107th Street Pier – Bobby Wagner Walk
Borough of Manhattan, New York County
Phase1A Archaeological Assessment

Project No. 23PR06557 **DRAFT**

Bobby Wagner Walk (archaeological APE) looking N near 95th Street and the East River with concrete topped seawall (bottom right) and the 103rd Street Pedestrian Bridge to Wards Island (right background). (photo: J. Geismar 4-19-2023)

Prepared for NYC Parks and NYC EDC
Through Stantec Consulting, Inc.
Prepared by Joan H. Geismar, Ph.D., LLC
December 2023/January 2024

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MANAGEMENT SUMMARY

Project Review Number: 23PR06557
Involved Agency: USACE, NYCEDC, NYC Parks
Phase of Survey: 1A

Location: 107th Street Pier – Bobby Wagner Walk, East and Harlem Rivers
Borough of Manhattan, County of New York

Survey Area: Project APE 94th to 107th Streets and 117th to 124th Streets, an area of approximately 206,000 sq ft. (19,138 sq. m) and c. 1 mile (1.6 km) long.
USGS 7.5 Minute Quadrangle Map: Central Park

Archaeological Survey Overview:
The 107th Street Pier – Bobby Wagner Walk is a New York City Capital project seeking permits from the Army Corps of Engineers (USACE). In addition, approvals are sought from the NYC Economic Development Corporation (NYC EDC), NYC Parks, and the NYS Department of Environmental Conservation (NYS DEC). The project, a partnership between NYC EDC and NYC Parks, in consultation with the NY State Historic Preservation Office (NY SHPO), is to improve, rehabilitate, or reconstruct existing bulkhead/seawall in two sections of the Bobby Wagner Walk. It will also reconstruct the 107th Street recreational pier, now in total disrepair, that replaced a "Dumping Board" pier in c. 1931 and was reconstructed in 1990. The NY SHPO determined the 107th Street Pier eligible for listing in the NRHP (SR/NR); determination of the eligibility of the associated bulkhead/seawall is pending. Li/Salzman Architects (LSA) is the project's historic preservation consultant. Joan H. Geismar, Ph.D., as archaeological consultant to Stantec Consulting, Inc., prepared the 1A assessment.

The Bobby Wagner Walk is a component of the East River Waterfront Esplanade that is part of the 32-mile Manhattan Waterfront Greenway. The archaeological APE (area of potential effect), where direct construction impacts will occur, includes the project's two sections of the Bobby Wagner Walk and the 107th Street Pier. Originally land under water, a comprehensive waterfront map that documents conditions between 93rd and 100th Street in 1887 (updated to 1925 with additions to 1936) indicates that side-by-side marginal and exterior streets (parallel wharves) extended the land mass. Between 1934 and 1941, construction of the FDR, now a National Register Eligible property, replaced the marginal street, and the adjacent shoreline park that includes the APE replaced the exterior street. From 94th Street to 107th Street, the APE's south section is founded on bulkhead/seawall either constructed or rehabilitated during the FDR's construction, as is part of the APE's north section from 117th Street to 119th Street. From 119th Street to 124th Street, which includes access to the Robert F. Kennedy - Triborough Bridge, the north section is erected on the seawall and disturbed landfill.

No archaeological potential was identified. Should construction-related activities, such as staging, extend or alter the archaeological APE, the issue of potential but unlikely archaeological sensitivity would be assessed.

Results of Archaeological Survey
Number and Name of Pre-contact Sites Identified: (0)
Number and Name of Historic Sites Identified: (0)
Number and Name of Sites Recommended for Phase II or Avoidance: (0)

Recommendations
An Unanticipated Discovery Plan (UDP) is recommended as a precautionary measure.

Report Author: Joan H. Geismar, Ph.D.
Date of Report: December 2023/January 3, 2024

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Research/Report: Joan H. Geismar, Ph.D.
Graphics: Amy Geller

INTRODUCTION

This Phase 1A documentary report addresses the archaeological potential of the 107th Street Pier and Bobby Wagner Walk in Manhattan, New York County (hereafter 107th Street Pier – BWW; Project No. 23PR06557). The report was prepared for the New York City Department of Parks (NYC Parks) and the New York City Economic Development Corporation (NYC EDC), a project partnership, in consultation with the NY State Historic Preservation Office (NY SHPO). The project includes reconstruction of the 107th Street Recreational Pier, a property the NY SHPO determined eligible for listing in the State and National Register of Historic Places (SR/NR). Determination of the eligibility of the associated bulkhead/seawall is pending. Li/Salzman Architects (LSA) serves as the project's historic preservation consultant and Joan H. Geismar, Ph.D., as archaeological consultant to Stantec Consulting, Inc., carried out the archaeological assessment that focuses on the area of direct construction impacts, that is, the archaeological area of potential effect (hereafter the APE).

The project area is a component of the East River Esplanade and, as such, is part of the East River Greenway that, in turn, is part of the 32-mile Manhattan Waterfront Greenway intended to circle the Manhattan shoreline. The walk, which is New York City parkland, is named for Bobby Wagner, a grandson of a New York senator and son of a long-time New York City mayor, and himself a politician and a neighborhood resident (NY Times 1955). The Bobby Wagner Walk, which runs from 92nd Street to 125th Street along the East and Harlem Rivers, is defined by bulkhead/seawall to the east and the Franklin D. Roosevelt East River Drive (FDR) to the west. The project area and APE comprise two segments of the walk, from 94th Street to 107th Street and from above 117th Street to 124th Street, and includes the off-shore 107th Street Pier (Figure 1), a total of approximately 206,000 sq. ft. and about one mile (1.6 km) long (adjacent to Tax Blocks 1573, 1575, 1690, 1691, 1693, 1694, 1696, 1699, 1700, 1716, 1806, 1808, 1811, 1812, 1815). In addition to rehabilitating bulkhead and the adjacent walkway, and the reconstruction of the 107th Street Recreational Pier, the project addresses the potential for a 2- to 3-ft. (0.6 to 0.9 m) sea level rise.

The archaeological assessment was triggered by the project's status as a New York City Capital project seeking a permit from the US Army Corps of Engineers (USACE), the federal lead agency for the undertaking. It therefore comes under environmental review in compliance with the Historic Preservation Act of 1966 as amended. In addition to the USACE, NYC EDC, and NYC Parks, approvals are also sought from the NYS Department of Environmental Conservation (NYS DEC). As a courtesy, the New York City Landmarks Preservation Commission (NYC LPC) is also expected to review the report.

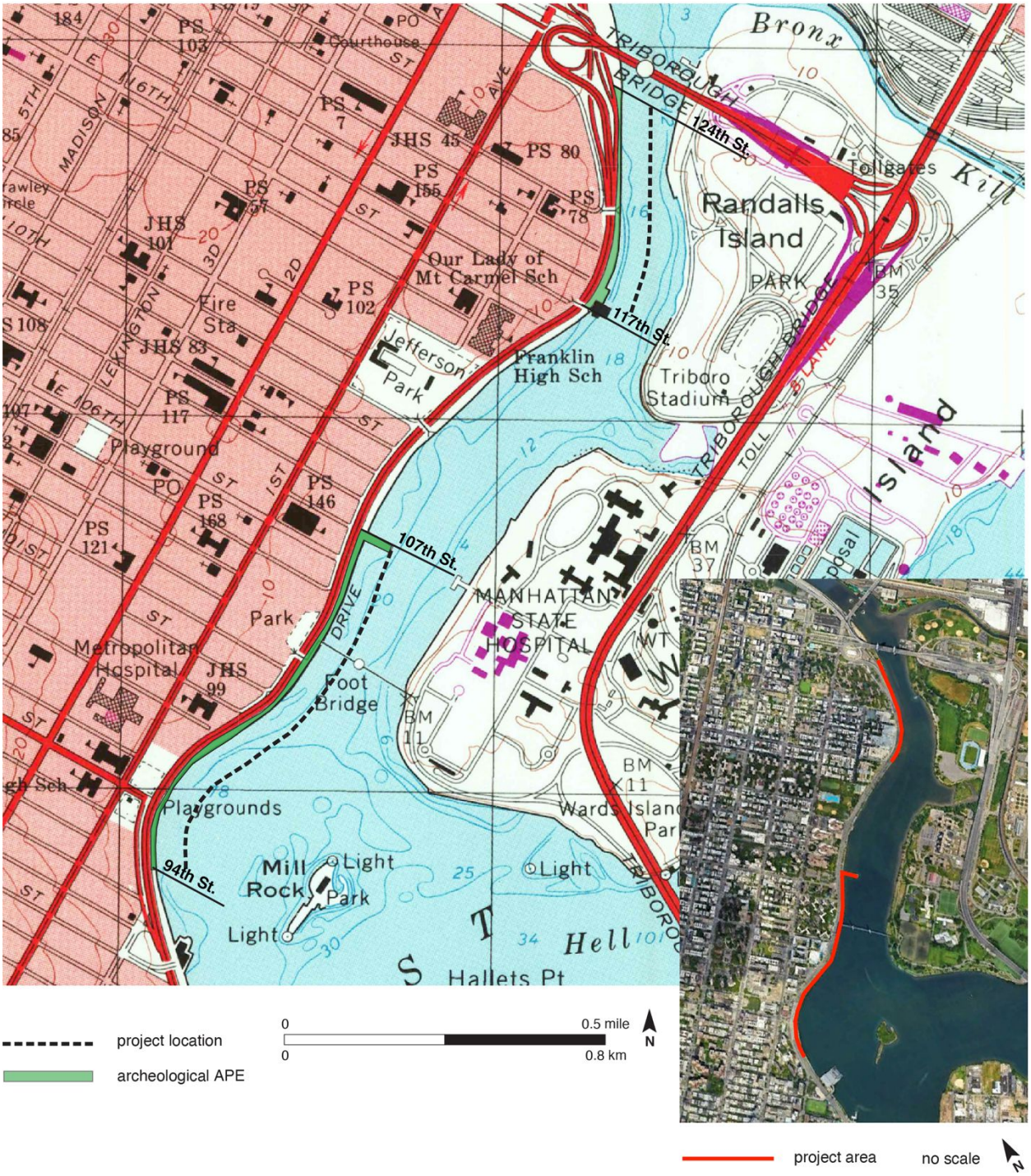
Primary sources for the assessment were maps and/or plans and photos from the Municipal Archives, the Topographical Bureau of the Manhattan Borough President, and NYC Parks. Sources also included photos from the MTA Bridges and Tunnels Special Archive and Digital Collections of the New York Public Library. Other on-line resources included, but were not limited to, the *New York Times* Digital Archives and various engineering documents and agency records. Stantec Consulting Services provided project related information, such as project plans and consultant reports, and Li/Saltzman Architects, the aforementioned historic preservation consultant, interacted and shared information. I thank Ken Cobb (NYC Department of *Records)*, Hector Rivera (Borough Manhattan President's Office, Topographical Bureau), Colleen Alderson and Jose Lopez (NYC Parks), and Mary Hedges and Nellie Hankins (MTA Bridges and Tunnels Special Archive) for their invaluable research support.

PROJECT AREA AND THE ARCHAEOLOGICAL APE

In 1937, the East River Esplanade from 92nd Street to 125th Street came under the jurisdiction of NYC Parks while the Triborough Bridge Authority maintained jurisdiction of the East River Drive, now the FDR, then under construction (NY Parks and Triborough Bridge Authority 1937; Figure 2).

107TH ST. PIER—BWW Project Location, Archaeological APE (Central Park Quad 1995, detail) and Aerial View (Google Earth 2022)

1



E. 94th to 109th Streets

E. 109th to 124th Streets

FDR Drive

APE

0 400 ft
0 121.9 m

Eight years earlier, in 1929, Julius Miller, the Manhattan Borough President, had promoted the idea of a highway along the East and Harlem Rivers (NYT 1929) and, in 1935, Robert Moses, as head of the Triborough Bridge and Tunnel Authority (as well as New York City's Parks Commissioner) planned the new East River Drive. Upon the death of President Franklin Delano Roosevelt in 1945, Moses initiated a plan to rename the drive in his honor, and it officially became the Franklin D. Roosevelt East River Drive. Constructed in sections, the FDR extends north from Battery Park Tunnel in Lower Manhattan to 125th Street where it becomes the Harlem River Drive (see Figure 1). In 2013, the six-lane drive, which defines the western limit of the project area and the archaeological APE, was determined eligible for listing in the National Register of Historic places (NY SHPO 8/15/2013).

Photos from site visits on April 19 and April 25, 2023, document the width variations and variable vegetation, features, and furnishings found throughout the APE (Photos 1 to 5).

Photo 1. The APE (right) with the FDR to the left looking north from 94th Street. Note the pavers and the bench seating that is found throughout the APE. The FDR overpass at 96th Street (arrow) provides access to the northbound FDR. (Photo: J. Geismar 4/19/23)

Photo 2. View north looking toward the 103rd Street Pedestrian Bridge (arrow) to Wards Island. Note the vegetation in the planting bed adjacent to the drive wall. (Photo: J. Geismar 4/19/2023)

Photo 3. View north on the APE with the 107th Street Recreational Bridge that defines the north limit of this section of the APE in the background (arrow). The walkway in this area is quite wide. Northbound traffic on the FDR is visible in the center left background. (Photo: J. Geismar 4/19/2023)

Photo 4. View south from the 120th Street pedestrian bridge access to the BWW and APE. A Costco warehouse (116th to 119th Streets on the drive) is in the upper right corner. Note the narrow walkway basically devoid of vegetation in this part of the APE and two men fishing (arrows) (Photo: J. Geismar 4/25/2023)

Photo 5. View north from the 120th Street pedestrian bridge access to the walkway (APE). The northbound FDR lanes (those on the right) lead to the Harlem River Drive; the one that branches off to the left is the access to the RFK-Triborough Bridge. The walkway is somewhat wider here than it is south of the pedestrian bridge but with little vegetation. (Photo: J. Geismar 4/25/2023)

ARCHAEOLOGICAL SITES WITHIN 1-MILE RADIUS OF THE PROJECT

An archaeological assessment typically includes prehistoric archaeological sites on file at the Office of Parks, Recreation and Historic Preservation (OPRHP), the New York State Museum (NYSM), and the New York City Landmarks Preservation Commission (NYC LPC) within a one mile radius of a project site. Three precontact sites relevant to the 107th Street Pier – BWW APE are listed in a 1A report prepared for the MTA Bus Terminal Project located at Second Avenue and 126th Street (HP 2013:5) and shown in Table 1. In addition to these geographically relevant sites, a concern specific to the MTA Bus Terminal Project proved to be a former African American burial ground (AKRF 2016) that has no bearing on the archaeological sensitivity of the 107th Street Pier – BWW project site.

Table 1. Precontact Sites Within a One-Mile Radius of the 107th St. Pier–BWW APE (HP 2013:5)

Site #	Distance from APE	Time Period	Site Type
NYSM Site #4063	15 blocks south at 110th Street and the Harlem River	Unknown precontact	"larger camps or fishing places of the Reckgawawancks...."
NYSM#4064 06101.000541 Conykeest Site	East 119th and East 122nd Streets and the Harlem River	Unknown precontact	Unknown
NYSM#7248	Park Avenue and the Harlem River	Unknown precontact	Traces of precontact occupation

The 2013 HP report also discusses precontact archaeological sensitivity in "Rechgawanes" land located "south of 109th Street west of the confluence of the East and Harlem Rivers" and the "stream that once ran along the route of East 107th Street" (HP 2013:5). This stream is the former creek in the 107th Street Pier–BWW project area variably identified as Harlem Creek (Randel 1820), Benson's Creek (Supreme Court 1868), and erroneously as Penson's Creek (British Headquarters 1782),[1] that flowed into the Harlem River in the vicinity of the what is now the 107th Street pier. "Indian Trails" are also known in the area (Bolton 1912; Grumet 2008). That said, any potential prehistoric sensitivity has proved irrelevant to the current assessment since, as discussed below, the archaeological APE is a mid-20th century shoreline extension that, in the most northern part, is partially situated on reclaimed land disturbed by construction of the approach to the RFK–Triborough Bridge (see below).

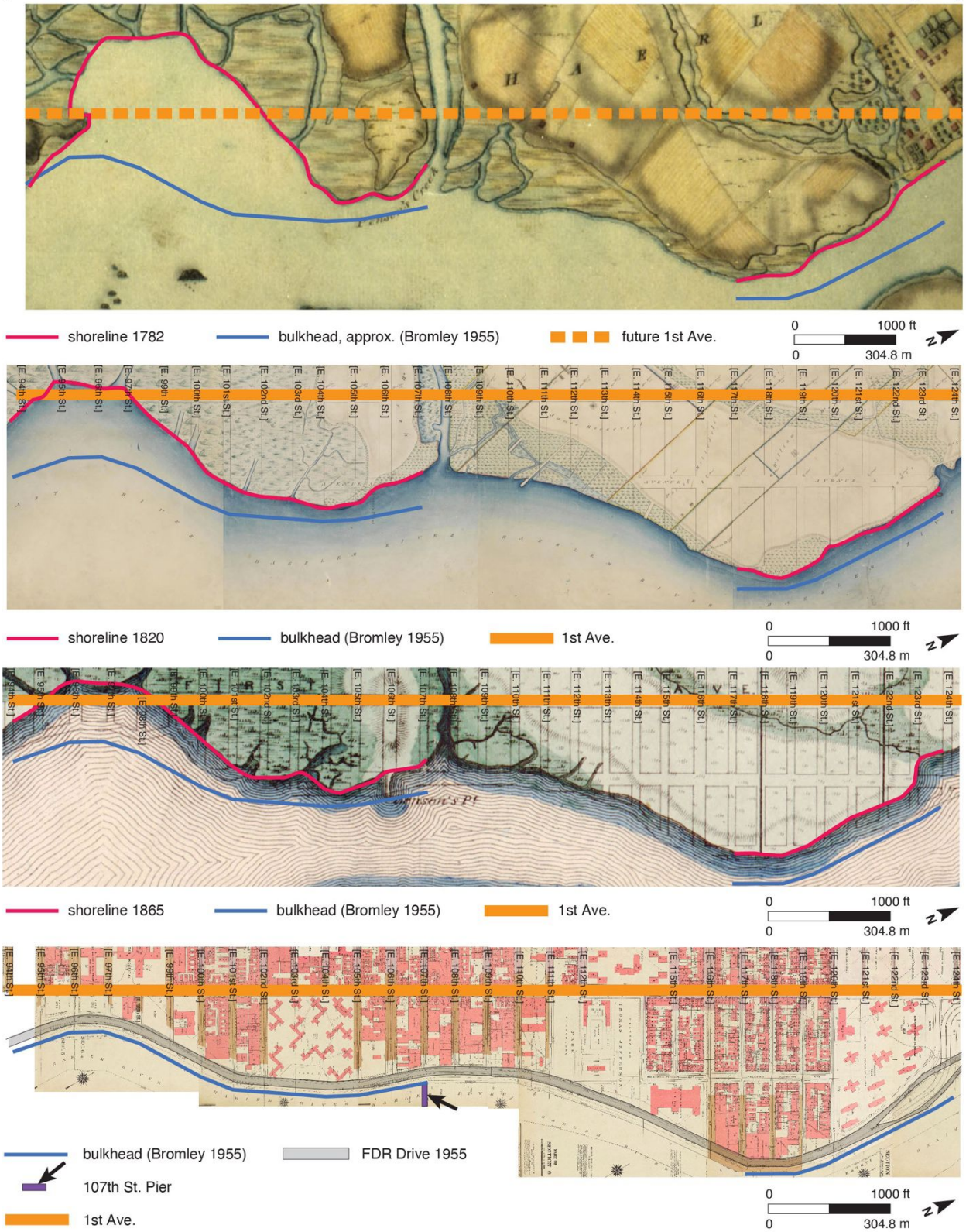
Several historical-era archaeological reports within a one-mile radius of the project site are on-file in the NYC LPC report archive (AKRF 2016; HP 2013; Geismar, 2010) but neither their location nor identified archaeological issues are relevant to the 107th Street Pier – BWW APE. Other archaeological reports on file address the issue of Hudson River bulkhead that are of interest if not geographically relevant (AKRF 2022, HP 2020).[2]

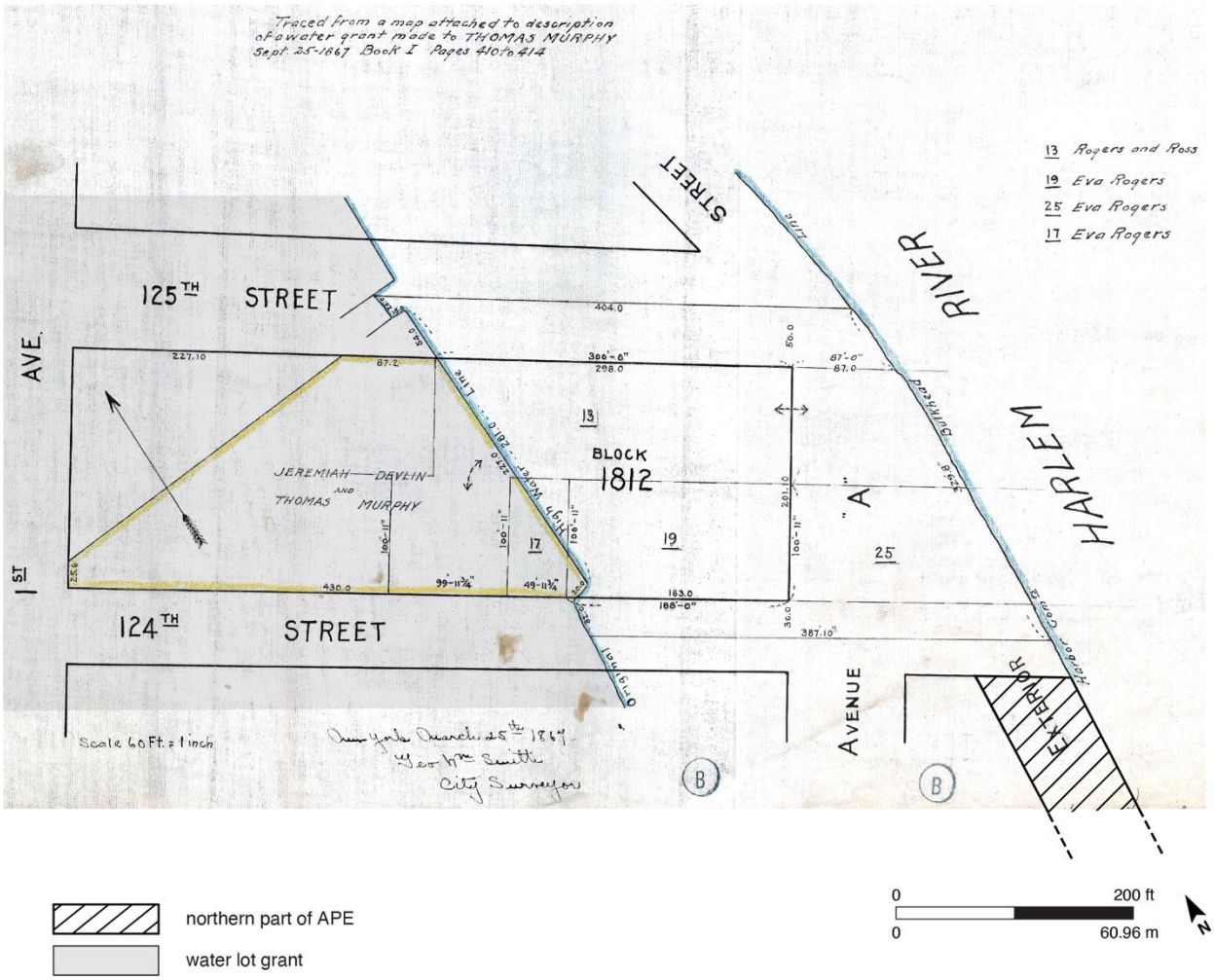
THE EAST AND HARLEM RIVER SHORELINE IN RELATION TO THE APE

Several historical maps document the evolving shoreline of the APE. Among them are the 1782 British Headquarters Map; John Randel's 1820 farm maps; Egbert Viele's 1865 reconstruction of Manhattan topography; and Bromley's 1955 *Manhattan Land Book.* Together they document an evolving shoreline (Figure 3) and suggest the land reclamation that occurred throughout the APE, a finding supported by an 1867 water lot grant (Murphy 1867; Figure 4).

[1] "Penson's Creek" indicated on the 1782 British Headquarters Map is more than likely a map maker or surveyor's error as the creek is identified as Benson's Creek, named for a local 18th-century landowner family (State Supreme Court 1868:190-192).
[2] A potential historical issue associated with Hudson River bulkhead below West 59th Street is related to early iterations of gravity wall bulkhead (HP 2020 Appendix:9-10), an issue not documented in the 107th Street-BWW APE.

107TH ST. PIER—BWW Evolving Shoreline in Project Area (British Headquarters 1782, Randel 1820, Viele 1865, Bromley 1955, details) **3**




Traced from a map attached to description of a water grant made to THOMAS MURPHY Sept. 25-1867 Book I Pages 410 to 414
13 Rogers and Ross
19 Eva Rogers
25 Eva Rogers
17 Eva Rogers
125TH STREET
124TH STREET
1ST AVE.
AVENUE "A"
HARLEM RIVER
BLOCK 1812
JEREMIAH DEVLIN AND THOMAS MURPHY
404.0
227.10
87.2
300'-6"
298.0
87'-0"
87.0
430.0
99'-11¾"
49'-11¾"
163.0
188'-0"
387.10'
Scale 60 Ft. = 1 inch
City Surveyor
northern part of APE
water lot grant
0 200 ft
0 60.96 m
N

A detailed 1887 waterfront map updated to1925 with minor additions to 1936 shows the shore from 94th Street to 100th Street and indicates that marginal and exterior streets were located where the FDR and APE are now found. Sydney Willet Hoag, a distinguished late-19th and early-20th century Civil Engineer, and a longtime member and, for a time, head of the American Society of Civil Engineers, identifies marginal and exterior streets as parallel wharves that extend the landmass (Hoag 1906:53). The project area is included in one of his discussions:

> …a 70-ft. street was established by the Common Council, October 29, 1859, extending from East Eighty-ninth Street northerly along the East and Harlem Rivers to the Hudson River, with its exterior line coinciding with the bulk-head and pierhead line established by the Harbor Commissioners of 1857, the city thereby coming into possession of additional tracts of land under water along the Manhattan shore of the Harlem River (Hoag 1906:35).

The exterior street indicated on the updated 1887 waterfront map is a revision of McClellan's 1871 exterior street plan finally approved in 1883 (Sinking Fund 1883-1886: 2136-2138).[3] This former shoreline street is now the location of the APE and the FDR is located where the 1887 map shows an adjacent marginal street (Figure 5). The 1887 map also identifies timber bulkhead, piers, and platforms in the vicinity of 100th Street (see Figure 5) but Hoag describes the extensive dredging associated with the introduction of gravity wall bulkhead that ultimately would have eliminated evidence of these shoreline features and any ephemeral structures (Hoag 1906:108). As noted, the 1867 water lot grant adjacent to the northern limit of the APE was then land under water (see Figure 3), as was the entire archaeological APE.

THE 107th STREET PIER

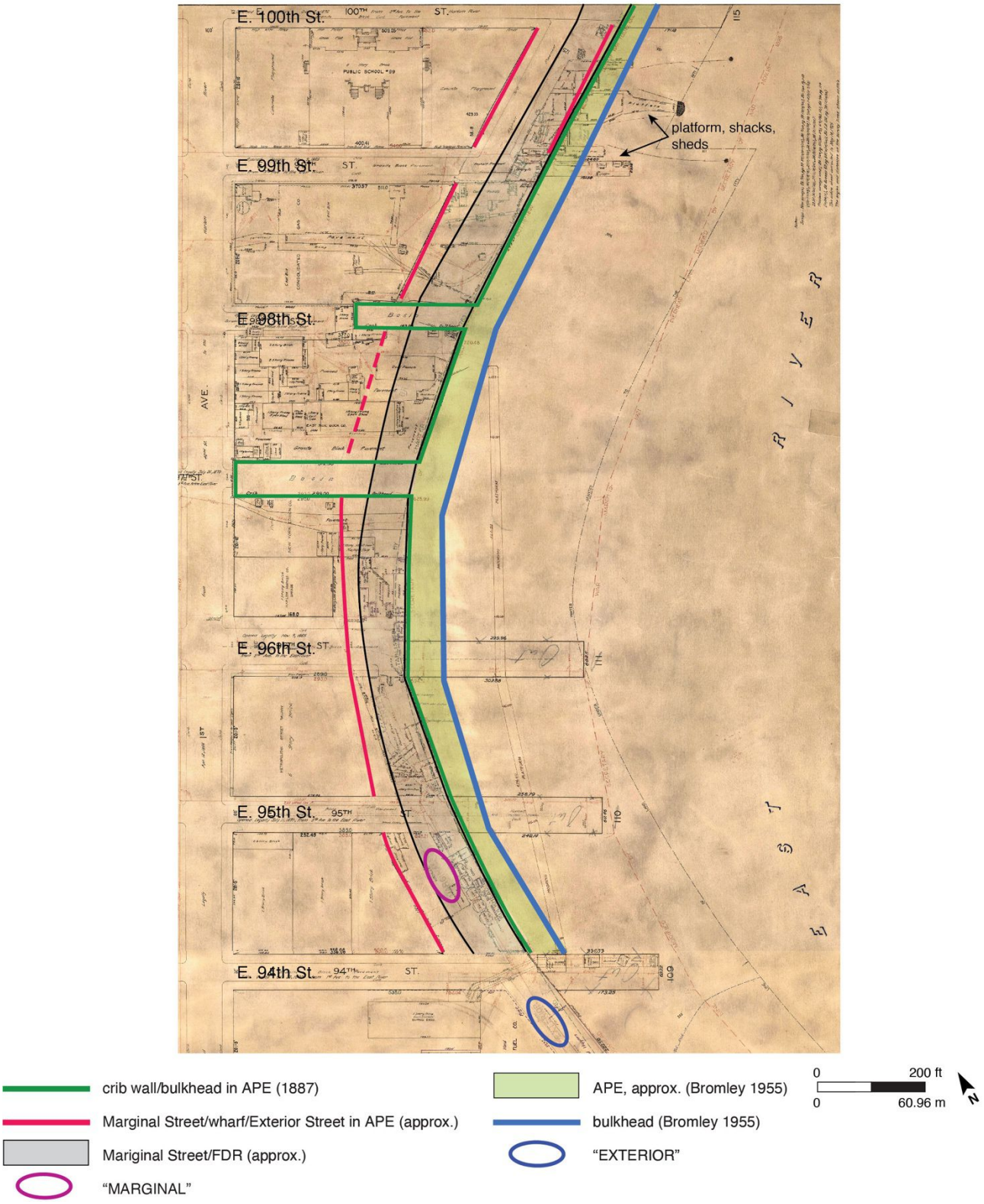
According to on-line NYC Parks historical data, the Docks Department completed construction of the original 107th Street Pier on the Harlem River in 1931, and while it might be somewhat later, it was prior to 1936. This recreational pier replaced a former "dump board," one of many similar off-shore Manhattan sanitation facilities (15 in 1918) where collected street waste was transferred to barges for disposal in deep water (a 1903 film shows a dump board believed to be located on the East River south of the project area: https://www.youtube.com/watch?v=dGs9Ve-Pw74]).

The 107th Street Recreational Pier was larger than the dump board it replaced, but both were off-shore structures supported on timber piles. As noted, the 1782 British Headquarters Map and the 1820 Randel map both indicate the early local terrain was marshland associated with Harlem (or Benson's) Creek (see Figure 6 for a detail of Randel 1820).

[3] In 1871, the Commissioner of Docks submitted to the Commissioners of the Sinking Fund plans, drawings, estimates, etc. for the permanent improvement of the waterfront of the harbor of the city of New York prepared by Gen. George. B. McClellan, Engineer-in-Chief of the Department of Docks, for their adoption or rejection as provided by chapter 574 of the laws of 1871. It was only partially reviewed and adopted by the Commissioners of the Sinking Fund from the Battery to Sixty-first Street on the Hudson River and on the East River to Grand Street with no further action. Twelve years later George S. Greene, then Engineer-in-Chief of the Department, called for a 175-ft. wide paved Exterior Street that the Commissioners found more acceptable than McClellan's 1871 plan and it was adopted on March 9, 1883 (Commissioners of the Sinking Fund 1883-1886).

107TH ST. PIER—BWW APE 94th to 100th Street in 1887 Updated to 1925 with Minor Additions to 1936 (Municipal Archives 1925/1936)

5



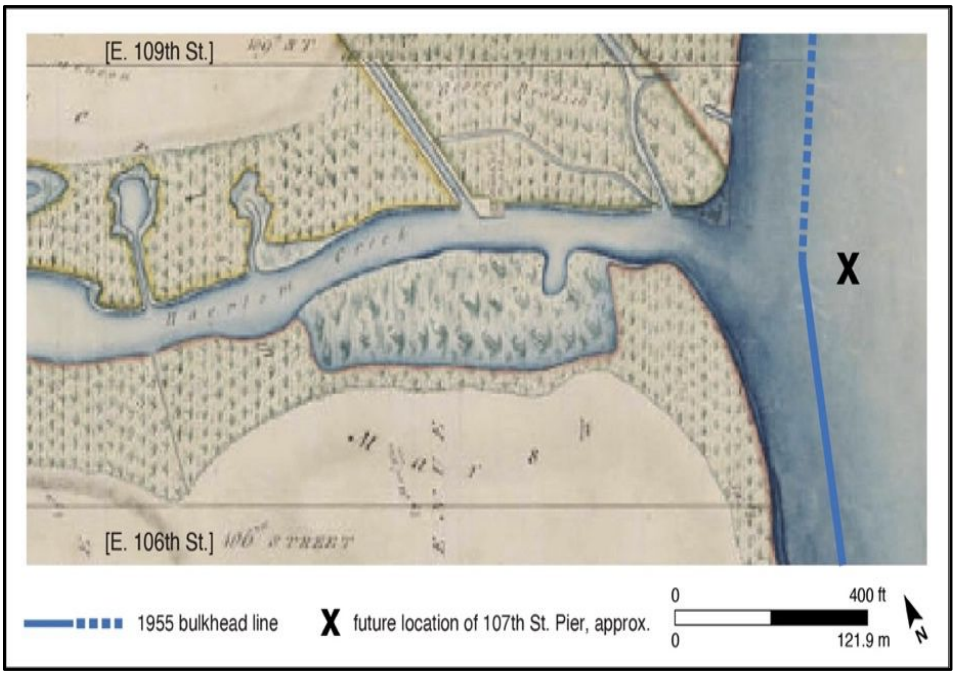


Figure 6. The terrain in the vicinity of 107th Street and the Harlem River shown on the1820 Randel Farm Map with the future location of the 107th Street Pier indicated.

In 1911, reclaimed land adjacent to the 107th Street dump board was sparsely but commercially developed (Bromley 1911; Figure 7) and purportedly by 1931 (NYC Parks History ND), but definitely by 1936, the 107th Street recreational pier had replaced the dump board.

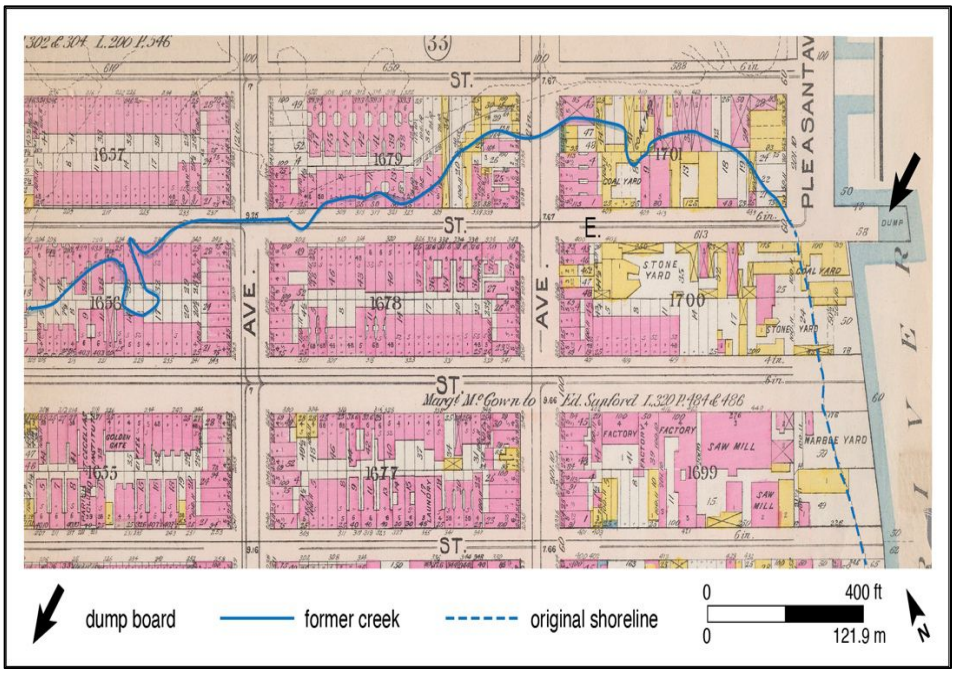


Figure 7. Harlem River and 107th Street in 1911, the location of the dump board. Land reclamation and development are documented (Bromley 1911: Pl. 32).

BULKHEAD DEVELOPMENT IN THE PROJECT APE

Timber crib was the usual land-retaining shoreline feature in the project area prior to 1871. Carleton Greene, in his 1917 book, *Wharves and Piers,* illustrates this ubiquitous New York City retaining wall (Greene 1917:53; Figure 8). However, following the creation of the New York Dock

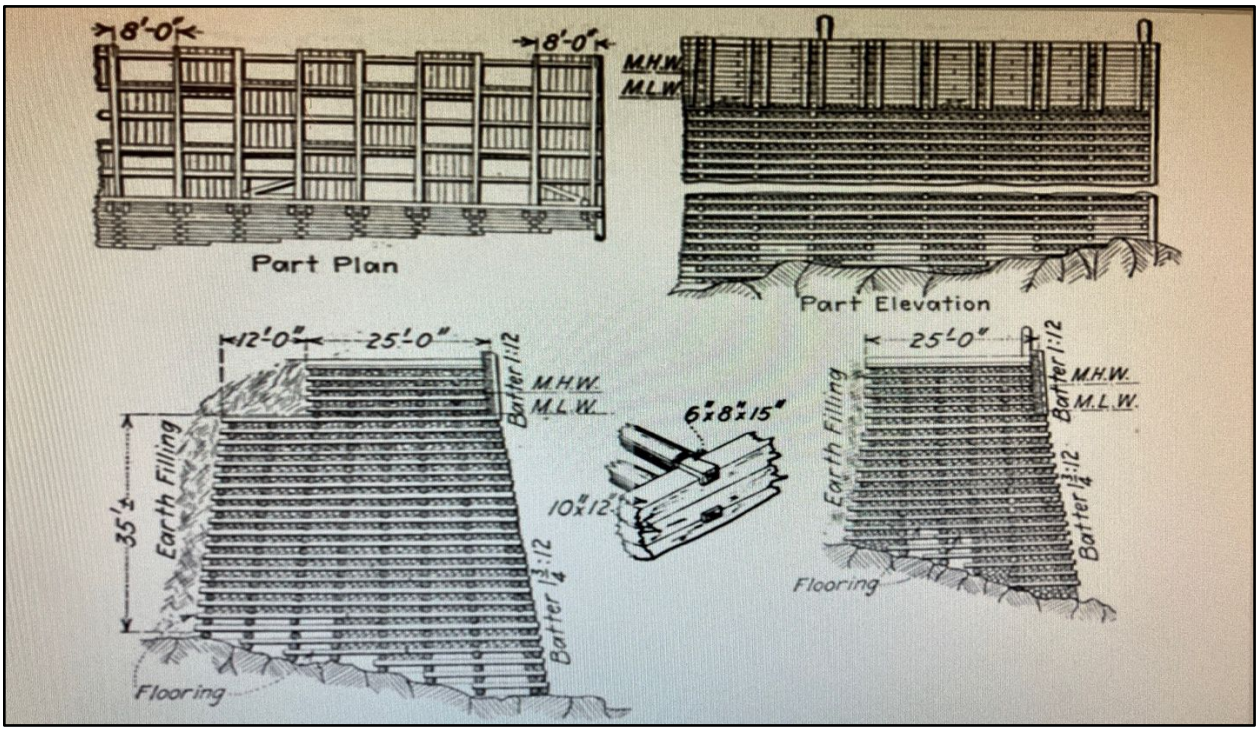


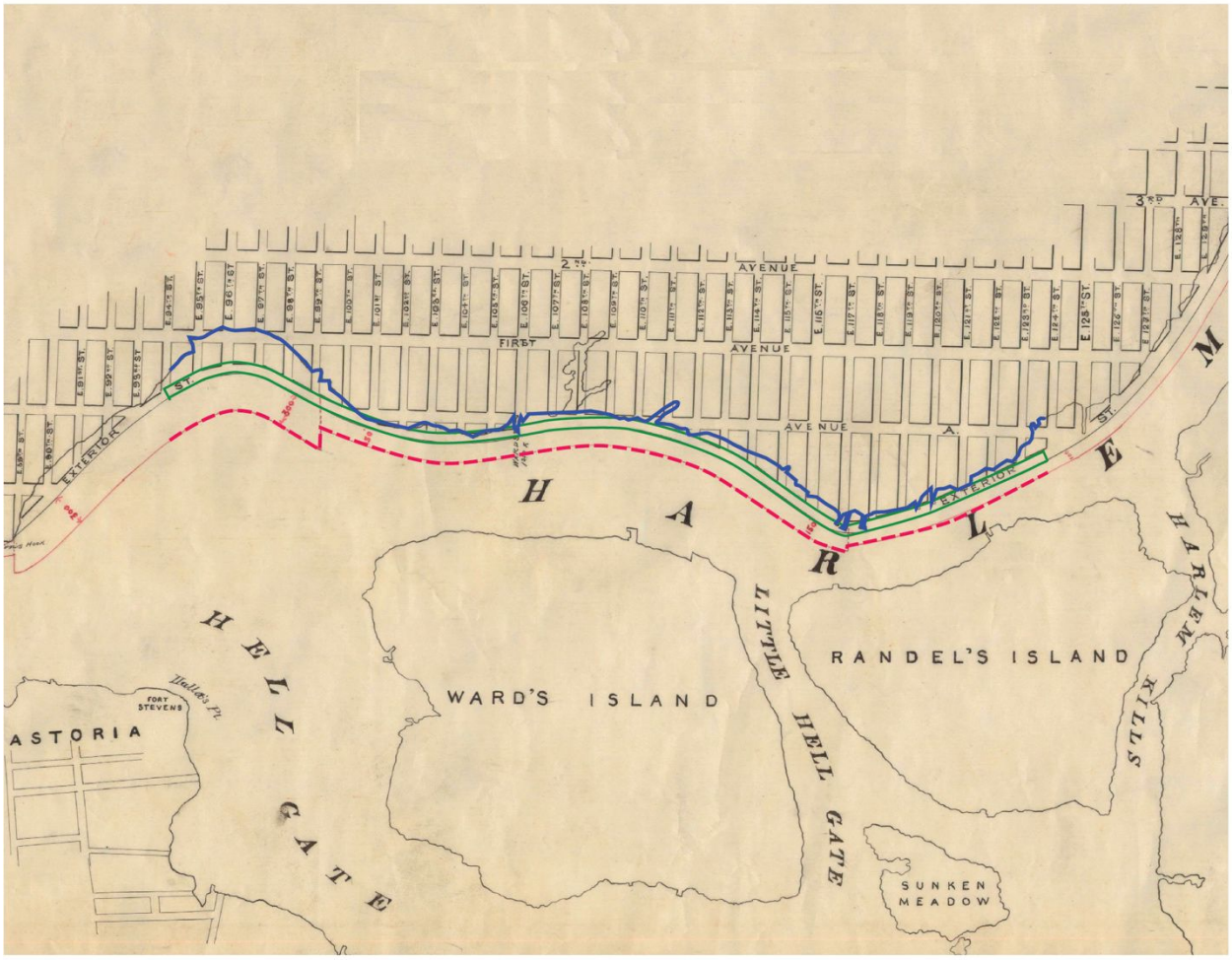
Figure 8. A round log crib wall illustrated in Carleton Greene's book, *Wharves and Piers (Greene 1917: 53)*, one of many crib wall variations.

Commission in 1870, and the introduction of a granite gravity bulkhead wall on piles on the Hudson River a year later, a revolutionary change occurred (Hoag 1906:110). The bulkhead was the creation of General George B. McClellan, the first Engineer-in-Chief of the new Docks Department who, a year later, introduced modifications to his original design that included longer piles and a stone-faced concrete block gravity wall.

When McClellan introduced his new bulkhead design, he was the Engineer-in-Chief of the New York City Docks Department, as mentioned, a city commission established in 1870. The commission was headed by five New York City "citizens," none of whom were involved in shoreline issues (they included a tobacconist and an ex-dry goods merchant). According to the *New York Times*, all were "beholden to the corrupt 'Tammany Ring' " (*NY Times* 1871). However, as noted in *Manhattan Water-Bound*, while the commissioners may have left something to be desired, "those active in the Docks Department were well qualified to carry out the department's duties" (Buttenwieser 1999:65), and General George B. McClellan is a prime example.

McClellan, a somewhat controversial albeit revered Northern Civil War General (NY Times [letters] 1871;1877) and the department's first Engineer-in-Chief, not only introduced an innovative gravity wall bulkhead on piles, he also proposed an Exterior Street along Manhattan's shoreline (McClellan 1871; Figure 9) that was not approved at the time, but was adopted with modifications made by George S. Greene, Jr. just over a decade later.

Although McClellan's focus was the Hudson River, the East River to 51st Street was included in his shoreline plan. According to the *NY Times*, however, Manhattan's East Side was not a priority until the turn of the 20th century (*NY Times* 1901), that is, long after McClellan had left the Dock Department, but, as it turns out, it wasn't entirely neglected.


FIRST AVENUE
AVENUE A
EXTERIOR ST.
HARLEM
HELL GATE
ASTORIA
FORT STEVENS
WARD'S ISLAND
LITTLE HELL GATE
RANDEL'S ISLAND
HARLEM KILLS
SUNKEN MEADOW
shoreline
proposed Exterior Street
boundary of lands under water, Jurisdiction of the Department of Docks
0 2000 ft
0 609.6 m
N

Arguably the greatest achievement of McClellan's tenure at the department was the concept and design of gravity wall bulkhead on piles in 1871 and its 1872 improvement. However, it was George S. Greene, Jr., the department's third Engineer-in-Chief, who designed and first introduced his innovative 1876 type bulkhead at North King Street on the Hudson River (Dock Department Annual Report 1877:34-35, Plates 1 and 2; Figures 10a and 10b).

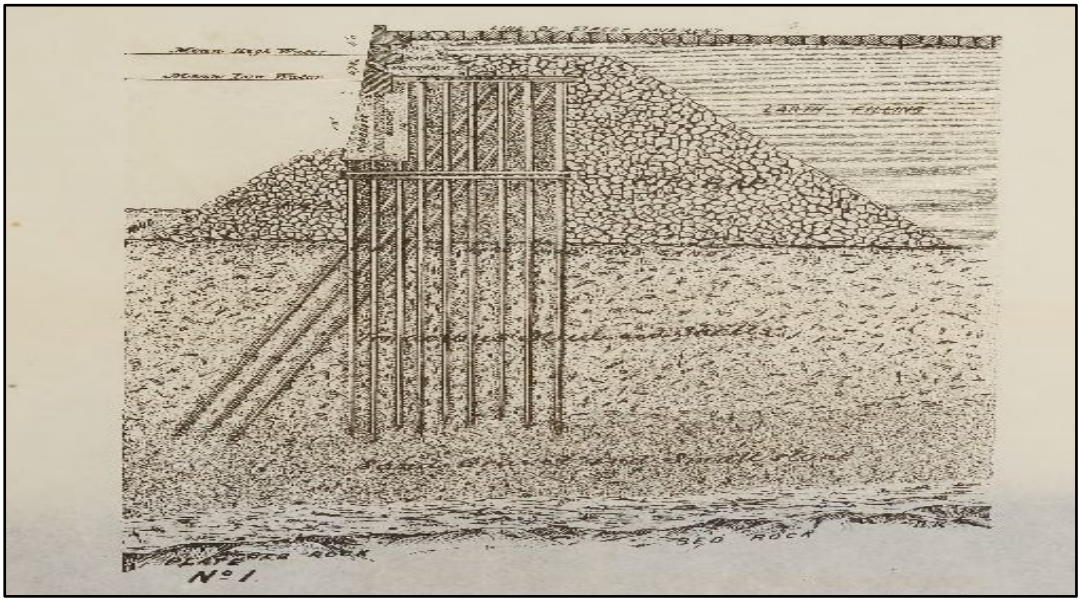


Figure 10a. Profile of George S. Greene, Jr.'s 1876 type bulkhead introduced at the foot of King Street on the Hudson River in December 1876. (Dock Dept. 1877 Annual Report:33)

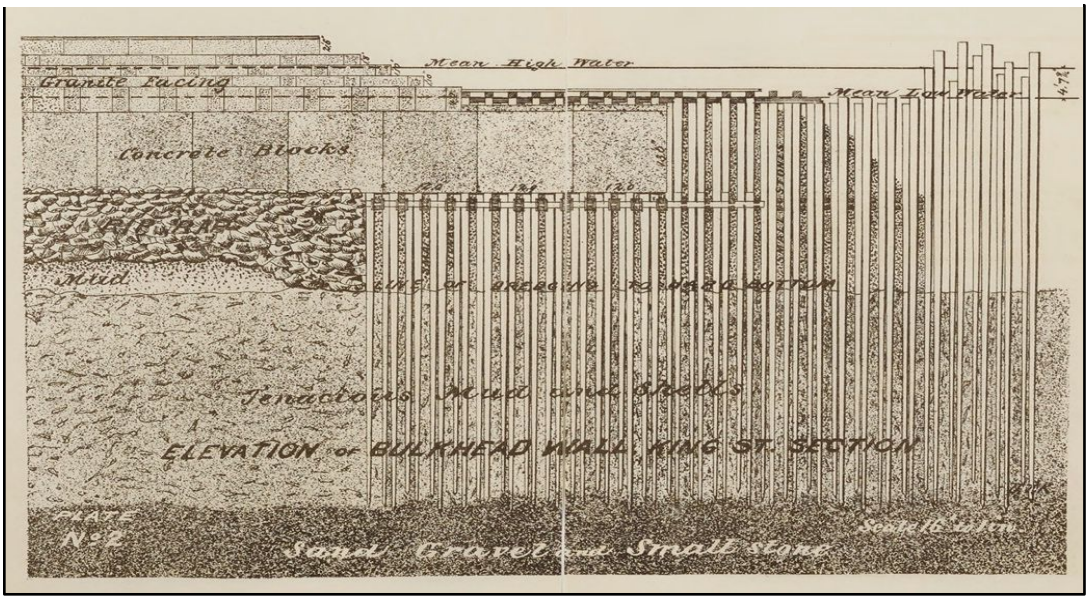


Figure 10b. Elevation of Greene's 1876 type bulkhead introduced at the foot of King Street on the Hudson River in 1876. (Dock Dept. 1877 Annual Report:33)

In 1891, this 1876 type gravity wall bulkhead on piles was introduced in the archaeological APE in the 102nd Street section of the waterfront (Hoag 1906:90; Figure 11; Docks and Ferries 1891). Hoag notes

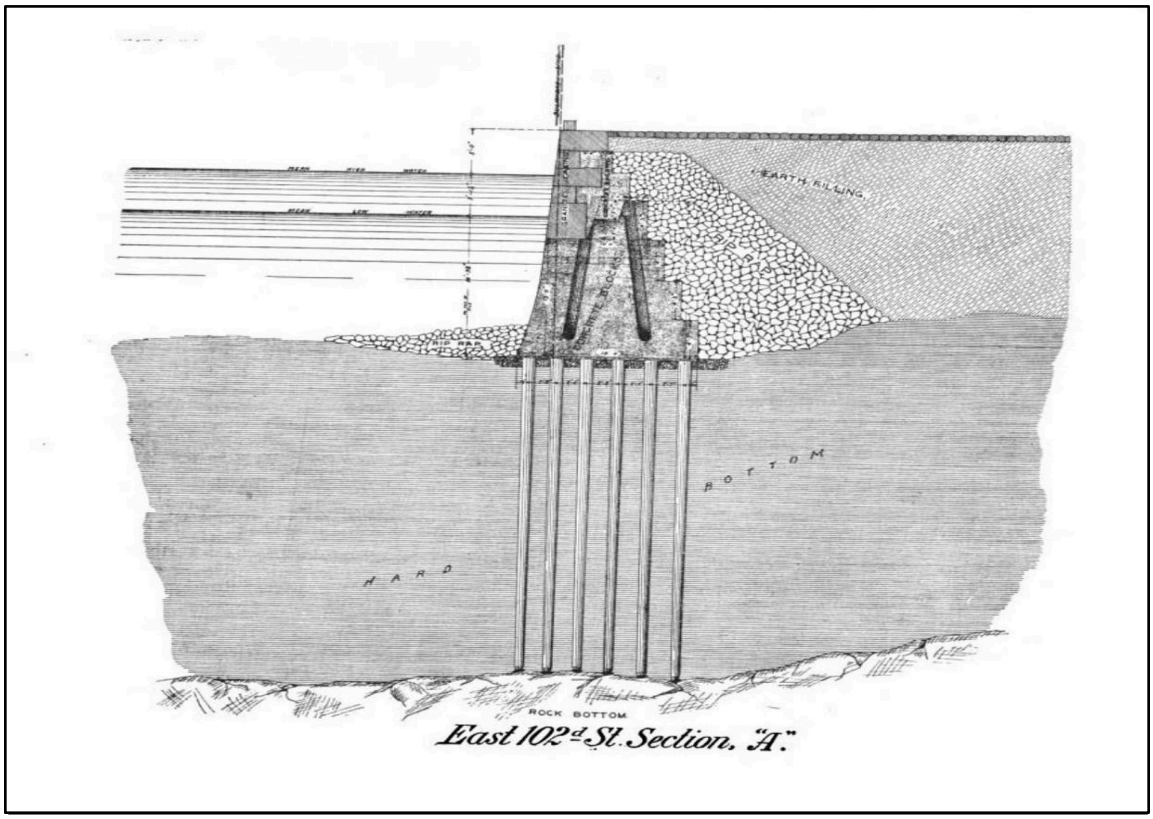


Figure 11. A granite-faced concrete block wall on piles introduced at 102nd Street and the Harlem River in 1891. This version of Greene's 1876 type bulkhead, intended for hard bottom conditions, was the first known gravity wall bulkhead in the archaeological APE (Hoag 1906:Plate XXXIX). The same illustration is found in Carleton Greene's *Wharves and Piers* (1917:65) but without a date.

that the introduction of a bulkhead wall may "be said to keep pace with the acquisition of property, the deciding factor in warranting the expense of permanent improvement" (Hoag 1906:107). As in the project area, this initially was more than likely a commercial undertaking.

Lacking comprehensive documentation related to the introduction of gravity wall bulkhead on piles in the APE, associated events can sometimes provide helpful if somewhat speculative information. For example, an entry in the "Roll of Honor for Life Saving" found in the Docks and Ferries Department's 1913 Annual Report, James Zimmerman is commended for rescuing Matthew J. O'Neill from drowning "Bet. 123rd and 124th Sts. H. R. on Dec. 23 about 10:20 A.M." (Docks Department 1913:14). Three years later, a 1916 Supreme Court Appeals case indicates that O'Neill, an employee of the Department of Docks and Ferries, was "*engaged in …cutting out oakum and putting in cement at the points of the stone"* on "*a certain sea wall*" [italics added] in the East (sic) River when a tug boat came too close to his floating stage and he was thrown into the river (here a co-worker named Quinn, rather than Zimmerman, is credited with his rescue) (Supreme Court 1916:2-3ff). The 1913 time frame and the work being done on the stone wall suggest O'Neill was working on a new section of gravity wall bulkhead, a suggestion that was confirmed in the 1913 Dock and Ferries Annual Report (1913:160). Whatever the case, although 1876 type gravity wall bulkhead on piles may have been introduced in the APE in 1891, photos and construction plans from the mid-1930s indicate that timber bulkhead endured.

An example is a 1936 photo of the East River shore looking north from 100th Street taken by Percy Sperr, a photo chronicler of the city, that recorded timber crib bulkhead (Photo 6). Timber crib is also documented in a 1936 East River Drive construction photo taken from a 94th Street pier (see FDR construction photos below). It is also noted on a 1935 plan listed in a bibliography LSA compiled for the project's Bulkhead/Seawall history (LSA 2023).

Photo 6. View north from 100th Street in 1936 showing crib bulkhead then in the APE. (Sperr 1936: NYPL Digital Collections)

THE FDR DRIVE AND APE

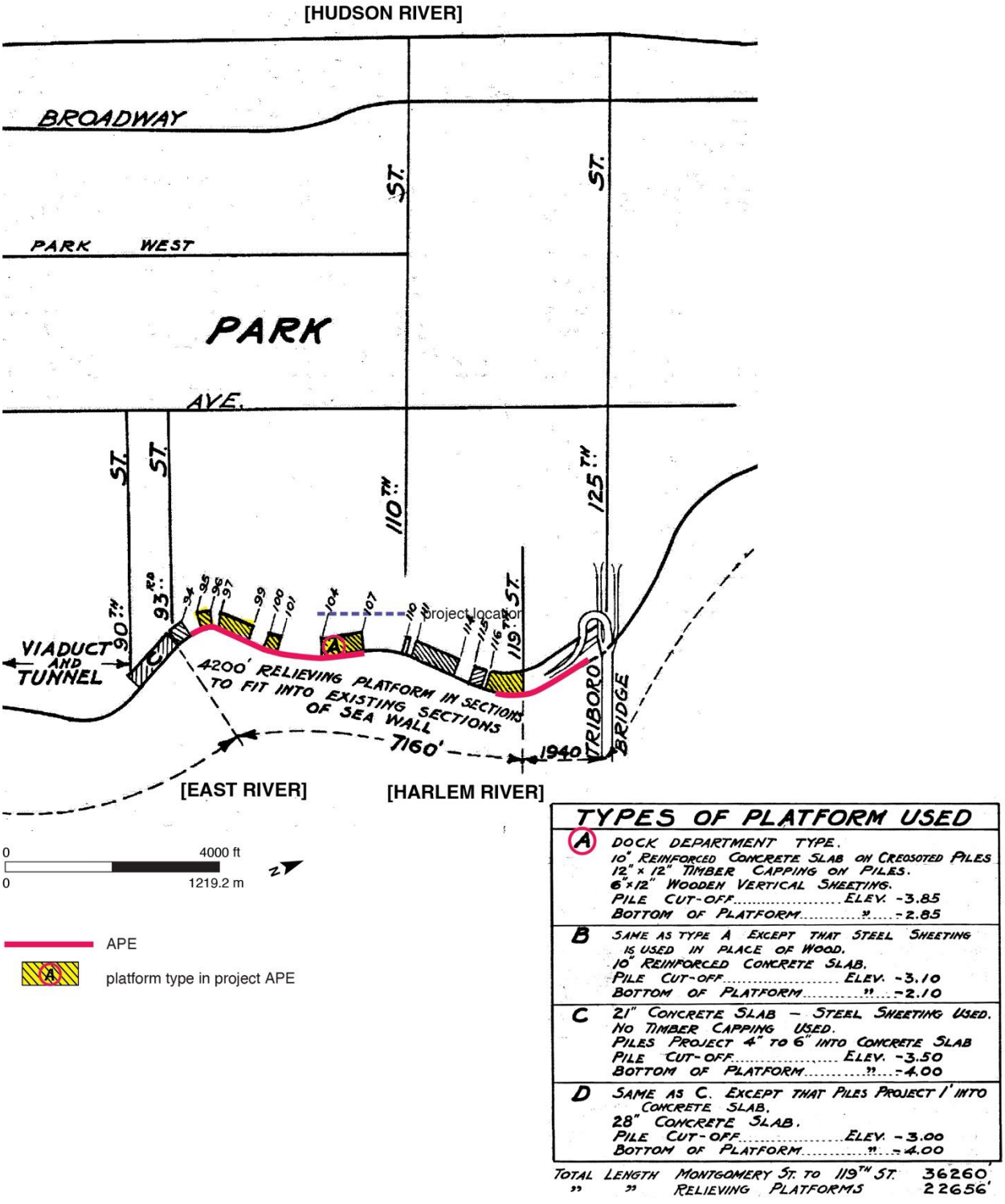
Construction of the FDR East River Drive from the mid-1930s to the early1940s not only created a new parkway[4] but also a new adjacent park along the East and Harlem River shore. The park in the project area includes the archaeological APE.

Researching the development history of the project area determined that both the drive and the APE were land under water (see Figure 3) until the early 1880s when side-by-side parallel wharves extended the landmass along the East and Harlem Rivers (see Figure 5). The parallel wharves, one a marginal street and the other an exterior street, were the forerunners of the drive and the APE. The marginal street is now where the FDR runs and the exterior street is the APE, both of them replacing the earlier off-shore wharf constructions.

Photographs in the MTA Bridges and Tunnels Special Archive (below), and one from the Digital Collections of the NYPL (see Photo 6), document the construction that created the drive and adjacent park. They indicate it included, but was not limited to, replacing timber cribbing with 1876 type gravity wall bulkhead on piles, rehabilitating existing sections of granite gravity walls by adding concrete in place of sections of earlier granite bulkhead (see Photo 11 below), and replacing or introducing relieving platforms along the eastern limit of the construction (see Figure 12 for information regarding the types of relieving platforms replaced in the APE by 1941).

The construction photos that follow, with the exception of Photo 15, are courtesy of the MTA Bridges and Tunnels Special Archive and concentrate on the drive's construction in the vicinity of the APE. However, they also document the creation of the archaeological APE and, in a sense, record a symbiotic relationship since the drive and the APE were interdependent for their very existence.

[4] Conceived as a highway, the drive, which does not permit trucks or buses, is considered a parkway.



TYPES OF PLATFORM USED

A	DOCK DEPARTMENT TYPE. 10" REINFORCED CONCRETE SLAB ON CREOSOTED PILES 12" x 12" TIMBER CAPPING ON PILES. 6"x12" WOODEN VERTICAL SHEETING. PILE CUT-OFF.....ELEV. -3.85 BOTTOM OF PLATFORM....."....-2.85
B	SAME AS TYPE A EXCEPT THAT STEEL SHEETING IS USED IN PLACE OF WOOD. 10" REINFORCED CONCRETE SLAB. PILE CUT-OFF.....ELEV. -3.10 BOTTOM OF PLATFORM....."....-2.10
C	21" CONCRETE SLAB – STEEL SHEETING USED. NO TIMBER CAPPING USED. PILES PROJECT 4" TO 6" INTO CONCRETE SLAB PILE CUT-OFF.....ELEV. -3.50 BOTTOM OF PLATFORM....."....-4.00
D	SAME AS C. EXCEPT THAT PILES PROJECT 1' INTO CONCRETE SLAB. 28" CONCRETE SLAB. PILE CUT-OFF.....ELEV. -3.00 BOTTOM OF PLATFORM....."....-4.00

TOTAL LENGTH MONTGOMERY ST. TO 119TH ST. 36260'
" " RELIEVING PLATFORMS 22656'

Photo 7. East River Drive. View south from pier off E 94th Street showing excavation in back of [timber] bulkhead S of E 94th Street. (No. 2278 3-16-1936).

Photo 8. East River Drive. Bulkhead N of E 103 St. showing displaced top cord of granite block in original bulkhead. (No. 2505 5-6-1936)

Photo 9. View S from pier at the end of E 107th St. pouring concrete for bulkhead and also in the area of the roadway (No. 2838 8-7-1936)

Photo 10. View N from point on a barge between E 94 and 95 Sts. Showing detailed view of original granite bulkhead, top course removed and top facing forms in place. (No. 2728 6-22-1936)

Photo 11. View S from a point on pier at E 103 St. showing new concrete bulkhead in place over old granite bulkhead. (No. 2624 3-28-1936). This can be seen today in some areas of the seawall.

Photo 12. General view S along bulkhead from point on center line of E 96 St. (No. 2731 6-22-1936). The Metropolitan Power House is to the right.

Photo 13. General view N from point on center line of E 100 St. showing roadway construction and a relieving platform (arrow). (No. 2736 6-22-36)

Photo 14. View N from a point on line of E 104 St. showing granite curbs and relieving platforms placed for bulkhead. (No. 2837 8-7-1936)

Photo 15. East River Drive and the adjacent park still under construction in May 1940 in the vicinity of the archaeological APE. The view is north from about 93rd or 94th Street. In the background is the Metropolitan Power House building on the block between 95th and 96th Streets. (Photo courtesy of the Municipal Archives: ID No. MAC_2407)

FINDINGS

The identified archaeological area of potential effect (APE), where direct construction impacts associated with the 107th Street Pier – Bobby Wagner Walk project will occur, comprises two sections of the walk: from 94th street to 107th Street to the south, where it includes the off-shore 107th Street Pier, and from 117th Street to 124th Street to the north.

Research determined that the APE historically was land under water as was the adjacent FDR Drive. It also determined that construction of the FDR East River Drive in the mid 1930s created a six-lane parkway on what was a parallel wharf that extended the land mass in the early 1880s, in this case a marginal street. On an adjacent exterior street, also a parallel wharf, it created the shoreline park, now the Bobby Wagner Walk in the project area. In 1937, when the park was under construction, it came under the jurisdiction of NYC Parks. Now a section of the East River Esplanade, the park is a component of the East River Greenway that, in turn, is part of the 32-mile Manhattan Waterway intended to circle the entire Manhattan shoreline.

Construction of the drive entailed rehabilitation or construction of 1876 type granite gravity wall bulkhead (or seawall) on piles as necessary. First introduced in the archaeological APE during the last decade of the 19th century and piecemeal thereafter, this bulkhead type coexisted with timber crib bulkhead that was replaced with 1876 type gravity wall bulkhead on piles during the drive's

construction. Since the 1930s, the bulkhead/seawall has been subject to repair and rehabilitation that is also the focus of the current project (see Appendix C for existing and proposed platforms and seawall structure types as of December 1, 2023).

The 107th Street Pier is a recreational pier on timber piles that, as early as 1931, replaced an early-20th-century "dump board." The dump board was one of at least fifteen early-20th-century sanitation facilities located along Manhattan's shoreline where street refuse on barges was transported out to sea. Reconstructed in the 1990s and determined eligible for listing in the New York State and National Register of Historic Places, the 107th Street Recreational Pier, now in total disrepair and long-closed, will be demolished and a new pier constructed in consultation with the NY SHPO, the USACE, NYC Parks and NYC EDC among others. Determination of the eligibility of the associated bulkhead/seawall is pending. However, research did not identify an archaeological potential in the 107th Street Pier – BWW archaeological APE. This finding was supported by information from project-related soil borings (see Appendices A and B).

RECOMMENDATIONS

Phase 1A research determined the two sections of the Bobby Wagner Walk and the adjacent 107th Street Recreational Pier that comprise the archaeological APE, both located east of the historical shoreline of the East and Harlem Rivers, are not archaeologically significant. As a precautionary measure, however, an archaeological unanticipated discovery plan (UDP) is recommended to ensure that any construction-related but unanticipated archaeological discoveries will be properly addressed and, if encountered, human remains (possible components of fill material) will be treated in accordance with established protocols.

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APPENDIX A 107th Street Pier – BWW LAND BASED SOIL BORINGS

A total of nine land based soil borings were located on the west side of the APE (an additional 29 project-related water borings were not considered in this assessment). The geotechnical report prepared by Matrix New World indicates the first 6 ft. (1.8 m) of each land boring was hand excavated rather than drilled. In all nine borings, a 3-inch (0.025 m) surface of topsoil and grass was followed by 6 to over 20 feet (1.8 to 6.1+ m) of uncontrolled fill described as "sand with appreciable amounts of silt and gravel that contained brick, cinders, fibers, concrete, and wood fragments" (Matrix 2022:7).

The nine land borings, which are numbered from south to north, were located on the western edge of the APE, with B1-10 , B1-12, B1-14, and B1-16 between 100th Street and 105th Street and B1-33 to B1-37 between 120th Street and 124th Streets (see Appendix A, Figure A1 for soil boring locations [5]).

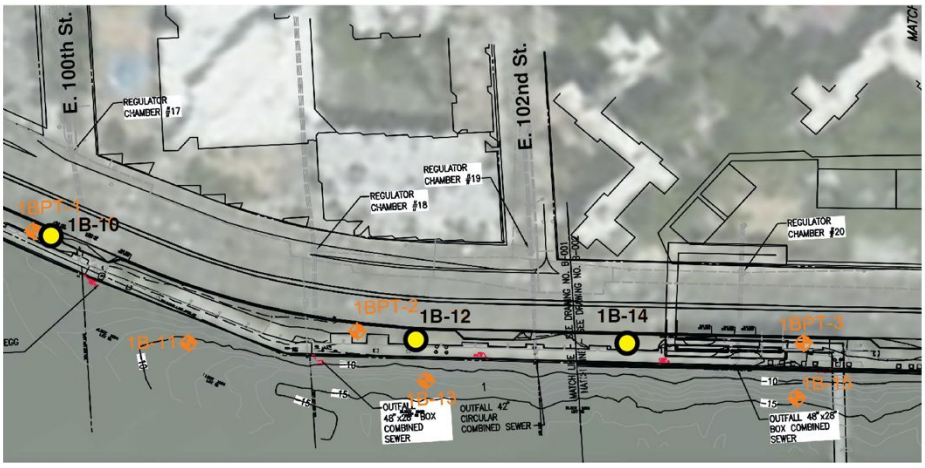
Fill depths in the borings ranged from 6 ft. to 8 ft. (1.8 to 2.5 m) below the ground surface (bgs) in borings 1B-10 to 1B-16, and from 12.5 ft. to 23.5 ft. (3.8 to 7.2 m) in borings 1B-33 to 1B-37, with 1B-37 in the vicinity of the Triborough Bridge access at 124th Street the deepest recorded fill in the borings at 23.5 ft. (7.2 m) (see Appendix A Table 1; also Soil Boring Logs Appendix B).

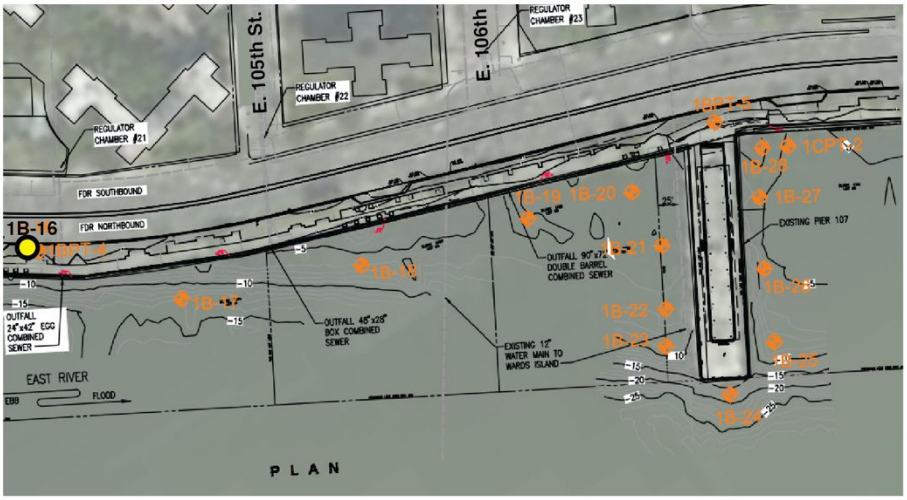
APPENDIX A Table 1. Land Soil Boring Fill Depths

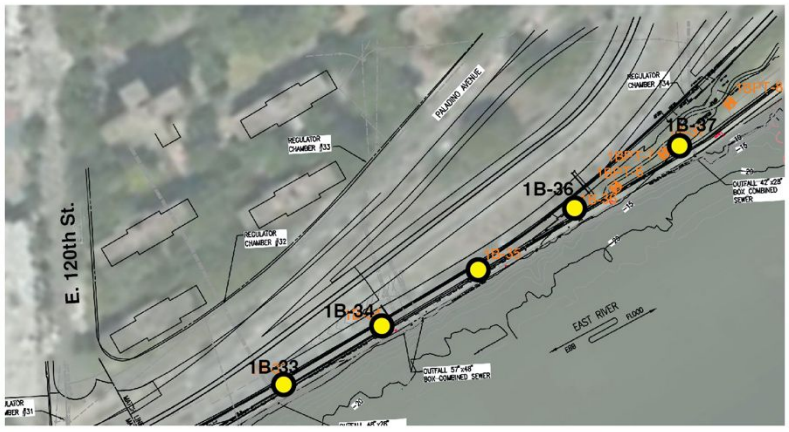
Boring No.	Location	Fill Depth (bgs)
B1-10	100th St.	7 ft. (2.1 m)
B1-12	101st to 102nd Sts.	6 ft. (1.8 m)
B1-14	N of 102nd St.	6 ft. (1.8 m)
B1-16	104th to 105th Sts.	8 ft. (2.4 m)
B1-33	120th St.	20 ft. (6.1 m)
B1-34	N of 1B-33	20 ft. (6.1 m)
B1-35	N of 1B-34	12.5 ft. (3.8 m)
B1-36	N of 1B-35	6 ft. (1.8 m)
B1-37	c. 124th St.	23.5 ft. (7.2 m)

The deep fill in boring 1B-37 more than likely reflects both late-19th-century land reclamation and mid-20th-century land movement and filling associated with construction of the Triborough Bridge access. None of the borings suggested any archaeological sensitivity

[5] NYCHA's Robert F. Wagner Houses are located on the west side of the FDR between 120th Street and 124th Street where Manhattan grid street numbers do not apply.



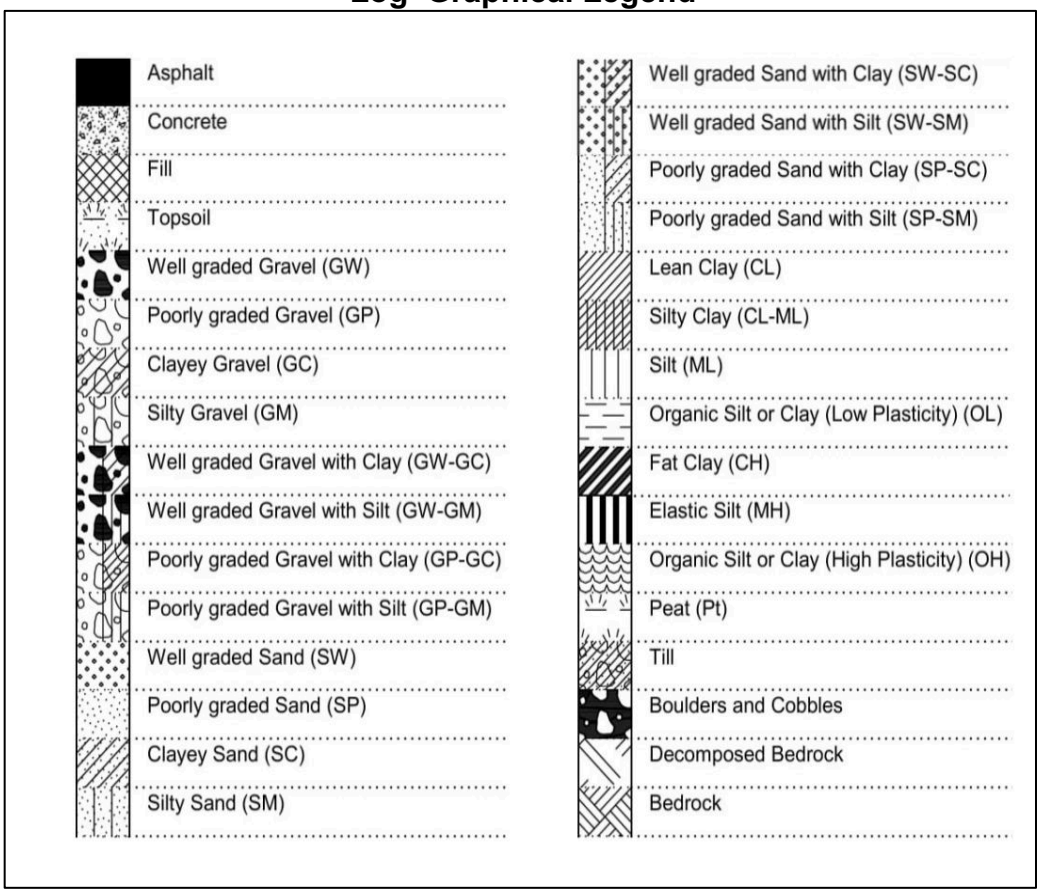




relevant soil boring

0 200 ft
0 60.96 m

Log Graphical Legend



(Note: the first page of each log is provided for information *r*e depth of fill)

BORING LOG

BORING NO.: 1B-10

SHEET 1 OF 4

PROJECT NO.: 21-1369 PROJECT: NYCEDC 107th St. Pier & Bobby Wagner Walk DATE: 4/17/23 - 4/18/23

PROJECT LOCATION: Between HRD and East River BORING LOCATION: HRD and 100th Street

DRILLING EQUIPMENT: Acker Diesel Rad ANGLE: -90.0 DIR.: ------ ELEV.: DATUM:

DRILLING CONTRACTOR: Warren George, Inc. DRILLER: J. Myers INSPECTOR: J. Toth

CASING and HAMMER				SAMPLER and HAMMER				GROUNDWATER LEVELS			
Type	I.D.	Weight	Drop	Type	I.D.	Weight	Drop	Date	Time	Depth	Casing Depth
FLUSH	4			HA							
DONUT		140 lbs	30"	DONUT		140 lbs	30"				
				SS	1 3/8						
				NX	2 1/8						

Depth Feet (Elev.)	CASING Blows/ Foot	SAMPLE No.	Type	Depth Feet	Corrected Blows/6" (REC. %) [RQD %]	Graphic Symbol	Description Of Material	Laboratory Tests
		S-1	HA	0-3	(67%)		3" TOPSOIL Light Brown mf SAND, little Silt, trace mf Gravel, dry (FILL)	
		S-2	HA	3-6	(67%)		Same as Above, dry (FILL)	
5		S-3	SS	6-8	5-2-2-2 (0%)		No Recovery	
		S-4	SS	8-10	9-11-8-8 (42%)		Light Brown mf SAND, some Silt, trace fine Gravel, wet (SM)	
10								
15		S-5	SS	15-17	50/2" (4%)		Brown mf SAND, trace Silt, trace fine Gravel, stone in tip, wet (SP)	
20		S-6	SS	20-22	42-14-6-10 (38%)		Brown/Gray mf SAND, little Silt, trace fine Gravel, stone in tip, wet (SM)	
25								

BORINGS_25-289 LAND BORINGS.GPJ MATRIX EGS.GDT 8/2/23

BORING NO.: 1B-10

BORING LOG

BORING NO.: 1B-12

SHEET 1 OF 4

PROJECT NO.: 21-1369 PROJECT: NYCEDC 107th St. Pier & Bobby Wagner Walk DATE: 4/21/23 - 4/26/23

PROJECT LOCATION: Between HRD and East River BORING LOCATION: HRD South of E 102 Street

DRILLING EQUIPMENT: Acker Diesel Rad ANGLE: -90.0 DIR.: ------ ELEV.: _____ DATUM: _____

DRILLING CONTRACTOR: Warren George, Inc. DRILLER: C. Burgess INSPECTOR: J. Toth

CASING and HAMMER				SAMPLER and HAMMER				GROUNDWATER LEVELS			
Type	I.D.	Weight	Drop	Type	I.D.	Weight	Drop	Date	Time	Depth	Casing Depth
FLUSH	4			HA							
DONUT		140 lbs	30"	DONUT		140 lbs	30"				
				SS	1 3/8						

Depth Feet (Elev.)	CASING Blows/ Foot	SAMPLE No.	Type	Depth Feet	Corrected Blows/6" (REC. %) (RQD %)	Graphic Symbol	Description Of Material	Laboratory Tests
		S-1	HA	0-3	(67%)		3" TOPSOIL Brown mf SAND, little Silt, trace fine Gravel, dry (FILL) NOTE: Boring was attempted 2 times with refusal at 3' BGS, third offset was successful.	
		S-2	HA	3-6	(67%)		Same as Above, dry (FILL)	
5		S-3	SS	6-8	4-3-3-2 (21%)		Brown mf SAND, trace Silt, trace mica, wet (SP)	
		S-4	SS	8-10	4-7-7-5 (29%)		Brown cmf SAND, trace Silt, trace Mica, trace mf Gravel, wet (SP)	
10								
15		S-5	SS	15-17	9-20-8-8 (50%)		Brown/Gray cmf SAND, trace Silt, trace Mica, trace mf Gravel, wet (SP)	
20		S-6	SS	20-22	4-3-3-2 (21%)		Gray/Black cmf SAND, trace Silt, trace Mica, trace fine Gravel, wet (SP)	
25								

BORINGS6 21-1369 LAND BORINGS.GPJ MA TRIX EGS.GDT 8/2023

BORING NO.: 1B-12

BORING LOG

BORING NO.: 1B-14

SHEET 1 OF 3

PROJECT NO.: 21-1369 PROJECT: NYCEDC 107th St. Pier & Bobby Wagner Walk DATE: 5/08/23 - 5/10/23

PROJECT LOCATION: Between HRD and East River BORING LOCATION: HRD North of E 102 Street

DRILLING EQUIPMENT: Acker Diesel Rad ANGLE: -90.0 DIR.: ------ ELEV.: DATUM:

DRILLING CONTRACTOR: Warren George, Inc. DRILLER: Clinton INSPECTOR: P. Yum

CASING and HAMMER				SAMPLER and HAMMER				GROUNDWATER LEVELS			
Type	I.D.	Weight	Drop	Type	I.D.	Weight	Drop	Date	Time	Depth	Casing Depth
FLUSH	4			HA							
DONUT		140 lbs	30"	DONUT		140 lbs	30"				
				SS	1 3/8						
				NX	2 1/8						

Depth Feet (Elev.)	CASING Blows/ Foot	SAMPLE No.	Type	Depth Feet	Corrected Blows/6" (REC. %) [RQD %]	Graphic Symbol	Description Of Material	Laboratory Tests
		S-1	HA	0-2	(100%)		3" TOPSOIL Brown cmf SAND, little Silt, little fine Gravel, trace vegetation, dry (FILL)	
		S-2	HA	2-4	(100%)		Brown/Black cmf SAND, some mf Gravel, little Brick, little Concrete, dry (FILL)	
5		S-3	HA	4-6	(100%)		Gray/Black cmf SAND, little Silt, little fine Gravel, moist (FILL)	
		S-4	SS	6-8	14-17-26-24 (75%)		Brown/Gray/Black SAND and Silt, little fine Gravel, moist (SM)	
		S-5	SS	8-10	20-16-20-8 (29%)		Brown/Gray SAND and Silt, little fine Gravel, moist (SM)	
10								
15		S-6	SS	15-17	7-5-100/2" (21%)		Gray/Black mf GRAVEL, some fine Sand, little Silt, wet (GP)	
20		S-7	SS	20-22	44-32-51-39 (21%)		Gray/Black fine GRAVEL and cmf Sand, wet (GP)	
25								

BORINGS 21-1369 LAND BORINGS.GPJ MATRIX EGS.GDT 6/2/23

BORING NO.: 1B-14

BORING LOG

BORING NO.: 1B-16

SHEET 1 OF 3

PROJECT NO.: 21-1369 PROJECT: NYCEDC 107th St. Pier & Bobby Wagner Walk DATE: 5/01/23 - 5/03/23

PROJECT LOCATION: Between HRD and East River BORING LOCATION: HRD at 103 Street

DRILLING EQUIPMENT: Acker Diesel Rad ANGLE: -90.0 DIR.: ------ ELEV.: DATUM:

DRILLING CONTRACTOR: Warren George, Inc. DRILLER: Clinton INSPECTOR: P. Yum/A. Radiola

CASING and HAMMER				SAMPLER and HAMMER				GROUNDWATER LEVELS			
Type	I.D.	Weight	Drop	Type	I.D.	Weight	Drop	Date	Time	Depth	Casing Depth
FLUSH	4			HA							
DONUT		140 lbs	30"	DONUT		140 lbs	30"				
				SS	1 3/8						
				NX	2 1/8						

Depth Feet (Elev.)	CASING Blows/ Foot	SAMPLE No.	Type	Depth Feet	Corrected Blows/6" (REC. %) [RQD %]	Graphic Symbol	Description Of Material	Laboratory Tests
		S-1	HA	0-2	(100%)		Brown cmf SAND, trace Silt, trace fine Gravel, dry (FILL)	
		S-2	HA	2-4	(100%)		Same as above, dry (FILL)	
5		S-3	HA	4-6	(100%)		Black cmf GRAVEL, little cmf SAND, trace Silt, wet (FILL)	
		S-4	SS	6-8	4-4-2-3 (25%)		Same as above, wet (FILL)	
		S-5	SS	8-10	20-16-20-8 (29%)		Brown/Black fine SAND, little fine Gravel, wet (SP)	
10								
15		S-6	SS	15-17	6-4-5-6 (29%)		Brown mf SAND, some Silt, little fine Gravel, wet (SM)	
20		S-7	SS	20-22	2-2-2-2 (33%)		Same as Above, wet (SM)	
25								

BORINGS 21-1369 LAND BORINGS.GPJ MATRIX EGS.GDT 8/2/23

BORING NO.: 1B-16

BORING LOG

BORING NO.: 1B-33

SHEET 1 OF 1

PROJECT NO.: 21-1369 PROJECT: NYCEDC 107th St. Pier & Bobby Wagner Walk DATE: 6/08/23 - 6/09/23

PROJECT LOCATION: Between HRD and East River BORING LOCATION: HRD North of 120 Street

DRILLING EQUIPMENT: Acker Diesel Rad ANGLE: -90.0 DIR.: ------ ELEV.: DATUM:

DRILLING CONTRACTOR: Warren George, Inc. DRILLER: Gill INSPECTOR: P. Fung

CASING and HAMMER				SAMPLER and HAMMER				GROUNDWATER LEVELS			
Type	I.D.	Weight	Drop	Type	I.D.	Weight	Drop	Date	Time	Depth	Casing Depth
FLUSH	4			HA							
DONUT		140 lbs	30"	DONUT		140 lbs	30"				
				SS	1 3/8						

Depth Feet (Elev.)	CASING Blows/ Foot	SAMPLE No.	Type	Depth Feet	Corrected Blows/6" (REC. %) (RQD %)	Graphic Symbol	Description Of Material	Laboratory Tests
		S-1	HA	0-6	(33%)		6" TOPSOIL Brown mf SAND and Silt, trace fine Gravel, trace Red Brick, dry (FILL)	
5		S-2	SS	6-8	2-3-5-7 (25%)		Brown cmf SAND and Silt, little mf Gravel, dry (FILL)	
		S-3	SS	8-10	8-5-5-12 (33%)		Brown cmf SAND, some Red Brick, some Silt, little cmf Gravel, little Crushed Concrete, dry (FILL)	
10								
15		S-4	SS	15-17	100/1" (0%)		No Recovery, stone in tip	
20		S-5	SS	20-22	100/0" (0%)		No Recovery, spoon bouncing on rock Bottom of Borehole @ 20 ft bgs	

BORINGS 21-1369 LAND BORINGS.GPJ MATRIX EGS.GDT 6/23

BORING NO.: 1B-33

BORING LOG

BORING NO.: 1B-34

SHEET 1 OF 1

PROJECT NO.: 21-1369 PROJECT: NYCEDC 107th St. Pier & Bobby Wagner Walk DATE: 6/07/23 - 6/08/23

PROJECT LOCATION: Between HRD and East River BORING LOCATION: HRD North of 120 Street

DRILLING EQUIPMENT: Acker Diesel Rad ANGLE: -90.0 DIR.: ------ ELEV.: DATUM:

DRILLING CONTRACTOR: Warren George, Inc. DRILLER: Gill INSPECTOR: P. Fung

CASING and HAMMER				SAMPLER and HAMMER				GROUNDWATER LEVELS			
Type	I.D.	Weight	Drop	Type	I.D.	Weight	Drop	Date	Time	Depth	Casing Depth
FLUSH	4			HA							
DONUT		140 lbs	30"	DONUT		140 lbs	30"				
				SS	1 3/8						

Depth Feet (Elev.)	CASING Blows/ Foot	SAMPLE No.	Type	Depth Feet	Corrected Blows/6" (REC. %) [RQD %]	Graphic Symbol	Description Of Material	Laboratory Tests
		S-1	HA	0-6	(33%)		8" TOPSOIL Brown mf SAND and Silt, little mf Gravel, trace Red Brick, trace Crushed Concrete, dry (FILL)	
5		S-2	SS	6-8	3-5-8-7 (33%)		Same as Above, dry (FILL)	
		S-3	SS	8-10	11-9-7-7 (33%)		Brown mf SAND and Silt and Red Brick, little mf Gravel, trace Crushed Concrete, moist (FILL)	
10								
15		S-4	SS	15-17	7-100/5" (21%)		Same as Above, wet (FILL)	
20		S-5	SS	20-22	100/0" (0%)		No Recovery, spoon bouncing on rock. Bottom of Borehole @ 20 ft bgs	

BORINGS 1-34 LAND BORINGS.GPJ MATRIX EGS.GDT 6/23

BORING NO.: 1B-34

BORING LOG

BORING NO.: 1B-35

SHEET 1 OF 2

PROJECT NO.: 21-1369 PROJECT: NYCEDC 107th St. Pier & Bobby Wagner Walk DATE: 6/06/23 - 6/07/23

PROJECT LOCATION: Between HRD and East River BORING LOCATION: HRD North of 120 Street

DRILLING EQUIPMENT: Acker Diesel Rad ANGLE: -90.0 DIR.: ------ ELEV.: DATUM:

DRILLING CONTRACTOR: Warren George, Inc. DRILLER: Gill INSPECTOR: P. Fung

CASING and HAMMER				SAMPLER and HAMMER				GROUNDWATER LEVELS			
Type	I.D.	Weight	Drop	Type	I.D.	Weight	Drop	Date	Time	Depth	Casing Depth
FLUSH	4			HA							
DONUT		140 lbs	30"	DONUT		140 lbs	30"				
				SS	1 3/8						
				NX	2 1/8						

Depth Feet (Elev.)	CASING Blows/ Foot	SAMPLE No.	SAMPLE Type	SAMPLE Depth Feet	SAMPLE Corrected Blows/6" (REC. %) (RQD %)	Graphic Symbol	Description Of Material	Laboratory Tests
		S-1	HA	0-2	(100%)		8" TOPSOIL	
							Brown mf SAND and Silt, little Red Brick, dry (FILL)	
							Brown/Gray mf SAND and Silt, some cmf Gravel, little Crushed Concrete, dry (FILL)	
5		S-4	SS	6-8	5-7-8-10 (33%)		Brown-Gray cmf SAND and Silt, some cmf Gravel, dry (FILL)	
		S-5	SS	8-10	11-7-5-7 (46%)		Silver/Tan cmf SAND, some Silt, some cmf Gravel, dry (FILL)	
10								
15		S-6	SS	15-17	100/5" (46%)		Black cmf SAND, some mf Gravel, little Silt, wet (SM)	
20		S-7	SS	20-22	100/0" (0%)		No Recovery	
25								

BORINGS 21-1369 LAND BORINGS.GPJ MATRIX EGS.GDT 6/23

BORING NO.: 1B-35

BORING LOG

BORING NO.: 1B-36

SHEET 1 OF 2

PROJECT NO.: 21-1369 PROJECT: NYCEDC 107th St. Pier & Bobby Wagner Walk DATE: 6/02/23 - 6/05/23

PROJECT LOCATION: Between HRD and East River BORING LOCATION: HRD North of 120 Street

DRILLING EQUIPMENT: Acker Diesel Rad ANGLE: -90.0 DIR.: ------ ELEV.: DATUM:

DRILLING CONTRACTOR: Warren George, Inc. DRILLER: Clinton INSPECTOR: P. Yum

CASING and HAMMER				SAMPLER and HAMMER				GROUNDWATER LEVELS			
Type	I.D.	Weight	Drop	Type	I.D.	Weight	Drop	Date	Time	Depth	Casing Depth
FLUSH	4			HA							
DONUT		140 lbs	30"	DONUT		140 lbs	30"				
				SS	1 3/8						
				NX	2 1/8						

Depth Feet (Elev.)	CASING Blows/ Foot	SAMPLE No.	Type	Depth Feet	Corrected Blows/6" (REC. %) (RQD %)	Graphic Symbol	Description Of Material	Laboratory Tests
		S-1	HA	0-3	(67%)		Brown cmf SAND and fine Gravel, little vegetation, dry (FILL)	
							Same as above, dry (FILL)	
		S-2	HA	3-6	(67%)		No recovery, encountered boulder/concrete and drilled to 6'	
5		S-3	SS	6-8	10-6-9-6 (42%)		Tan/Gray cmf SAND, little fine Gravel, trace Silt, moist (SP)	
		S-4	SS	8-10	5-13-15-29 (25%)		Tan/Gray cmf SAND, some fine Gravel, trace Silt, moist (SP)	
10								
15		S-5	SS	15-17	100/3" (17%)		Tan/Brown cmf SAND, trace fine Gravel, wet (SP)	
20		S-6	SS	20-22	11-8-13-23 (42%)		Gray/Brown cmf SAND, little mf Gravel, wet (SP)	
25								

BORINGS 21-1369 LAND BORINGS.GPJ MATRIX EGS.GDT 8/2/23

BORING NO.: 1B-36

BORING LOG

BORING NO.: 1B-37

SHEET 1 OF 2

PROJECT NO.: 21-1369 PROJECT: NYCEDC 107th St. Pier & Bobby Wagner Walk DATE: 5/31/23 - 6/01/23

PROJECT LOCATION: Between HRD and East River BORING LOCATION: HRD North of 120 Street

DRILLING EQUIPMENT: Acker Diesel Rad ANGLE: -90.0 DIR.: ------ ELEV.: DATUM:

DRILLING CONTRACTOR: Warren George, Inc. DRILLER: Clinton INSPECTOR: P. Yum

CASING and HAMMER				SAMPLER and HAMMER				GROUNDWATER LEVELS			
Type	I.D.	Weight	Drop	Type	I.D.	Weight	Drop	Date	Time	Depth	Casing Depth
FLUSH	4			HA							
DONUT		140 lbs	30"	DONUT		140 lbs	30"				
				SS	1 3/8						
				NX	2 1/8						

Depth Feet (Elev.)	CASING Blows/ Foot	SAMPLE No.	Type	Depth Feet	Corrected Blows/6" (REC. %) [RQD %]	Graphic Symbol	Description Of Material	Laboratory Tests
		S-1	HA	0-2	(100%)		Brown cmf SAND, litle cmf Gravel, little Cobble, little vegetation, dry (FILL)	
5		S-4	SS	6-8	7-9-14-24 (38%)		Brown cmf GRAVEL, some cmf Sand, some Brick, moist (FILL)	
		S-5	SS	8-10	5-8-2-2 (23%)		Brown cmf SAND and fine Gravel, trace coarse Gravel, trace Brick, moist (FILL)	
10								
15		S-6	SS	15-17	18-10-9-8 (50%)		Black cmf SAND and fine Gravel, odor, moist (FILL)	
20		S-7	SS	20-22	2-1-1-1 (4%)		Gray/Black cmf SAND and fine Gravel, moist (FILL)	
25								

BORINGS 21-1369 LAND BORINGS.GPJ MA TRUE EGS.GDT 8/2/23

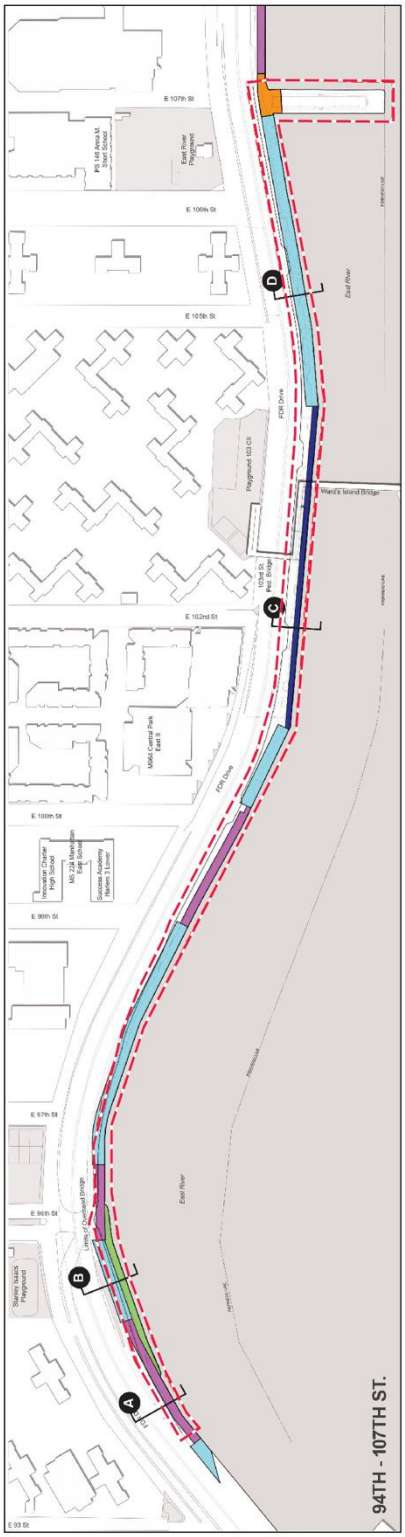
BORING NO.: 1B-37

107TH ST. PIER—BWW APPENDIX C Existing and Proposed Platform and Seawall Structures in the APE (Stantec Consulting Inc. in Collaboration with Mueser Rutledge Consulting Engineers, December 1, 2023)

C

107TH ST. PIER—BWW APPENDIX C Existing and Proposed Platform and Seawall Structures in the APE (Stantec Consulting Inc. in Collaboration with Mueser Rutledge Consulting Engineers, December 1, 2023)

C1



E. 94th to 107th Streets

E. 117th to 124th Streets

0 175' 250'
SCALE: 1"=250'-0"

LEGEND

- APE
- Low-level platform / Type IV
- 1876 type gravity wall/plaftform supported on piles / Type IIIB
- High-level platform
- Gravity seawall supported on bedrock
- Timber Crib
- 1876 type gravity wall supported on piles - no platform / Type IIA

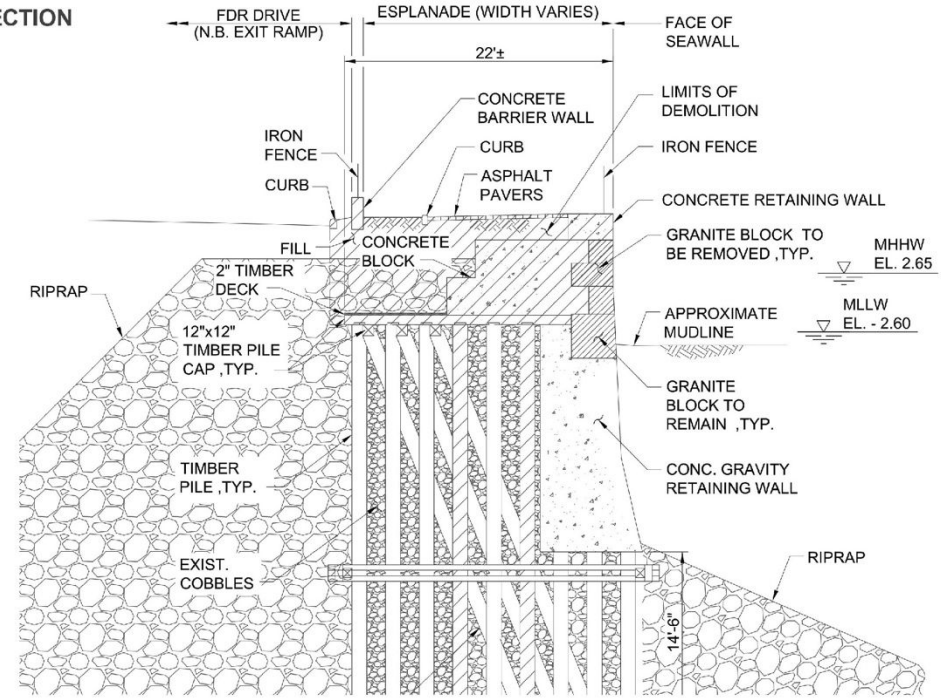
107TH ST. PIER—BWW APPENDIX C Existing and Proposed Platform and Seawall Structures in the APE (Stantec Consulting Inc. in Collaboration with Mueser Rutledge Consulting Engineers, December 1, 2023)

C2

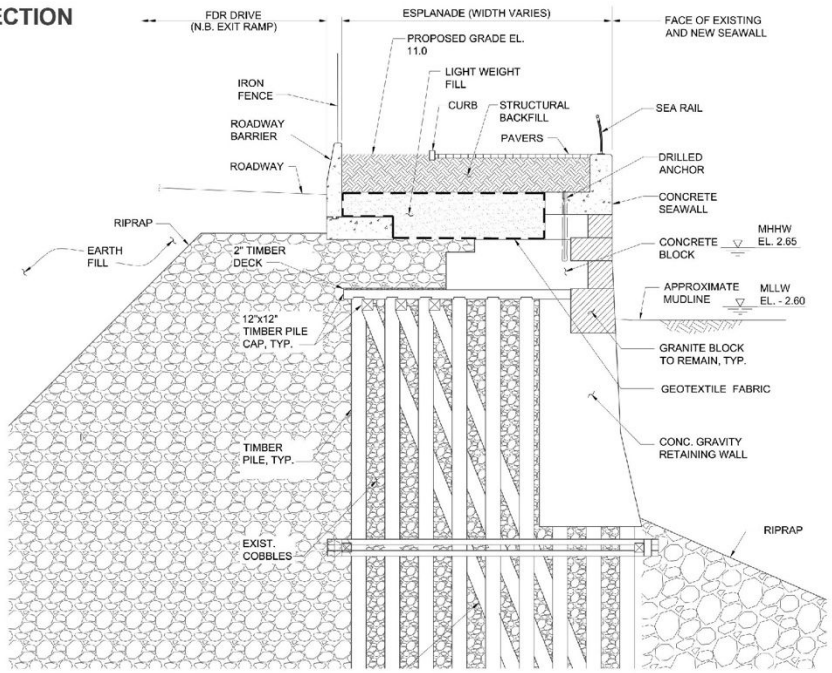
SECTION A - 1876 TYPE GRAVITY WALL/ PLATFORM SUPPORTED ON PILES

Proposed esplanade will be ~ 2' to 3' higher than existing grade to account for future sea level rise.

EXISTING SECTION



PROPOSED SECTION



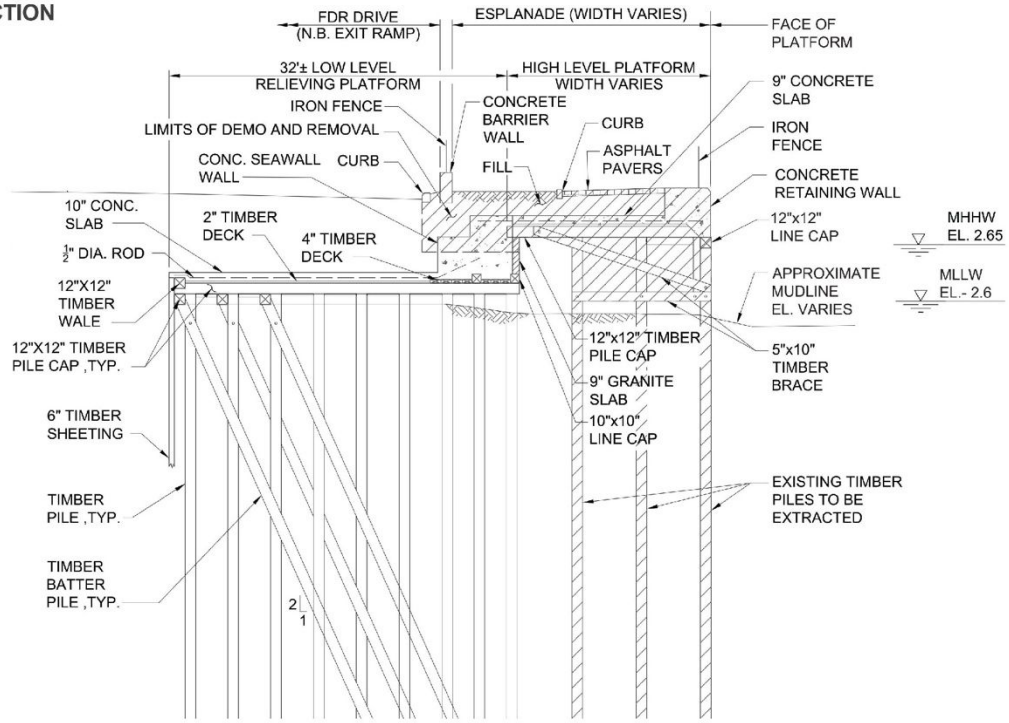
107TH ST. PIER—BWW APPENDIX C Existing and Proposed Platform and Seawall Structures in the APE (Stantec Consulting Inc. in Collaboration with Mueser Rutledge Consulting Engineers, December 1, 2023)

C3

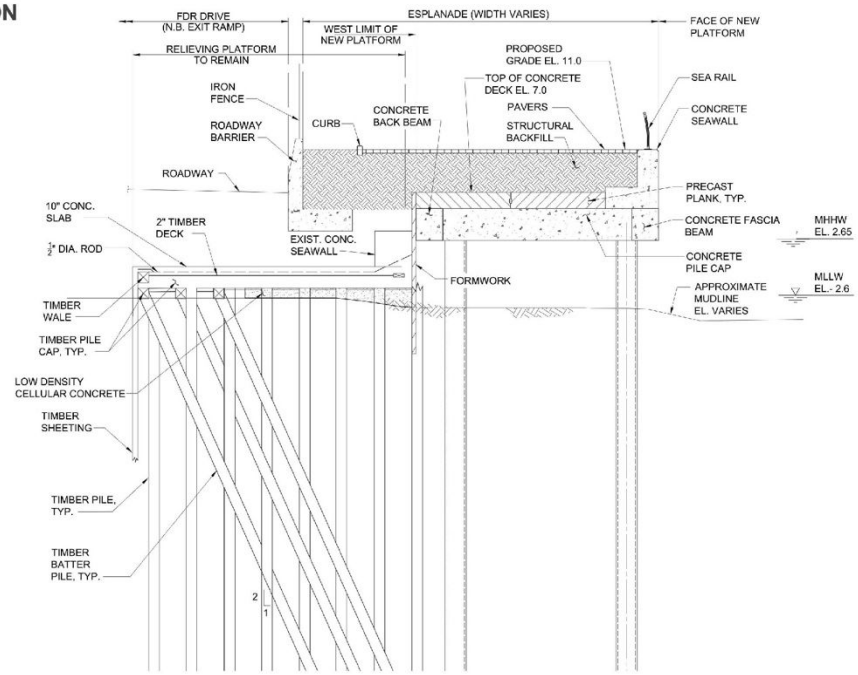
SECTION B - LOW-LEVEL PLATFORM + HIGH-LEVEL PLATFORM

Proposed esplanade will be ~ 2' to 3' higher than existing grade to account for future sea level rise.

EXISTING SECTION



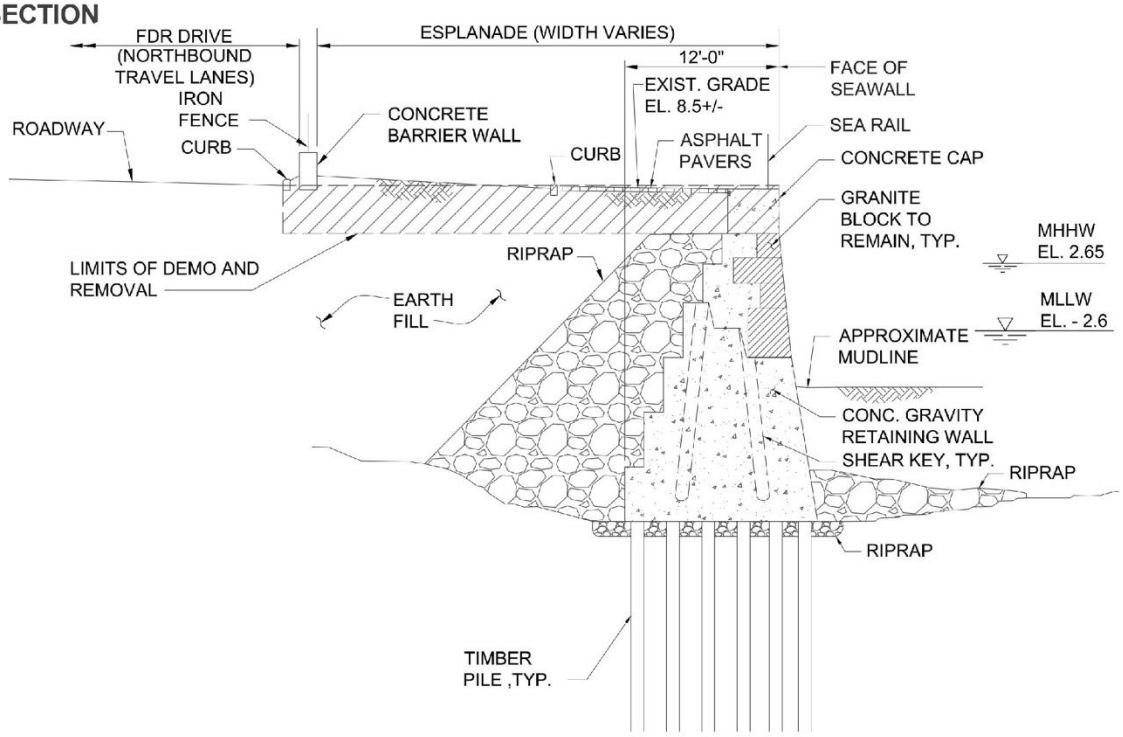
PROPOSED SECTION



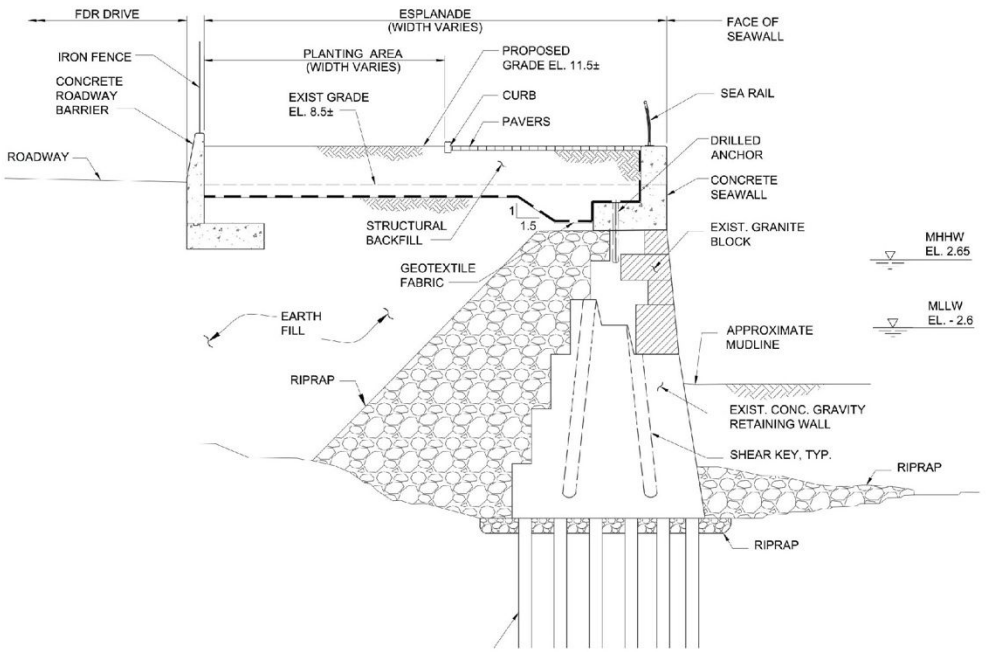
SECTION C - 1876 TYPE GRAVITY WALL SUPPORTED ON PILES - NO PLATFORM

Proposed esplanade will be ~ 2' to 3' higher than existing grade to account for future sea level rise.

EXISTING SECTION



PROPOSED SECTION



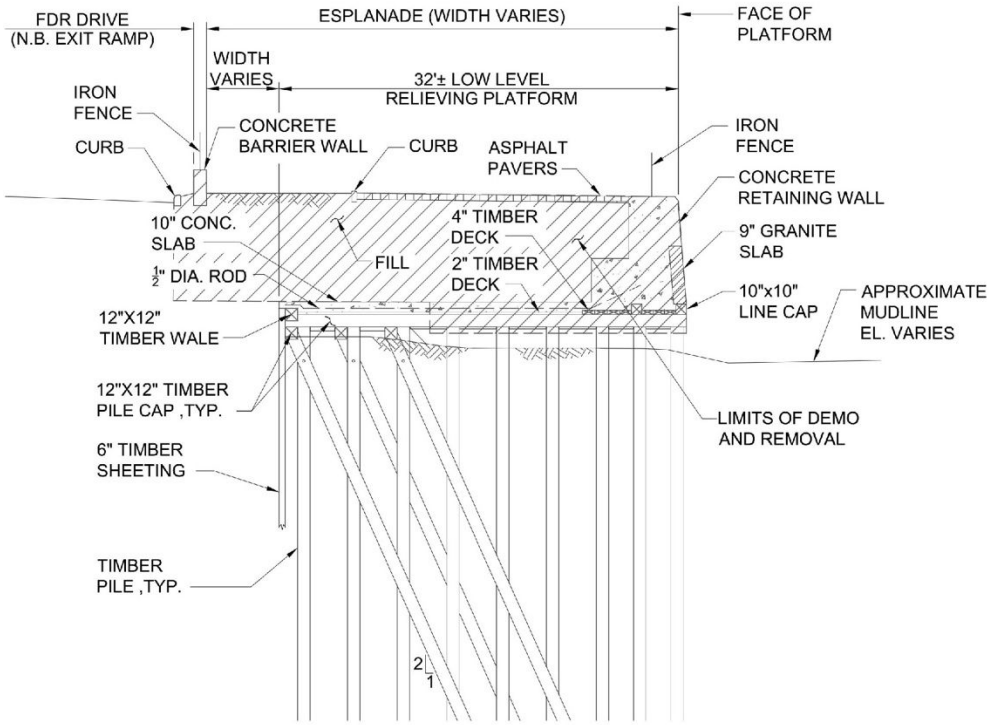
107TH ST. PIER—BWW APPENDIX C Existing and Proposed Platform and Seawall Structures in the APE (Stantec Consulting Inc. in Collaboration with Mueser Rutledge Consulting Engineers, December 1, 2023)

C5

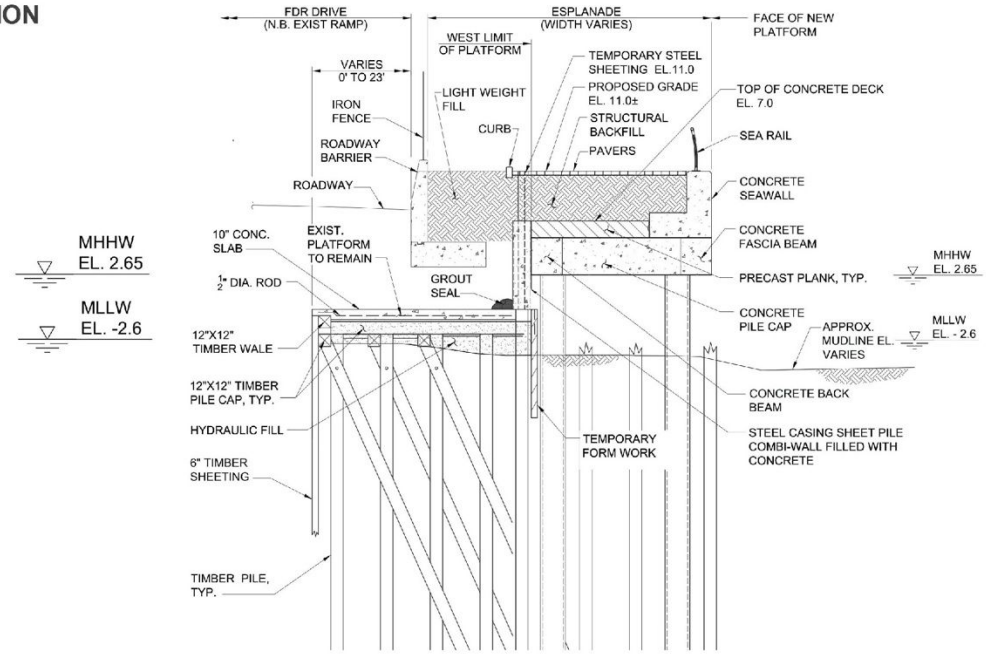
SECTION D - LOW-LEVEL PLATFORM

Proposed esplanade will be ~ 2' to 3' higher than existing grade to account for future sea level rise.

EXISTING SECTION



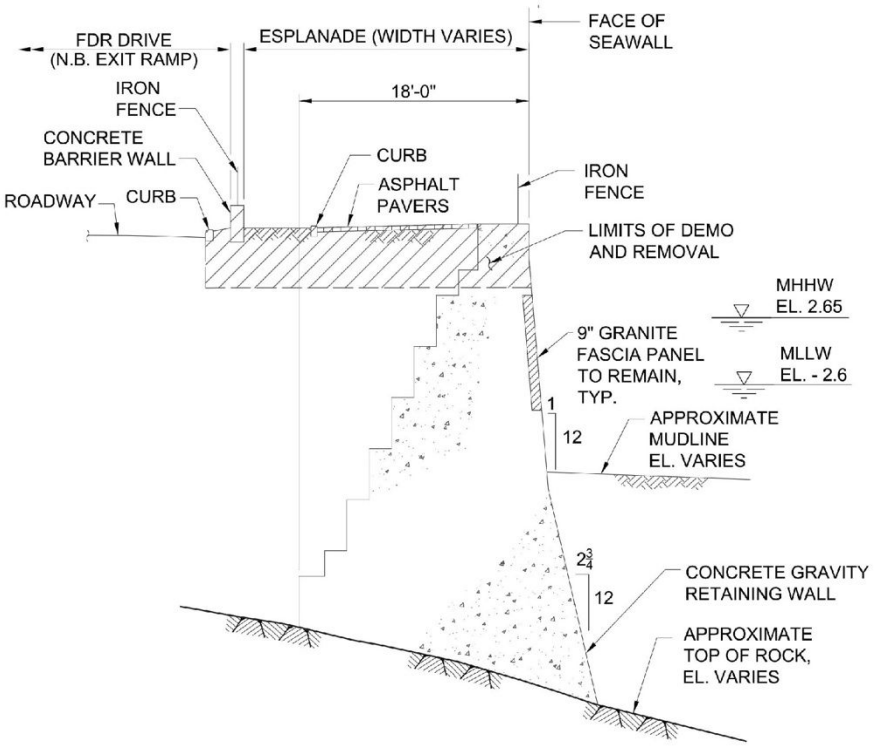
PROPOSED SECTION



SECTION E - GRAVITY SEAWALL SUPPORTED ON BEDROCK

Proposed esplanade will be ~ 2' to 3' higher than existing grade to account for future sea level rise.

EXISTING SECTION



PROPOSED SECTION