

3.2 Open Space

3.2.1 Introduction

This chapter examines the potential for the Proposed Project to impact open space resources in the Project Area (see **Figure 3.2-1**). The analysis presents existing conditions, evaluates changes that are expected independent of the Proposed Project through the 2030 analysis year, and identifies and addresses any potential significant adverse impacts, as defined in the 2021 *City Environmental Quality Review (CEQR) Technical Manual*, with open space resources as a result of the Proposed Project. Since the Proposed Project would not generate any permanent user population, the focus of this analysis is the project corridor and an examination of any potential direct impacts on open space areas or design.

3.2.2 Principal Conclusions

This analysis concludes that the Proposed Project would not result in any potential significant adverse impacts to or conflicts with open space resources along the Project Area. The overall acreage and availability of open space resources within the Project Area would remain largely unchanged, with the exception of Reach 2 expanding the northern stretch of the Battery Park City Esplanade by 0.05 acres. Rather, by implementing the proposed flood protection measures, the Proposed Project would support the protection of existing open space resources in the Protected Area that would otherwise continue to be subject to storm flooding. Therefore, the Proposed Project would not result in any significant adverse impacts to open spaces.

3.2.3 Regulatory Context

As described in Chapter 2.0, “Analysis Framework,” this analysis has been prepared pursuant to State Environmental Quality Review Act (SEQRA) and *City Environmental Quality Review (CEQR)* processes. The Proposed Project is subject to SEQRA, as mandated in 6 NYCRR Part 617, and the EIS analyses follow the technical guidelines set forth in the 2021 *CEQR Technical Manual*.

Open space along the Proposed Project corridor is primarily under the jurisdiction of the Battery Park City Authority (BPCA) and the larger Study Area includes spaces under the jurisdiction of the City of New York through the Department of Parks and Recreation (NYC Parks) for street trees, the Department of Small Business Services (NYCSBS), the Department of Education (NYCDOE), the Dormitory Authority of the State of New York (DASNY) for BMCC property, the New York State Department of Transportation (NYSDOT), the New York City Department of Transportation (NYCDOT), as well as the Hudson River Park Trust (HRPT), private organizations operating privately owned public spaces (POPS), and the Port Authority of New York and New Jersey (PANYNJ). These agencies are responsible for maintaining the open spaces as well as enforcing applicable rules and regulations.



- Project Area
- Census Tract Boundary
- 1/4-mile Perimeter
- Non-residential Study Area
- 1 Open Space Resources

0 1,000 FEET

Open Space Study Area and Resources

3.2.4 Methodology

The first step in this analysis is the inventory of open space resources along the Project Area and in the larger Study Area. For the purpose of this analysis, open space is defined as publicly or privately owned land that is designated for public access and is publicly accessible and available for leisure, play, or sport, or is set aside for the protection and/or enhancement of the natural environment. Direct effects are defined as impacts when public access is limited, or the open space features or area are altered causing a reduction or loss of space as a result of a proposed project. Other direct effects may include the impacts of noise or air emissions, or shadows that may affect usability during operations. Indirect effects are defined as when a population generated by a proposed project results in an increased demand such that the service to the affected population is overburdened or substantially diminished. Since the Proposed Project would not generate populations, such as new workers or residents, only the potential for direct effects need be considered in this analysis, which evaluates any potential changes in open space for the 2030 analysis year.

AKRF conducted field surveys in 2022 to collect data on the condition and utilization level of open space resources. A facility's cleanliness, maintenance, and overall usability of the open space's features are key factors when considering the quality and accessibility of an open space. The presence and maintenance of plantings are also considered when accounting for a resource's condition level. Additionally, the utilization of a resource accounts for the overall adequacy of open spaces within a study area to serve the local user groups. Based on the *CEQR Technical Manual*, utilization levels range from low (25 percent capacity or less), to moderate (25 to 75 percent capacity), to heavy (75 percent or greater capacity utilization) during peak hours.

3.2.4.1 Study Area

The *CEQR Technical Manual* suggests that a study area for open space resources be based on the assumed distance a person may walk to reach a neighborhood open space. For non-residential projects (e.g., commercial offices), that distance is assumed to be $\frac{1}{4}$ mile to reach both passive and active neighborhood open spaces. The alignment of the Proposed Project begins on North Moore Street, west of the intersection with Greenwich Street, extending west on the south side of North Moore Street to Route 9A/West Street, turns south along the east side of Route 9A/West Street before crossing Route 9A/West Street south of Harrison and then west into Battery Park City along the north waterfront; the alignment continues south along Battery Park City's west waterfront to its terminus at 1st Place where it is proposed to connect with the South Battery Park City Resiliency Project (see **Figure 3.2-1**). Outside of Reach 1, the Proposed Project is primarily within the open space of Battery Park City. While the Proposed Project's alignment is adjacent to a predominantly residential user population (with commercial and institutional uses as well), the Proposed Project itself would not generate a new residential or worker population. Therefore, this assessment evaluates the direct effects to open space as a result of the Proposed Project. The Study Area considers all census tracts with at least 50 percent of their area within a $\frac{1}{4}$ mile of the Project Area. For the purposes of this analysis, the Open Space Study Area consists of the following Census Tracts: 317.03, 317.04, 13, 21, 33, and 39 (see **Figure 3.2-1**).

3.2.5 Existing Conditions

The Project Area is largely defined by the Battery Park City Esplanade and waterfront open spaces, which include a variety of distinct park areas, a small portion of the Hudson River Park (approximately 0.1 acres), and other small sections of built area within Battery Park City (e.g., street ends). Outside the Project Area, there are another 43 publicly available open spaces, amounting to 45 resources within the ¼-mile study area, collectively totaling 72.17 acres. Open space resources are identified in **Table 3.2-1** and shown in **Figure 3.2-1**.

Table 3.2-1
Inventory of Existing Publicly Accessible Open Space Resources
¼-mile Nonresidential Study Area

Map ID No.	Name	Location	Owner	Total Acres	Active Acres	Passive Acres	Amenities	Condition/Utilization
1	Battery Park City Esplanade, Parks, and Plazas (includes Rockefeller, Pumphouse, and Wagner Parks, Belvedere Plaza, and North and South Coves) ⁽¹⁾	Along Hudson River between 1st Place and Harrison Street	BPCA	26.04	13.02	13.02	Lawns, trees, benches, plantings, artwork, esplanade, tables and chairs, playgrounds, basketball courts, volleyball courts, restrooms, pathways, marinas	Excellent / Heavy
2	National September 11 Memorial and Museum	World Trade Center Site	PANYNJ	5.75	0	5.75	Beaches, trees, plaza areas, WTC Memorial and Museum including two large fountains.	Excellent / Heavy
3	Millennium Hilton Plaza	Fulton Street at Church Street	Private (POPS)	0.12	0	0.12	Planters, seating, trees	Excellent / Moderate
4	Tower 7 Plaza (Silverstein Family Park)	South of Barclay Street between Greenwich Street and West Broadway	The City of New York	0.50	0	0.50	Plaza, fountain, trees, shrubs, benches	Excellent / Moderate
5	Ball Fields	Between Murray Street and Warren Street along Route 9A/West Street	BPCA	1.90	1.90	0	Ball fields, seating, plantings, trees	Excellent / Moderate

Table 3.2-1 (cont'd)
Inventory of Existing Publicly Accessible Open Space Resources
¼-mile Nonresidential Study Area

Map ID No.	Name	Location	Owner	Total Acres	Active Acres	Passive Acres	Amenities	Condition/Utilization
6	IS/PS 89 Playground ⁽²⁾	201 Warren Street	NYCDOE	0.25	0.20	0.05	Playground, basketball courts, benches	Good / Low
7	Stuyvesant High School Plaza	Route 9A/West Street, north of Chambers Street	NYCDOE	0.83	0	0.83	Trees, plants, seating	Good / Low
8	North End Avenue Medians	North End Avenue between Murray Street and Chambers Street	BPCA	0.58	0	0.58	Plantings, trees, seating, dog run	Good / Moderate
9	Teardrop Park	Between Warren Street and Murray Street, River Terrace, and North End Avenue	BPCA	1.80	0.36	1.44	Paths, plantings, trees, play equipment, lawn	Good / Moderate
10	Teardrop Park South	2 River Terrace	BPCA	0.34	0	0.34	Seating, trees, plantings	Good / Low
11	Murray Street Triangle	North End Avenue at Murray Street	BPCA	0.18	0	0.18	Plantings, trees, seating, dog run	Good / Low
12	Irish Hunger Memorial	North End Avenue at Vesey Street	BPCA	0.50	0	0.50	Sloped hill, stone house ruin, plantings, seating	Good / Low
13	Hudson River Greenway	Along Route 9A/West Street between Battery Place and Chambers Street	NYSDOT	1.49	1.49	0	Bike path	Excellent / Heavy

Table 3.2-1 (cont'd)
Inventory of Existing Publicly Accessible Open Space Resources
¼-mile Nonresidential Study Area

Map ID No.	Name	Location	Owner	Total Acres	Active Acres	Passive Acres	Amenities	Condition/ Utilization
14	Hudson River Park	Along the Hudson River between Harrison Street and 59th Street	HRPT	18.79 ⁽³⁾	9.40	9.40	Pathway, waterfront esplanade with pedestrian path and seating, lawn and planted areas, tables and chairs, basketball courts, sculptures, beach volleyball, minigolf, playgrounds, spray fountains, Tribeca skatepark, a boating facility, a turf field, lawn, dog-friendly areas, kayaking, tennis courts, in-water habitat areas.	Good / Heavy
15	West Thames Park	Route 9A/West Street, north of West Thames Street	BPCA	1.30	1.04	0.26	Play equipment, spray showers, benches and tables, basketball court, turf field, community garden	Excellent / Low
16	Rector Park	Rector Place at South End Ave	BPCA, NYC Parks	0.77	0	0.77	Trees, plants, seating, open lawn	Good / Low
17	Little West Dog Run	Route 9A/West Street between West Thames Street and 3rd Place	BPCA	0.14	0	0.14	Dog-friendly areas	Good / Moderate
18	Elizabeth H Berger Plaza/Trinity Plaza	Between Greenwich Street and Broadway at Edgar Street	TBTA	0.37	0	0.37	Benches, trees, planters, lighting, subway entrance	Good / Low
19	123 Washington Street (Gwathmey Plaza)	Between Albany Street and Carlisle Street	Private (POPS)	0.14	0	0.14	Seating, tables, trees	Good / Moderate
20	Liberty Plaza (Zuccotti Park)	Between Broadway, Liberty Street, Trinity Street, and Cedar Streets	Private (POPS)	0.82	0	0.82	Trees, planting, benches, lighting, tables, sculptures	Good / Heavy

Table 3.2-1 (cont'd)
Inventory of Existing Publicly Accessible Open Space Resources
¼-mile Nonresidential Study Area

Map ID No.	Name	Location	Owner	Total Acres	Active Acres	Passive Acres	Amenities	Condition/ Utilization
21	One Liberty Plaza	Between Broadway, Liberty Street, Church Street, and Cortlandt Streets	Private (POPS)	0.64	0	0.64	Trees, planters, seating	Good / Low
22	Trinity Church Cemetery	Between Church Street and Broadway	Trinity Church Corp	1.43	0	1.43	Trees, benches, footpaths, grass, tables	Good / Low
23	55 Broadway/1 Exchange Plaza	55 Broadway	Private (POPS)	0.15	0	0.15	Planting, seating	Fair / Low
24	Bowling Green	Broadway and Whitehall Street	NYC Parks	1.02	0	1.02	Benches, trees, fountain, garden, lighting, lawn, sculpture	Excellent / Heavy
25	St Paul's Chapel Cemetery	Church Street, Broadway, Vesey Street, and Fulton Street	Parish of Trinity Church	1.20	0	1.20	Cemetery, benches, paths, trees	Good / Low
26	111 Murray Street Plaza	Murray Street between Route 9A/West Street and Greenwich Street	Private (POPS)	0.20	0	0.20	Benches, tables, plants, small lawn, fountain	Excellent / Moderate
27	30 Park Plaza	Between Park Place, Barclay Street, Church Street, and Broadway	Private (POPS)	0.28	0	0.28	Seating and tables, lighting, sculpture, plants, trees	Excellent / Moderate
28	One World Trade Plaza	One World Trade Center along Route 9A/West Street	PANYNJ	0.29	0	0.29	Open plaza, planters, seating	Good / Low
29	Albany Street Plaza	Albany Street between Washington Street and Greenwich Street	PANYNJ	0.21	0	0.21	Benches, seating, planters, trees, artwork	Good / Low

Table 3.2-1 (cont'd)
Inventory of Existing Publicly Accessible Open Space Resources
¼-mile Nonresidential Study Area

Map ID No.	Name	Location	Owner	Total Acres	Active Acres	Passive Acres	Amenities	Condition/Utilization
30	Liberty Park	Between Cedar Street, Route 9A/West Street, Greenwich Street, and Liberty Street	PANYNJ	1.40	0	1.40	Elevated pathways with plantings, benches, sculptures/monuments, and St Nicholas National Shrine	Excellent / Moderate
31	Cortlandt Way	Cortlandt Way between Greenwich Street and Church Street (Plaza between 3 WTC and 4 WTC)	PANYNJ	0.37	0	0.37	Open plaza, trees, seating	Excellent / Moderate
32	Oculus Plaza	Between Fulton Street, Dey Street, Church Street, and Greenwich Street (Plaza round Oculus)	PANYNJ	1.20	0	1.20	Open plaza, trees, seating	Excellent / Moderate
33	Wedge of Light Plaza	Along Fulton Street and Church Street, below Vesey Street	PANYNJ	0.45	0	0.45	Tables, seating, planters, artwork	Excellent / Low
34	Bogardus Plaza	Hudson Street, Chambers Street, and Reade Street	NYCDOT	0.23	0	0.23	Greenstreet planters, seating, planters	Excellent / Moderate
35	50 West Plaza	Between Route 9A/West Street, Joseph P Ward Street, and Washington Street	Private (POPS)	0.14	0	0.14	Seating, plantings	Excellent / Low
36	Washington Market Park	Chamber Street between Greenwich Street and Route 9A/West Street	NYC Parks	2.15	1.72	0.43	Playground, garden, benches, grass field, gazebo, picnic tables, spray fountain, basketball courts, tennis courts, bathrooms	Excellent / Moderate

Table 3.2-1 (cont'd)
Inventory of Existing Publicly Accessible Open Space Resources
¼-mile Nonresidential Study Area

Map ID No.	Name	Location	Owner	Total Acres	Active Acres	Passive Acres	Amenities	Condition/ Utilization
37	Tribeca Park	Walker Street, Beach Street, between John’s Lane and Sixth Avenue	NYC Parks/ NYCDOT	0.32	0	0.32	Benches, plantings, sculpture	Good / Moderate
38	Duane Park	Hudson Street, Duane Street, Thomas Street	NYC Parks	0.12	0	0.12	Benches and trees	Excellent / Moderate
39	Finn Square	Franklin Street, Varick Street, West Broadway	NYCDOT	0.12	0	0.12	Plantings, bench	Fair / Low
40	Canal Park	Canal Street between Route 9A/West Street and Washington Street	NYC Parks/NYC DOT	0.67	0	0.67	Benches, trees, plantings	Excellent / Low
41	Albert Capsouto Park	Laight Street, Canal Street, and Varick Street	NYC Parks/ NYCDOT	0.37	0	0.37	Plantings, benches, chess tables, sculpture, historic plaques, lawn areas	Excellent / Low
42	Salmon Smith Barney Plaza	Greenwich Street and North Moore Street	Private (POPS)	0.47	0	0.47	Benches, trees, tables, shade structures	Excellent / Low
43	Tribeca Tower	Duane Street between Broadway and Trimble Place	Private (POPS)	0.23	0	0.23	Plantings, seating areas	Good / Low
44	Tribeca Dog Run	Warren Street between Greenwich Street and Route 9A/West Street	NYC Parks	0.10	0	0.10	Dog-friendly areas	Good / Moderate
45	Pier A	Along Hudson River between Wagner Park and The Battery	NYCSBS/B PCA	0.79	0	0.79	Seating, tables, Pier A Harbor House with visitor center	Good / Low
Nonresidential Study Area Totals				77.17	29.13	48.04		
Notes:								
(1) Wagner Park comprises approximately 4.14 acres within the Battery Park City Esplanade, Parks, and Plazas.								
(2) Part of the Schoolyards to Playgrounds Program.								
(3) Only 13.63 acres of this resource are within the Nonresidential Study Area (split between 6.82 active and 6.82 passive), and approximately 0.1 acres are located within the Project Area.								

3.2.5.1 Battery Park City Esplanade, Parks, and Plazas

Much of the Project Area comprises the various open spaces along the Battery Park City waterfront. Among these open spaces are Rockefeller and Pumphouse Parks, Belvedere Plaza, North and South Coves, and interconnecting paths and the Esplanade. The Battery Park City Esplanade, which runs along the water's edge in Battery Park City from Route 9A/West Street to the north to Battery Park in the south, provides a continuous waterfront esplanade with a pedestrian and bike pathway along its length.

Reach 1 consists primarily of streetscapes along North Moore Street, and Route 9A/West Street and connects the North Esplanade with Stuyvesant Plaza and Hudson River Park. Reach 2 extends along the North Esplanade between the waterfront, Stuyvesant High School, and the Tribeca Pointe condominium. This reach offers pedestrian walkways, planted areas, and seating, as well as egress paths from Stuyvesant High School. Reach 3 encompasses Rockefeller Park, an approximately 8-acre park and the largest contiguous open space in Battery Park City. Rockefeller Park features open lawn areas, a playground, a pollinator garden with bee hives, basketball and handball courts, ping-pong tables, a Park House, benches, pathways, and planting, as well as a continuous waterfront esplanade along its northern and western edges. Reach 3 hosts several public art pieces and the Hurricane Maria Memorial. Entry points to Rockefeller Park are located at the street ends of Chambers, Warren, and Murray Street, as well as across from the mid-block crossing connecting to Teardrop Park. South of Rockefeller Park is Reach 4, which continues along the Battery Park Esplanade and features the Lily Pond, access to the Battery Park City Ferry Terminal, the Irish Hunger Memorial, and benches and planting. The paths along Reach 4 are split between an upper and lower level that are separated by a number of wide staircases. The lower level runs along the Esplanade and water's edge while the upper level is adjacent to the Irish Hunger Memorial and the commercial building located at 300 Vesey Street.

Reach 5 continues south and includes Belvedere Plaza, a large open plaza with benches, tables and chairs, and plantings west of Brookfield Place. Reach 5 also includes North Cove Marina, which comprises primarily terraced plazas bordering the marina, which provides boat dockage, and Kowsky Plaza, which provides a playground, Sirius Dog Run, a Berlin Wall monument, and the New York City Police Memorial. The open spaces south of North Cove provide open plazas, a volleyball court, and planted areas. Pumphouse Park, a lawn enclosed by trees and paths, is located to the southeast and is also adjacent to North Cove. Reach 6 encompasses the South Esplanade and includes two parallel pedestrian pathways, which continue south from North Cove for approximately 1,500 feet to connect with the open spaces in Reach 7. There are art installations and seating areas present at the street ends of West Thames Street, Albany Street, and Rector Place, where the Proposed Project terminates, as well as seating along the Esplanade edge. Reach 7 is primarily defined by South Cove and the Esplanade and continues along the waterfront perimeter. The South Cove was designed as a collaboration between landscape architect Susan Child, artist Mary Miss, and architect Stan Eckstut. It includes wood pergola structures, an overlook, a grove of Honey Locust trees, a wooden pier structure, and a small area of constructed wetland. An upper path goes along the residential buildings and connects to South End Avenue, 3rd Place, 2nd Place, and 1st Place. A lower path is accessible by ramp from the upper Esplanade and provides circulation closer to the water. Seating is provided on both the upper and the lower levels.

South Cove marks the southern limit of the Project Area; however, the Battery Park City Esplanade, continues further south for approximately 1,000 feet. The remaining portion of the Battery Park City Esplanade is still within the Study Area and includes public benches, planting, and pathways, as well as the Museum of Jewish Heritage and National Yiddish Theater, and Wagner Park, which anchors the southern end of the Esplanade. As described below, this area of Battery Park City is currently under construction as part of the South Battery Park City Resiliency Project.

3.2.5.2 Hudson River Park

Hudson River Park is a large, approximately 550-acre waterfront open space resource that extends along the Hudson River from Battery Park City north to 59th Street. The park features a mix of active and passive amenities, including the continuous waterfront esplanade with pathways and seating, lawn areas, tables and chairs, basketball courts, artwork, volleyball, playgrounds, and dog-friendly areas. The majority of Hudson River Park is north of the Project Area, but a small portion of it is within Reaches 1 and 2 (i.e., the area adjacent to the Hudson River Greenway and the area over which the six-foot extension of the North Esplanade is proposed).

3.2.5.3 Hudson River Greenway

The Hudson River Greenway extends along the west side of Route 9A/West Street from Battery Place north to Chambers Street, where the path runs adjacent to Hudson River Park and continues north along the waterfront to northern Manhattan. The Hudson River Greenway provides a bikeway that extends the length of Manhattan. The southernmost portion of the path between Battery Place and West Thames Street also provides a pedestrian pathway with benches.

3.2.6 Study Area Resources

Within the ¼-mile nonresidential Study Area, there are 45 publicly accessible open space resources. These resources include approximately 77.17 acres of open space, including 29.13 acres of active open space and 48.04 acres of passive open space.

The Study Area features a wide variety of open spaces, ranging from small plazas to large parks with an assortment of active and passive features that are operated by a mix of local, state, and federal agencies and private entities. The largest open spaces in the study area are the Battery Park City Esplanade and adjacent parks (26.04 acres), Hudson River Park (0.67 acres in the Project Area, 13.63 acres in the nonresidential Study Area, and 550 acres total), and the World Trade Center (WTC) Memorial Plaza (5.75 acres).

The Battery Park City Esplanade and adjacent parks, Hudson River Park, and the National September 11 Memorial and Museum are described above. It includes pathways, benches, memorial spaces, monuments, eateries, restrooms, lawn areas, a carousel, and play areas. Other open space resources are composed of playgrounds, ball fields, cemeteries, plazas, dog parks, and pocket parks.

3.2.7 No Action Conditions

There will be largely no changes to the open space resources in the Project Area absent the Proposed Project (with the exception of one project to improve drainage in Rockefeller Park described below). However, there are several park redevelopment projects located throughout the Study Area that are expected to be completed by the 2030 analysis year.

An independent project within Battery Park City that will move forward under the direction of BPCA is comprised of targeted drainage improvements in Rockefeller Park with the objective of repairing and improving the existing drainage system and including repair and replacement of inlets coupled with the replacement of broken pipes, where needed. These improvements, which include raising seven currently buried/covered inlet structures, restoring full drainage function at four inlets, and cleaning out twenty inlets, would have very limited and targeted areas of disturbance and are expected to be completed in 2025. The improvements would not impact the overall acreage of open space available within Rockefeller Park.

The South Battery Park City Resiliency Project is located adjacent to the Project Area and is projected to be complete in 2025. The South Battery Park City Resiliency Project is an integrated flood barrier system with interior drainage improvements to the park space. In addition to the flood resiliency measures, the project includes elevating Wagner Park, replacing the existing Pavilion with a new Pavilion closer to the central plaza, elevating a portion of the Pier A Plaza and The Battery, modifying and improving pedestrian access and entry points to the park, and replacing and redesigning the tree-lined allées along Battery Place. Although Wagner Park is being reconstructed there are not expected to be any changes to publicly accessible park acreages in the South Battery Park City Resiliency Project Area.

The Study Area also includes some portions of the Battery Park Underpass and West Street Underpass Project and The Battery Coastal Resilience Project. The Battery Park Underpass and West Street Underpass Project is to be constructed by NYCDOT and will have no impact on Study Area open spaces. The Battery Coastal Resilience Project, a joint effort between the New York City Economic Development Corporation and NYC Parks, would extend from Pier A along the Hudson River Waterfront to The Battery's waterfront esplanade; this project will also not have any direct impact on Study Area open spaces. HRPT recently constructed a children's play area near Pier 26. In addition to the new play area, HRPT has started the design process for a new Estuarium in the upland area between Piers 25 and 26. While there is no fixed date, construction could start as soon as two years for now. Absent the Proposed Project, the new Estuarium would serve as a new environmental education and research facility for community members, educators, and scientists. Finally, the Study Area includes Albany Street Plaza, a temporary open space on the WTC Site 5 development site. The plaza was developed on a 0.21-acre portion of the WTC campus and was intended to provide temporary plantings, benches, tables, and artwork to the public as construction awaited approvals. Under the No Action condition, the plaza is to be reconstructed as part of the WTC Site 5 development, which will include designated public open space on the project site.

3.2.8 Proposed Action Conditions

The Proposed Project's design would largely be incorporated into existing features and landscapes with the objective of minimizing impacts to Battery Park City open spaces (see **Figure 3.2-2**). While several open spaces and sections of the Esplanade would be affected during construction (see Chapter 3.11, "Construction") each affected open space would be restored, and at project completion there would only be minor modifications to the existing open space resources necessitated to accommodate the flood barrier system with the objective of improving that open space as was recommended during the project design outreach (see Chapter 1.0, "Project Description" for additional detail regarding project design outreach). The following descriptions provide additional details on the impacts to each open space resource by reach.

3.2.8.1 Reach 1

The flood alignment in Reach 1 is primarily inland and would have minimal impacts on public open spaces. The 4,300-sf portion of the Project Area within Hudson River Park would not be impacted in terms of public use or experience (effects on public sidewalks are assessed in Chapter 3.8, "Transportation"). In addition, the Proposed Project would replace street trees impacted by the proposed design, where possible.

The Proposed Project also includes a pump station to be installed in Stuyvesant Plaza, east of Stuyvesant High School. The proposed structure has been sited and designed with several components located below grade to minimize impacts on the public space at this location (e.g., sidewalk, bikeway/walkway) which is an area of high pedestrian use. The majority of the pump station elements are also below grade with the exception of an at-grade operations structure to house the electrical power unit and the operational components for the below-grade mechanical systems. For the at-grade structure there are three design options under consideration, with the largest option proposing a structure at grade that is approximately 30 feet long by 18 feet wide and 37 feet high to house the power connections and operating panels that would activate the pumps and emergency backup power connections to portable generators, if needed (see Chapter 1.0, "Project Description" for more details). There would also be at-grade hatches for the purposes of accessing the below grade system. Maintenance requirements would include periodic inspections as well as pre- and post-storm event inspections to inspect and clean the system, as needed. These inspection and maintenance activities are expected to be infrequent (e.g., annually or after a major storm event). The proposed above-grade structure would be limited in size, and the activities to operate and maintain the facility would be infrequent. Therefore, it is concluded that the proposed pump station would not result in any significant adverse impacts on this open space area or its utilization.

3.2.8.2 Reach 2

The flood alignment in Reach 2 runs along the Stuyvesant High School's northern façade and includes a 6-foot-wide, approximately 4,500-sf expansion of the North Esplanade over the Hudson River and extending into Hudson River Park to be maintained by BPCA (see also Chapter 3.6, "Natural Resources," for detailed descriptions of the potential effects of Reach 2 on the Hudson River ecosystem). The North Esplanade



would be split into an upper and lower pathway, divided by new plantings and vegetation, with additional circulation space and seating. Thus, for this project segment at project completion there would be no adverse impacts on open space and with an enhancement to improve pedestrian/cyclist circulation and expanded seating opportunities along the water's edge.

3.2.8.3 Reach 3

The flood barrier system alignment in Reach 3 largely follows the western edge of River Terrace and would result in minor, temporary disturbances to the existing paving and planting areas that are concentrated alongside the existing wall. Also included in the design is reusing the Rockefeller Park Playground equipment for future use resurfacing the basketball courts and improving the arrangement of the basketball hoops and layout. The Proposed Project also includes a planting strip adjacent to the flood alignment along the River Terrace sidewalk and introducing green infrastructure features along the sidewalk, such as bioswales. In conclusion, the Proposed Project would not change the overall acreage of the open space resources, but is proposing to improve the condition of active and passive areas in this reach.

3.2.8.4 Reach 4

The proposed design in this reach replaces the existing platform with an elevated platform and integrated flood barrier while allowing for the continued operation of the Ferry Terminal with minimal impacts to the waterfront open space resources. The elevated platform would connect to the existing platform at both ends with a gentle slope, maintaining universal accessibility. In addition, the existing Lily Pond is to remain in its current location with a newly planted area and immersive pedestrian path provided south of the pond. Overall, under the proposed design, Reach 4 increases planting and optimizes the circulation pathways for pedestrians, including the elimination of stairs to enhance universal accessibility. Under the proposed design, the circulation area along the Esplanade north of the Ferry Terminal is widened and simplified to address pedestrian congestion and conflicts with passengers queuing for the ferry. Circulation along the façade of the building at 300 Vesey Street would also be maintained with the introduction of a secondary path. In sum, the Proposed Project would not reduce the amount of open space available to the public in this Reach.

3.2.8.5 Reach 5

Under the proposed design, the Proposed Project maintains the existing elevated circulation and dining terraces around the North Cove Marina, as well as the lower Esplanade, and aligns the flood barrier system at the grade break between the two open spaces. The existing spaces here are plazas, a grove at Belvedere Plaza, rows of ornamental trees, and dining terraces at Brookfield Place, Kowsky Plaza, Sirius Dog Run, New York City Police Memorial, and Pumphouse Park. The Proposed Project would introduce switchback ramps between the lower Esplanade plaza and Brookfield Place that in-turn increases seating opportunities, improves accessibility across levels, and adds pockets of trees and vegetation. These modifications to the current plaza are minimal and would not affect its primary functions as a public gathering and event space, its maritime features, or public views of the water. There are no impacts to

Kowsky Plaza and the Sirius Dog Run. The existing Volleyball mat currently in-place would be reinstalled after construction, along with the adjacent seating. The Proposed Project's design does include the removal and replacement of several large trees in Belvedere Plaza and along the perimeter of Pumphouse Park; this tree removal is necessitated by the introduction of the flood barrier systems System and the installation of the proposed below grade flood control gates needed to isolate and prevent flooding through the subsurface cooling water tunnels (see the discussion below under "Impacts to Trees and Landscaping").

3.2.8.6 Reach 6

In Reach 6 the Proposed Project introduces new and redesigned open spaces that includes replacing the existing privacy wall separating the terraces of the ground and lower floors of the adjacent buildings from the South Esplanade. Under the proposed design the South Esplanade at the water's edge remains in its existing condition and a secondary, winding path inland of the South Esplanade is provided to maintain a separation of space and facilitate pedestrian strolling. This secondary path would also maximize planting and provide more seating opportunities. Under the proposed design, a limited segment of the existing platform and South Esplanade in front of the Gateway Condominium is to be replaced and elevated; the new elevated South Esplanade would connect to the existing Esplanade on both sides with a gentle slope, maintaining universal accessibility. The Proposed Project would also introduce new seating elements and public spaces at the three street ends of Albany, Rector, and West Thames Streets. The proposed modifications to the street ends and to the South Esplanade would improve universal accessibility, encourage increased interaction between the users and natural landscapes, and would not adversely affect open space area or function once installed.

3.2.8.7 Reach 7

For the purpose of minimizing impacts on the public space and experience in South Cove, the flood barrier system alignment in Reach 7 is parallel to the existing privacy walls in this reach. Under the proposed design, immersive plantings are to be provided along the north side of the South Cove with seating and shade structures along the flood barrier system. Under the Proposed Project, the existing ramp leading to the lower-level Esplanade, along South Cove, is to be reconstructed to account for changes in the proposed grades along the walkway. The Proposed Project would also include a new waterside ecological experience along the wall facing the water with public demarcations of the water elevations of past storms to encourage public education on coastal storm vulnerability. As a result, there are no changes in total open space with the proposed Reach 7 flood barrier system and design enhancements.

3.2.9 Impacts to Trees and Landscaping

The Proposed Project has been designed to minimize impacts to trees to the greatest extent feasible. (Additional information specifying the tree removals, tree protection, and replacement trees are discussed in greater detail in Chapter 3.5, "Natural Resources.") Installation of the Proposed Project would require the removal of an estimated 420 trees that are part of the created landscapes of Battery Park City and Tribeca within the project area; an estimated 390 replacement trees are also proposed to be planted

and approximately 20 trees are potential candidates for transplant. Removed trees are to be replaced with a landscape design that best supports and enhances open space quality, biodiversity and habitat creation, and climate resilience. Proposed tree protection measures during construction would also include protection for both individual trees and groves, including trunk and root protection. All tree removals and protection measures and replacements are to be approved by BPCA as part of the final design.

Within the Project Areas that fall under NYC Parks jurisdiction, approximately 21 street trees are proposed to be removed. BPCA is therefore proposing to replace these trees in a manner consistent with the requirements for areas within NYC Parks jurisdiction and provide the required restitution. A tree replacement plan would therefore be submitted to NYC Parks for review and approval as part of the project's final design. Furthermore, there would be a limited landscaping area and number of trees (5 or fewer) that would be disturbed during construction in or adjacent to the southern boundary of HRPT's jurisdiction. Work within the HRPT jurisdiction would be carried out in accordance with the appropriate work permits from HRPT and coordinated closely with the Trust.

As part of the final design process, BPCA in coordination with its design team will continue to review the proposed designs with the objective of maximizing tree replacement and finding locations along the project corridor where it may be acceptable to FEMA through its variance procedures to plant trees and enhance environmental values without compromising the flood barrier system functionality, safety or the necessary maintenance, inspection and repair of the proposed flood barrier. Also being explored are opportunities within Battery Park City for additional tree replacement plantings along public street corridors and open spaces

In addition to trees, the Proposed Project includes replanting all planted areas affected by construction and replacing the majority of trees, shrubs, and herbaceous plants throughout the Project Site with native or adaptive species with the objective of enhancing plant diversity and habitats.

3.2.10 Conclusions

The Proposed Project, once completed, would not result in any significant adverse direct or indirect impacts on open space resources in the Project Area or surrounding Study Area. It would not introduce new workers or residents, nor would it change existing park acreage or the study area's open space ratio. The Proposed Project would also not result in a physical loss of public open space area, alter the use of the open spaces or usability, impede public access to open spaces, or the quality of the resources by introducing increased noise emissions, air pollutants, odors, or shadows once operational.

For the above reasons, it is therefore it is concluded that the Proposed Project would not result in any significant adverse impacts on open space resources during its operation (potential impacts on open space during construction are analyzed in detail in Chapter 3.11, "Construction").