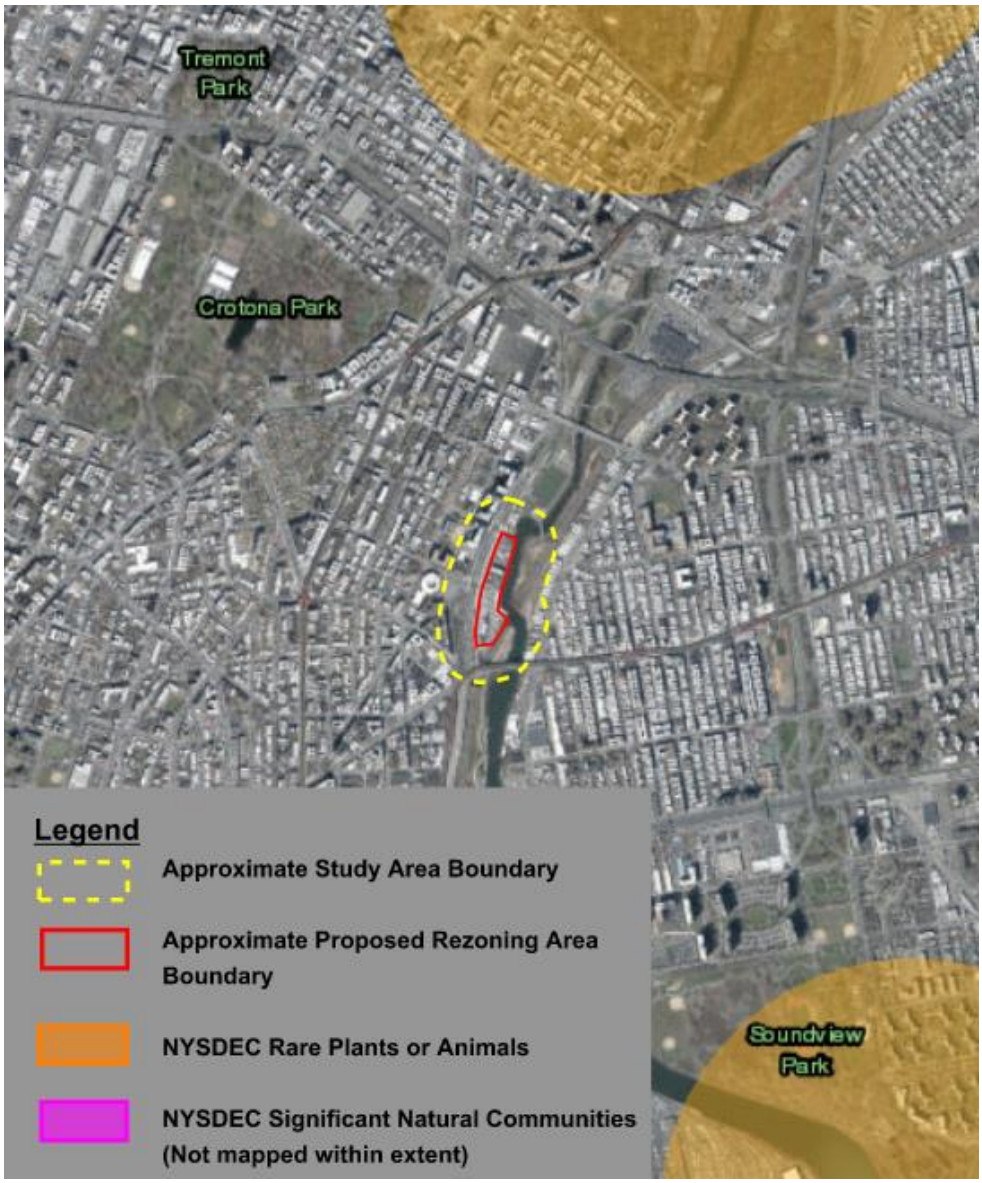
Flood Hazard Areas, Article 36 ECL, Implementing Regulations 6 NYCRR § 501-502

New York State regulates work within flood control lands. Regulated activities under this section include any activity that changes or adds to land or structures within flood control lands. Flood control lands are defined as any land or interest in land acquired for flood control purposes. The Study Area is not known to contain any flood control lands.

Endangered and Threatened Species of Fish and Wildlife; Species of Special Concern (ECL, Sections 11-0535[1]-[2], 11-0536[2], [4], Implementing Regulations 6 NYCRR § 182)

The Endangered and Threatened Species of Fish and Wildlife, Species of Special Concern Regulations perpetuate and restore native animal life in New York State for the use and benefit of current and future generations. The regulations prohibit the unauthorized taking, import, transport, possession, or selling of any endangered or threatened species of fish or wildlife, or any hide or other part of these species as listed in Section 182.6 of Title 6 of the New York Code, Rules, and Regulations (NYCRR). The regulations further prohibit adverse modification of occupied habitat of endangered or threatened species without authorization from NYSDEC. As shown on Figure 9-1 below, no NYSDEC-mapped rare plants or animals are located within the Study Area.

Figure 9-1: NYSDEC Mapped Rare Plants or Animals, and Significant Natural Communities



Protected Native Plants (ECL 9-1503, Implementing Regulations 6 NYCRR § 193.3)

The NYSDEC's Protected Native Plants Program provides protections for four categories of protected plants: endangered, threatened, rare, and vulnerable to exploitation. Pursuant to 6 NYCRR § 193.3(e), it is a violation to pick, pluck, sever, remove, damage by the application of herbicides or defoliants, or carry away, without the consent of the landowner, any protected plant in New York State. The regulation gives landowners additional rights to prosecute those who collect plants without permission.

As shown on Figure 9-1 above, no NYSDEC-mapped significant natural communities are located within the Study Area.

Waterfront Revitalization of Coastal Areas and Inland Waterways, NYS Executive Article 42 (910 to 923)

The federal Coastal Zone Management Act was passed in 1972 to encourage coastal states to develop and implement Coastal Management Programs (CMPs). The act was established as a United States national policy to preserve, protect, develop, and where possible, restore or enhance the resources of the Nation's coastal zone for current and succeeding generations. In New York State, the CMP is administered by the New York State Department of State (NYSDOS), under the Waterfront Revitalization of Coastal Areas and Inland Waterways Act. NYSDOS has established 44 coastal policies that promote the beneficial use of coastal resources, prevent their impairment, or otherwise address activities that may affect resources within the New York State Coastal Zone. Consistency review with New York State Coastal Policies is required for projects that are located within the New York State Coastal Zone and that are subject to federal funding, permits, or authorizations.

As discussed in Appendix C of this report, WRP Assessment, the Proposed Actions are consistent with the requirements of the New York City Waterfront Revitalization program.

New York City

NYC Waterfront Revitalization Program

The NYC Waterfront Revitalization Program (WRP) established the City's policies for waterfront planning, preservation, and development projects. The goal of the WRP is to maximize the benefits derived from economic development, environmental conservation, and public use of the waterfront, while minimizing any potential conflicts among these objectives. The WRP is authorized by the New York State Waterfront Revitalization of Coastal Areas and Inland Waterways Act, which was enacted in response to the federal Coastal Zone Management Act and allows municipalities to participate in the State's Coastal Management Program by creating their own local WRP.

The City Planning Commission, in its capacity as the City Coastal Commission, and the New York City Department of City Planning administer the City's WRP. Consistency review with WRP policies is required for projects that are located within the City's WRP boundaries.

As discussed in Appendix C of this report, WRP Assessment, the Proposed Actions are consistent with the requirements of the New York City Waterfront Revitalization program.

Flood Resilience Zoning Text Amendment

The Flood Resilience Zoning Text Amendment was adopted by City Council on October 9, 2013. The zoning text amendment is intended to encourage flood-resilient building construction throughout designated flood zones. FEMA issued new flood maps for New York City following Hurricane Sandy, which included higher flood elevations and a larger 100-year (1 percent annual chance) flood zone. Residential uses are now required to be built two feet above the Base Flood Elevation (BFE) and non-residential uses must be built one foot above the BFE.

The Proposed Developments will be developed at least two feet above the BFE. The commercial uses will be built one foot above the BFE. Bulkhead heights will be within limitations of permitted obstruction heights. If mechanical equipment is placed below the BFE, it will be flood proofed in accordance with the requirements outlined in the Flood Resilience Zoning Text Amendment. Therefore, the Proposed Actions will meet all height and bulk requirements outlined in the Flood Resiliency Zoning Text Amendment, as well as all flood-proofing requirements to mitigate the risk of flood damage.

Data Sources

Existing information was identified based on a site visit conducted in March 2021, agency correspondence, applicable literature, and information obtained from governmental and nongovernmental sources, such as: NYSDEC Water Quality Classifications Data; NYSDEC New York State Regulatory Tidal Wetlands Data; USFWS Information for Planning and Consultation (IPaC) list of federally listed threatened and endangered species; Federal Emergency Management Agency (FEMA) Preliminary and Effective Flood Insurance Rate Maps (pFIRMs and FIRMs); the National Oceanic and Atmospheric Administration (NOAA) Essential Fish Habitat (EFH) mapper; the NOAA Endangered Species Act (ESA) Section 7 Mapper; the Cornell Lab of Ornithology eBird Hotspot Mapper; the 2000–2005 New York State Breeding Bird Atlas; and the New York Natural Heritage Program (NYNHP). See Appendix F for agency consultations referenced in this chapter. All other data sources are publicly available and referenced in footnotes.

9.4 Existing Conditions

Projected Development Sites 1 and 2 are owned by the Applicant. Projected Development Site 1 (1460 Sheridan Boulevard) is a 41,408-square-foot (sf) (0.95-acre) corner lot that contains a one-story, approximately 14,000-gsf automobile mechanic training facility. Projected Development Site 2 (1480 Sheridan Boulevard) is a 97,892-sf (2.25-acre) lot containing an open parking facility and four connected one-story accessory office buildings and one garage totaling approximately 25,197 gsf of building area. The buildings on Projected Development Site 2 are accessory to the parking facility. Projected Development Sites 1 and 2 are separated by Potential Development Site A, which comprises the three intervening tax lots between the two projected development sites.

Projected Development Site 1 is bounded by the Bronx River to the east, an open truck parking facility to the south, Edgewater Road to the west, and Starlight Park to the north. Projected Development Site 2 is bounded by the Bronx River to the east, an active auto repair facility and an active Amtrak rail line to the south, Edgewater Road to the west, and a vacant industrial development to the north.

Additional land within the Study Area is comprised of public roadways, an Amtrak rail line, and developed lands including educational facilities, and residential, commercial, and recreational uses. The Study Area also contains a portion of the Bronx River. Recreational land areas within the Study Area include the Daniel Boone Playground, Starlight Park, Starlight Park Phase II (currently under construction), and a small portion of Concrete Plant Park. Additional information on existing conditions within the Study Area can be found within Chapter 1, "Project Description," Section 1.1, Introduction of this report.

Habitats/Vegetation

The Proposed Rezoning Area contains both terrestrial and aquatic habitats.

Ecological Communities

Ecological communities observed onsite may be classified consistent with the *Ecological Communities of New York State*[1] as tidal river, estuarine riprap/artificial shore, paved road/path, and urban structure exterior. Ecological Communities are each assigned a global conservation rank and a state conservation rank, representing the relative scarcity of the element in the state and the broader world. Global and state ranks are organized on a one-through-five scale, with rank one representing the highest scarcity, and rank five representing the highest abundance.

Tidal River

The Bronx River is a tidal river adjacent to the Proposed Rezoning Area along its eastern border. Per the *Ecological Communities of New York State*, a tidal river is defined as "the aquatic community of continuously flooded substrates that support no emergent vegetation." Salinity in tidal rivers occurs in a vertical gradient, with fresh water at the surface, above a layer of brackish water. Tidal rivers have a global conservation rank of G4 and a state conservation rank of S3.

Seaward from the shoreline to a depth of six feet at mean low water directly east of the Proposed Rezoning Area, the Bronx River is described as a "Littoral Zone." The littoral zone does not have a depth of more than six feet at mean low water and sunlight can easily penetrate through to sediments on the streambed. Where the river depth exceeds six feet, the potential for sunlight to reach the streambed is limited, thereby limiting the potential for in-river vegetation.

Brackish Tidal Marsh

As shown on the NYSDEC Tidal Wetlands Map (Figure 9-2) below, a small area of intertidal marsh is mapped by NYSDEC on the shore of the Bronx River, southeast of Projected Development Site 2. This small area of mapped intertidal marsh is located at the northern end of Starlight Park Phase II (currently completing construction). The area was observed to be vegetated with low-growing herbaceous and shrubby vegetation, some of which was growing in a bed of woodchips and appeared to be regularly maintained. Brackish tidal marshes have a global conservation rank of G4 and a state conservation rank of S3S4.

[1] Edinger, G. J., D. J. Evans, S. Gebauer, T. G. Howard, D. M. Hunt, and A. M. Olivero (editors). 2014. Ecological Communities of New York State. Second Edition. A revised and expanded edition of Carol Reschke's Ecological Communities of New York State. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

Figure 9-2: NYSDEC Tidal Wetlands Map



Estuarine Riprap/Artificial Shore

Per the *Ecological Communities of New York State*, estuarine riprap/artificial shore is defined as "the wetland community of a constructed estuarine shore in which the substrate is composed of broken rocks, wooden bulkheads, or concrete placed so as to reduce erosion." The terrestrial edges of Projected Development Sites 1 and 2 are separated from the Bronx River by a concrete seawall at Projected Development Site 1

and a high-level timber platform and a gravity wall at Projected Development Site 2. The area is largely devoid of vegetation, however, some woody overgrowth protrudes from under a fence that is located inland of the concrete seawall at Projected Development Site 1. On Projected Development Site 2, woody overgrowth protrudes from the hollows of the site's structures. Estuarine riprap/artificial shores do not have an associated global or state conservation rank.

Mowed Lawn

Several areas of maintained lawn are present throughout the Study Area. Mowed lawns do not have an associated global or state conservation rank.

Railroad

A portion of an Amtrak railroad line crosses through the Study Area from its northeastern to its southern border. Railroads do not have an associated global or state conservation rank.

Paved Road/Path

Large portions of the development sites and surrounding Study Area consist of paved parking/storage areas. Several public roadways are located in the Study Area, including Sheridan Boulevard, Edgewater Road, Boone Avenue, West Farms Road, Westchester Avenue, Freeman Street, Whitlock Avenue, Jennings Street, and East 172nd Street. Paved walking paths are present along roadways and traversing the various recreational areas in the Study Area. Per the *Ecological Communities of New York State*, a paved road/path is defined as "a road or pathway that is paved with asphalt, concrete, brick, stone, etc." Paved roads/paths do not have an associated global or state conservation rank.

Urban Structure Exterior

Projected Development Site 1 contains a one-story automobile mechanic training facility, and Projected Development Site 2 contains four connected one-story accessory office buildings and a garage. The surrounding Study Area is located in a mature urban area that contains a variety of buildings, recreational facilities, and accessory structures. Per the *Ecological Communities of New York State*, an urban structure exterior is defined 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." Urban structure exteriors do not have an associated global or state conservation rank.

Essential Fish Habitat

EFH comprises waters and substrates necessary for fish species spawning, breeding, feeding, or growing to maturity. Data provided from the National Oceanic and Atmospheric Administration's (NOAA) EFH Mapper program indicates a number of fish species with EFH are proximate to the Proposed Rezoning Area. Table 9-1 lists the species and life stages of fish identified as having EFH in the Bronx River in the Study Area.

Table 9-1: EFH-Designated Species within the Study Area

		Life Stage			
Common Name	**Scientific Name**	**Eggs**	**Larvae**	**Juvenile**	**Adult**
Bluefish	*Pomatomus saltatrix*			X	X
Little Skate	*Leucoraja erinacea*			X	X
Winter Skate	*Leucoraja ocellata*			X	X
Longfin Inshore Squid	*Doryteuthis pealeii*	X		X	X
Atlantic Butterfish	*Peprilus triacanthus*	X	X		X
Atlantic Herring	*Clupea harengus*			X	X
Summer Flounder	*Paralichthys dentatus*			X	X
Atlantic Mackerel	*Scomber scombrus*	X	X	X	X
Black Sea Bass	*Centropristis striata*			X	
Pollock	*Pollachius virens*			X	X
Scup	*Stenotomus chrysops*	X	X	X	X
Red Hake	*Urophycis chuss*	X	X	X	X
Winter Flounder	*Pseudopleuronectes americanus*	X	X	X	X
Windowpane Flounder	*Scophthalmus aquosus*	X	X	X	X

Source: NOAA EFH Mapper Report (Appendix F)

Significant Coastal Fish and Wildlife Habitats

The NYSDOS Division of Coastal Resources delineates the State's coastal zone boundary and identifies Significant Coastal Fish and Wildlife Habitats. The majority of the Study Area is located within the New York State Coastal Zone, but the waters of the Bronx River are not designated Significant Coastal Fish and Wildlife Habitat. The assessment of the Proposed Actions' consistency with the New York City Waterfront Revitalization Program (WRP) is provided in Appendix C.

Upland Habitat

The upland portion of the development sites are fully developed and predominantly covered with buildings and paved surfaces, with some overgrowth vegetation. Plants growing among the hardscape include princess tree (*Paulownia tomentosa*), tree-of-heaven (*Ailanthus altissima*), mulberry (*Morus* spp. or *Broussonetia papyrifera*), Virginia creeper (*Parthenocissus quinquefolia*), foxtail grass (*Setaria* spp.), and Japanese knotweed (*Polygonum cuspidatum*). Adjacent to the Bronx River, upland vegetation grows atop the waterfront structures at the edge of the Proposed Rezoning Area and hangs over the edge of the water. In addition to the species listed above, the river-adjacent vegetation species include black locust (*Robinia pseudoacacia*) and poison ivy (*Toxicodendron radicans*).

Several trees of various sizes have proliferated along the Proposed Rezoning Area's shoreline, inboard of the existing waterfront structures. These include tree-of-heaven (*Ailanthus altissima*), eastern cottonwood (Populus deltoids), and oriental bittersweet (Celastrus orbiculatus). While the eastern cottonwood is a native species, tree-of-heaven and oriental bittersweet are invasive species.

Upland portions of the remainder of the Study Area are largely developed with pavement and buildings, with some maintained lawn, scattered trees and parks.

Wildlife

The upland portion of the Proposed Rezoning Area is fully developed and almost fully paved, with sparse vegetation growing between and on top of the hard surfaces onsite. Birds and small mammals accustomed to disturbed areas may transiently occupy portions of the Proposed Rezoning Area, however, the Proposed Rezoning Area does not have characteristics that indicate it is able to support significant local populations of terrestrial wildlife. The remainder of the Study Area is primarily developed with hard paved surfaces and buildings. Parks located in the Study Area may provide habitat for transient wildlife, but are not considered sufficient to support significant terrestrial populations. None of the parkland in the Study Area will be disturbed as part of project activities. The portion of the Bronx River located within the Study Area provides habitat and a travel corridor for aquatic/marine biota, avian species, and potentially reptiles and mammals.

Birds

The 2000–2005 New York State Breeding Bird Atlas is a statewide inventory of all the birds breeding in the state. Fieldwork for the atlas was conducted by dividing the state into small blocks within which volunteers recorded the bird species using that area and document evidence of breeding. All census blocks span three square miles. Block 5852B includes the portion of New York City that stretches from the Hudson River at Inwood Hill Park, south to Macombs Dam Bridge, and eastward to the Bronx River Parkway; the terrestrial and aquatic portions of the Proposed Rezoning Area are located entirely within this Census Block. Block 5852B includes the majority of the New York Botanical Garden and Bronx Zoo, a large portion of the Bronx River Forest, the entirety of Crotona Park, and several smaller urban parks. Forest, tidal wetlands, freshwater wetlands, and other undisturbed habitat types are present in this census block; however, due to their urbanized nature, the natural areas associated with those parks have been degraded because of previous development activities.

During site reconnaissance, one great egret (*Ardea alba*, observed September 2020) and three cormorants (*Phalacrocorax* spp., observed July 2022) were observed in the Bronx River. Other urban-tolerant bird species may use the development sites during transient life stages. Waterfowl, such as mallard duck, Canada goose, and wading birds, likely use the Bronx River corridor for foraging and shelter.

Given the extensive development in the Proposed Rezoning Area and the scarcity of vegetation, most of the bird species documented by the 2000-2005 New York State Breeding Bird Atlas within this census block are not anticipated to rely heavily on the Proposed Rezoning Area's habitat. Parks located in the Study Area will not be disturbed as part of project activities.

The 2000–2005 New York State Breeding Bird Atlas documented 58 species as possible, probable, or confirmed breeders in Census Block 5852B (see Table 9-2).

Table 9-2: Bird Species Confirmed Breeding within Census Block 5852B

Common Name	Scientific Name	Common Name	Scientific Name
Canada Goose	*Branta canadensis*	Fish Crow	*Corvus ossifragus*
Mute Swan	*Cygnus olor*	Tree Swallow	*Tachycineta bicolor*
Wood Duck	*Aix sponsa*	Northern Rough-winged Swallow	*Stelgidopteryx serripennis*
Mallard	*Anas platyrhynchos*	Barn Swallow	*Hirundo rustica*
Ring-necked Pheasant	*Phasianus colchicus*	Black-capped Chickadee	*Poecile atricapillus*
Green Heron	*Butorides virescens*	Tufted Titmouse	*Baeolophus bicolor*
Black-crowned Night-Heron	*Nycticorax nycticorax*	White-breasted Nuthatch	*Sitta carolinensis*
Cooper's Hawk	*Accipiter cooperii*	Carolina Wren	*Thryothorus ludovicianus*
Red-tailed Hawk	*Buteo jamaicensis*	House Wren	*Troglodytes aedon*
American Kestrel	*Falco sparverius*	Wood Thrush	*Hylocichla mustelina*
Spotted Sandpiper	*Actitis macularius*	American Robin	*Turdus migratorius*
Rock Pigeon	*Columba livia*	Gray Catbird	*Dumetella carolinensis*
Mourning Dove	*Zenaida macroura*	Northern Mockingbird	*Mimus polyglottos*
Monk Parakeet	*Myiopsitta monachus*	European Starling	*Sturnus vulgaris*
Eastern Screech-Owl	*Megascops asio*	Cedar Waxwing	*Bombycilla cedrorum*
Great Horned Owl	*Bubo virginianus*	Yellow Warbler	*Dendroica petechia*
Chimney Swift	*Chaetura pelagica*	Pine Warbler	*Dendroica pinus*
Red-bellied Woodpecker	*Melanerpes carolinus*	Common Yellowthroat	*Geothlypis trichas*
Downy Woodpecker	*Picoides pubescens*	Chipping Sparrow	*Spizella passerina*
Hairy Woodpecker	*Picoides villosus*	Song Sparrow	*Melospiza melodia*
Northern Flicker	*Colaptes auratus*	Northern Cardinal	*Cardinalis cardinalis*
Eastern Wood-Pewee	*Contopus virens*	Red-winged Blackbird	*Agelaius phoeniceus*
Eastern Phoebe	*Sayornis phoebe*	Common Grackle	*Quiscalus quiscula*
Great Crested Flycatcher	*Myiarchus crinitus*	Brown-headed Cowbird	*Molothrus ater*
Eastern Kingbird	*Tyrannus tyrannus*	Orchard Oriole	*Icterus spurius*
Warbling Vireo	*Vireo gilvus*	Baltimore Oriole	*Icterus galbula*
Red-eyed Vireo	*Vireo olivaceus*	House Finch	*Carpodacus mexicanus*
Blue Jay	*Cyanocitta cristata*	American Goldfinch	*Spinus tristis*
American Crow	*Corvus brachyrhynchos*	House Sparrow	*Passer domesticus*

Source: 2000–2005 New York Breeding Bird Atlas for Block 5852B

Mammals

Mammals anticipated to be present in the Study Area include common species of small rodents, vermin, and other small mammals commonly found in developed urbanized areas. These would include but are not limited to gray squirrel, Norway rat, mice, raccoon, and possum.

Reptiles and Amphibians

Upland and transitional habitats suitable to support most reptiles and nearly all amphibians of the region are largely absent from the terrestrial portions of the Proposed Rezoning Area, except for habitats that are degraded from previous development. Hydrologic features onsite are exclusively saline. Amphibians rely on freshwater for survival, and as such are unlikely to use waters within the Study Area.[2] Reptiles that are tolerant of disturbed conditions may be found in the Study Area. Other reptiles found in disturbed areas - such as the Italian wall lizard (*Podarcis sicula*) and northern brown snake (*Storeria dekayi*) - may be found in undergrowth and parks in the Study Area.[3]

[2] Marks, Raissa. 2006. Amphibians and Reptiles. Fish and Wildlife Habitat Management Leaflet, No. 35. Natural Resources Conservation Service (NRCS) and Wildlife Habitat Council (WHC).
https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs143_022220.pdf
[3] New York State Department of Environmental Conservation (NYSDEC). 2007. Herp Atlas Project.
https://www.dec.ny.gov/animals/7140.html

Aquatic Biota

The New York–New Jersey Harbor Estuary, which includes the Bronx River, supports a diverse aquatic community of over 200 species of fish and a variety of phytoplankton and zooplankton.[4,5]

Primary Producers

Phytoplankton: Phytoplankton are microscopic plants whose movements within the system are largely governed by prevailing tides and currents. Light penetration, turbidity, and nutrient concentrations are important factors in determining phytoplankton productivity and biomass. Diatoms, such as *Skeletonema costatum* and *Thalassiosira* spp., generally dominate the phytoplankton community, with lesser contributions from dinoflagellates and green algae.[6] While nutrient concentrations in most areas of the New York–New Jersey Harbor Estuary are very high, low light penetration has often precluded the occurrence of phytoplankton blooms.

Seventy-nine species of phytoplankton were collected at the mouth of the Bronx River in a study conducted by the NYCDEP over the period of 2000-2002.[5] Collected specimens from the study consisted primarily of diatoms, with some dinoflagellates and green algae also present.

Submerged Aquatic Vegetation and Benthic Macroalgae: Submerged aquatic vegetation (SAV) are rooted aquatic plants that are often found in shallow areas of estuaries. These organisms are important because they provide nursery and refuge habitat for fish. Light penetration, turbidity, and nutrient concentrations are all important factors to determine SAV and benthic algae productivity and biomass.

The Study Area is located outside of any documented communities of SAV mapped by NYSDEC. Past development has raised the banks of the river near the Proposed Rezoning Area, removing the majority of suitable SAV habitat in the area.[7] The riverbank along the Proposed Rezoning Area is primarily artificial, consisting largely of manmade waterfront structures. Dissolved oxygen (DO) levels in the Bronx River approximately 2.4 miles upstream of the Proposed Rezoning Area averaged approximately 9.2 mg/L from 07/01/2021 to 06/30/2022, with a minimum DO of 3.0 mg/L.[8] The site-adjacent portion of the Bronx River is a Class I water, which has a regulatory minimum DO of 4.0 mg/L. Despite a relatively high average DO compared to the regulatory minimum, the lack of surrounding wetlands renders the adjacent portions of the river unfavorable to support aquatic vegetation.

[4] Pirani, R; Stinnette, I; Da Silva, R; Lerman-Sinkoff, S; Lodge, J; Giudicelli, A; and Boicourt, K., 2018. NY–NJ Harbor & Estuary Program Action Agenda 2017-2022, Hudson River Foundation. New York, NY.
[5] AECOM USA, Inc. 2015. "Combined Sewer Overflow Long Term Control Plan For Bronx River." https://www1.nyc.gov/assets/dep/downloads/pdf/water/nyc-waterways/bronx-river/bronx-river-ltcp-201506.pdf
[6] Brosnan, T.M. and M.L. O'Shea. 1995. New York Harbor Water Quality Survey, 1994. Marine Sciences Section, Bureau of Clean Water, DEP, NTS No. PB97-100176.
[7] Crimmens, T. and Larson, M. 2006. Ecological Restoration and Management Plan. Bronx River Alliance. https://www.nycgovparks.org/download/bronx-river-ecological-restoration-and-management-plan-2006.pdf
[8] United States Geological Survey (USGS). 2022. National Water Information System. "Bronx River At NY Botanical Garden At Bronx NY". Retrieved 01 July 2022 from https://waterdata.usgs.gov/monitoring-location/01302020/#parameterCode=00300&period=P365D

Zooplankton: Zooplankton are an integral component of aquatic food webs; they are primary grazers on phytoplankton and detritus material. Zooplankton also are food sources for organisms of higher trophic levels. The higher-level consumers of zooplankton typically include forage fish - such as bay anchovy (*Anchoa mitchilli*) - and commercially and recreationally important species, such as striped bass (*Morone saxatilis*) and white perch (*Morono Americana*) during their early life stages.[9]

Fifteen taxa of zooplankton were collected at the mouth of the Bronx River in a study conducted by the NYCDEP over the period of 2000-2002.[5] Collected specimens from the study consisted of protozoans and copepods, including *Tintinnopsis* sp. and *Copepod nauplii*.[5]

Benthic Invertebrates: Invertebrate organisms that inhabit estuary bottom sediments and surfaces of submerged objects (such as rocks, pilings, or debris) are commonly referred to as benthic invertebrates. These organisms are important to an ecosystem's energy flow because they convert detrital and suspended organic material into carbon (or living material); they are also integral components of the diets of ecologically and commercially important fish and waterfowl species. Benthic invertebrates are essential in the exchange of nutrients between the sediment and water column. Substrate type (rocks, pilings, and sediment grain size), salinity, and DO levels are the primary factors that influence benthic invertebrate communities; secondary factors include currents, wave action, predation, succession, and disturbance. Sampling conducted less than one mile upstream of the Proposed Rezoning Area in 2012 contained 13 taxa of benthic macroinvertebrates, with Chironomidae (non-biting midge) and Naididae (aquatic worm) representing the largest numbers of individuals collected.[10]

Fish: New York City is at the convergence of several major river systems, all of which connect to the Atlantic Ocean's New York Bight. This convergence has resulted in a mixture of habitats in the New York–New Jersey Harbor Estuary that support marine fish, estuarine fish, anadromous fish (i.e., fish that migrate up rivers from the sea to breed in freshwater), and catadromous fish (i.e., fish that live in freshwater but migrate to marine waters to breed).

As discussed in a 2007 study by Rachlin, J. W., Warkentine, B. E., & Pappantoniou, A., sampling performed in the Bronx River between 2001 and 2005 approximately 0.8 miles downstream of the Proposed Rezoning Area revealed ten species of fish: Bay anchovy (*Anchoa mitchilli*); fourspine stickleback (*Apeltes quadracus*); Atlantic menhaden (*Brevoortia tyrannus*); mummichog (*Fundulus heteroclitus*); naked goby (*Gobiosoma bosc*); Atlantic silverside (*Menidia menidia*); Atlantic tomcod (*Microgadus tomcod*); Atlantic striped bass (*Morone saxatilis*); winter flounder (*Pseudopleuronectes americanus*); and cunner (*Tautogolabrus adspersus*).[11] A separate species survey conducted in approximately the same location in 2002 and 2003 found the fourspine

[9] AKRF. 2013. Cornell NYC Tech Natural Resources FEIS. CEQR No. 12DME004M. Lead Agency: Office of the Deputy Mayor for Economic Development. March 2013.
[10] Baladrón, A. and Yozzo, D. 2020. Macroinvertebrate Assemblages, Stormwater Pollution, and Habitat Stressors in the Bronx River. Northeastern Naturalist. 31. 1-22. https://www.researchgate.net/publication/340535338_Macroinvertebrate_Assemblages_Stormwater_Pollution_and_Habitat_Stressors_in_the_Bronx_River
[11] Rachlin, J. W., Warkentine, B. E., & Pappantoniou, A. 2007. An Evaluation of the Ichthyofauna of the Bronx River, a Resilient Urban Waterway. Northeastern Naturalist, 14(4). 531–544. http://www.jstor.org/stable/25177064

stickleback, Atlantic menhaden, mummichog, naked goby, Atlantic silverside, Atlantic striped bass, and shorthorn sculpin (*Myxocephalus scorpius*) to be present.[12] In both studies, the Atlantic menhaden, mummichog, and Atlantic silverside were the most abundant species of those observed.

The 2007 Rachlin, Warkentine, and Pappantoniou study also found American eel (*Anguilla rostrata*) to be present approximately 0.7 miles upstream of the Proposed Rezoning Area[11]. Because American eels are known to breed exclusively in the Sargasso Sea in the Atlantic Ocean[13], it seems likely that in order to arrive upstream of the Proposed Rezoning Area, American eels must pass through the section of the Bronx River adjacent to the Proposed Rezoning Area. As such, American eel is anticipated to be present at least transiently in the waters of the Study Area.

Monitoring performed by the New York City Department of Parks and Recreation (NYC Parks) in the spring and early summer of 2018 found river herring (collectively referring to alewife (*Alosa pseudoharengus*) and blueback herring (*Alosa aestivalis*)) to be actively passing through the fishway located in the 182nd Street Dam, located approximately 0.9 miles upstream of the Proposed Rezoning Area[14]. Both alewife and blueback herring are anadromous fishes, known to live in the coastal waters of the northwestern Atlantic, and return to rivers and streams to spawn, although some landlocked populations of alewife do exist[14,15,16]. Because alewife and blueback herring are known to migrate to the sea after birth, their presence upstream of the Proposed Rezoning Area suggests they will pass through the waters of the Study Area at some point during their life history.

None of the fish species noted above are listed by the USFWS as having a Federal conservation rank, and none are listed by New York State as Endangered, Threatened, or Special Concern species. The fourspine stickleback, Atlantic tomcod, winter flounder, and American eel have a New York State conservation status as a high priority species of greatest need (not Endagered, Threatened, or Special Concern), and there is no statutory protection for this classification. The other species listed above are considered unranked.

Of the fish species mentioned, the following are known to migrate during their life history: bay anchovy,[17] fourspine stickleback,[18] Atlantic menhaden,[19] naked goby,[20] Atlantic

[12] New York City Department of Parks and Recreation (NYC Parks). 2003. "Distribution and Number of Fish Sampled on the Bronx River." Official Website of the New York City Department of Parks & Recreation. https://www.nycgovparks.org/greening/natural-resources-group/bronx-river-wetlands/aquatic-life/distribution-of-fish
[13] USFWS. (n.d.). *American Eel.* Retrieved 23 February 2023 from https://www.fws.gov/species/american-eel-anguilla-rostrata
[14] Warns, D. 2018. Bronx River Alewife Post-Stocking Monitoring. NYC Parks.
[15] USFWS. (n.d.). *Blueback Herring.* Retrieved 23 February 2023 from https://www.fws.gov/species/blueback-herring-alosa-aestivalis
[16] USFWS. 2019. Alewife (*Alosa pseudoharengus*) Ecological Risk Screening Summary. https://www.fws.gov/sites/default/files/documents/Ecological-Risk-Screening-Summary-Alewife.pdf
[17] Morton, T. 1989. Species Profile: life histories and environmental requirements of coastal fishes and invertebrates (Mid-Atlantic)—bay anchovy. USFWS Biological Report 82(11.97). 13.
[18] Smith, C. 2017. "Apeltes quadracus", Animal Diversity Web. Retrieved 02 January 2023 from https://animaldiversity.org/accounts/Apeltes_quadracus/
[19] Ballenger, J. C. 2014. "Atlantic Menhaden (Brevoortia tyrannus)." SC SWAP 2015. Supplemental Volume: Species of Conservation Concern. South Carolina Department of Natural Resources. https://www.dnr.sc.gov/swap/supplemental/marine/atlanticmenhaden2015.pdf
[20] Moore, C. S., Ruocchio, M. J., & Blakeslee, A. M. H. 2018. Distribution and population structure in the naked goby Gobiosoma bosc (Perciformes: Gobiidae) along a salinity gradient in two western Atlantic estuaries. PeerJ, 6, e5380. https://doi.org/10.7717/peerj.5380

silverside,[21] Atlantic tomcod,[20] Atlantic striped bass,[20] winter flounder,[20] American eel,[13] blueback herring,[15] and alewife.[16] The following fish species are known to be non-migratory: mummichog[22]. Information on migratory patterns of the following fish species could not be located: cunner and shorthorn sculpin.

Rare/Protected Species and Communities

USFWS's IPaC system identified the federally listed threatened (state listed endangered) piping plover (*Charadrius melodus*) as having the potential to use the Study Area. IPaC also confirmed the absence of designated, critical habitat onsite. As shown on Figure 9-2 above, and as shown on the attached Environmental Assessment Form (EAF) Summary Report (Appendix F) generated by the NYSDEC online EAF mapper, piping plover is not listed as having known occurrences within the Study Area.

Per NYSDEC, the only known breeding populations of piping plovers in New York City are located on Long Island.[23] Piping plovers primarily inhabit sandy or gravelly beaches, dunes, tidal flats, or dredge spoil shores.[24] Because the Proposed Rezoning Area is located outside of Long Island, and due to the lack of a gradual, sloping bank along the Bronx River onsite, the Proposed Rezoning Area is not anticipated to serve as piping plover habitat.

None of the species documented by the Breeding Bird Atlas in the Study Area's census block are state listed as threatened or endangered, or federally listed species.

The NOAA ESA Section 7 mapper was also accessed to evaluate the potential presence of threatened or endangered species in the Study Area. The Proposed Rezoning Area is located outside of any NOAA ESA Section 7 Consultation Areas (see NOAA ESA Section 7 mapper report in Appendix F). A small portion of the study area, approximately 0.1 acre, overlaps mapped consultation areas for Atlantic Sturgeon, Shortnose Sturgeon, and Sea Turtles. No work is proposed in this area, and no impacts are anticipated to these species as a result of the Proposed Actions.

Wetlands and Surface Waters

Wetlands

NYSDEC mapping shows two tidal wetlands located within the Study Area. The first is classified as an intertidal marsh and is located southeast of the Proposed Rezoning Area. It is located within the Starlight Park Phase 2 area, on the south shore of the Bronx River and to the east of the Amtrak bridge. The second tidal wetland is the littoral zone of the Bronx River, located along the eastern edge of the Proposed Rezoning Area. No freshwater wetlands are mapped in or near the Study Area.

Surface Water Quality

The Bronx River is the only nearby surface waterbody. The river is a tidally influenced water body that begins in Valhalla, New York, and travels southward approximately 23

[21] Riede, K., 2004. Global register of migratory species - from global to regional scales. Final Report of the R&D-Projekt 808 05 081. Federal Agency for Nature Conservation, Bonn, Germany. 329 p. Data accessed through FishBase, www.fishbase.org
[22] Baensch, H.A. and R. Riehl, 1995. Aquarien Atlas. Band 4. Mergus Verlag GmbH, Verlag für Natur-und Heimtierkunde, Melle, Germany. 864 p. Data accessed through FishBase, www.fishbase.org
[23] NYSDEC. (n.d.) *Piping Plover*. Retrieved 05 July 2022 from https://www.dec.ny.gov/animals/7086.html
[24] NYSDEC. 2017. Species Status Assessment for Piping Plover. https://www.dec.ny.gov/docs/wildlife_pdf/sgcnpipplover.pdf

miles before letting out into the East River.[7] The Bronx River has a tidal amplitude of approximately 7.0 feet at Westchester Avenue Bridge, which is located at the southern end of the Proposed Rezoning Area.[5]

Title 6 of NYCRR Part 703 includes surface water standards for each use class of New York surface waters. The Bronx River is classified by the NYSDEC as a Class I water, which has the best usage as secondary contact recreation and fishing. Class I waters should be suitable for fish, shellfish, and wildlife propagation and survival. In addition, the water quality should be suitable for primary contact recreation, although other factors may limit the use for this purpose.

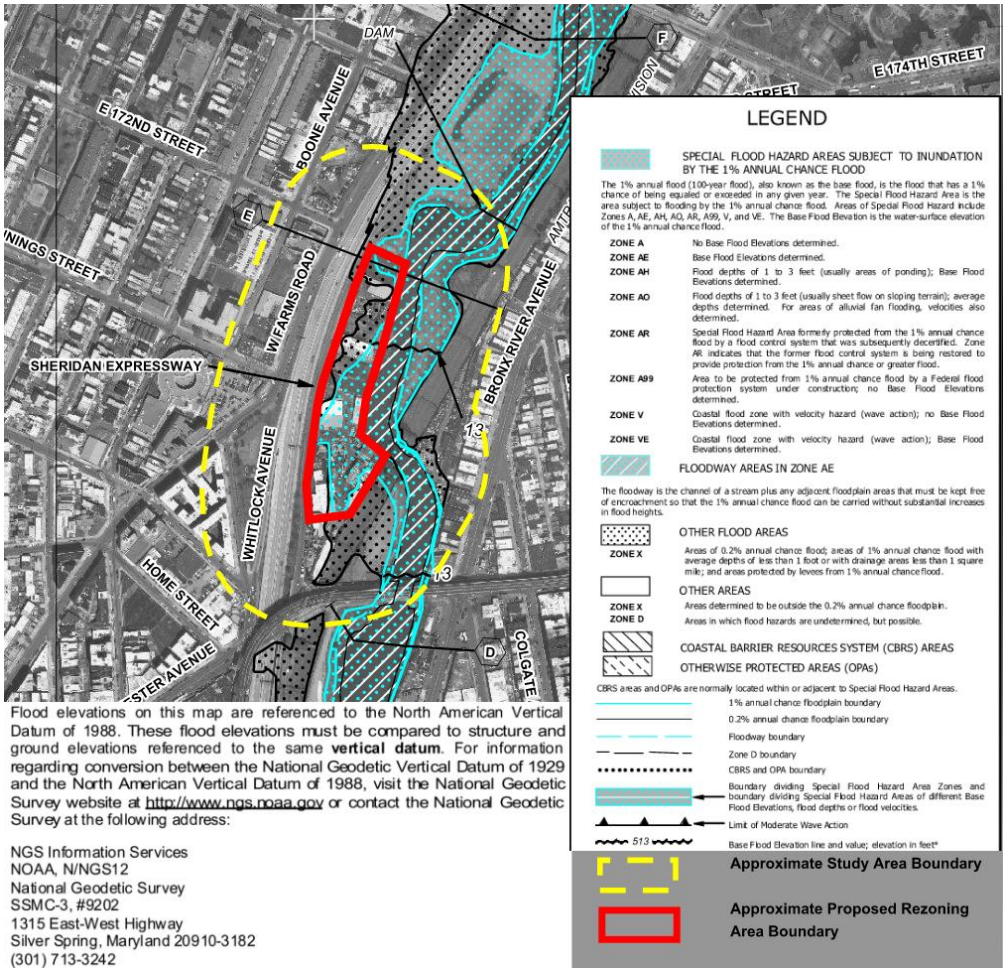
Ground Water Quality

As discussed in Chapter 10, "Hazardous Materials," portions of the Study Area contain significant ground contamination. As part of remedial investigation activities performed in October 2021, Environmental Engineering Compliance Control, D.P.C. collected groundwater samples on Projected Development Sites 1 and 2. The sampling found several substances to be present in quantities above regulatory criteria in the groundwater onsite. These substances included metals, volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs). Perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) were also detected in the groundwater samples.

Floodplains

The central portion of the Study Area is located within a mapped Zone AE flood hazard area of the Bronx River as delineated by the FEMA Preliminary FIRM map (Map 3604970084G, 12/5/2013). The base flood elevation (BFE) for the Study Area is approximately 13.0 feet NAVD88, as shown in Figure 9-3.

Figure 9-3: FEMA pFIRM Snippet



Floodplains occur along streams, rivers, and coastal zones. Designated floodplains and floodways are established and delineated by FEMA. These areas are where substantial flooding may result in property damage or threaten public safety. A FEMA-designated floodplain is the area that would be subject to inundation by the one percent (1 in 100) Annual Chance Flood. This area is referred to as Zone AE. Zone X is the area that would be subject to inundation by the 0.2 percent (1 in 500) Annual Chance Flood.

The National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 designate coastal high hazard areas and floodways. These acts also make federal flood insurance available to buildings and structures within these areas that are constructed to minimize danger to human lives. FEMA regulates floodplains for channels that have a watershed (area that drains to them) greater than one square mile. Properties located in smaller watersheds are not part of the FEMA mapping program.

9.5 No-Action Condition

In the No-Action Condition, the Proposed Rezoning Area would be left in its current condition as an automobile mechanic training facility, an open parking facility, four connected one-story accessory office buildings and a garage. The existing waterfront

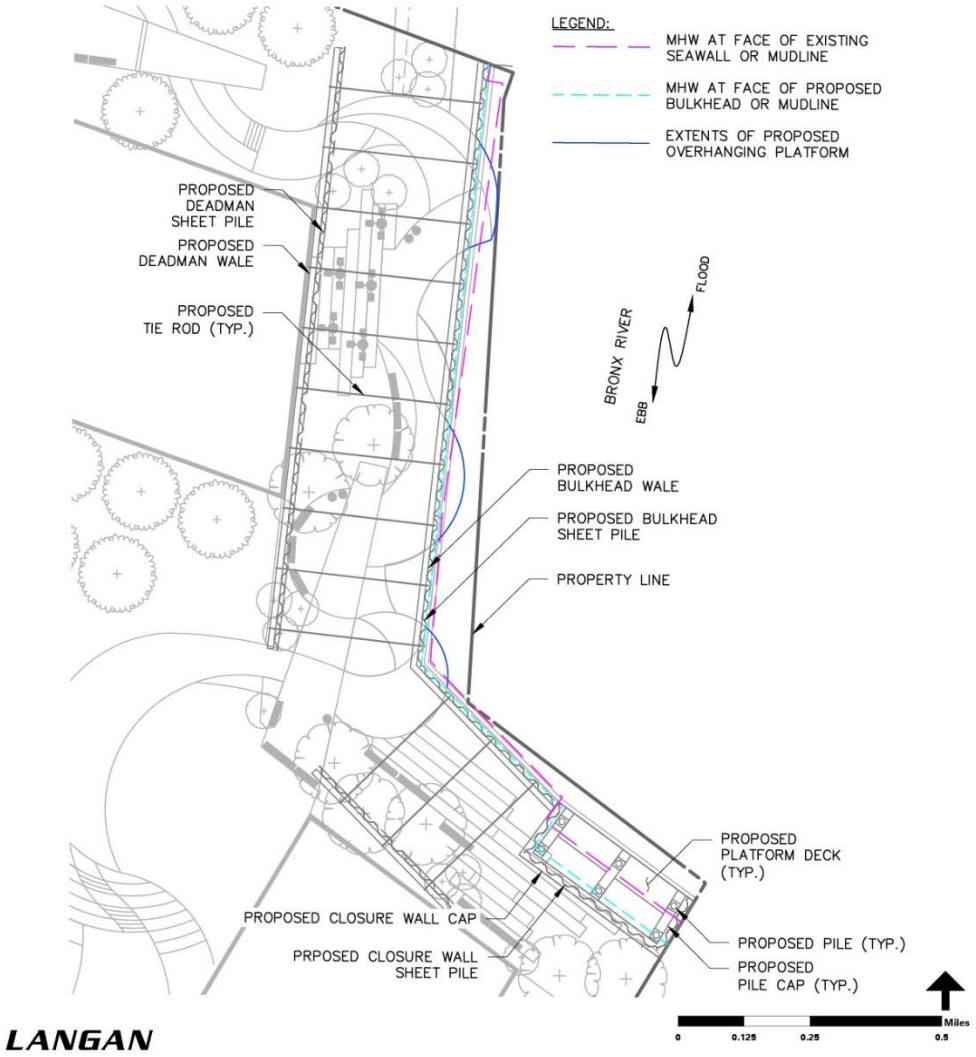
infrastructure, some of which is in poor condition, would not be renovated. The waterfront structure on Projected Development Site 2 would continue to deteriorate and stormwater would continue to discharge directly into the Bronx River. The existing vegetative overgrowth near the waterfront would continue to grow, including the invasive species.

9.6 With-Action Condition

In the With-Action Condition, the existing buildings on Projected Development Sites 1 and 2 would be demolished and three mixed-use buildings would be developed across the Applicants' two sites. These three new buildings would contain affordable housing units, retail, and accessory parking. On both sites, the Applicant would develop a minimum 40-foot-wide shore public walkway along the Bronx River and other publicly accessible open spaces. The shore public walkway and upland connections would provide new public access to the Bronx River and Starlight Park. The proposed buildings have been sited along Sheridan Boulevard to minimize shadow on the Bronx River while balancing the need for open space at the ground level with affordable housing above. The floor area in the bases of the buildings would be maximized, and the tower bulk would be limited to a maximum width of 100 feet on façades facing the river, creating a slimmer tower and allowing sunlight between the tower portions of the buildings.

At Projected Development Site 1 – the Applicant's northern side – the existing waterfront structure (bulkhead) would be repaired. At Projected Development Site 2, the waterfront structure does not appear to have sufficient service life to support the proposed upland development, and would be replaced. Replacement structures are planned to be installed inboard of the existing structure which is expected to generate net cut in area and volume. As described above, the concept plan for the shore public walkway includes three cantilevered outlooks to improve connectivity to the water. See Figure 9-4 for concept waterfront structure plan for Projected Development Site 2. There is no specific development proposal for Potential Development Site A, which is located on three intervening lots between Projected Development Sites 1 and 2. If redeveloped, the existing buildings on Site A would be demolished and the site would be redeveloped pursuant to the proposed zoning, which would include a minimum 40-foot-wide shore public walkway along the site's waterfront.

Figure 9-4: Conceptual Waterfront Structure Plan



Habitats/Vegetation/Wildlife

The terrestrial portion of the Proposed Rezoning Area is fully developed, largely impervious, and contains fragmented vegetation overgrowth. Because of the sites' conditions, the sites are not anticipated to be used by significant populations of wildlife. Existing trees – including Eastern Cottonwood and invasive species - along the shoreline would be removed during construction. The Proposed Actions would introduce new landscape along the proposed shore public walkway, introducing more vegetation along and near the waterfront. This vegetation that could offer new habitat opportunities for wildlife, such as birds and insects, which may already be found in the surrounding area. Specifically, the proposed open spaces would contain native canopy and ornamental tree species such as White Oak, Tulip, Shagbark Hickory, Cucumber Magnolia, Paper Birch, and American Paw Paw trees. Both projected development sites would also contain low-lying plants (Arkansas Bluestar, Wild Sea Oats, Lil' Bang Red Leaf Coreopsis, False Goatsbeard, Appalachian Blazing Star, Great Blue Lobelia, Pink Muhley grass, Upright Prairie Coneflower, Giant Black Eyed Susan, Little Bluestem, and Prairie Dropseed) and shrubs

(Oakleaf Hydrangea, New Jersey Tea, Witch Hazel, High Bush Blueberry, Wedgewood Blue Lilac, and Pussy Willow) that could provide new habitat opportunities for wildlife. Overall, the Proposed Actions would significantly increase the vegetative diversity on the development sites and remove existing invasive species.

The section of the Bronx River in the Study Area provides potential habitat for aquatic and marine species, including fish and avian species. As described in Chapter 18, "Construction", the Applicant would conduct in-water construction outside the spring spawning season, and in accordance with other requirements that may arise out of NYSDEC's joint permitting process.[25] The development sites' waterfront has artificial banks. Proposed activities at the edge of the Bronx River consist of rehabilitating existing waterfront infrastructure. New structures will be installed inboard of the existing structures, and would not increase the footprint of existing disturbance. Overall, the activities at the waterfront are not expected to result in a net fill within the river, nor decrease the existing fish habitat. Overlooks proposed at the edge of the Bronx River would be within the bulkhead line, would be ADA-compliant, and would be designed and constructed with sunlight-pervious materials, such as metal bar grating, to minimize shading of the river. Final material selection will be subject to input from NYSDEC during the Joint Permit Application process.

Project-generated shadow would fall on portions of the Bronx River. Generally, the portions of the Bronx River within the Study Area would largely be in sunlight throughout the morning until the early afternoon. As described in Chapter 6, "Shadows," shadow durations change throughout the year – on the March, May, and June analysis days, incremental shadow would begin to be cast on the river in the early afternoon, and incremental shadow would span the width of the river by mid-afternoon and last through the end of the analysis period (90 minutes before sunset). On the December analysis day, shading starts slightly earlier – in the late morning, but is off the river by midafternoon. A maximum of approximately 134,000 sf of incremental shadow would be cast onto the river's littoral zone at the end of the December analysis day; however, the December analysis day is outside of the vegetation growing season and the peak fish migration season per the *CEQR Technical Manual* guidelines. Additionally, incremental shadow would be cast onto the intertidal marsh in the southern portion of the Study Area only after 3PM on the March, May, and June analysis days.

As discussed in Section 9.4 of this report, past development has raised the banks of the river near the Proposed Rezoning Area, removing the majority of suitable habitat for submerged aquatic vegetation (SAV) in the area. As such, no SAV is anticipated to be impacted by project-generated shadow. Phytoplankton within the Bronx River are expected to be carried through areas of shade and sunlight by prevailing tides and currents throughout the day by the movement of the Bronx River. Given the relatively small portion of the river to be affected by project-generated shadow, such shadow is not anticipated to have a significant adverse impact on phytoplankton populations in the river.

As discussed in Chapter 6, "Shadows," some fishes rely on visual cues to inform predator avoidance behavior and hunting[26]. While project generated shadow would reduce the

[25] NYSDEC Hudson River Fisheries Unit. (n.d.) *River Herring*. Retrieved 24 February 2023 from https://www.dec.ny.gov/animals/9969.html

[26] Sabal, M., Workman, M., Merz, J., & Palkovacs, E. 2021. Shade affects magnitude and tactics of juvenile Chinook salmon antipredator behavior in the migration corridor. Oecologia. 197. 10.1007/s00442-021-05008-4.

availability of sunlight in the river at certain times during the year, it is anticipated that during times of incremental shadow, fish could utilize the sunlit portions of the river.

The Bronx River is New York City's only freshwater river and several migratory fish spawn upstream of the Proposed Rezoning Area, including blueback herring and alewife. American eel – classified at the state level by NYSDEC as a "species of greatest conservation need" – is also known to migrate past the Proposed Rezoning Area. The Proposed Development would increase shading on the river ranging from 3 hours 12 minutes in December to 4 hours and 51 minutes in June (the peak growing season). The Proposed Development would incorporate restoration measures to lessen the effects of prolonged shading on the areas adjacent to the Proposed Rezoning Area, while improving other important ecosystem functions nearby. These commitments would be considered Project Components Related to the Environment (PCREs), and would be memorialized in a Restrictive Declaration tied to the projected development sites. The following PCREs would be included as part of the Proposed Development:

- Increase the amount of vegetation along the onsite public shore walkway near the shoreline to provide a greater quantity of shade-tolerant tree species;
- Provide informational signage along the public shore walkway to educate the public on the presence of migratory American eel, blueback herring, and alewife species present, and the ongoing restoration of the Bronx River;
- Install sufficiently sized submerged reef balls or similar structures, subject to NYSDEC approval, for enhanced benthic habitat in the Bronx River to increase the habitat complexity for migratory fish and shellfish; and
- Coordinate with NYC Parks on the funding for marshland vegetation plantings, or other measure mutually agreed to by the Applicant and NYC Parks, to improve fish habitat in the vicinity of the Proposed Rezoning Area.

These proposed measures are being developed in coordination with NYCDEP and NYC Parks and will be finalized before the Final EIS is issued. Implementation of the above restoration measures as part of the Proposed Development would preclude the potential for significant adverse impacts on natural resources due to incremental shading.

The Proposed Actions would adhere to all local laws and building codes, including Local Law 15 of 2020, which requires buildings be constructed to bird-friendly design requirements.

Rare/Protected Species and Communities

IPaC records indicate the piping plover is the sole federally-listed species that warrants consideration for new development in the Proposed Rezoning Area. NYSDEC does not list piping plover as having known occurrences on or near the Proposed Rezoning Area. It is unlikely that the piping plover would use the Proposed Rezoning Area as habitat. As such, the Proposed Actions would not result in a significant adverse impact to rare, threatened, or endangered species.

Wetlands and Surface Waters

No freshwater wetlands are located in the Proposed Rezoning Area, and tidal wetlands are limited to littoral zone areas of the Bronx River where the potential for aquatic vegetation is limited. One intertidal marsh wetland is located within the Study Area, to

the southeast of the Proposed Rezoning Area on the edge of Starlight Park. This offsite wetland is not anticipated to be disturbed by project activities.

The Proposed Actions would have the potential to increase demand for secondary contact in-water recreation - such as canoeing and kayaking - in the Bronx River, but would not introduce new in-water human activities where none currently exist.

With the Proposed Actions, the Applicant would rehabilitate the existing waterfront infrastructure. New structures would be installed inboard of the existing structures and would not increase the footprint of a waterfront structure within the Bronx River. Overall, the activities at the waterfront are not expected to result in a net fill within the river, nor decrease the existing fish habitat. The effects of in-water and shoreline construction and demolition activities would be minimized through the Joint Permit Application process with NYSDEC and USACE. This permitting process would consider the effects of underwater noise, sedimentation, and any other temporary and permanent disturbances. Subject to NYSDEC input, overlooks proposed on Projected Development Site 2 would be installed landward of the bulkhead line and constructed with sunlight-pervious materials.

Some stormwater generated on the development sites would likely be discharged directly to the Bronx River. Direct discharges into the Bronx River require a permit from NYSDEC and NYCDEP. Stormwater would be discharged into the Bronx River per NYCDEP and NYSDEC requirements, as discussed in Chapter 11, “Water and Sewer Infrastructure.” Stormwater discharge, including flow volume and velocity, would be subject to requirements determined as part of the Joint Permit Application with NYSDEC and USACE. Detention systems, settling tanks, and other engineering measures may be employed to minimize sedimentation and to control velocity. The applicant would submit an application to USACE for Section 10/404 Nationwide Permit (NWP) Nos. 7 and 13 for the Proposed Actions. The Applicant would also submit an application to NYSDEC for tidal wetlands and protection of waters permits, and a Water Quality Certification. Additionally, a Municipal Separate Storm Sewer System (MS4) permit and State Pollutant Discharge Elimination System (SPDES) permit would be required for the project from NYSDEC. Stormwater management practices during construction and post construction would also be reviewed by NYCDEP and NYSDEC to ensure compliance with the Unified Stormwater Rule; accordingly, stormwater would be discharged to the Bronx River per NYSDEC requirements, and would not have the potential to result in a significant adverse impact to water quality in the Bronx River during the construction or operational phases.

In-ground contaminated soil remedial activities would be undertaken concurrently with redevelopment in the upland portions of the Proposed Rezoning Area, and these remedial activities would reduce the potential for hazardous materials to be discharged into the Bronx River over existing and No-Action Conditions. As such, the proposed activities are not anticipated to have an adverse impact on the Bronx River.