



PUBLIC NOTICE

US Army Corps
of Engineers
New York District
Jacob K. Javits Federal Building
New York, N.Y. 10278-0090
ATTN: Regulatory Branch

In replying refer to:
Public Notice Number: **NAN-2021-01292-EBR**
Issue Date: January 11, 2022
Expiration Date: February 10, 2022

The New York District, of the U.S. Army Corps of Engineers has received an application for a Department of the Army permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Section 404 of the Clean Water Act (33 U.S.C. 1344):

APPLICANT: City of New York Department of Parks and Recreation
Olmsted Center, Flushing Meadows-Corona Park
117-02 Roosevelt Avenue
Flushing, New York 11368

ACTIVITY: Rehabilitation of existing overwater esplanade sections

WATERWAY: East River

LOCATION: seaward of East 62nd to East 64th Streets, East 90th to East 94th Streets and East 114th to East 117th Streets along the East River Esplanade, Borough of Manhattan, New York County, City of New York, New York

A detailed description and plans of the applicant's activity are enclosed to assist in your review.

The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

ALL COMMENTS REGARDING THE PERMIT APPLICATION MUST BE PREPARED IN WRITING AND EMAILED TO William.Bruno@usace.army.mil BEFORE THE EXPIRATION DATE OF THIS NOTICE; otherwise, it will be presumed that there are no objections to the activity.

Comments submitted in response to this notice will be fully considered during the public interest

review for this permit application. Comments provided will become part of the public record for this permit application. All written comments, including contact information, will be made a part of the administrative record, available to the public under the Freedom of Information Act. The Administrative Record, or portions thereof, may also be posted on a Corps of Engineers internet web site. Due to resource limitations, this office will normally not acknowledge the receipt of comments or respond to individual letters of comment.

Any person may request, in writing, before this public notice expires, that a public hearing be held to collect information necessary to consider this application. Requests for public hearings shall state, with particularity, the reasons why a public hearing should be held. It should be noted that information submitted by mail is considered just as carefully in the permit decision process and bears the same weight as that furnished at a public hearing.

Our preliminary determination is that the activity for which authorization is sought herein is not likely to adversely affect any Federally endangered or threatened species or their critical habitat. However, pursuant to Section 7 of the Endangered Species Act (16 U.S.C. 1531), the District Engineer is consulting with the appropriate Federal agency to determine the presence of and potential impacts to listed species in the project area or their critical habitat.

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act (Public Law 104-267), requires all Federal agencies to consult with the National Oceanic and Atmospheric Administration Fisheries Service (NOAA/FS) on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). The proposed work, fully described in the attached work description, could cause the disruption of habitat for various lifestages of some EFH-designated species as a result of a temporary increase in turbidity during construction. However, the New York District has made the preliminary determination that the site-specific adverse effects are not likely to be substantial because it is expected that fish populations would avoid the small area of disturbance. Further consultation with NOAA/FS regarding EFH impacts and conservation recommendations being conducted and will be concluded prior to the final decision.

Reviews of activities pursuant to Section 404 of the Clean Water Act will include application of the guidelines promulgated by the Administrator, U.S. Environmental Protection Agency, under authority of Section 404 (b) of the Clean Water Act and the applicant received New York State Department of Environmental Conservation Water Quality Certification, Permit ID 2-6204-01712/00002, Permit ID 2-6204-01713/00002 and Permit ID 2-6299-00037/00002 dated September 3, 2021, in accordance with Section 401 of the Clean Water Act.

Pursuant to Section 307 (c) of the Coastal Zone Management Act of 1972 as amended [16 U.S.C. 1456 (c)], for activities under consideration that are located within the coastal zone of a state which has a federally approved coastal zone management program, the applicant has certified in the permit application that the activity complies with, and will be conducted in a manner that is consistent with, the approved state coastal zone management program. In a letters dated December 14, 2020, New York State Department of State issued Coastal Zone Management Concurrence with Consistency Certifications, F-2020-0541, F-2020-0540 and F-2020-0542 for the proposed work.

In addition to any required water quality certificate and coastal zone management program concurrence, the applicant has obtained or requested the following governmental authorization for the activity under consideration:

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THIS OFFICE*****

New York State Department of Environmental Conservation

It is requested that you communicate the foregoing information concerning the activity to any persons known by you to be interested and who did not receive a copy of this notice. If you have any questions concerning this application, you may contact this office at (917) 790-8516 and ask for William T. Bruno.

In order for us to better serve you, please complete our Customer Service Survey located at <http://www.nan.usace.army.mil/Missions/Regulatory/CustomerSurvey.aspx>.

For more information on New York District Corps of Engineers programs, visit our website at <http://www.nan.usace.army.mil>.



FOR AND IN BEHALF OF
Stephan A. Ryba
Chief, Regulatory Branch

Encl

DESCRIPTION OF PROPOSED WORK

The applicant, City of New York Department of Parks and Recreation (NYCDPR), has requested Department of the Army authorization for maintenance activities of the East River Esplanade located seaward of East 62nd to East 64th Streets, East 90th to East 94th Streets and East 114th to East 117th Streets in the East River at the Borough of Manhattan, New York County, City of New York, New York.

East 62nd to East 64th Streets

Maintenance of an approximately 415-linear-foot (LF) section the existing East River Esplanade, ranging between East 62nd to East 64th Streets along the East River. The work includes repairs to the existing pilings located beneath the existing relieving platform consisting of epoxy jacket repair of a total of approximately four-hundred and thirty (430) timber plumb and batter pilings increasing the diameter of each pile by up to 4-inches and the full length structural encasement of approximately eighty-seven (87) timber plumb and batter pilings which will result in the discharge of approximately 45-cubic-yards (CY) of fill below the plane of Spring High Water (SHW) over a total of approximately 85 square feet (SF). Work also includes the full height post repair of one (1) existing piling which will result in the discharge of approximately 0.5 CY of fill below the plane of SHW over a total of approximately 1 SF. The work includes the mass encasement of existing timber pilings, resulting in the discharge of approximately 431 CY of flowable concrete over an approximately 5,288 SF area below the plane of SHW to stabilize the existing esplanade. The work also includes the replacement of granite fascia in-kind, concrete spall repairs and the replacement of timber line caps with reinforced concrete caps throughout the 415 LF section of the existing esplanade. A total of approximately 476.5 CY of fill material will be discharged over an approximately 5,374 SF below the plane of SHW between East 62nd to East 64th Streets.

East 90th to East 94th Streets

Maintenance of an approximately 1,175 LF section the existing East River Esplanade, ranging between East 90th to East 94th Streets along the East River. The work includes repairs to the existing pilings located beneath the existing relieving platform consisting of epoxy jacket repair of a total of approximately four-hundred and thirty six (436) timber plumb and batter pilings increasing the diameter of each pile by up to 4-inches and the full length structural encasement of approximately one-hundred twelve (112) timber plumb and batter pilings which will result in the discharge of approximately 38 CY of fill over a total of approximately 113 SF area below the plane of SHW. The work also includes full repair of seven (7) timber posts and the repair of 1,175 LF of pile capping. The work includes the mass encasement of existing timber pilings over an approximate 32,337 SF area with approximately 2,641 CY of concrete to stabilize the relieving platform. The work also includes the replacement of granite fascia with both in-kind and reinforced concrete, concrete spall repairs, and the replacement of timber line caps with reinforced concrete caps throughout the 1,164 LF section of the existing esplanade. A total of approximately 2,679 CY of fill material will be discharged over an approximately 32,450 SF below the plane of SHW between East 90th to East 94th Streets.

East 114th to East 117th Streets

Maintenance of an approximately 762 LF total section of the existing East River Esplanade, ranging between East 114th to East 117th Streets along the East River. The total 762 LF of this section of the East River Esplanade is comprised of multiple sections, Systems 201, 202, 203, 204 and 222/223. No in-water work is proposed on System 205.

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Systems 201 and 202

The work includes demolition and reconstruction of approximately of the existing platform along 296 LF of the existing esplanade. The existing approximately 25-foot-wide by 296-foot-long overwater portion of the existing platform and cribbing will be removed and replaced, in-place with an approximately 25-foot-wide by 296-foot-long high-level steel pile supported concrete platform. The removal of the existing lower-level relieving platform will result in the removal of approximately 980 CY of fill from an approximately 7,412 SF area below SHW. The new high-level overwater platform will be supported by twenty-four (24) 18-inch steel pipe piles filled with a total of approximately 5.5 CY of flowable concrete over a total of an approximately 42 SF area below SHW. A total of approximately 725 CY of riprap and bedding stone to be placed immediately beneath the new platform over an approximately 3,793 SF area below SHW. The inshore extent will be retained by a new approximately 319 LF concrete bulkhead on top of the existing timber cribbing.

Systems 203 and 204

The work includes repairs to the existing pilings located beneath the existing relieving platform comprising forty-eight (48) epoxy jacket repairs to timber plumb and batter pilings and seven (7) full-length structural encasements to timber plumb and batter pilings which will result in the discharge of approximately 4 CY of fill over a total of approximately 35.5 SF below SHW. The work includes the mass encasement of existing timber pilings over an area of approximately 8,455 SF below SHW with approximately 614 CY of concrete to stabilize the relieving platform. The work also includes the timber pile cap replacement of approximately 165 LF of timber pile cap replacement with encapsulated timber beams, concrete spall repairs, and the replacement of timber line caps with recycled plastic lumber throughout the 334 LF section of the existing esplanade.

Systems 222 and 223

The work includes the mass encasement of the existing timber pilings (System 222) and the partial demolition of the dilapidated Washburn Wire Pier elements (System 223). The dilapidated pier includes a concrete seawall which abuts System 222, concrete vault structure, portions of a partially collapsed concrete deck, and an abandoned timber pile field extending into the East River. The partial removal of System 222/223 elements will result in the removal of approximately 170 CY of debris removed from an approximately 3,250 SF area below SHW.

The remaining footprint of the dilapidated Washburn Pier is approximately 25-foot-wide by 130.5-foot-long which includes an existing approximately 21-foot-wide by 23-foot-long concrete pipe tunnel at the northern extent. Following the removal of the dilapidated Washburn Wire Pier elements, the work also includes the mass encasement of the existing timber pilings of System 222 over approximately 4,841 SF with approximately 422 CY of concrete fill to stabilize the concrete platform.

A total of approximately 1,770.5 CY of fill material will be discharged over an approximately 17,166.5 SF below the plane of SHW between East 114th to East 117th Streets.

Avoidance, Minimization and Mitigation

The applicant has stated they have avoided, minimized and mitigated for proposed impacts by minimizing construction to the smallest area practicable to maintain the existing East River Esplanade. Throughout the three section of Esplanade a total of approximately 4,926 CY of fill material will be discharged over an approximately 54,990.5 SF area below SHW. The applicant proposes to conduct the removal of the existing lower-level relieving platform, to be replaced by

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a higher-level relieving platform at Systems 201 and 202, resulting in the removal of approximately 980 CY of fill from an approximately 7,412 SF area below SHW and the partial removal of System 222/223 elements will result in the removal of approximately 170 CY of debris removed from an approximately 3,250 SF area below SHW. The net total of fill activity throughout the project will result in the permanent discharge of approximately 3,776 CY of fill over an approximately 44,328.5 SF (1.02 acres) area of Waters of the United States (WOTUS).

The applicant will be mitigating for the permanent loss of the 44,328.5 SF (1.02 acres) total of WOTUS at two applicant-owned areas at Harding Park in the Borough of the Bronx and Alley Creek Park in the Borough of Queens. The compensatory mitigation plans are in development. The Harding Park project site is located on a 3.67-acre parcel owned by the applicant and located south of the intersection of Underhill Avenue and U Street, near the confluence of the Bronx and East Rivers, in the Borough of Bronx. This project will remove historical fill, concrete and other debris, and impervious surfaces from the project site to restore and enhance wetlands. Restoration activities will establish a more gradual tidal elevation gradient and create new salt marsh habitat. The mitigation activities at Harding Park will result in the creation of a total of approximately 0.80 acres of new salt marsh habitat and the enhancement of a total of approximately 1.55 acres of existing mudflat and salt marsh. The Alley Creek Park project site is located north of Northern Boulevard on the east side of Alley Creek, bounded by the Alley Pond Golf Center to the east in the Borough of Queens. This project will remove existing fill material from approximately 1.90 acres of existing upland parkland to establish tidal elevations, install appropriate soils for native wetland vegetation, and expand salt marsh habitat on the east side of Alley Creek. It will also remove an existing approximately 0.50 acres of an elevated berm and restore tidal hydrology within the site, improving hydrologic connection to an additional 2.70 acres of existing salt marsh.

The stated purpose of this project is to maintain the existing East River Esplanade.

USACE FILE: NAN-2021-01292-EBR

	REFERENCE DATUM		
	MLLW	NGVD 29	NAVD 88
HIGHEST OBSERVED (10/30/2012)	14.04	12.38	11.27
SHT	5.21	3.55	2.44
MHHW	5.05	3.39	2.28
MHW	4.73	3.07	1.96
MBD	4.41	2.75	1.64
NAVD88	2.77	1.11	0.00
NGVD	1.66	0.00	-1.11
MLW	0.20	-1.46	-2.57
MLLW	0.00	-1.66	-2.77
LOWEST OBSERVED (02/02/1976)	-4.29	-5.96	-7.06
NOTE: ALL UNITS IN FEET			
TIDAL BENCHMARKS BASED ON TIDAL STATION AT THE BATTERY, NEW YORK HARBOR. STATION ID: 8518750			

NOTE:
 ALL ELEVATIONS SHOWN ON PLANS REFERENCE NAVD 88.
 ALL HORIZONTAL DIMENSIONS SHOWN ON PLANS REFERENCE NVD 83.

PURPOSE: REHABILITATION OF THE
 EAST RIVER ESPLANADE

DATUM: NAVD88

ADJACENT OWNERS:
 1. SEE ATTACHED LIST

EAST RIVER ESPLANADE WATERFRONT REHABILITATION 62ND ST TO 64TH ST

APPLICANT: NYC PARKS AND RECREATION
 FLUSHING MEADOWS CORONA PARK,
 FLUSHING, NY 11368

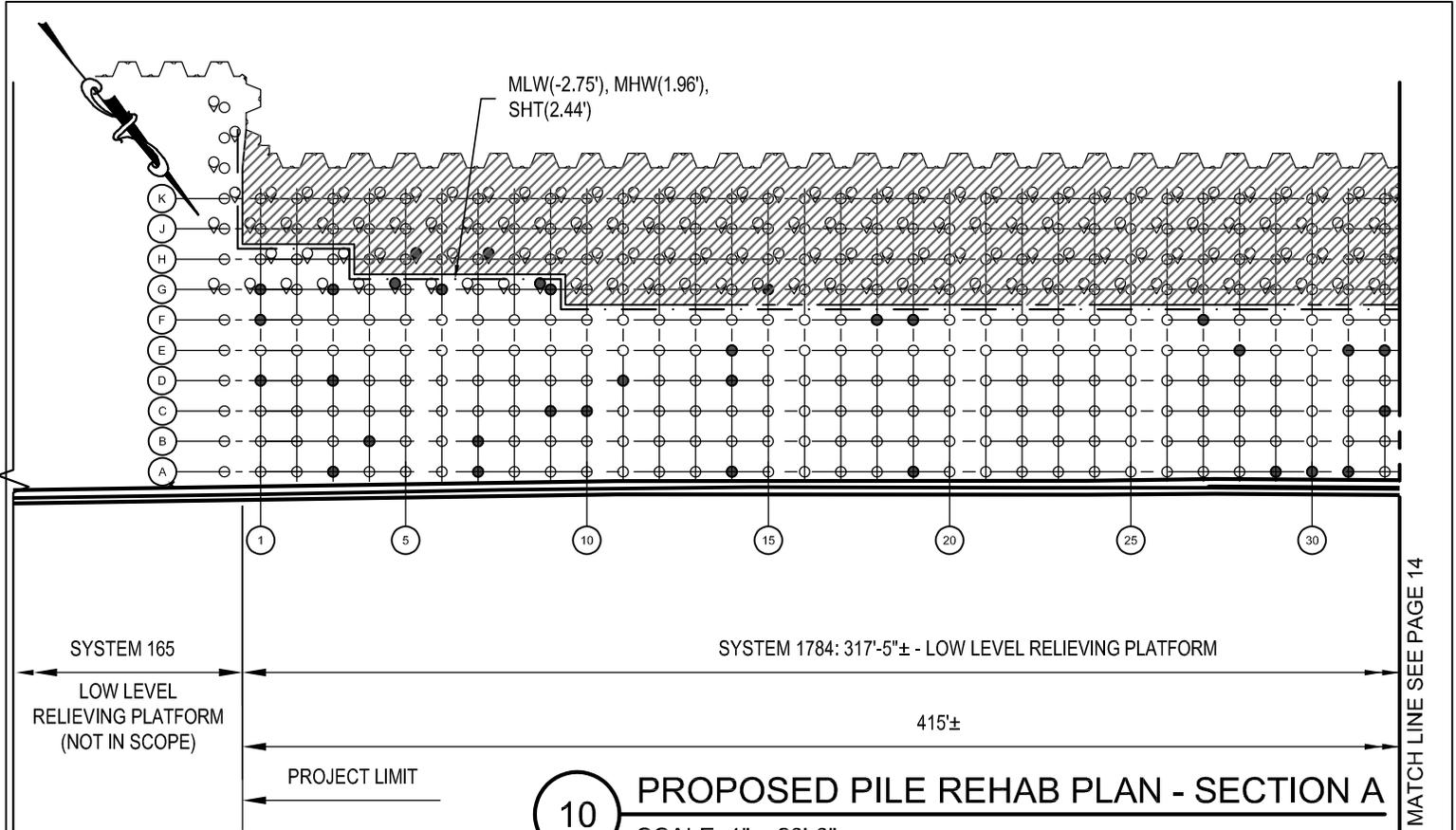
AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

TIDAL DATUM CHART

IN: EAST RIVER
 AT: MANHATTAN
 COUNTY OF: NEW YORK STATE: NY

SHT 3 OF 22 DATE: 07/01/2021

USACE FILE: NAN-2021-01292-EBR



10 PROPOSED PILE REHAB PLAN - SECTION A

SCALE: 1" = 20'-0"



LEGEND	DESCRIPTION	NUMBER OF PILES
	TIMBER PLUMB PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	430
	TIMBER BATTER PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER BATTER PILE	87
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER PLUMB PILE (SCE)	
	FULL HEIGHT POST REPAIR (PPSCE)	1
	APPROXIMATE FORMWORK LINE FOR MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	
	MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	

NOTES:

1. TIMBER PILES LOCATED WITHIN LIMITS OF MASS ENCASEMENT SHALL NOT BE REPAIRED WITH EPOXY OR STRUCTURAL ENCASEMENT.
2. EPOXY JACKET REPAIRS HAVE AN ANNULUS LESS THAN 4" AND THEREFORE DO NOT CONTRIBUTE TO IN WATER FILL.
3. STRUCTURAL ENCASEMENT REPAIRS AND THE FULL HEIGHT POST REPAIR BOTH HAVE A MAXIMUM ANNULUS OF 6".
4. BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATERWAY INCLUDE BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, POURING IN LIFTS, SEDIMENT BOOMS, FORM WORK EMBEDDED INTO MUDLINE.

PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE

DATUM: NAVD88

ADJACENT OWNERS:
1. SEE ATTACHED LIST

EAST RIVER ESPLANADE WATERFRONT REHABILITATION 62ND ST TO 64TH ST

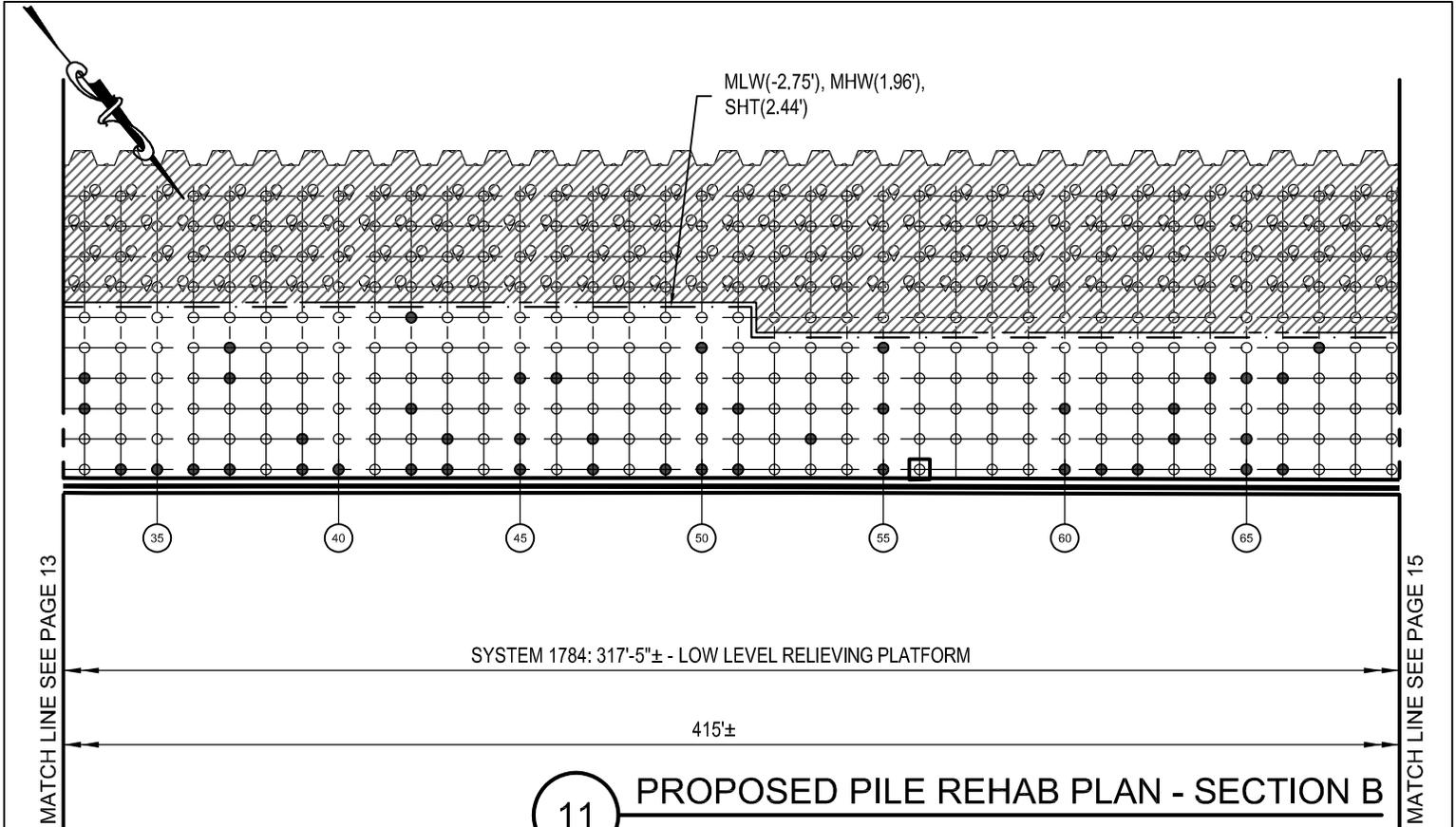
APPLICANT: NYC PARKS AND RECREATION
FLUSHING MEADOWS CORONA PARK,
FLUSHING, NY 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

PROPOSED PILE REHAB PLAN - 1 OF 3

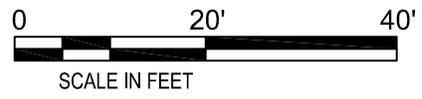
IN: EAST RIVER
AT: MANHATTAN
COUNTY OF: NEW YORK **STATE:** NY

SHT 10 OF 22 DATE: 07/01/2021



11 PROPOSED PILE REHAB PLAN - SECTION B

SCALE: 1" = 20'-0"



LEGEND	DESCRIPTION	NUMBER OF PILES
	TIMBER PLUMB PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	430
	TIMBER BATTER PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER BATTER PILE	87
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER PLUMB PILE (SCE)	
	FULL HEIGHT POST REPAIR (PPSCE)	1
	APPROXIMATE FORMWORK LINE FOR MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	
	MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	

NOTES:

- TIMBER PILES LOCATED WITHIN LIMITS OF MASS ENCASEMENT SHALL NOT BE REPAIRED WITH EPOXY OR STRUCTURAL ENCASEMENT.
- EPOXY JACKET REPAIRS HAVE AN ANNULUS LESS THAN 4" AND THEREFORE DO NOT CONTRIBUTE TO IN WATER FILL.
- STRUCTURAL ENCASEMENT REPAIRS AND THE FULL HEIGHT POST REPAIR BOTH HAVE A MAXIMUM ANNULUS OF 6".
- BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATERWAY INCLUDE BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, POURING IN LIFTS, SEDIMENT BOOMS, FORM WORK EMBEDDED INTO MUDLINE.

PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE

DATUM: NAVD88

ADJACENT OWNERS:
1. SEE ATTACHED LIST

EAST RIVER ESPLANADE WATERFRONT REHABILITATION 62ND ST TO 64TH ST

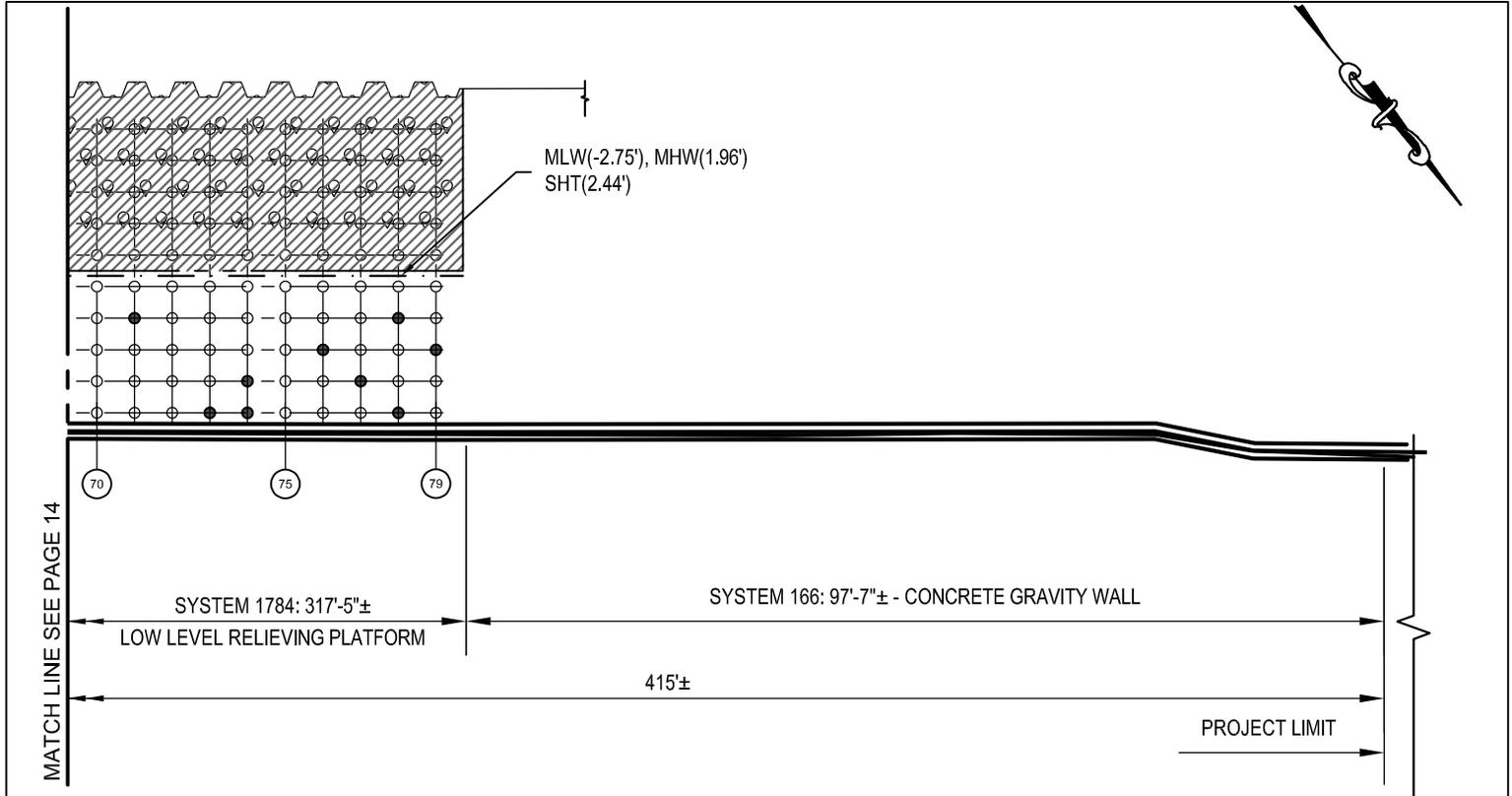
APPLICANT: NYC PARKS AND RECREATION
FLUSHING MEADOWS CORONA PARK,
FLUSHING, NY 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

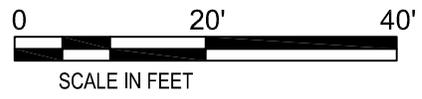
PROPOSED PILE REHAB PLAN - 2 OF 3

IN: EAST RIVER
AT: MANHATTAN
COUNTY OF: NEW YORK STATE: NY

SHT 11 OF 22 DATE: 07/01/2021



12 PROPOSED PILE REHAB PLAN - SECTION C
SCALE: 1" = 20'-0"



LEGEND	DESCRIPTION	NUMBER OF PILES
	TIMBER PLUMB PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	430
	TIMBER BATTER PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER BATTER PILE	87
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER PLUMB PILE (SCE)	
	FULL HEIGHT POST REPAIR (PPSCE)	1
	APPROXIMATE FORMWORK LINE FOR MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	
	MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	

NOTES:

1. TIMBER PILES LOCATED WITHIN LIMITS OF MASS ENCASEMENT SHALL NOT BE REPAIRED WITH EPOXY OR STRUCTURAL ENCASEMENT.
2. EPOXY JACKET REPAIRS HAVE AN ANNULUS LESS THAN 4" AND THEREFORE DO NOT CONTRIBUTE TO IN WATER FILL.
3. STRUCTURAL ENCASEMENT REPAIRS AND THE FULL HEIGHT POST REPAIR BOTH HAVE A MAXIMUM ANNULUS OF 6".
4. BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATERWAY INCLUDE BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, POURING IN LIFTS, SEDIMENT BOOMS, FORM WORK EMBEDDED INTO MUDLINE.

PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE

DATUM: NAVD88

ADJACENT OWNERS:
1. SEE ATTACHED LIST

**EAST RIVER ESPLANADE
WATERFRONT REHABILITATION
62ND ST TO 64TH ST**

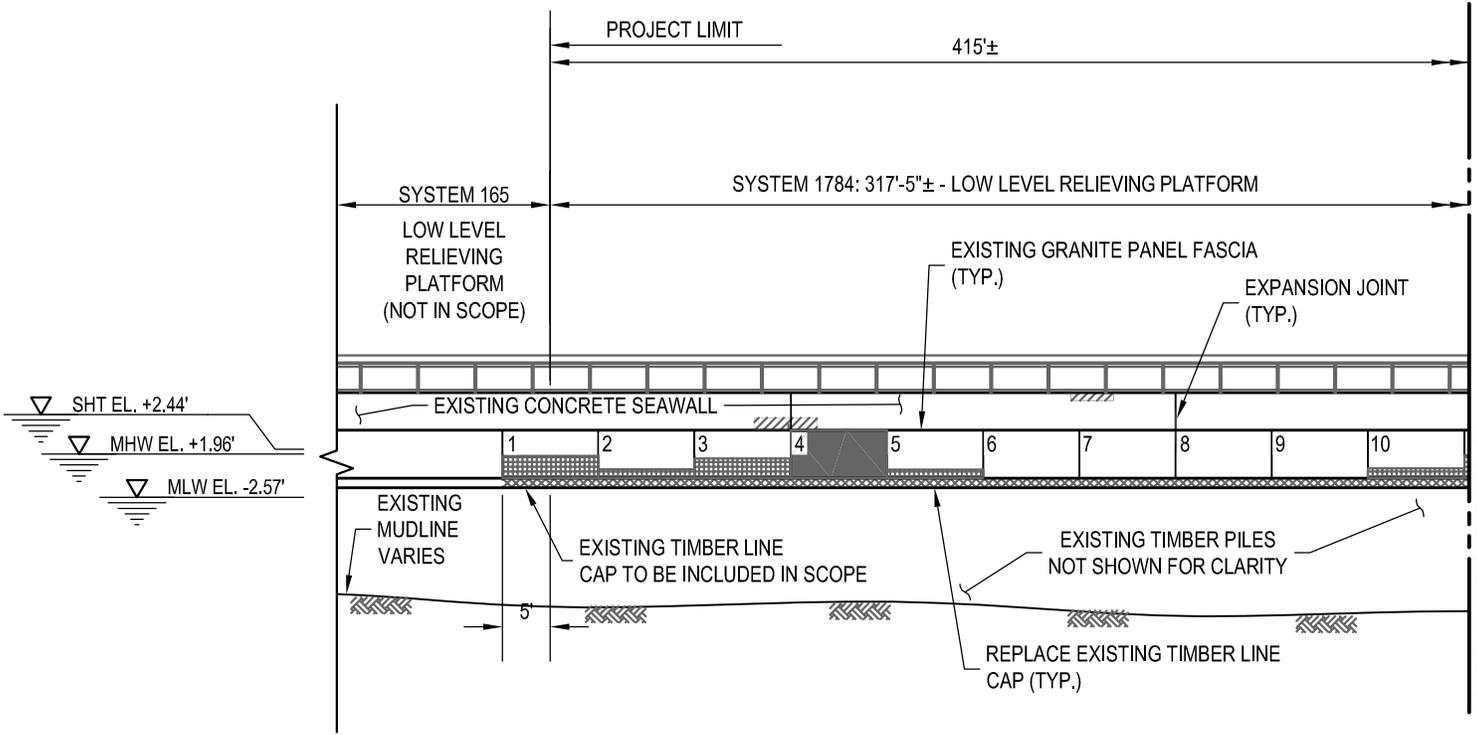
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AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

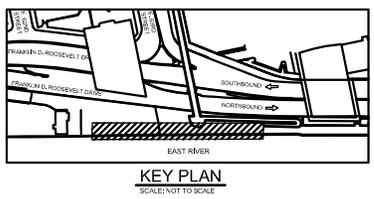
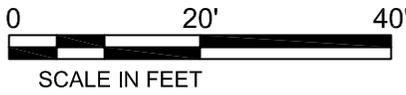
**PROPOSED PILE REHAB PLAN -
3 OF 3**

IN: EAST RIVER
AT: MANHATTAN
COUNTY OF: NEW YORK STATE: NY

SHT 12 OF 22 DATE: 07/01/2021



13 PROPOSED SEAWALL REHABILITATION ELEVATION - SECTION A
 SCALE: 1" = 20'-0"



- LEGEND:**
- GRANITE FASCIA PANEL TO BE REPLACED IN KIND
 - PARTIAL GRANITE FASCIA PANEL TO BE REPLACED WITH REINFORCED CONCRETE
 - CONCRETE SPALL REPAIR
 - REPLACE TIMBER LINE CAP WITH REINFORCED CONCRETE CAP

PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE

DATUM: NAVD88

ADJACENT OWNERS:
 1. SEE ATTACHED LIST

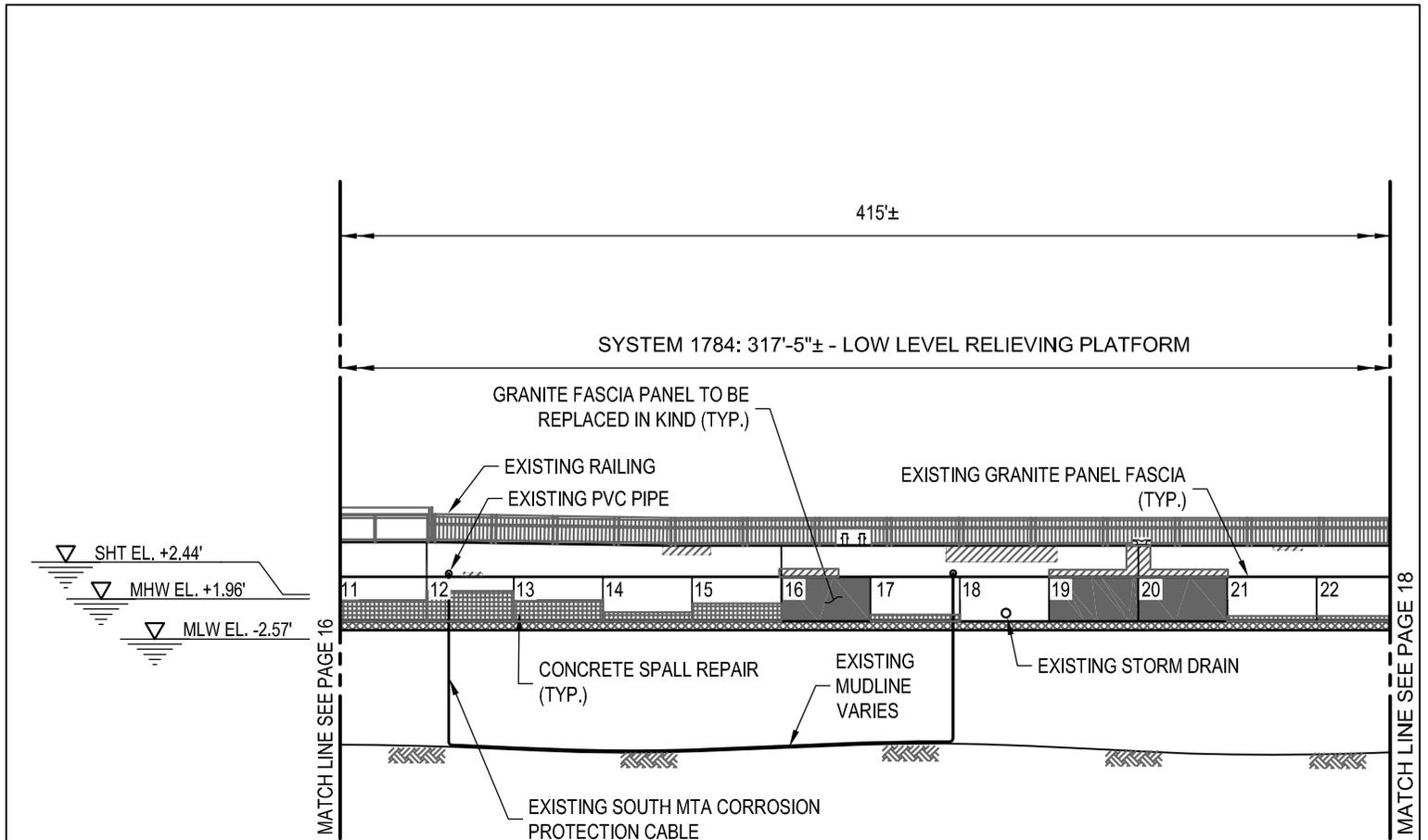
EAST RIVER ESPLANADE WATERFRONT REHABILITATION 62ND ST TO 64TH ST

APPLICANT: NYC PARKS AND RECREATION
 FLUSHING MEADOWS CORONA PARK,
 FLUSHING, NY 11368

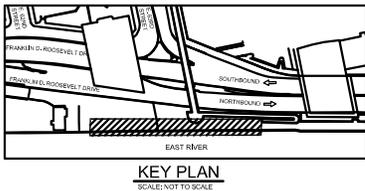
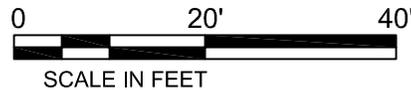
AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

PROPOSED SEAWALL REHAB ELEVATION - 1 OF 4

IN: EAST RIVER
 AT: MANHATTAN
 COUNTY OF: NEW YORK STATE: NY



14 PROPOSED SEAWALL REHABILITATION ELEVATION - SECTION B
 SCALE: 1" = 20'-0"



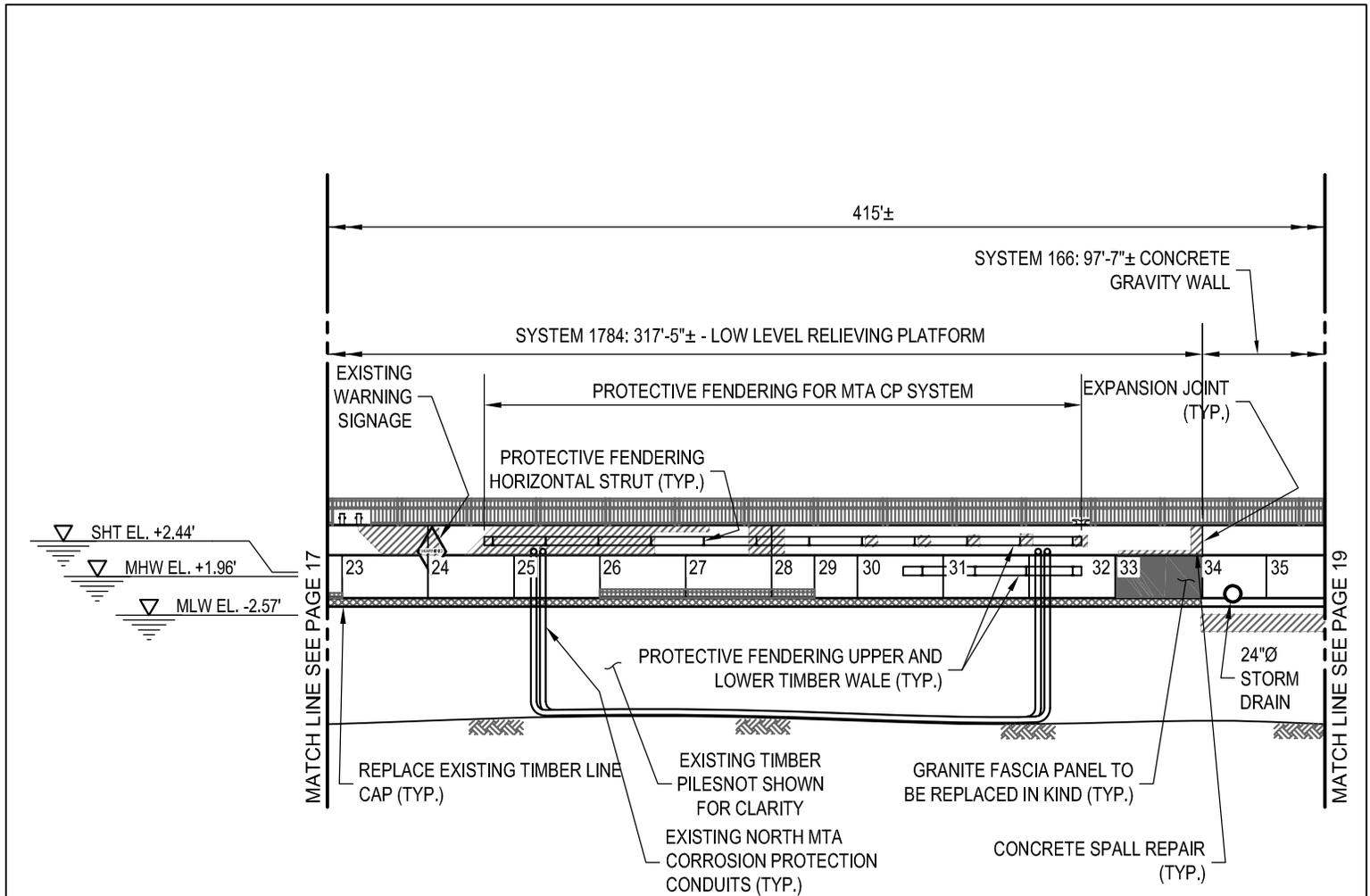
LEGEND:

- GRANITE FASCIA PANEL TO BE REPLACED IN KIND
- PARTIAL GRANITE FASCIA PANEL TO BE REPLACED WITH REINFORCED CONCRETE
- CONCRETE SPALL REPAIR
- REPLACE TIMBER LINE CAP WITH REINFORCED CONCRETE CAP

PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE
 DATUM: NAVD88
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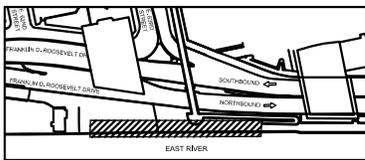
EAST RIVER ESPLANADE WATERFRONT REHABILITATION 62ND ST TO 64TH ST
 APPLICANT: NYC PARKS AND RECREATION
 FLUSHING MEADOWS CORONA PARK,
 FLUSHING, NY 11368
 AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
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PROPOSED SEAWALL REHAB ELEVATION - 2 OF 4
 IN: EAST RIVER
 AT: MANHATTAN
 COUNTY OF: NEW YORK STATE: NY



15 PROPOSED SEAWALL REHABILITATION ELEVATION - SECTION C

SCALE: 1" = 20'-0"



LEGEND:

- GRANITE FASCIA PANEL TO BE REPLACED IN KIND
- PARTIAL GRANITE FASCIA PANEL TO BE REPLACED WITH REINFORCED CONCRETE
- CONCRETE SPALL REPAIR
- REPLACE TIMBER LINE CAP WITH REINFORCED CONCRETE CAP

PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE

DATUM: NAVD88

ADJACENT OWNERS:
1. SEE ATTACHED LIST

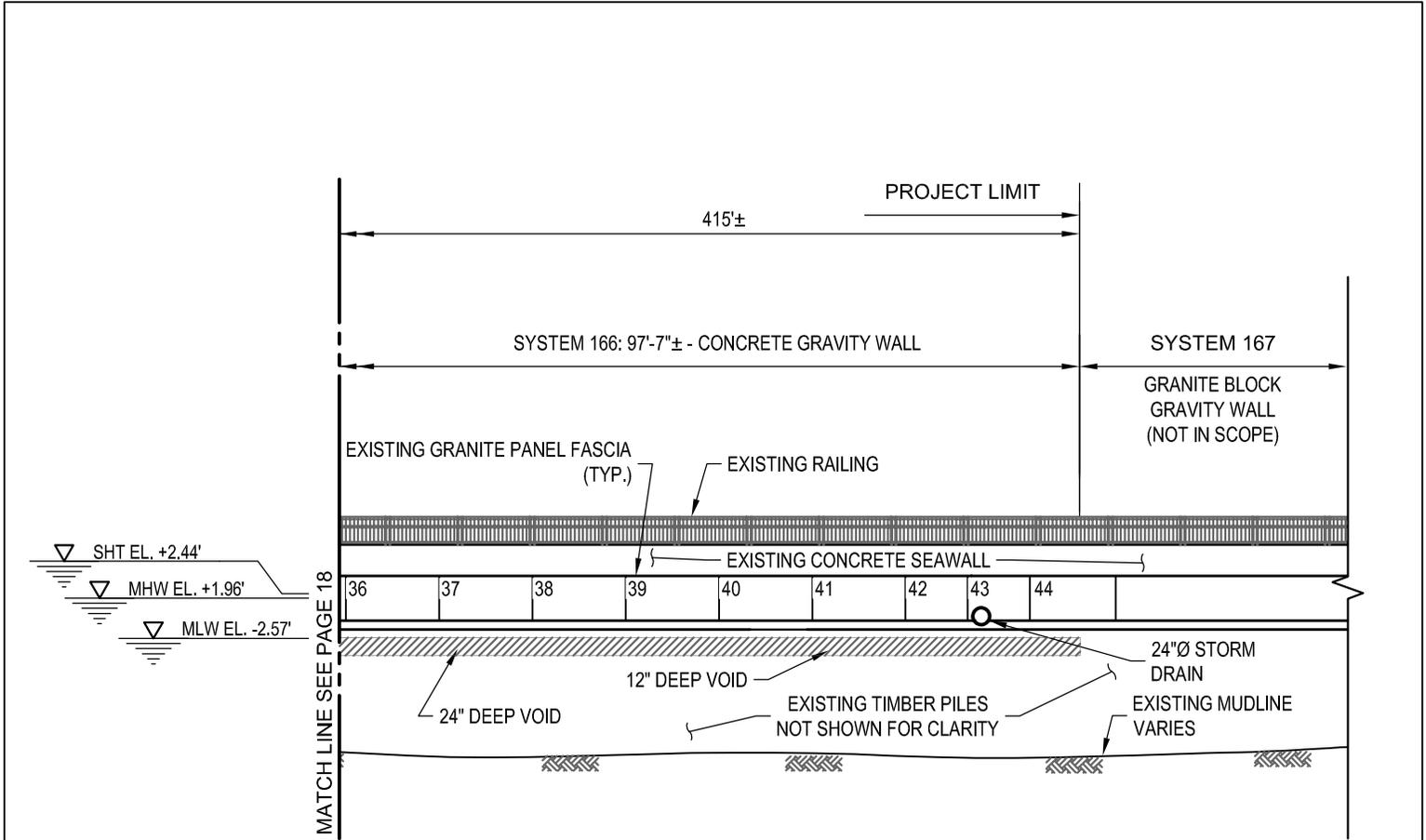
EAST RIVER ESPLANADE WATERFRONT REHABILITATION 62ND ST TO 64TH ST

APPLICANT: NYC PARKS AND RECREATION
FLUSHING MEADOWS CORONA PARK,
FLUSHING, NY 11368

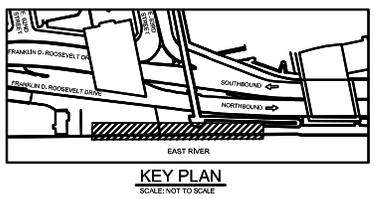
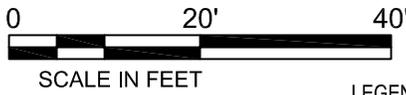
AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

PROPOSED SEAWALL REHAB ELEVATION - 3 OF 4

IN: EAST RIVER
AT: MANHATTAN
COUNTY OF: NEW YORK STATE: NY



16 PROPOSED SEAWALL REHABILITATION ELEVATION - SECTION D
 SCALE: 1" = 20'-0"



- LEGEND:**
- GRANITE FASCIA PANEL TO BE REPLACED IN KIND
 - PARTIAL GRANITE FASCIA PANEL TO BE REPLACED WITH REINFORCED CONCRETE
 - CONCRETE SPALL REPAIR
 - REPLACE TIMBER LINE CAP WITH REINFORCED CONCRETE CAP

PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE

DATUM: NAVD88

ADJACENT OWNERS:
 1. SEE ATTACHED LIST

EAST RIVER ESPLANADE WATERFRONT REHABILITATION 62ND ST TO 64TH ST

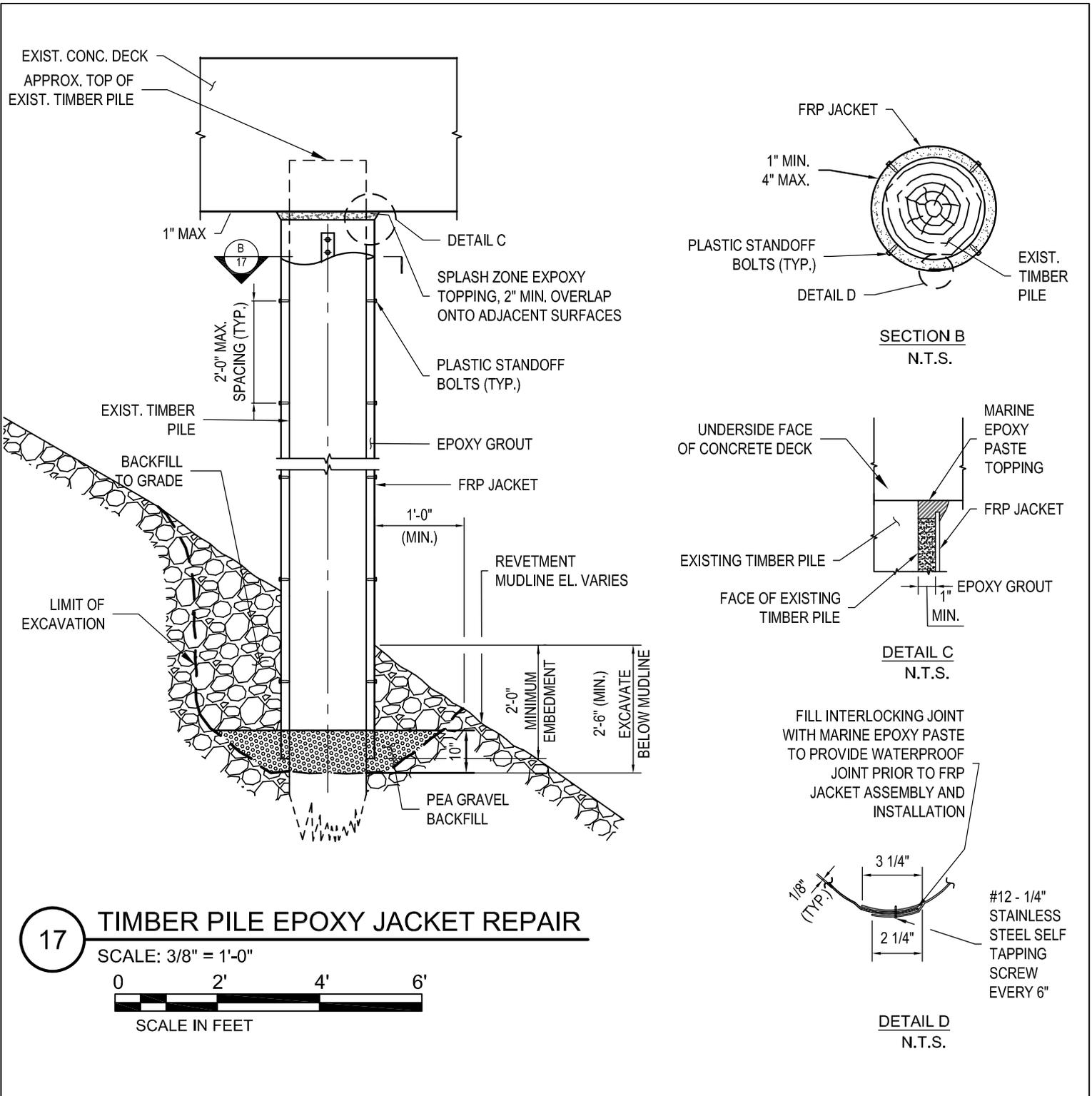
APPLICANT: NYC PARKS AND RECREATION
 FLUSHING MEADOWS CORONA PARK,
 FLUSHING, NY 11368

AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

PROPOSED SEAWALL REHAB ELEVATION - 4 OF 4

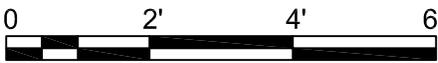
IN: EAST RIVER
 AT: MANHATTAN
 COUNTY OF: NEW YORK STATE: NY

SHT 16 OF 22 DATE: 07/01/2021



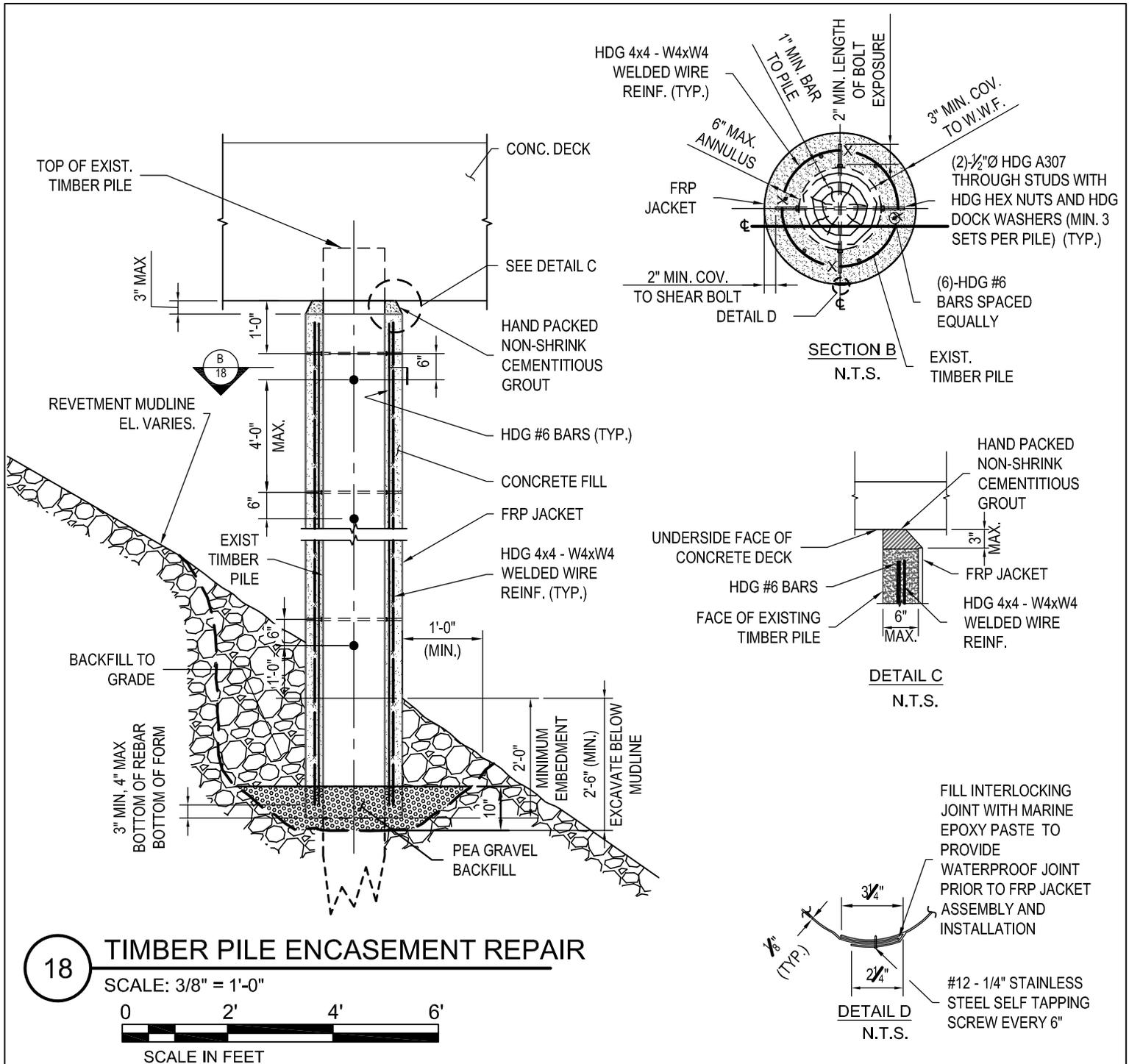
17 **TIMBER PILE EPOXY JACKET REPAIR**

SCALE: 3/8" = 1'-0"



SCALE IN FEET

<p>PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE</p> <p>DATUM: NAVD88</p> <p>ADJACENT OWNERS: 1. SEE ATTACHED LIST</p>	<p>EAST RIVER ESPLANADE WATERFRONT REHABILITATION 62ND ST TO 64TH ST</p> <p>APPLICANT: NYC PARKS AND RECREATION FLUSHING MEADOWS CORONA PARK, FLUSHING, NY 11368</p> <p>AGENT: McLAREN ENGINEERING GROUP 530 CHESTNUT RIDGE ROAD WOODCLIFF LAKE, NJ 07677</p>	<p>PILE REHAB DETAILS - 1 OF 3</p> <p>IN: EAST RIVER AT: MANHATTAN COUNTY OF: NEW YORK STATE: NY</p> <p>SHT 17 OF 22 DATE: 07/01/2021</p>
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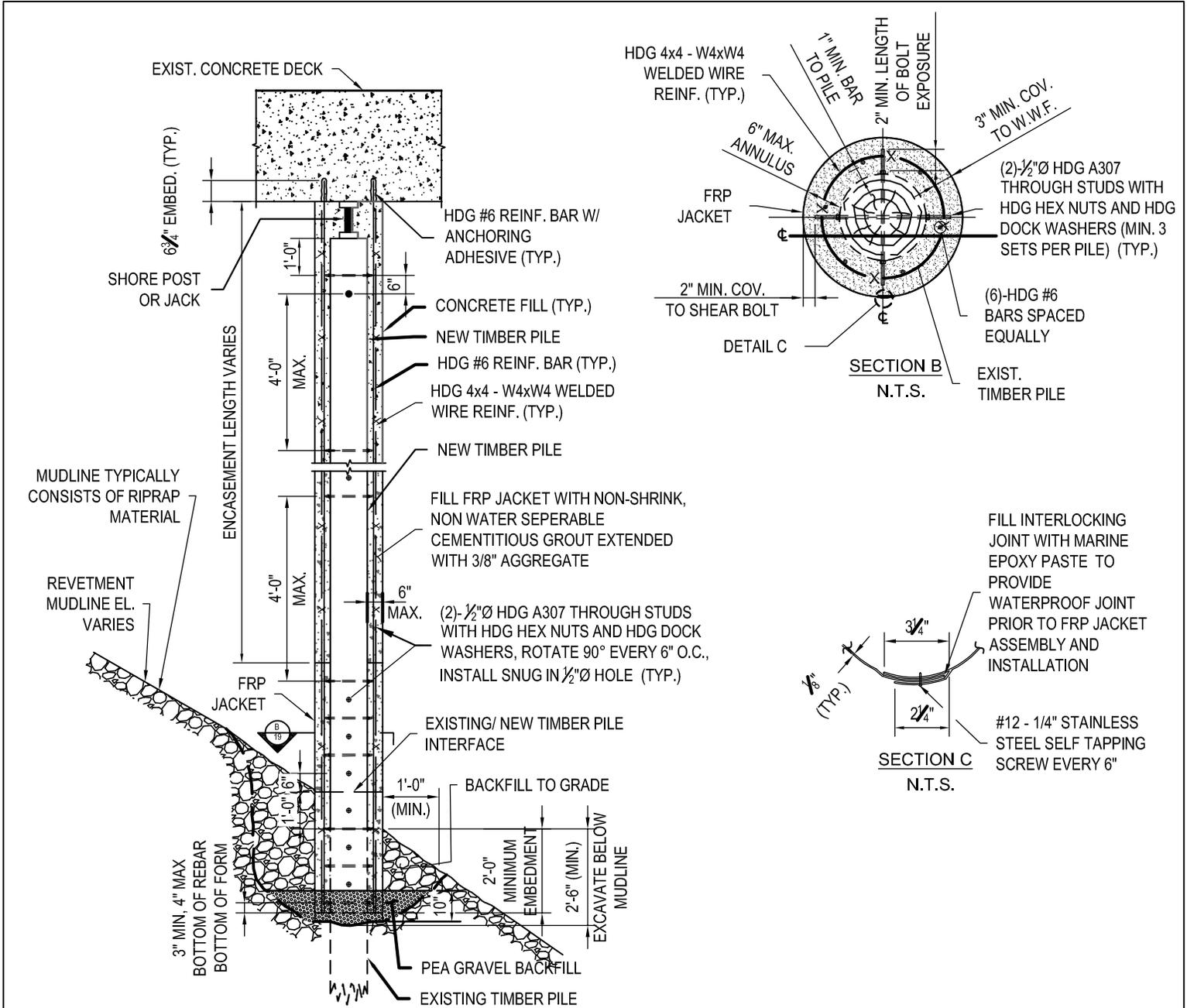


PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE
 DATUM: NAVD88
 ADJACENT OWNERS:
 1. SEE ATTACHED LIST

EAST RIVER ESPLANADE WATERFRONT REHABILITATION
 62ND ST TO 64TH ST
 APPLICANT: NYC PARKS AND RECREATION
 FLUSHING MEADOWS CORONA PARK,
 FLUSHING, NY 11368
 AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

PILE REHAB DETAILS - 2 OF 3
 IN: EAST RIVER
 AT: MANHATTAN
 COUNTY OF: NEW YORK STATE: NY

SHT 18 OF 22 DATE: 07/01/2021



19 TIMBER PILE FULL HEIGHT POST REPAIR

SCALE: 3/8" = 1'-0"



PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE

DATUM: NAVD88

ADJACENT OWNERS:
1. SEE ATTACHED LIST

EAST RIVER ESPLANADE WATERFRONT REHABILITATION
62ND ST TO 64TH ST

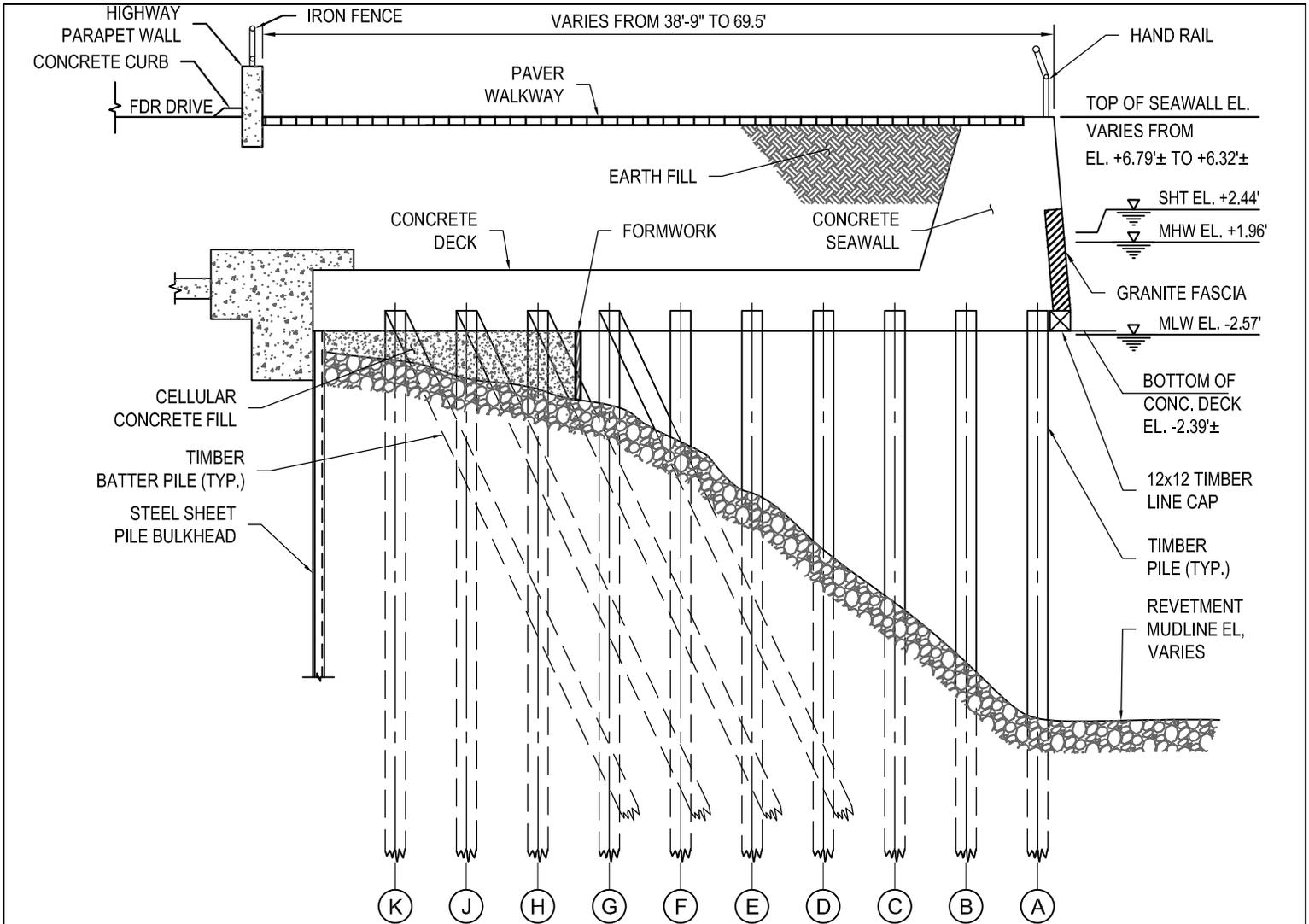
APPLICANT: NYC PARKS AND RECREATION
FLUSHING MEADOWS CORONA PARK,
FLUSHING, NY 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

PILE REHAB DETAILS - 3 OF 3

IN: EAST RIVER
AT: MANHATTAN
COUNTY OF: NEW YORK STATE: NY

SHT 19 OF 22 DATE: 07/01/2021



20

MASS INSHORE ENCASEMENT REPAIR

SCALE: 1/8" = 1'-0"



SCALE IN FEET

PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE ATTACHED LIST

EAST RIVER ESPLANADE WATERFRONT REHABILITATION 62ND ST TO 64TH ST

APPLICANT: NYC PARKS AND RECREATION
FLUSHING MEADOWS CORONA PARK,
FLUSHING, NY 11368

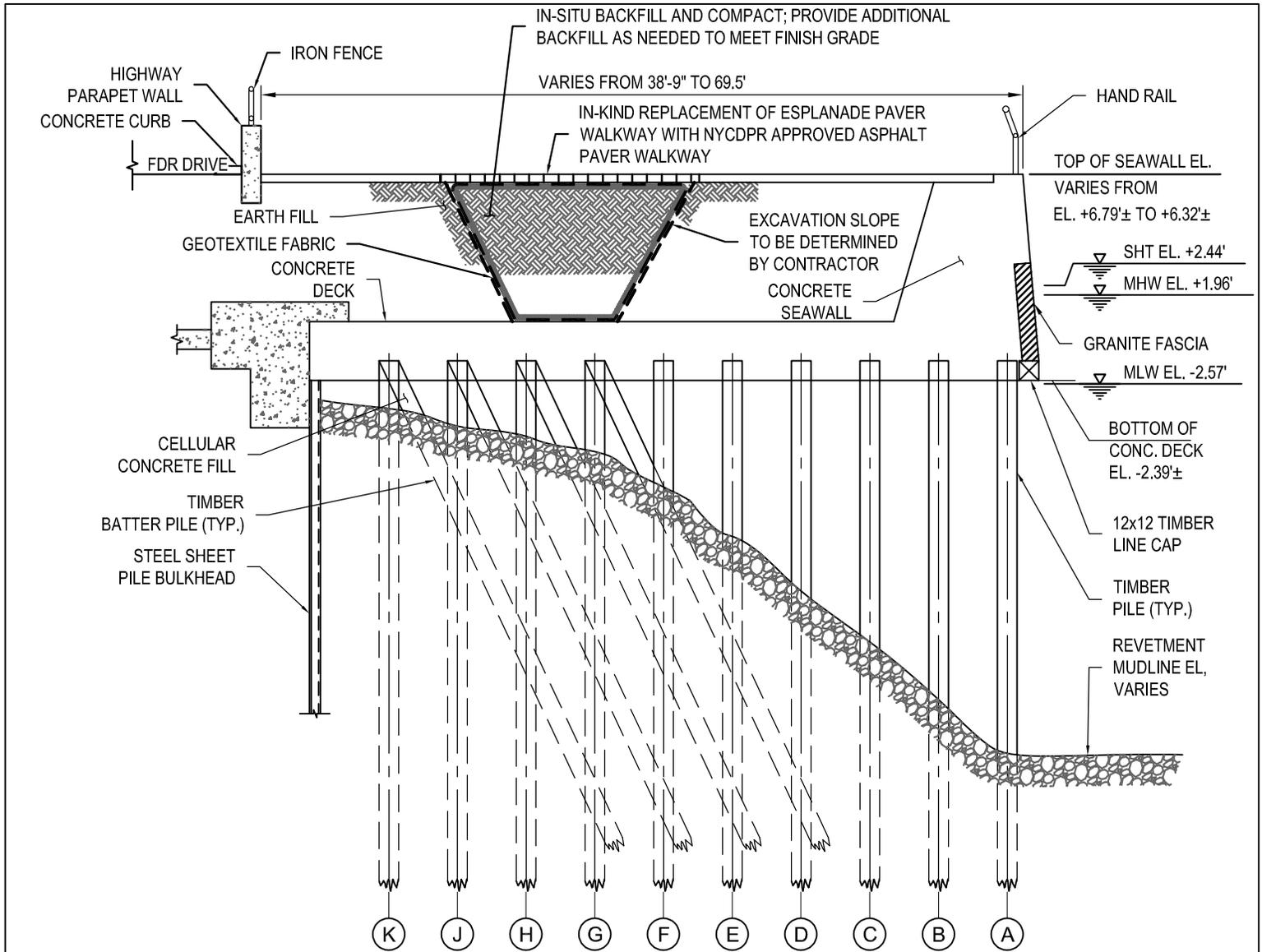
AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

MASS INSHORE ENCASEMENT REPAIR

IN: EAST RIVER
AT: MANHATTAN
COUNTY OF: NEW YORK STATE: NY

SHT 20 OF 22

DATE: 07/01/2021



21 **MASS INSHORE ENCASEMENT REPAIR**
 SCALE: 1/8" = 1'-0"
 0 4' 8' 16'
 SCALE IN FEET

<p>PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE</p> <p>DATUM: NAVD88</p> <p>ADJACENT OWNERS: 1. SEE ATTACHED LIST</p>	<p>EAST RIVER ESPLANADE WATERFRONT REHABILITATION 62ND ST TO 64TH ST</p> <p>APPLICANT: NYC PARKS AND RECREATION FLUSHING MEADOWS CORONA PARK, FLUSHING, NY 11368</p> <p>AGENT: McLAREN ENGINEERING GROUP 530 CHESTNUT RIDGE ROAD WOODCLIFF LAKE, NJ 07677</p>	<p>TYPICAL SINKHOLE REPAIR</p> <p>IN: EAST RIVER AT: MANHATTAN COUNTY OF: NEW YORK STATE: NY</p> <p>SHT 21 OF 22 DATE: 07/01/2021</p>
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USACE FILE: NAN-2021-01292-EBR

FILL TABLE		
PROPOSED ACTION	AREA (SQ.FT)	VOLUME (CY)
SCE	85	45
PPSCE	1	0.5
MASS ENCASEMENT	5288	431
TOTAL	5374	476.5

NOTE:

NUMBERS PROVIDED SHOW THE FILL BELOW MHW AND SHT

PURPOSE: REHABILITATION OF THE
EAST RIVER ESPLANADE

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE ATTACHED LIST

EAST RIVER ESPLANADE WATERFRONT REHABILITATION 62ND ST TO 64TH ST

APPLICANT: NYC PARKS AND RECREATION
FLUSHING MEADOWS CORONA PARK,
FLUSHING, NY 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

FILL CALCULATIONS

IN: EAST RIVER
AT: MANHATTAN
COUNTY OF: NEW YORK STATE: NY

SHT 22 OF 22 DATE: 07/01/2021

USACE FILE: NAN-2021-01292-EBR

	REFERENCE DATUM		
	MLLW	NGVD 29	NAVD 88
HIGHEST OBSERVED (10/30/2012)	14.04	12.38	11.27
SHT	5.21	3.55	2.44
MHHW	5.05	3.39	2.28
MHW	4.73	3.07	1.96
MBD	4.41	2.75	1.64
NAVD88	2.77	1.11	0.00
NGVD	1.66	0.00	-1.11
MLW	0.20	-1.46	-2.57
MLLW	0.00	-1.66	-2.77
LOWEST OBSERVED (02/02/1976)	-4.29	-5.96	-7.06
NOTE: ALL UNITS IN FEET			
TIDAL BENCHMARKS BASED ON TIDAL STATION AT THE BATTERY, NEW YORK HARBOR. STATION ID: 8518750			

NOTE:
 ALL ELEVATIONS SHOWN ON PLANS REFERENCE NAVD 88.
 ALL HORIZONTAL DIMENSIONS SHOWN ON PLANS REFERENCE NVD 83.

PURPOSE: REHABILITATION OF THE
EAST RIVER ESPLANADE

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE ATTACHED LIST
2. CITY OF NEW YORK

EAST RIVER ESPLANADE WATERFRONT REHABILITATION E90TH ST TO E94TH ST

APPLICANT: NYC PARKS AND RECREATION
 FLUSHING MEADOWS CORONA PARK,
 FLUSHING, NY 11368

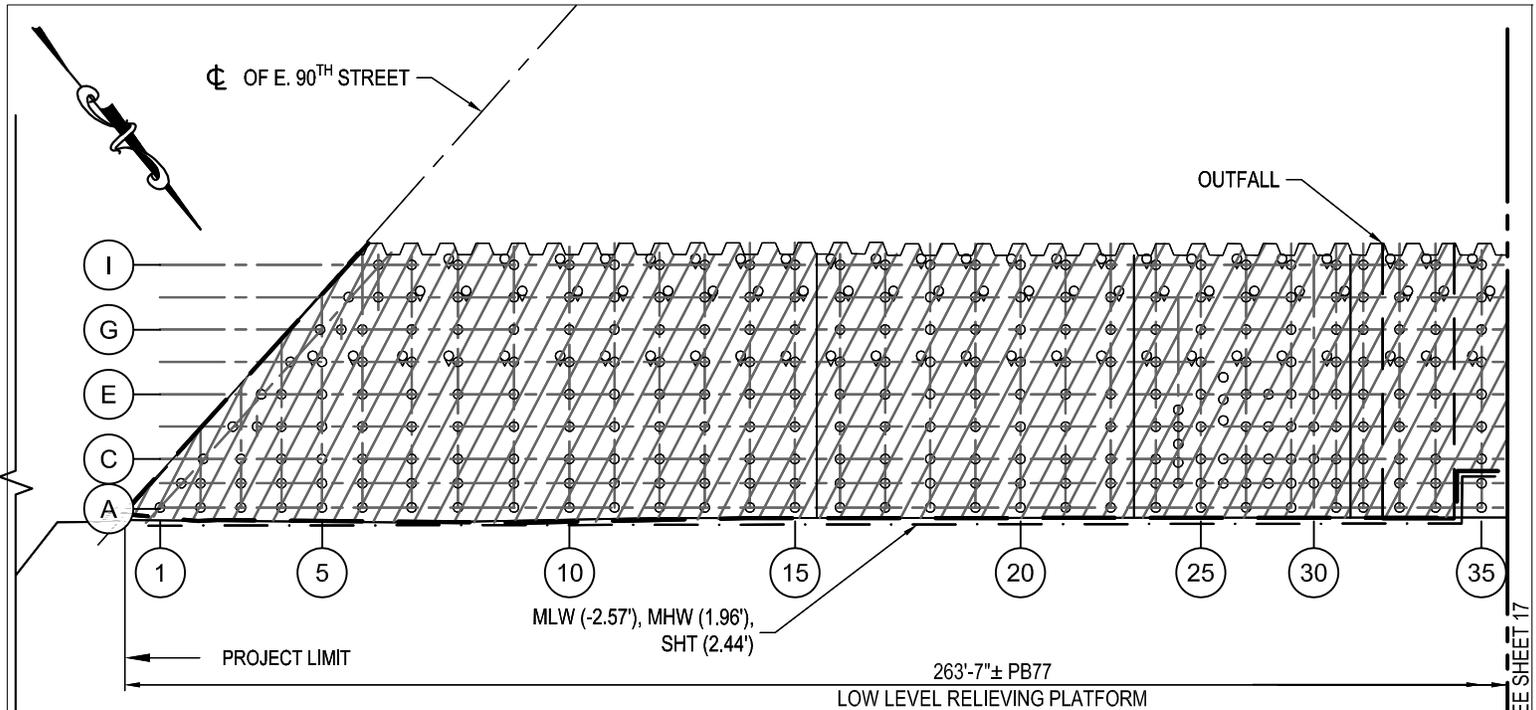
AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

TIDAL DATUM CHART

IN: EAST RIVER
 AT: MANHATTAN
 COUNTY OF: NEW YORK STATE: NY

SHT 3 OF 43 DATE: 07/01/2021

USACE FILE: NAN-2021-01292-EBR



16 PROPOSED PILE REHAB PLAN

SCALE: 1" = 20'-0"

LEGEND	DESCRIPTION	VALUES
	TIMBER PLUMB PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	436 EA
	TIMBER BATTER PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER BATTER PILE	112 EA
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER PLUMB PILE	
	TIMBER PILE CAP REPAIR	1175 LF
	APPROXIMATE FORMWORK LINE FOR MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	-
	MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	-
	FULL HEIGHT TIMBER POST REPAIR	7 EA

NOTES:

- EXPOSED LENGTHS OF BATTER PILES EXTENDING THROUGH THE PROPOSED FORMWORK LINE FOR MASS ENCASEMENT WITH LIGHTWEIGHT CONCRETE FILL SHALL BE REPAIRED ACCORDING TO THE PILE REPAIR SCHEDULE. PILE REPAIR LENGTHS TO BE VERIFIED IN FIELD BY CONTRACTOR.
- EPOXY JACKET REPAIRS HAVE AN ANNULUS LESS THAN 4" AND THEREFORE DO NOT CONTRIBUTE TO IN WATER FILL.
- OFFSHORE FACE OF SEAWALL/OUTBOARD FACE OF PLATFORM IS LIMIT OF MHWs, MHW, AND MLW.
- ELEVATIONS SHOWN ARE IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- UNDERGROUND UTILITIES HAVE NOT BEEN SHOWN ON THIS SURVEY.
- TOPOGRAPHIC SURVEY PERFORMED BY THE CITY OF NEW YORK - PARKS & RECREATION DATED DECEMBER 2019.
- ALL ELEVATIONS, DIMENSIONS AND SIZES SHOWN ARE IN US FEET.
- BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATERWAY INCLUDES, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, POURING IN LIFTS, SEDIMENT BOOMS, FORM WORK EMBEDDED INTO MUDLINE.

EAST RIVER ESPLANADE WATERFRONT REHABILITATION E90TH ST TO E94TH ST

APPLICANT: NYC PARKS AND RECREATION
FLUSHING MEADOWS CORONA PARK,
FLUSHING, NY 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

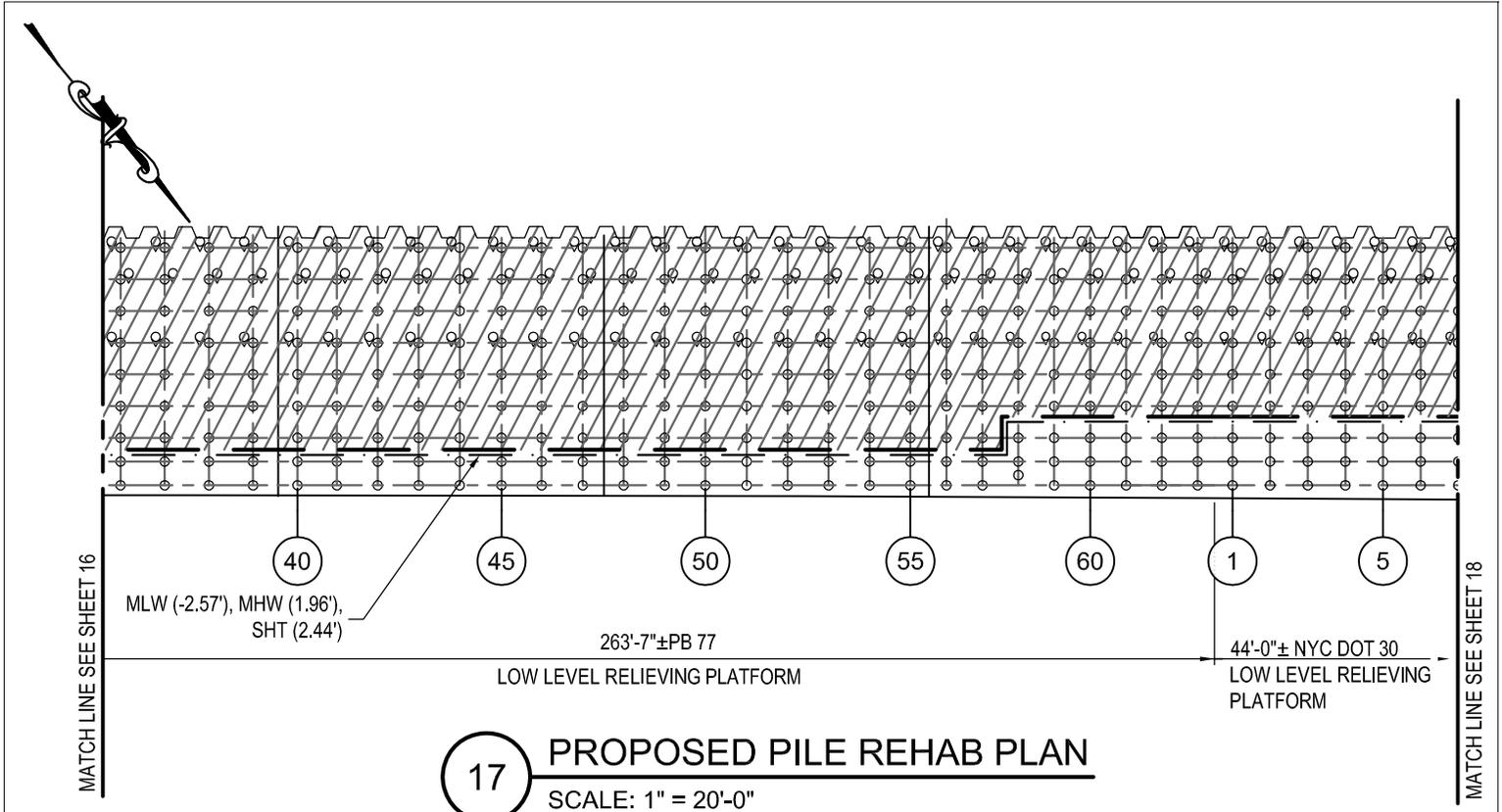
PROPOSED PILE REHAB PLAN I

IN: EAST RIVER
AT: MANHATTAN
COUNTY OF: NEW YORK STATE: NY



SHT 16 OF 43 DATE: 07/01/2021

USACE FILE: NAN-2021-01292-EBR



17 PROPOSED PILE REHAB PLAN

SCALE: 1" = 20'-0"

LEGEND	DESCRIPTION	VALUES
	TIMBER PLUMB PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	436 EA
	TIMBER BATTER PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER BATTER PILE	112 EA
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER PLUMB PILE	
	TIMBER PILE CAP REPAIR	1175 LF
	APPROXIMATE FORMWORK LINE FOR MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	-
	MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	-
	FULL HEIGHT TIMBER POST REPAIR	7 EA

NOTES:

- EXPOSED LENGTHS OF BATTER PILES EXTENDING THROUGH THE PROPOSED FORMWORK LINE FOR MASS ENCASEMENT WITH LIGHTWEIGHT CONCRETE FILL SHALL BE REPAIRED ACCORDING TO THE PILE REPAIR SCHEDULE. PILE REPAIR LENGTHS TO BE VERIFIED IN FIELD BY CONTRACTOR.
- EPOXY JACKET REPAIRS HAVE AN ANNULUS LESS THAN 4" AND THEREFORE DO NOT CONTRIBUTE TO IN WATER FILL.
- OFFSHORE FACE OF SEAWALL/OUTBOARD FACE OF PLATFORM IS LIMIT OF MHWs, MHW, AND MLW.
- ELEVATIONS SHOWN ARE IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- UNDERGROUND UTILITIES HAVE NOT BEEN SHOWN ON THIS SURVEY.
- TOPOGRAPHIC SURVEY PERFORMED BY THE CITY OF NEW YORK - PARKS & RECREATION DATED DECEMBER 2019.
- ALL ELEVATIONS, DIMENSIONS AND SIZES SHOWN ARE IN US FEET.
- BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATERWAY INCLUDES, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, POURING IN LIFTS, SEDIMENT BOOMS, FORM WORK EMBEDDED INTO MUDLINE.

PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE

DATUM: NAVD88

ADJACENT OWNERS:

- SEE ATTACHED LIST
- CITY OF NEW YORK

EAST RIVER ESPLANADE WATERFRONT REHABILITATION
E90TH ST TO E94TH ST

APPLICANT: NYC PARKS AND RECREATION
 FLUSHING MEADOWS CORONA PARK,
 FLUSHING, NY 11368

AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

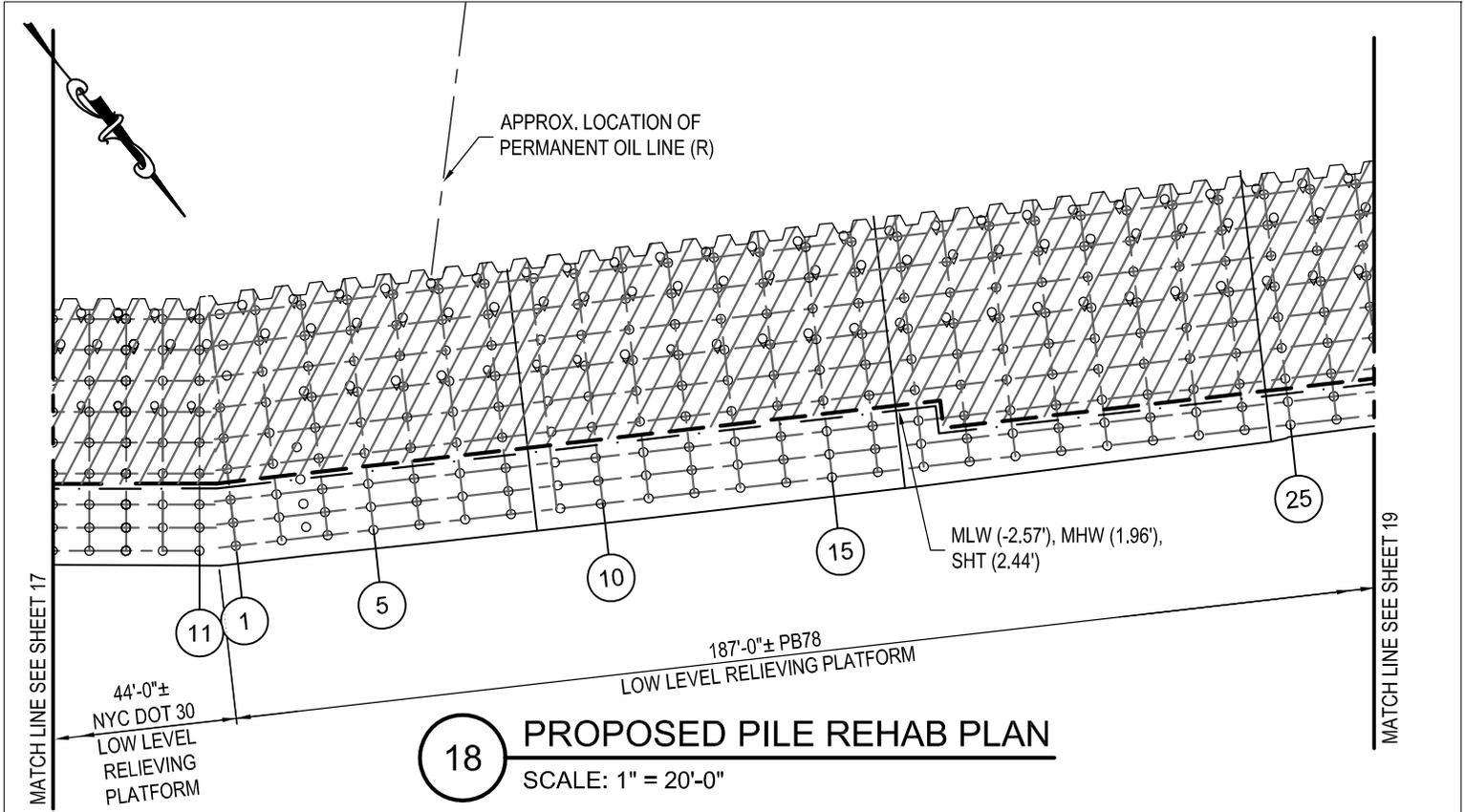
PROPOSED PILE REHAB PLAN II

IN: EAST RIVER
AT: MANHATTAN
COUNTY OF: NEW YORK **STATE:** NY

0 20' 40'

SHT 17 OF 43 **DATE:** 07/01/2021

USACE FILE: NAN-2021-01292-EBR



18 PROPOSED PILE REHAB PLAN

SCALE: 1" = 20'-0"

LEGEND	DESCRIPTION	VALUES
	TIMBER PLUMB PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	436 EA
	TIMBER BATTER PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER BATTER PILE	112 EA
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER PLUMB PILE	
	TIMBER PILE CAP REPAIR	1175 LF
	APPROXIMATE FORMWORK LINE FOR MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	-
	MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	-
	FULL HEIGHT TIMBER POST REPAIR	7 EA

NOTES:

- EXPOSED LENGTHS OF BATTER PILES EXTENDING THROUGH THE PROPOSED FORMWORK LINE FOR MASS ENCASEMENT WITH LIGHTWEIGHT CONCRETE FILL SHALL BE REPAIRED ACCORDING TO THE PILE REPAIR SCHEDULE. PILE REPAIR LENGTHS TO BE VERIFIED IN FIELD BY CONTRACTOR.
- EPOXY JACKET REPAIRS HAVE AN ANNULUS LESS THAN 4" AND THEREFORE DO NOT CONTRIBUTE TO IN WATER FILL.
- OFFSHORE FACE OF SEAWALL/OUTBOARD FACE OF PLATFORM IS LIMIT OF MHWs, MHW, AND MLW.
- ELEVATIONS SHOWN ARE IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- UNDERGROUND UTILITIES HAVE NOT BEEN SHOWN ON THIS SURVEY.
- TOPOGRAPHIC SURVEY PERFORMED BY THE CITY OF NEW YORK - PARKS & RECREATION DATED DECEMBER 2019.
- ALL ELEVATIONS, DIMENSIONS AND SIZES SHOWN ARE IN US FEET.
- BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATERWAY INCLUDES, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, POURING IN LIFTS, SEDIMENT BOOMS, FORM WORK EMBEDDED INTO MUDLINE.

PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE

DATUM: NAVD88

ADJACENT OWNERS:
 1. SEE ATTACHED LIST
 2. CITY OF NEW YORK

EAST RIVER ESPLANADE WATERFRONT REHABILITATION
 E90TH ST TO E94TH ST

APPLICANT: NYC PARKS AND RECREATION
 FLUSHING MEADOWS CORONA PARK,
 FLUSHING, NY 11368

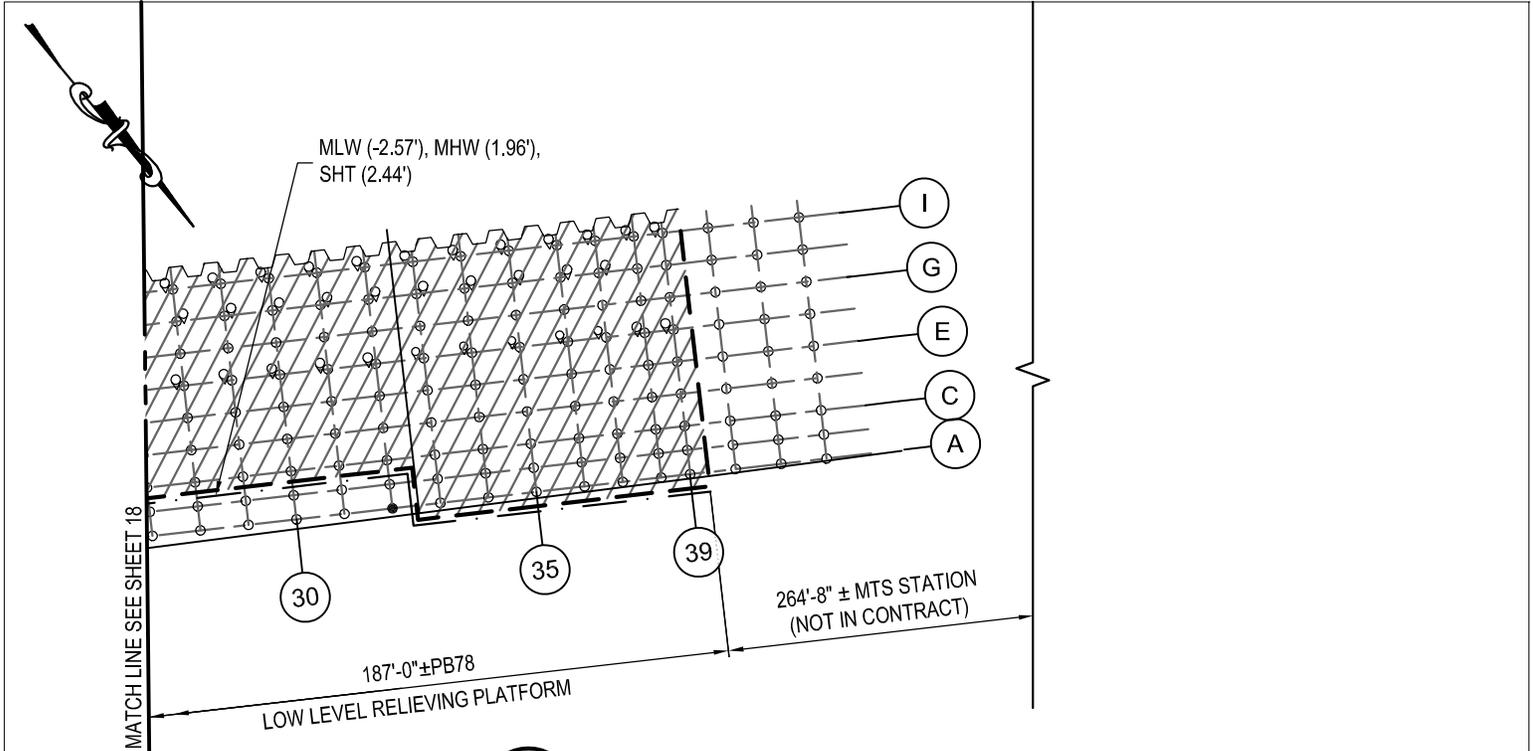
AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

PROPOSED PILE REHAB PLAN III

IN: EAST RIVER
 AT: MANHATTAN
 COUNTY OF: NEW YORK STATE: NY

SHT 18 OF 43 DATE: 07/01/2021

USACE FILE: NAN-2021-01292-EBR



19 **PROPOSED PILE REHAB PLAN**
SCALE: 1" = 20'-0"

LEGEND	DESCRIPTION	VALUES
	TIMBER PLUMB PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	436 EA
	TIMBER BATTER PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER BATTER PILE	112 EA
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER PLUMB PILE	
	TIMBER PILE CAP REPAIR	1175 LF
	APPROXIMATE FORMWORK LINE FOR MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	-
	MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	-
	FULL HEIGHT TIMBER POST REPAIR	7 EA

NOTES:

- EXPOSED LENGTHS OF BATTER PILES EXTENDING THROUGH THE PROPOSED FORMWORK LINE FOR MASS ENCASEMENT WITH LIGHTWEIGHT CONCRETE FILL SHALL BE REPAIRED ACCORDING TO THE PILE REPAIR SCHEDULE. PILE REPAIR LENGTHS TO BE VERIFIED IN FIELD BY CONTRACTOR.
- EPOXY JACKET REPAIRS HAVE AN ANNULUS LESS THAN 4" AND THEREFORE DO NOT CONTRIBUTE TO IN WATER FILL.
- OFFSHORE FACE OF SEAWALL/OUTBOARD FACE OF PLATFORM IS LIMIT OF MHWs, MHW, AND MLW.
- ELEVATIONS SHOWN ARE IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- UNDERGROUND UTILITIES HAVE NOT BEEN SHOWN ON THIS SURVEY.
- TOPOGRAPHIC SURVEY PERFORMED BY THE CITY OF NEW YORK - PARKS & RECREATION DATED DECEMBER 2019.
- ALL ELEVATIONS, DIMENSIONS AND SIZES SHOWN ARE IN US FEET.
- BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATERWAY INCLUDES, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, POURING IN LIFTS, SEDIMENT BOOMS, FORM WORK EMBEDDED INTO MUDLINE.

PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE

DATUM: NAVD88

ADJACENT OWNERS:

- SEE ATTACHED LIST
- CITY OF NEW YORK

**EAST RIVER ESPLANADE WATERFRONT REHABILITATION
E90TH ST TO E94TH ST**

APPLICANT: NYC PARKS AND RECREATION
FLUSHING MEADOWS CORONA PARK,
FLUSHING, NY 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

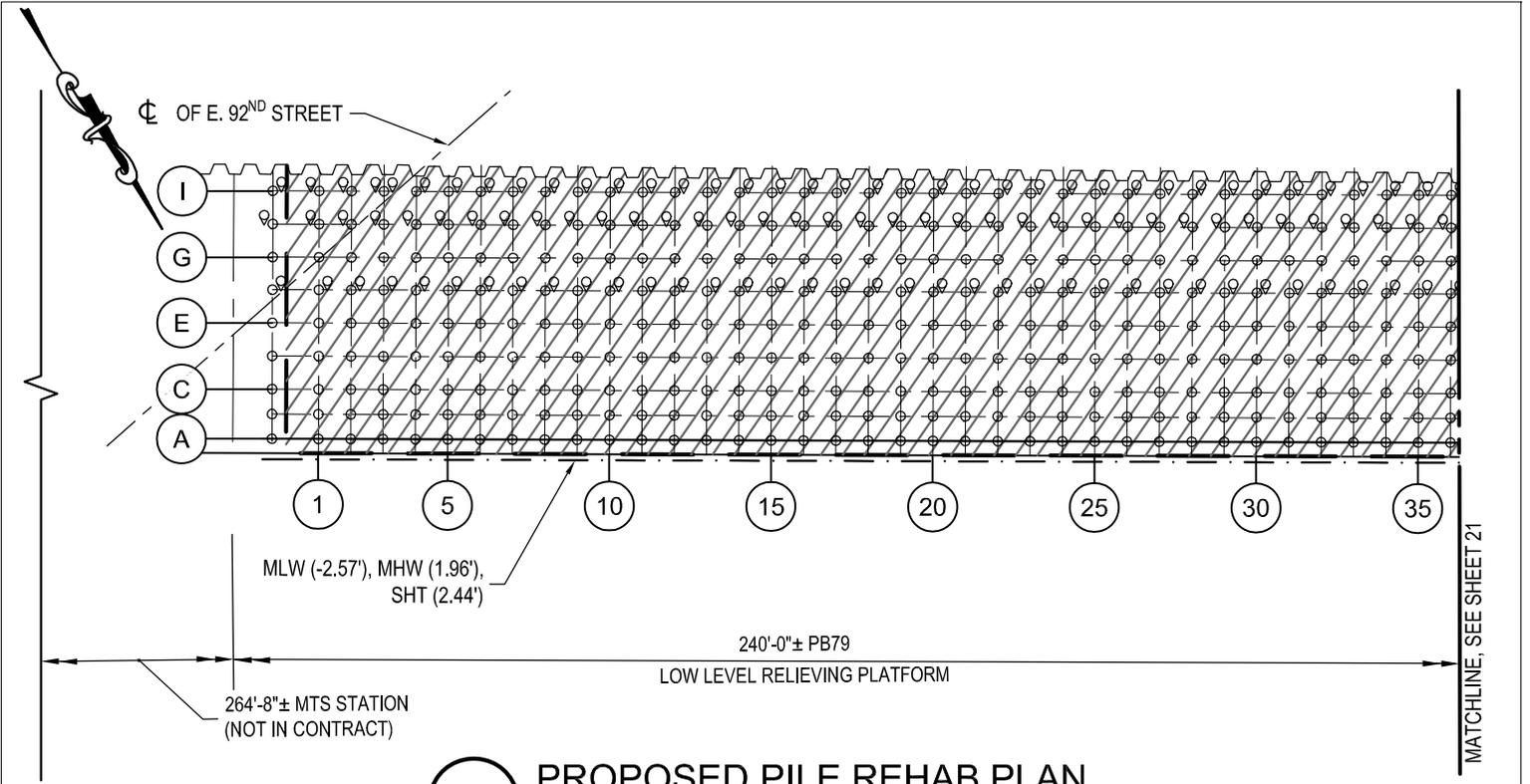
PROPOSED PILE REHAB PLAN IV

IN: EAST RIVER
AT: MANHATTAN
COUNTY OF: NEW YORK STATE: NY
0 20' 40'



SHT 19 OF 43 DATE: 07/01/2021

USACE FILE: NAN-2021-01292-EBR



20 PROPOSED PILE REHAB PLAN

SCALE: 1" = 20'-0"

LEGEND	DESCRIPTION	VALUE
	TIMBER PLUMB PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	436 EA
	TIMBER BATTER PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER BATTER PILE	112 EA
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER PLUMB PILE	
	TIMBER PILE CAP REPAIR	1175 LF
	APPROXIMATE FORMWORK LINE FOR MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	-
	MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	-
	FULL HEIGHT TIMBER POST REPAIR	7 EA

NOTES:

- EXPOSED LENGTHS OF BATTER PILES EXTENDING THROUGH THE PROPOSED FORMWORK LINE FOR MASS ENCASEMENT WITH LIGHTWEIGHT CONCRETE FILL SHALL BE REPAIRED ACCORDING TO THE PILE REPAIR SCHEDULE. PILE REPAIR LENGTHS TO BE VERIFIED IN FIELD BY CONTRACTOR.
- EPOXY JACKET REPAIRS HAVE AN ANNULUS LESS THAN 4" AND THEREFORE DO NOT CONTRIBUTE TO IN WATER FILL.
- OFFSHORE FACE OF SEAWALL/OUTBOARD FACE OF PLATFORM IS LIMIT OF MHWs, MHW, AND MLW.
- ELEVATIONS SHOWN ARE IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- UNDERGROUND UTILITIES HAVE NOT BEEN SHOWN ON THIS SURVEY.
- TOPOGRAPHIC SURVEY PERFORMED BY THE CITY OF NEW YORK - PARKS & RECREATION DATED DECEMBER 2019.
- ALL ELEVATIONS, DIMENSIONS AND SIZES SHOWN ARE IN US FEET.
- BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATERWAY INCLUDES, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, POURING IN LIFTS, SEDIMENT BOOMS, FORM WORK EMBEDDED INTO MUDLINE.

PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE

DATUM: NAVD88

ADJACENT OWNERS:

- SEE ATTACHED LIST
- CITY OF NEW YORK

EAST RIVER ESPLANADE WATERFRONT REHABILITATION
E90TH ST TO E94TH ST

APPLICANT: NYC PARKS AND RECREATION
 FLUSHING MEADOWS CORONA PARK,
 FLUSHING, NY 11368

AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

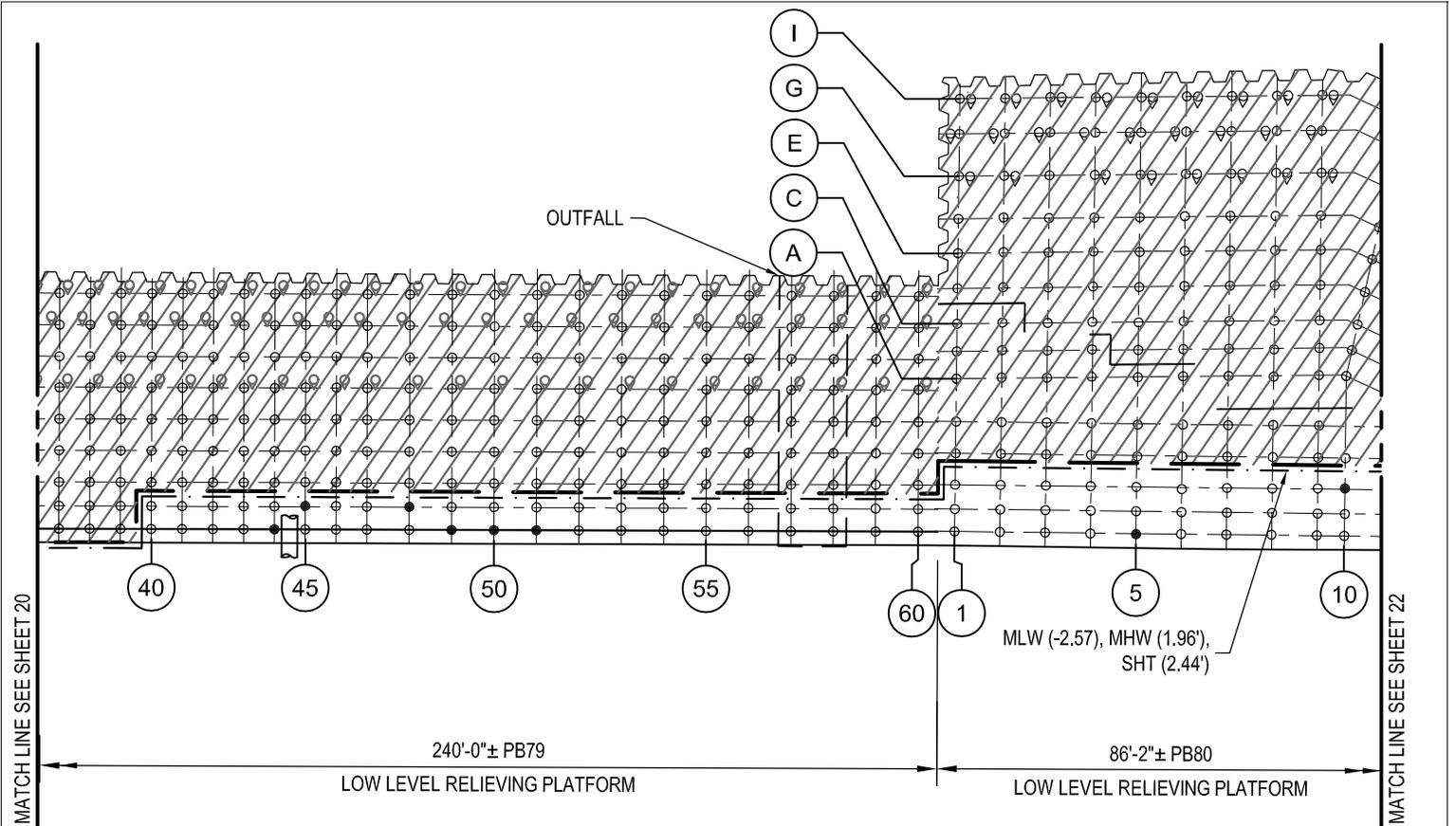
PROPOSED PILE REHAB PLAN V

IN: EAST RIVER
AT: MANHATTAN
COUNTY OF: NEW YORK **STATE:** NY

0 20' 40'

SHT 20 OF 43 **DATE:** 07/01/2021

USACE FILE: NAN-2021-01292-EBR



LEGEND	DESCRIPTION	VALUE
	TIMBER PLUMB PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	436 EA
	TIMBER BATTER PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER BATTER PILE	112 EA
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER PLUMB PILE	
	TIMBER PILE CAP REPAIR	1175 LF
	APPROXIMATE FORMWORK LINE FOR MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	-
	MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	-
	FULL HEIGHT TIMBER POST REPAIR	7 EA

21 PROPOSED PILE REHAB PLAN

SCALE: 1" = 20'-0"

- NOTES:**
- EXPOSED LENGTHS OF BATTER PILES EXTENDING THROUGH THE PROPOSED FORMWORK LINE FOR MASS ENCASEMENT WITH LIGHTWEIGHT CONCRETE FILL SHALL BE REPAIRED ACCORDING TO THE PILE REPAIR SCHEDULE. PILE REPAIR LENGTHS TO BE VERIFIED IN FIELD BY CONTRACTOR.
 - EPOXY JACKET REPAIRS HAVE AN ANNULUS LESS THAN 4" AND THEREFORE DO NOT CONTRIBUTE TO IN WATER FILL.
 - OFFSHORE FACE OF SEAWALL/OUTBOARD FACE OF PLATFORM IS LIMIT OF MHWs, MHW, AND MLW.
 - ELEVATIONS SHOWN ARE IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
 - UNDERGROUND UTILITIES HAVE NOT BEEN SHOWN ON THIS SURVEY.
 - TOPOGRAPHIC SURVEY PERFORMED BY THE CITY OF NEW YORK - PARKS & RECREATION DATED DECEMBER 2019.
 - ALL ELEVATIONS, DIMENSIONS AND SIZES SHOWN ARE IN US FEET.
 - BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATERWAY INCLUDES, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, POURING IN LIFTS, SEDIMENT BOOMS, FORM WORK EMBEDDED INTO MUDLINE.

PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE

DATUM: NAVD88

ADJACENT OWNERS:

- SEE ATTACHED LIST
- CITY OF NEW YORK

EAST RIVER ESPLANADE WATERFRONT REHABILITATION
E90TH ST TO E94TH ST

APPLICANT: NYC PARKS AND RECREATION
 FLUSHING MEADOWS CORONA PARK,
 FLUSHING, NY 11368

AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

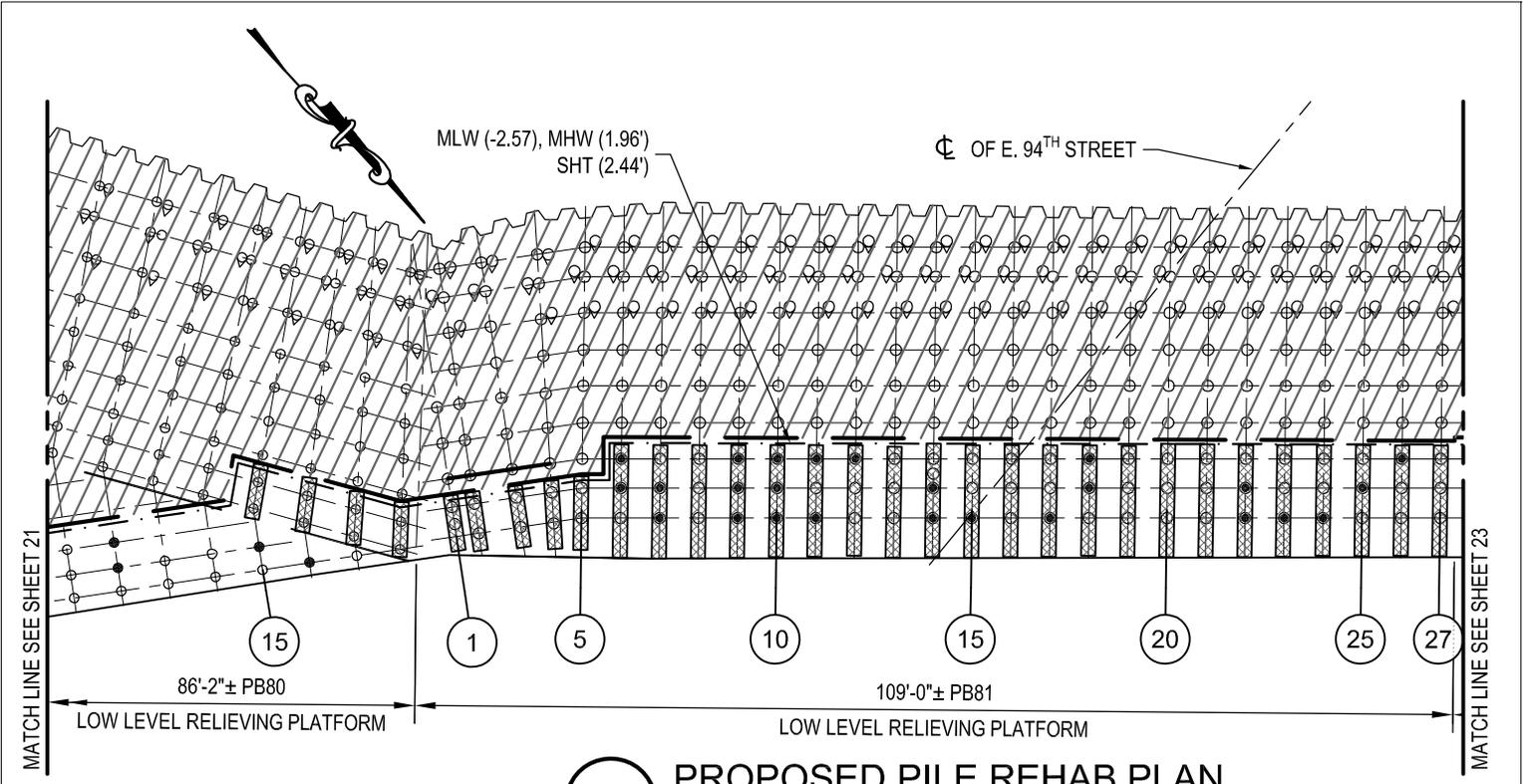
PROPOSED PILE REHAB PLAN VI

IN: EAST RIVER
AT: MANHATTAN
COUNTY OF: NEW YORK **STATE:** NY

0 20' 40'

SHT 21 OF 43 DATE: 07/01/2021

USACE FILE: NAN-2021-01292-EBR



22 PROPOSED PILE REHAB PLAN

SCALE: 1" = 20'-0"

LEGEND	DESCRIPTION	VALUE
	TIMBER PLUMB PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	436 EA
	TIMBER BATTER PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER BATTER PILE	112 EA
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER PLUMB PILE	
	TIMBER PILE CAP REPAIR	1175 LF
	APPROXIMATE FORMWORK LINE FOR MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	-
	MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	-
	FULL HEIGHT TIMBER POST REPAIR	7 EA

- NOTES:**
- EXPOSED LENGTHS OF BATTER PILES EXTENDING THROUGH THE PROPOSED FORMWORK LINE FOR MASS ENCASEMENT WITH LIGHTWEIGHT CONCRETE FILL SHALL BE REPAIRED ACCORDING TO THE PILE REPAIR SCHEDULE. PILE REPAIR LENGTHS TO BE VERIFIED IN FIELD BY CONTRACTOR.
 - EPOXY JACKET REPAIRS HAVE AN ANNULUS LESS THAN 4" AND THEREFORE DO NOT CONTRIBUTE TO IN WATER FILL.
 - OFFSHORE FACE OF SEAWALL/OUTBOARD FACE OF PLATFORM IS LIMIT OF MHWs, MHW, AND MLW.
 - ELEVATIONS SHOWN ARE IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
 - UNDERGROUND UTILITIES HAVE NOT BEEN SHOWN ON THIS SURVEY.
 - TOPOGRAPHIC SURVEY PERFORMED BY THE CITY OF NEW YORK - PARKS & RECREATION DATED DECEMBER 2019.
 - ALL ELEVATIONS, DIMENSIONS AND SIZES SHOWN ARE IN US FEET.
 - BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATERWAY INCLUDES, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, POURING IN LIFTS, SEDIMENT BOOMS, FORM WORK EMBEDDED INTO MUDLINE.

PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE

DATUM: NAVD88

ADJACENT OWNERS:
 1. SEE ATTACHED LIST
 2. CITY OF NEW YORK

**EAST RIVER ESPLANADE WATERFRONT REHABILITATION
 E90TH ST TO E94TH ST**

APPLICANT: NYC PARKS AND RECREATION
 FLUSHING MEADOWS CORONA PARK,
 FLUSHING, NY 11368

AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

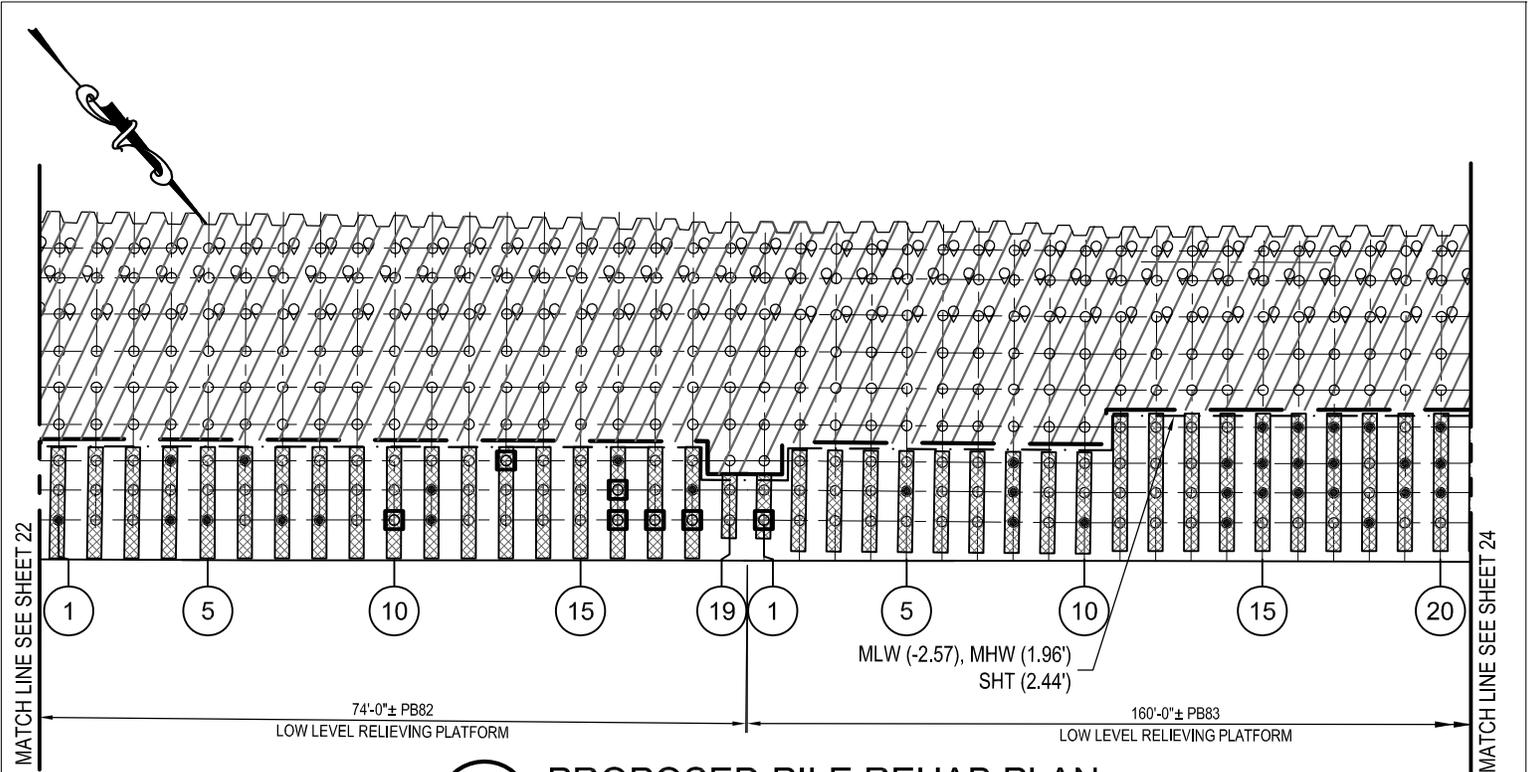
PROPOSED PILE REHAB PLAN VII

IN: EAST RIVER
AT: MANHATTAN
COUNTY OF: NEW YORK **STATE:** NY

0 20' 40'

SHT 22 OF 43 DATE: 07/01/2021

USACE FILE: NAN-2021-01292-EBR



23 PROPOSED PILE REHAB PLAN

SCALE: 1" = 20'-0"

LEGEND	DESCRIPTION	VALUE
	TIMBER PLUMB PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	436 EA
	TIMBER BATTER PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER BATTER PILE	112 EA
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER PLUMB PILE	
	TIMBER PILE CAP REPAIR	1175 LF
	APPROXIMATE FORMWORK LINE FOR MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	-
	MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	-
	FULL HEIGHT TIMBER POST REPAIR	7 EA

NOTES:

- EXPOSED LENGTHS OF BATTER PILES EXTENDING THROUGH THE PROPOSED FORMWORK LINE FOR MASS ENCASEMENT WITH LIGHTWEIGHT CONCRETE FILL SHALL BE REPAIRED ACCORDING TO THE PILE REPAIR SCHEDULE. PILE REPAIR LENGTHS TO BE VERIFIED IN FIELD BY CONTRACTOR.
- EPOXY JACKET REPAIRS HAVE AN ANNULUS LESS THAN 4" AND THEREFORE DO NOT CONTRIBUTE TO IN WATER FILL.
- OFFSHORE FACE OF SEAWALL/OUTBOARD FACE OF PLATFORM IS LIMIT OF MHWs, MHW, AND MLW.
- ELEVATIONS SHOWN ARE IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- UNDERGROUND UTILITIES HAVE NOT BEEN SHOWN ON THIS SURVEY.
- TOPOGRAPHIC SURVEY PERFORMED BY THE CITY OF NEW YORK - PARKS & RECREATION DATED DECEMBER 2019.
- ALL ELEVATIONS, DIMENSIONS AND SIZES SHOWN ARE IN US FEET.
- BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATERWAY INCLUDES, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, POURING IN LIFTS, SEDIMENT BOOMS, FORM WORK EMBEDDED INTO MUDLINE.

EAST RIVER ESPLANADE WATERFRONT REHABILITATION
E90TH ST TO E94TH ST

APPLICANT: NYC PARKS AND RECREATION
 FLUSHING MEADOWS CORONA PARK,
 FLUSHING, NY 11368

AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

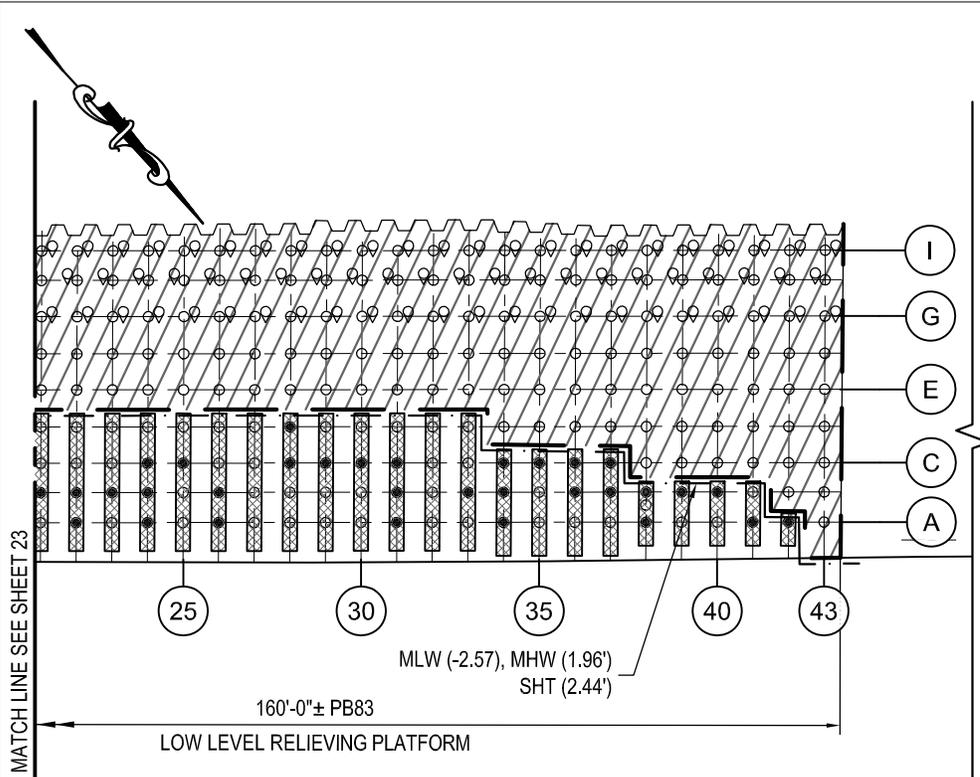
PROPOSED PILE REHAB PLAN VIII

IN: EAST RIVER
 AT: MANHATTAN
 COUNTY OF: NEW YORK STATE: NY

0 20' 40'

SHT 23 OF 43 DATE: 07/01/2021

USACE FILE: NAN-2021-01292-EBR



24 PROPOSED PILE REHAB PLAN

SCALE: 1" = 20'-0"

LEGEND	DESCRIPTION	VALUE
	TIMBER PLUMB PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	436 EA
	TIMBER BATTER PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)	
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER BATTER PILE	112 EA
	FULL LENGTH STRUCTURAL ENCASEMENT OF TIMBER PLUMB PILE	
	TIMBER PILE CAP REPAIR	1175 LF
	APPROXIMATE FORMWORK LINE FOR MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	-
	MASS ENCASEMENT WITH CELLULAR CONCRETE FILL	-
	FULL HEIGHT TIMBER POST REPAIR	7 EA

NOTES:

- EXPOSED LENGTHS OF BATTER PILES EXTENDING THROUGH THE PROPOSED FORMWORK LINE FOR MASS ENCASEMENT WITH LIGHTWEIGHT CONCRETE FILL SHALL BE REPAIRED ACCORDING TO THE PILE REPAIR SCHEDULE. PILE REPAIR LENGTHS TO BE VERIFIED IN FIELD BY CONTRACTOR.
- EPOXY JACKET REPAIRS HAVE AN ANNULUS LESS THAN 4" AND THEREFORE DO NOT CONTRIBUTE TO IN WATER FILL.
- OFFSHORE FACE OF SEAWALL/OUTBOARD FACE OF PLATFORM IS LIMIT OF MHWs, MHW, AND MLW.
- ELEVATIONS SHOWN ARE IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- UNDERGROUND UTILITIES HAVE NOT BEEN SHOWN ON THIS SURVEY.
- TOPOGRAPHIC SURVEY PERFORMED BY THE CITY OF NEW YORK - PARKS & RECREATION DATED DECEMBER 2019.
- ALL ELEVATIONS, DIMENSIONS AND SIZES SHOWN ARE IN US FEET.
- BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATERWAY INCLUDES, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, POURING IN LIFTS, SEDIMENT BOOMS, FORM WORK EMBEDDED INTO MUDLINE.

PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE

DATUM: NAVD88

ADJACENT OWNERS:
 1. SEE ATTACHED LIST
 2. CITY OF NEW YORK

EAST RIVER ESPLANADE WATERFRONT REHABILITATION
 E90TH ST TO E94TH ST

APPLICANT: NYC PARKS AND RECREATION
 FLUSHING MEADOWS CORONA PARK,
 FLUSHING, NY 11368

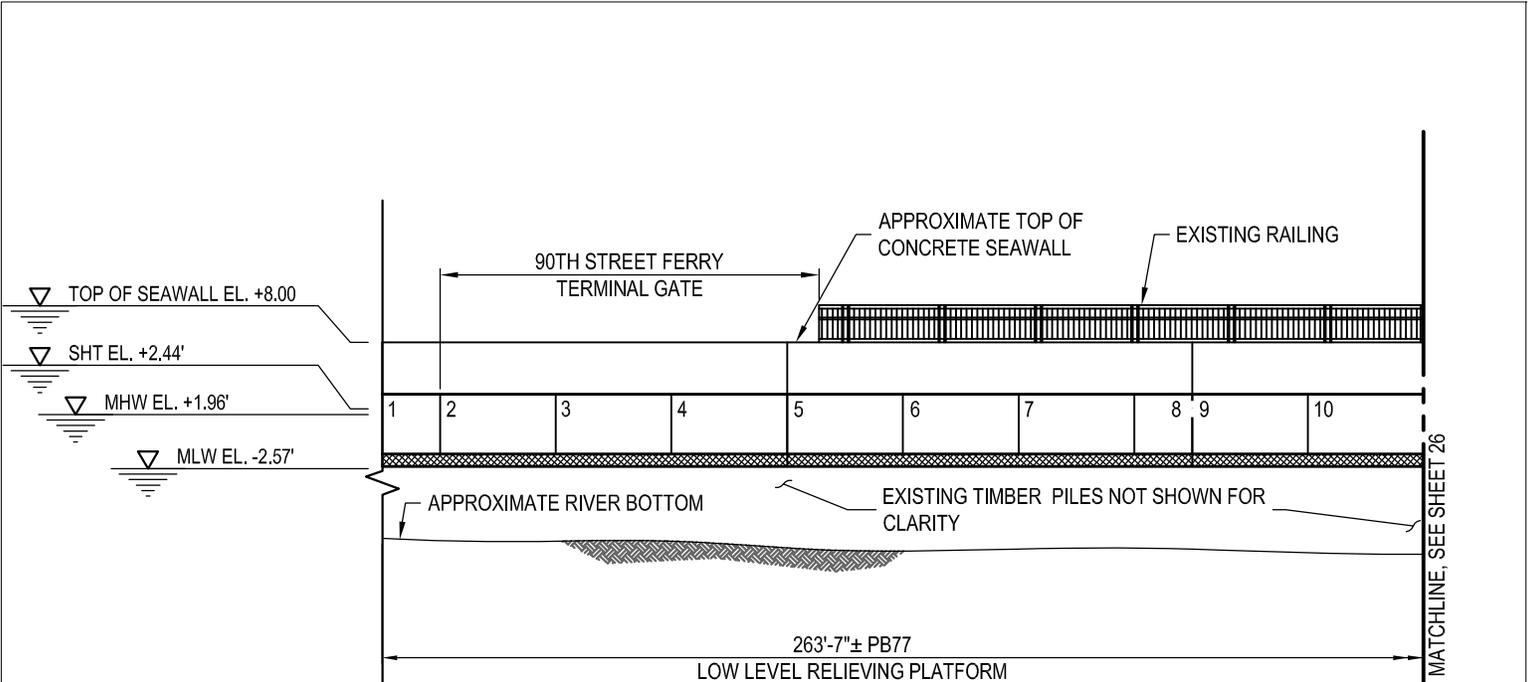
AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

PROPOSED PILE REHAB PLAN IX

IN: EAST RIVER
 AT: MANHATTAN
 COUNTY OF: NEW YORK STATE: NY

0 20' 40'

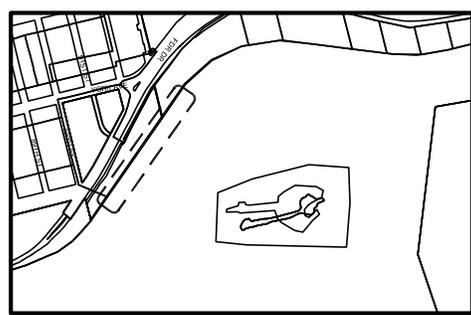
SHT 24 OF 43 DATE: 07/01/2021



25 PROPOSED SEAWALL REHABILITATION ELEVATION
 SCALE: 1/16" = 1'-0"

LEGEND:

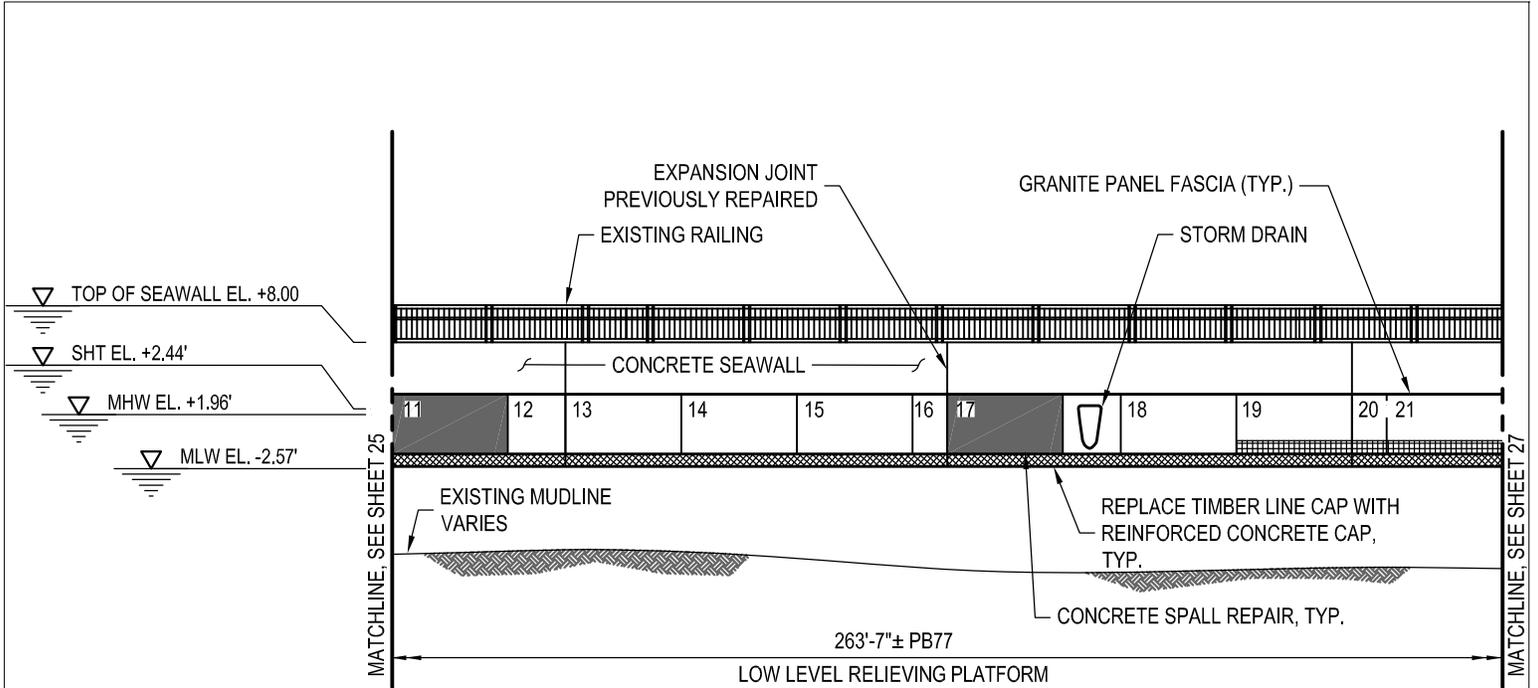
- GRANITE FASCIA PANEL TO BE REPLACED IN KIND
- CONCRETE SPALL REPAIR
- REPLACE TIMBER LINE CAP WITH REINFORCED CONCRETE CAP



KEY PLAN:
 SCALE: NOT TO SCALE

<p>PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE</p> <p>DATUM: NAVD88</p> <p>ADJACENT OWNERS: 1. SEE ATTACHED LIST 2. CITY OF NEW YORK</p>	<p>EAST RIVER ESPLANADE WATERFRONT REHABILITATION E90TH ST TO E94TH ST</p> <p>APPLICANT: NYC PARKS AND RECREATION FLUSHING MEADOWS CORONA PARK, FLUSHING, NY 11368</p> <p>AGENT: McLAREN ENGINEERING GROUP 530 CHESTNUT RIDGE ROAD WOODCLIFF LAKE, NJ 07677</p>	<p>PROPOSED SEAWALL REHAB ELEVATION I</p> <p>IN: EAST RIVER AT: MANHATTAN COUNTY OF: NEW YORK STATE: NY</p> <p>0 8' 16' 32'</p> <p>SHT 25 OF 43 DATE: 07/01/2021</p>
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USACE FILE: NAN-2021-01292-EBR

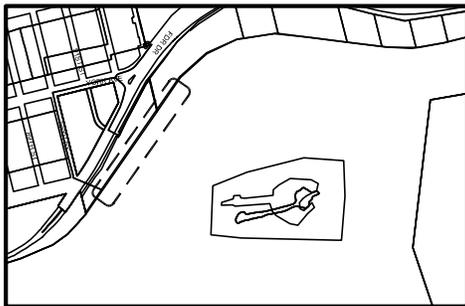


26 PROPOSED SEAWALL REHABILITATION ELEVATION

SCALE: 1/16" = 1'-0"

LEGEND:

- GRANITE FASCIA PANEL TO BE REPLACED IN KIND
- CONCRETE SPALL REPAIR
- REPLACE TIMBER LINE CAP WITH REINFORCED CONCRETE CAP



KEY PLAN:
SCALE: NOT TO SCALE

PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE ATTACHED LIST
2. CITY OF NEW YORK

EAST RIVER ESPLANADE WATERFRONT REHABILITATION E90TH ST TO E94TH ST

APPLICANT: NYC PARKS AND RECREATION
FLUSHING MEADOWS CORONA PARK,
FLUSHING, NY 11368

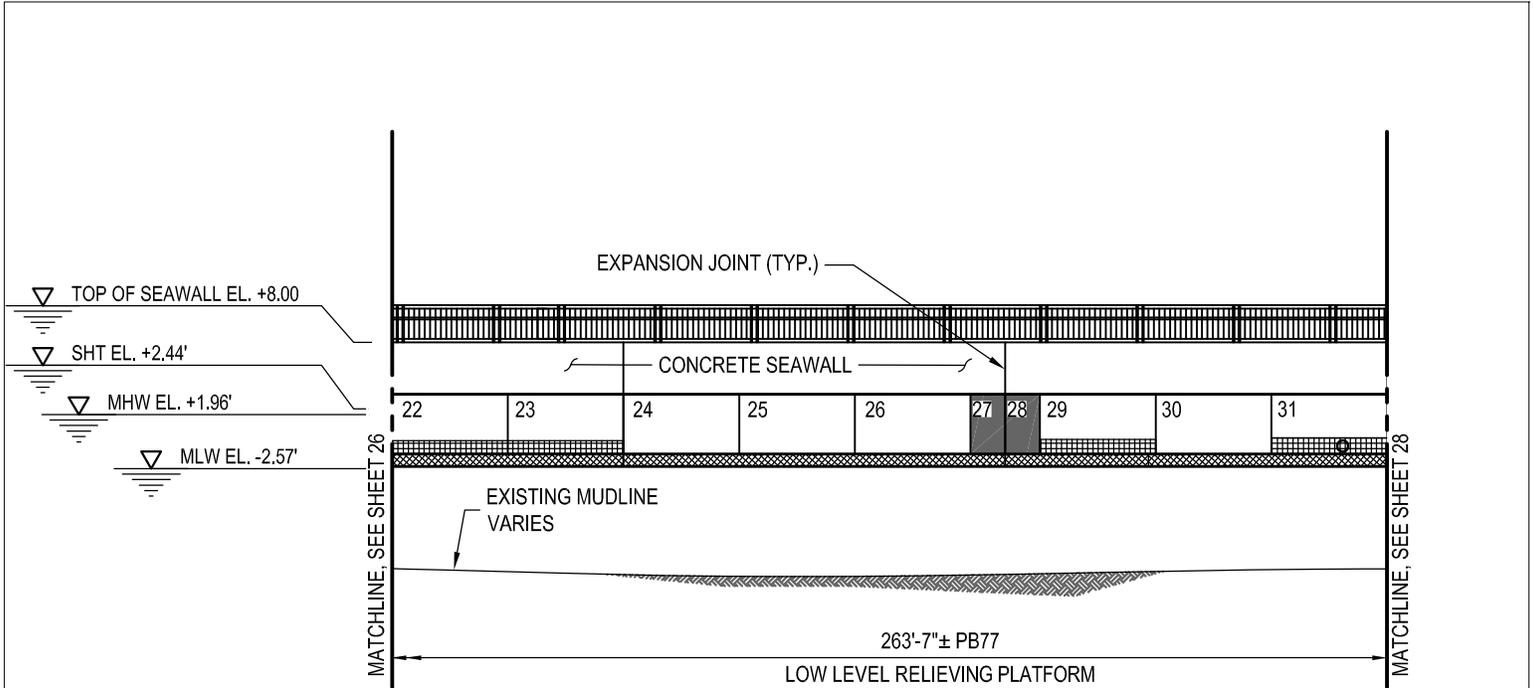
AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

PROPOSED SEAWALL REHAB ELEVATION II

IN: EAST RIVER
AT: MANHATTAN
COUNTY OF: NEW YORK STATE: NY

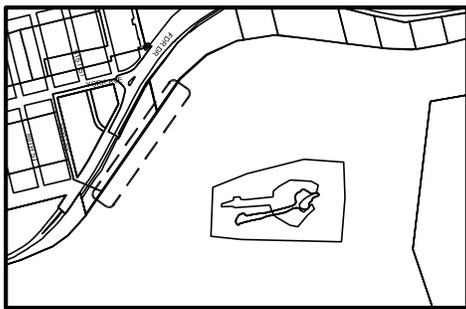
0 8' 16' 32'

SHT 26 OF 43 DATE: 07/01/2021



27 PROPOSED SEAWALL REHABILITATION ELEVATION
 SCALE: 1/16" = 1'-0"

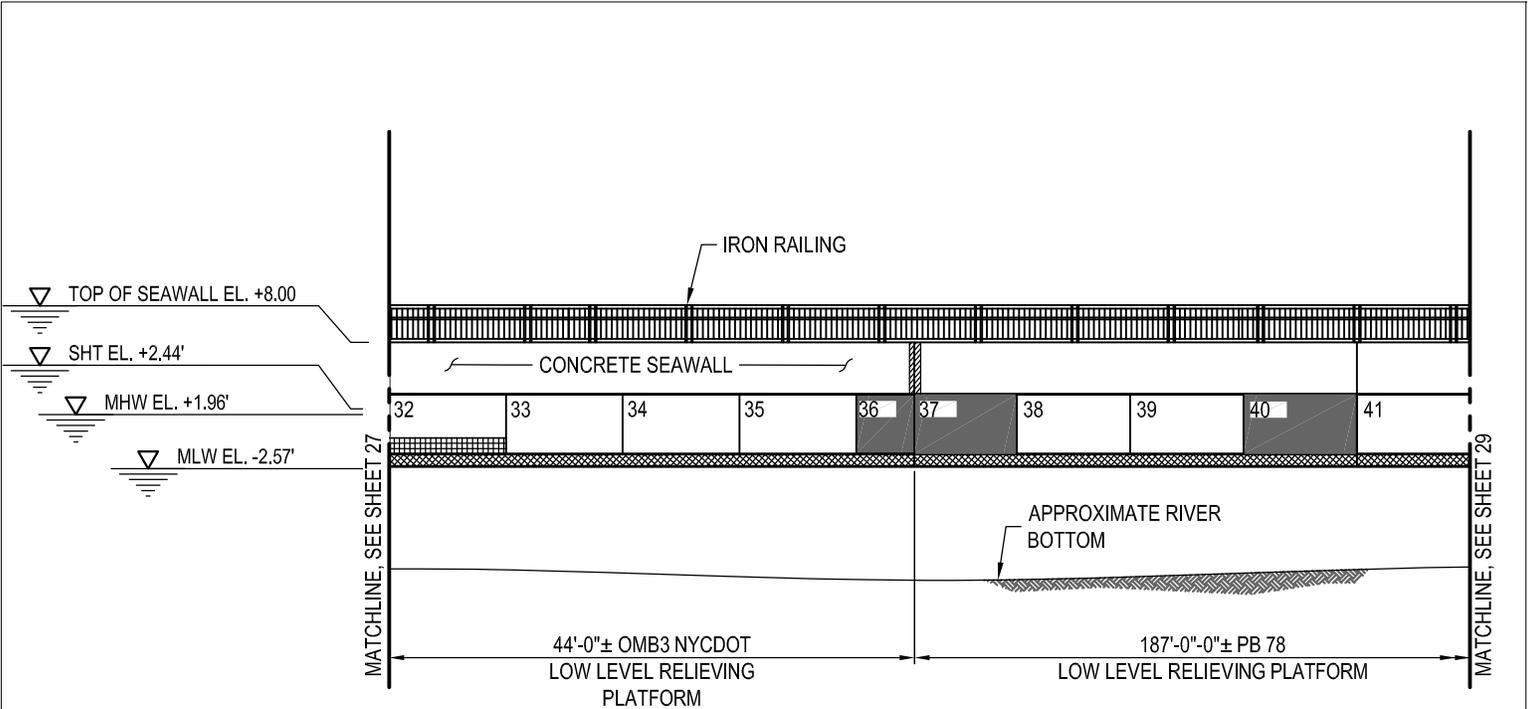
- LEGEND:**
- GRANITE FASCIA PANEL TO BE REPLACED IN KIND
 - CONCRETE SPALL REPAIR
 - REPLACE TIMBER LINE CAP WITH REINFORCED CONCRETE CAP



KEY PLAN:
 SCALE: NOT TO SCALE

<p>PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE</p> <p>DATUM: NAVD88</p> <p>ADJACENT OWNERS: 1. SEE ATTACHED LIST 2. CITY OF NEW YORK</p>	<p>EAST RIVER ESPLANADE WATERFRONT REHABILITATION E90TH ST TO E94TH ST</p> <p>APPLICANT: NYC PARKS AND RECREATION FLUSHING MEADOWS CORONA PARK, FLUSHING, NY 11368</p> <p>AGENT: McLAREN ENGINEERING GROUP 530 CHESTNUT RIDGE ROAD WOODCLIFF LAKE, NJ 07677</p>	<p>PROPOSED SEAWALL REHAB ELEVATION III</p> <p>IN: EAST RIVER AT: MANHATTAN COUNTY OF: NEW YORK STATE: NY</p> <p>0 8' 16' 32'</p> <p>SHT 27 OF 43 DATE: 07/01/2021</p>
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USACE FILE: NAN-2021-01292-EBR

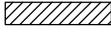


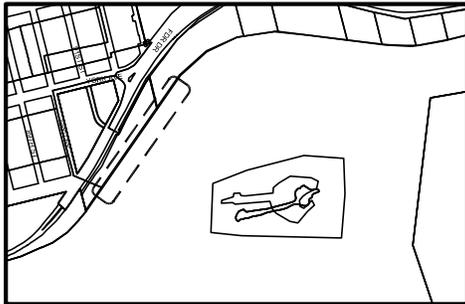
28

PROPOSED SEAWALL REHABILITATION ELEVATION

SCALE: 1/16" = 1'-0"

LEGEND:

-  GRANITE FASCIA PANEL TO BE REPLACED IN KIND
-  CONCRETE SPALL REPAIR
-  REPLACE TIMBER LINE CAP WITH REINFORCED CONCRETE CAP



KEY PLAN:
SCALE: NOT TO SCALE

EAST RIVER ESPLANADE WATERFRONT REHABILITATION E90TH ST TO E94TH ST

APPLICANT: NYC PARKS AND RECREATION
FLUSHING MEADOWS CORONA PARK,
FLUSHING, NY 11368

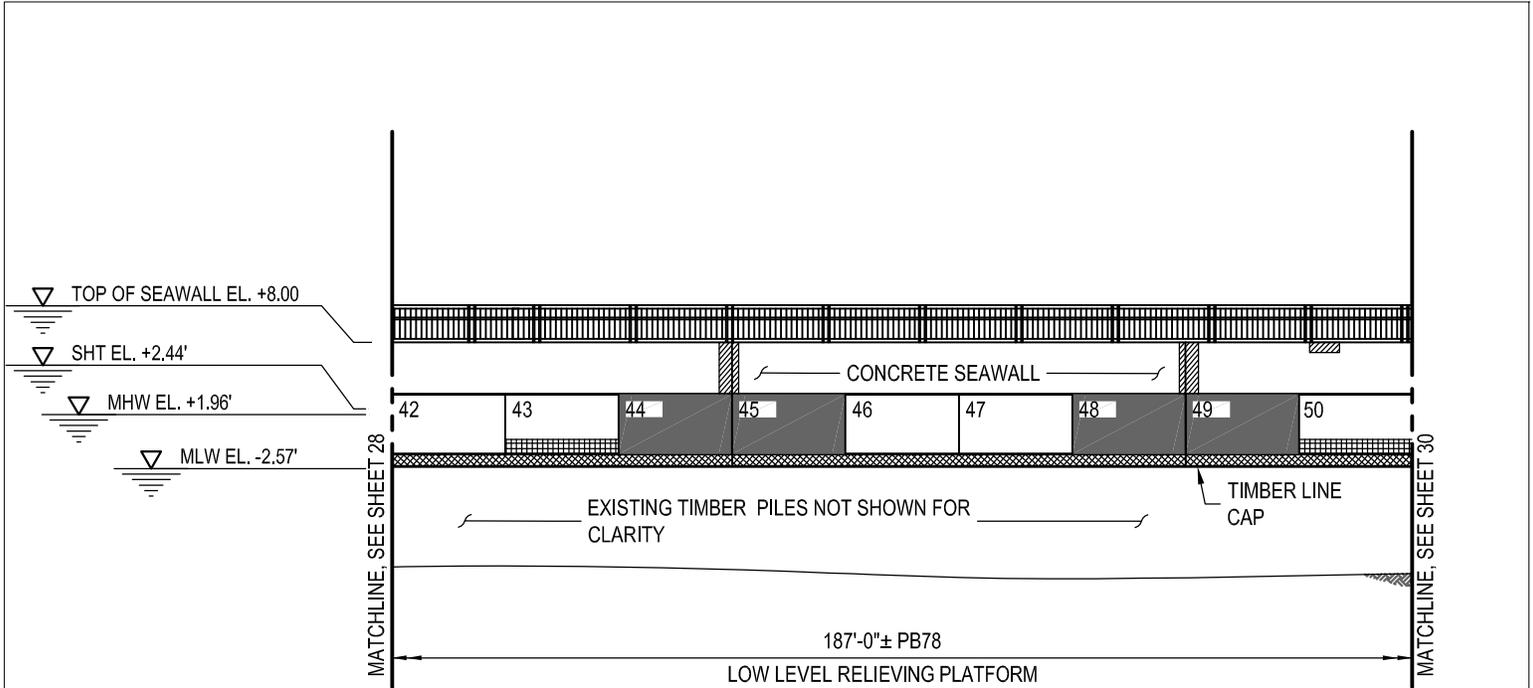
AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

PROPOSED SEAWALL REHAB ELEVATION IV

IN: EAST RIVER
AT: MANHATTAN
COUNTY OF: NEW YORK STATE: NY



SHT 28 OF 43 DATE: 07/01/2021

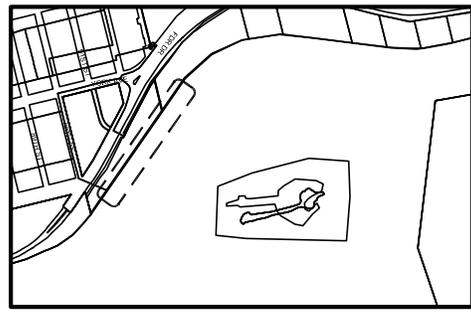


29 PROPOSED SEAWALL REHABILITATION ELEVATION

SCALE: 1/16" = 1'-0"

LEGEND:

- GRANITE FASCIA PANEL TO BE REPLACED IN KIND
- CONCRETE SPALL REPAIR
- REPLACE TIMBER LINE CAP WITH REINFORCED CONCRETE CAP



KEY PLAN:
SCALE: NOT TO SCALE

PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE ATTACHED LIST
2. CITY OF NEW YORK

EAST RIVER ESPLANADE WATERFRONT REHABILITATION
E90TH ST TO E94TH ST

APPLICANT: NYC PARKS AND RECREATION
FLUSHING MEADOWS CORONA PARK,
FLUSHING, NY 11368

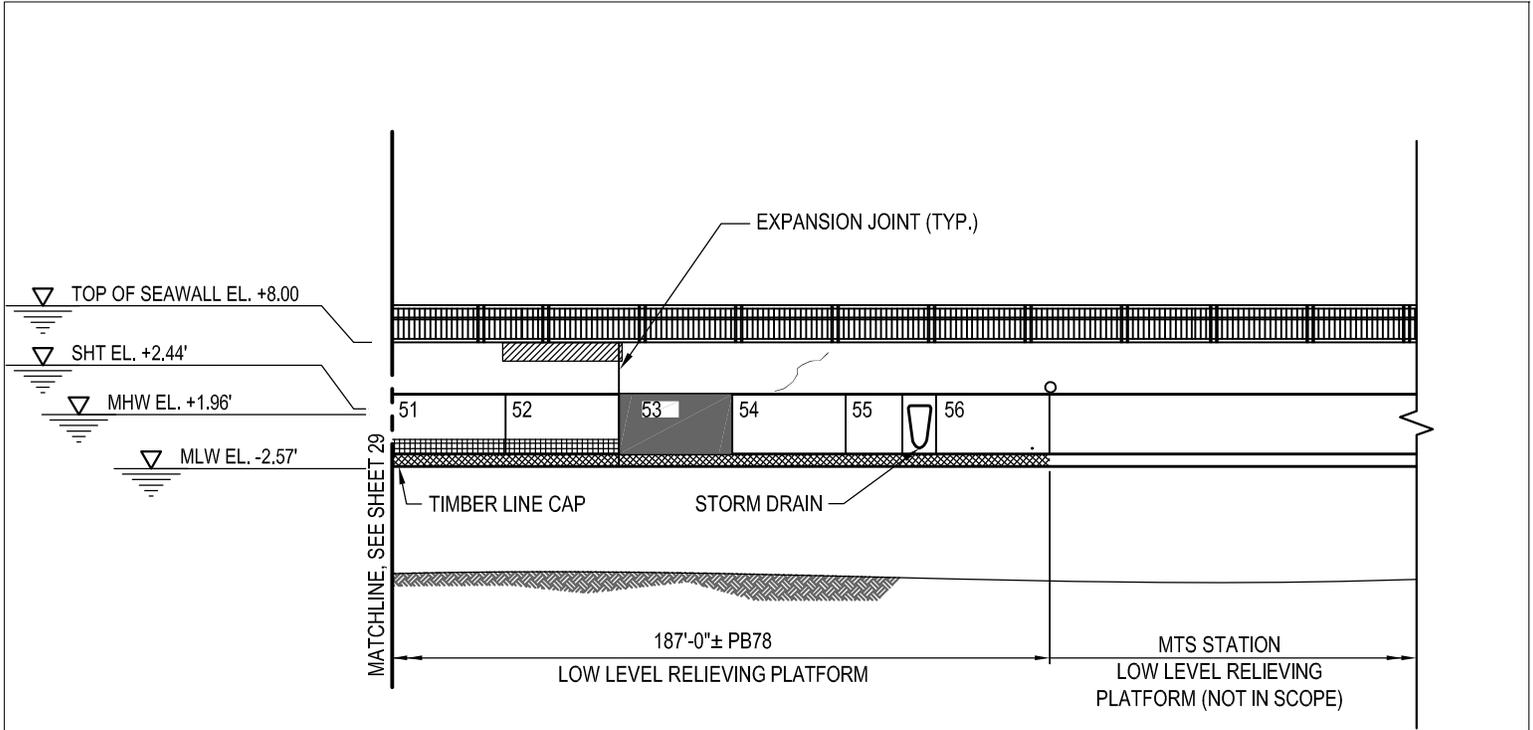
AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

PROPOSED SEAWALL REHAB ELEVATION V

IN: EAST RIVER
AT: MANHATTAN
COUNTY OF: NEW YORK STATE: NY

0 8' 16' 32'

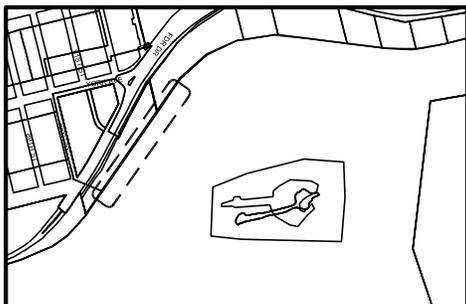
SHT 29 OF 43 DATE: 07/01/2021



30 PROPOSED SEAWALL REHABILITATION ELEVATION
 SCALE: 1/16" = 1'-0"

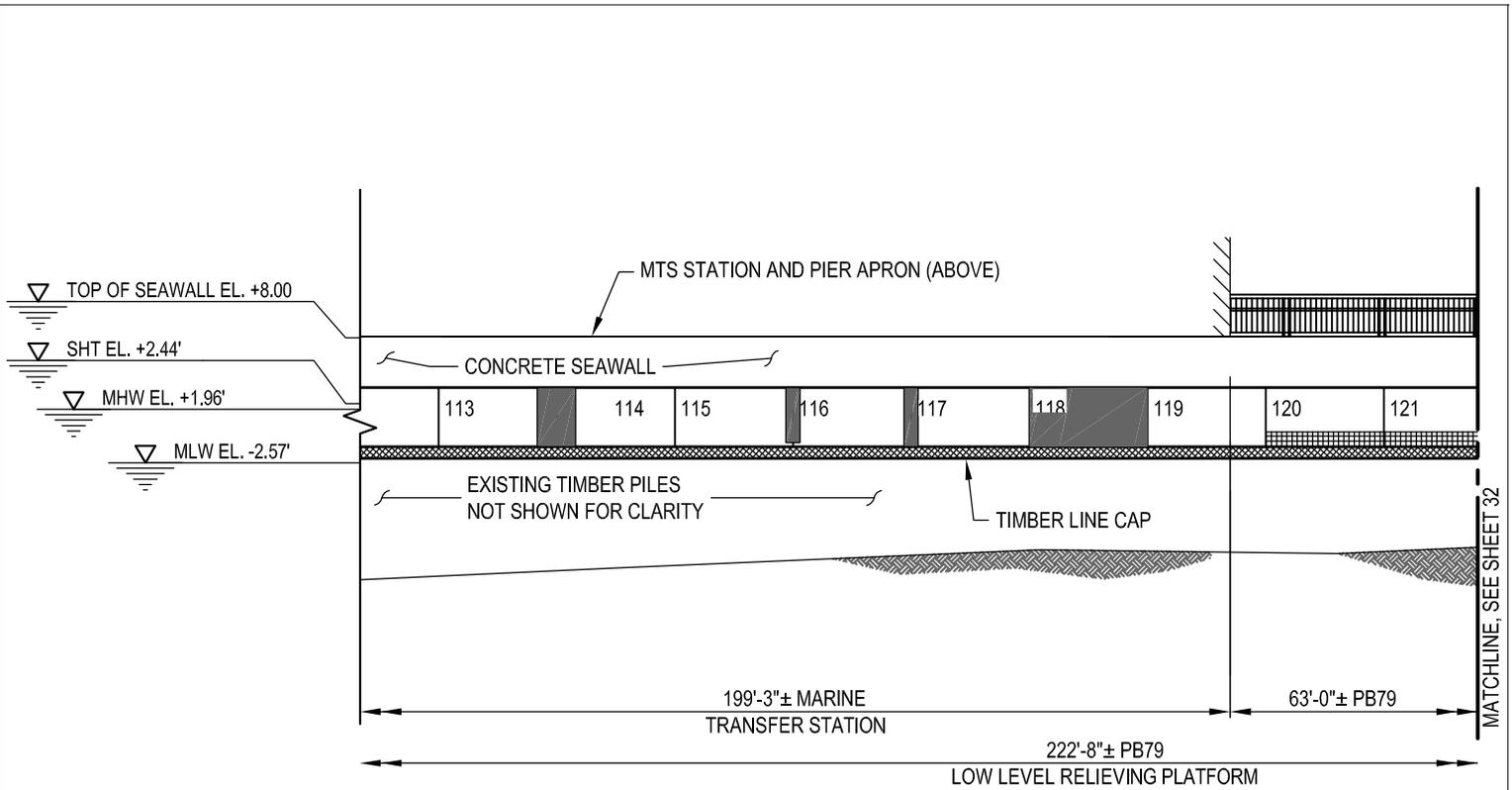
LEGEND:

- GRANITE FASCIA PANEL TO BE REPLACED IN KIND
- CONCRETE SPALL REPAIR
- REPLACE TIMBER LINE CAP WITH REINFORCED CONCRETE CAP



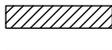
KEY PLAN:
SCALE: NOT TO SCALE

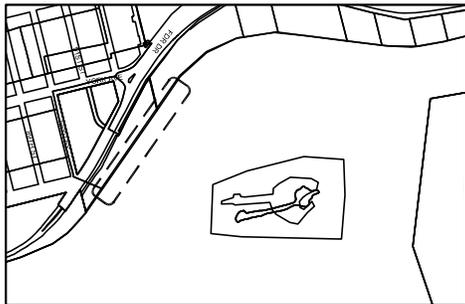
<p>PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE</p> <p>DATUM: NAVD88</p> <p>ADJACENT OWNERS: 1. SEE ATTACHED LIST 2. CITY OF NEW YORK</p>	<p>EAST RIVER ESPLANADE WATERFRONT REHABILITATION E90TH ST TO E94TH ST</p> <p>APPLICANT: NYC PARKS AND RECREATION FLUSHING MEADOWS CORONA PARK, FLUSHING, NY 11368</p> <p>AGENT: McLAREN ENGINEERING GROUP 530 CHESTNUT RIDGE ROAD WOODCLIFF LAKE, NJ 07677</p>	<p>PROPOSED SEAWALL REHAB ELEVATION VI</p> <p>IN: EAST RIVER AT: MANHATTAN COUNTY OF: NEW YORK STATE: NY</p> <p>0 8' 16' 32'</p> <p>SHT 30 OF 43 DATE: 07/01/2021</p>
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31 **PROPOSED SEAWALL REHABILITATION ELEVATION**
 SCALE: 1/16" = 1'-0"

LEGEND:

-  GRANITE FASCIA PANEL TO BE REPLACED IN KIND
-  CONCRETE SPALL REPAIR
-  REPLACE TIMBER LINE CAP WITH REINFORCED CONCRETE CAP



KEY PLAN:
 SCALE: NOT TO SCALE

**EAST RIVER ESPLANADE WATERFRONT
 REHABILITATION
 E90TH ST TO E94TH ST**

APPLICANT: NYC PARKS AND RECREATION
 FLUSHING MEADOWS CORONA PARK,
 FLUSHING, NY 11368

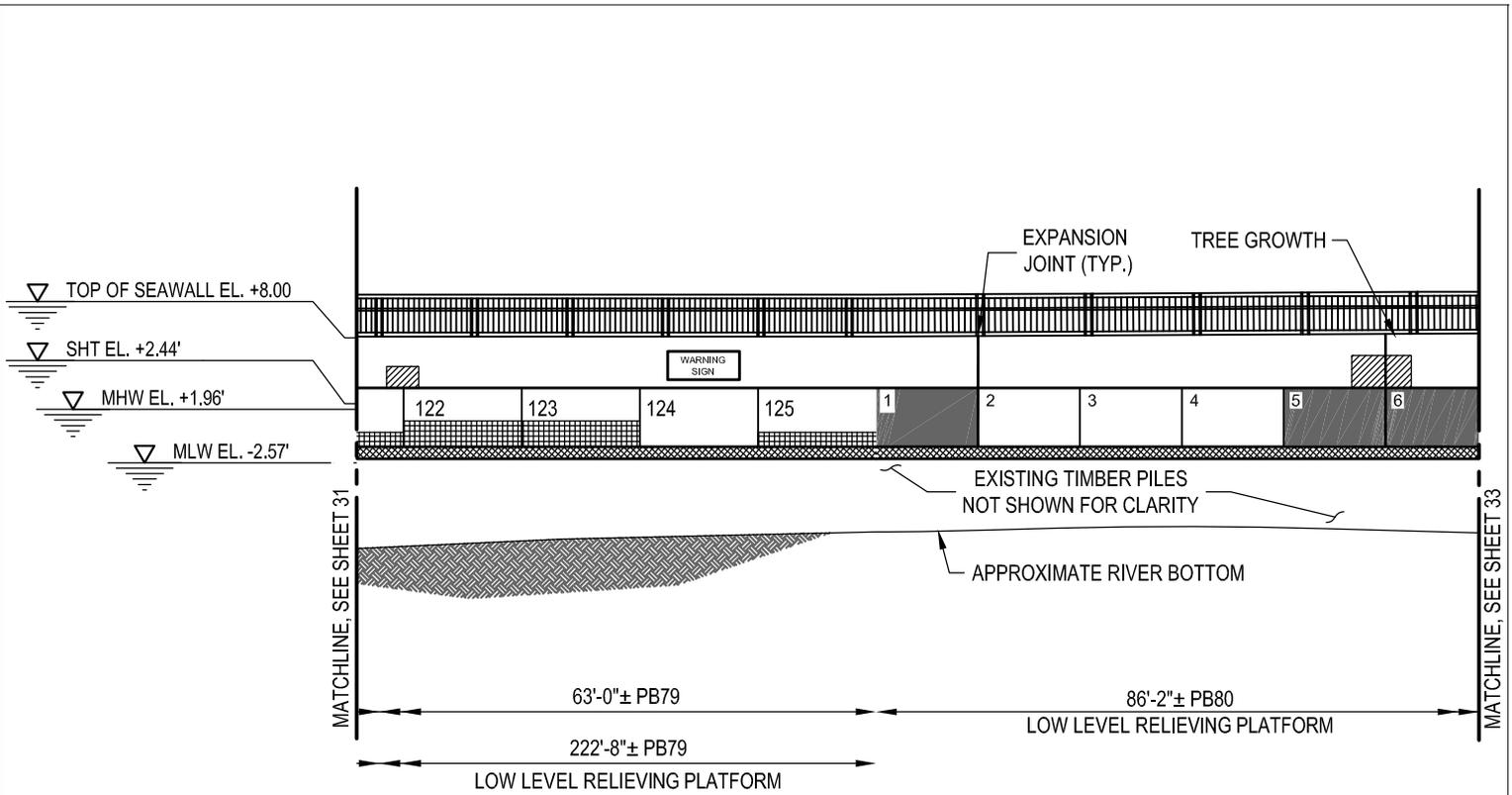
AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

**PROPOSED SEAWALL REHAB
 ELEVATION VII**

IN: EAST RIVER
 AT: MANHATTAN
 COUNTY OF: NEW YORK STATE: NY



SHT 31 OF 43 DATE: 07/01/2021

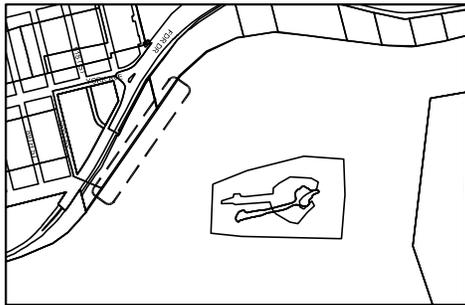


32 PROPOSED SEAWALL REHABILITATION ELEVATION

SCALE: 1/16" = 1'-0"

LEGEND:

- GRANITE FASCIA PANEL TO BE REPLACED IN KIND
- CONCRETE SPALL REPAIR
- REPLACE TIMBER LINE CAP WITH REINFORCED CONCRETE CAP



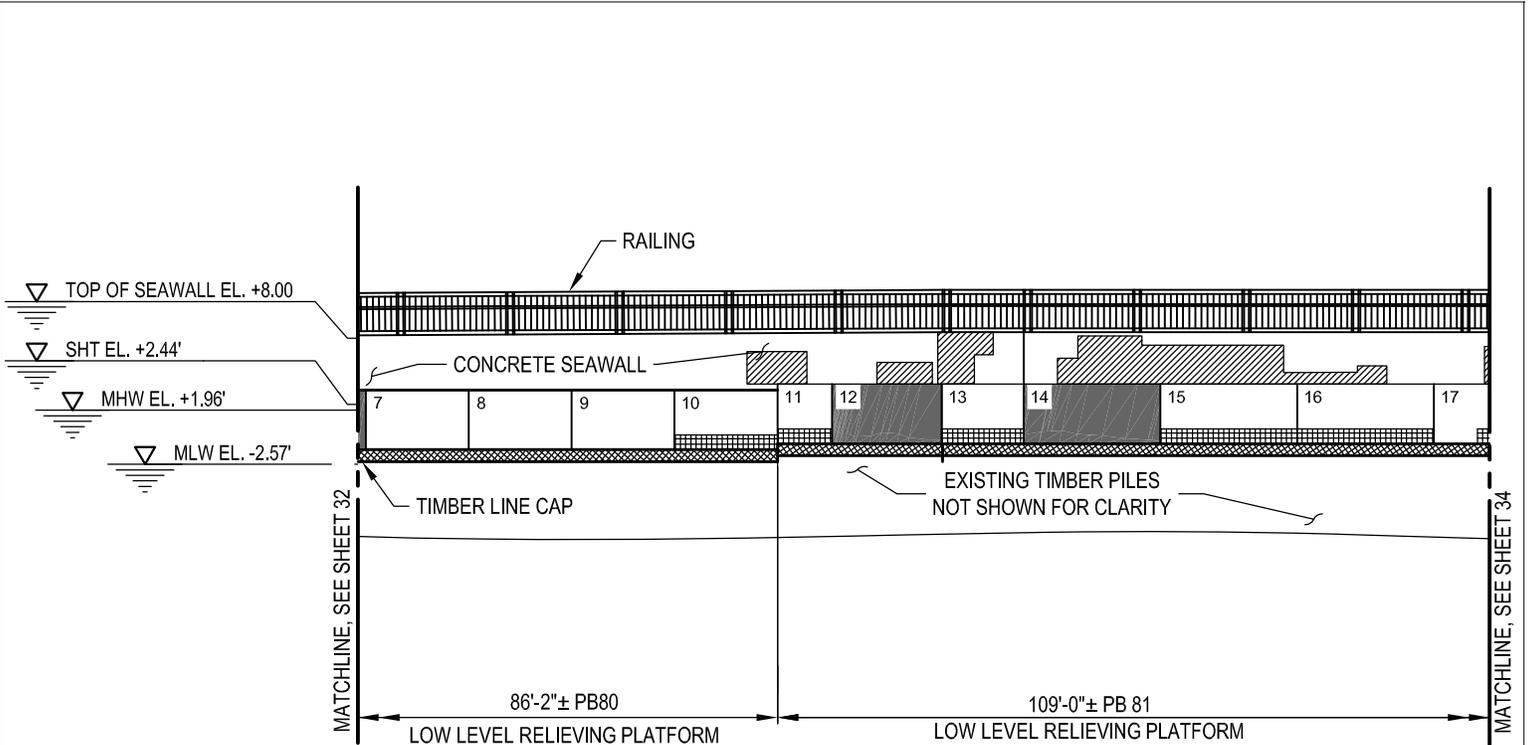
KEY PLAN:
SCALE: NOT TO SCALE

EAST RIVER ESPLANADE WATERFRONT REHABILITATION
E90TH ST TO E94TH ST
 APPLICANT: NYC PARKS AND RECREATION
 FLUSHING MEADOWS CORONA PARK,
 FLUSHING, NY 11368
 AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

PROPOSED SEAWALL REHAB ELEVATION VIII
 IN: EAST RIVER
 AT: MANHATTAN
 COUNTY OF: NEW YORK STATE: NY

 SHT 32 OF 43 DATE: 07/01/2021

PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE
 DATUM: NAVD88
 ADJACENT OWNERS:
 1. SEE ATTACHED LIST
 2. CITY OF NEW YORK

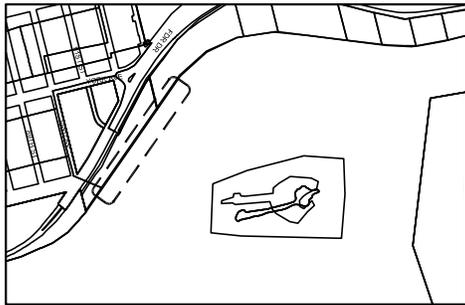


33 PROPOSED SEAWALL REHABILITATION ELEVATION

SCALE: 1/16" = 1'-0"

LEGEND:

-  GRANITE FASCIA PANEL TO BE REPLACED IN KIND
-  CONCRETE SPALL REPAIR
-  REPLACE TIMBER LINE CAP WITH REINFORCED CONCRETE CAP



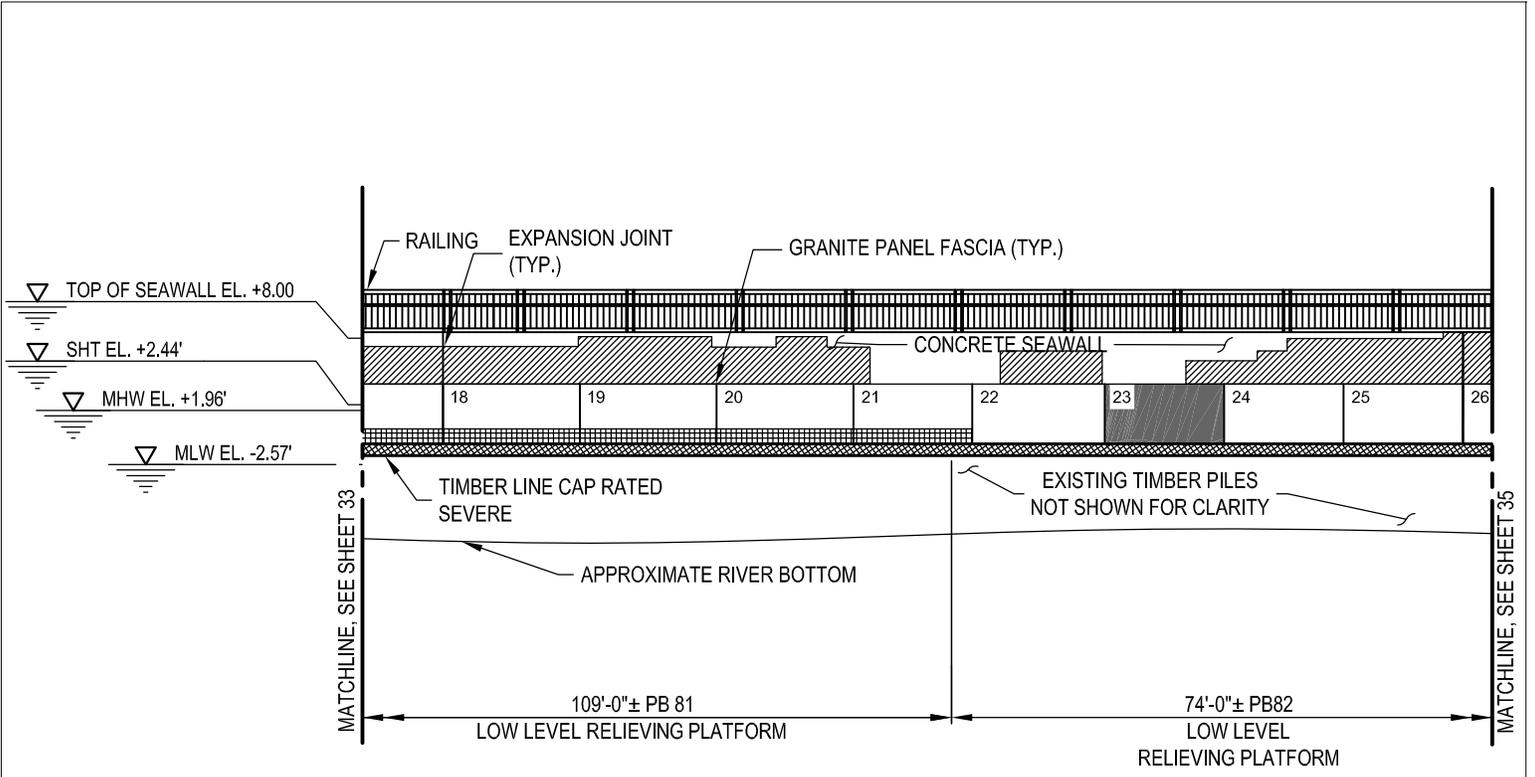
KEY PLAN:
SCALE: NOT TO SCALE

EAST RIVER ESPLANADE WATERFRONT REHABILITATION
E90TH ST TO E94TH ST
 APPLICANT: NYC PARKS AND RECREATION
 FLUSHING MEADOWS CORONA PARK,
 FLUSHING, NY 11368
 AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

PROPOSED SEAWALL REHAB ELEVATION IX
 IN: EAST RIVER
 AT: MANHATTAN
 COUNTY OF: NEW YORK STATE: NY

 SHT 33 OF 43 DATE: 07/01/2021

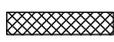
PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE
 DATUM: NAVD88
 ADJACENT OWNERS:
 1. SEE ATTACHED LIST
 2. CITY OF NEW YORK

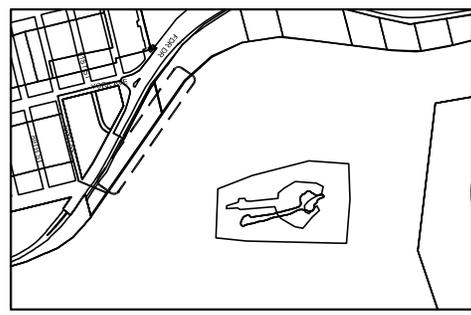


34 PROPOSED SEAWALL REHABILITATION ELEVATION

SCALE: 1/16" = 1'-0"

LEGEND:

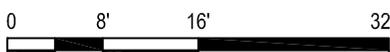
-  GRANITE FASCIA PANEL TO BE REPLACED IN KIND
-  CONCRETE SPALL REPAIR
-  REPLACE TIMBER LINE CAP WITH REINFORCED CONCRETE CAP

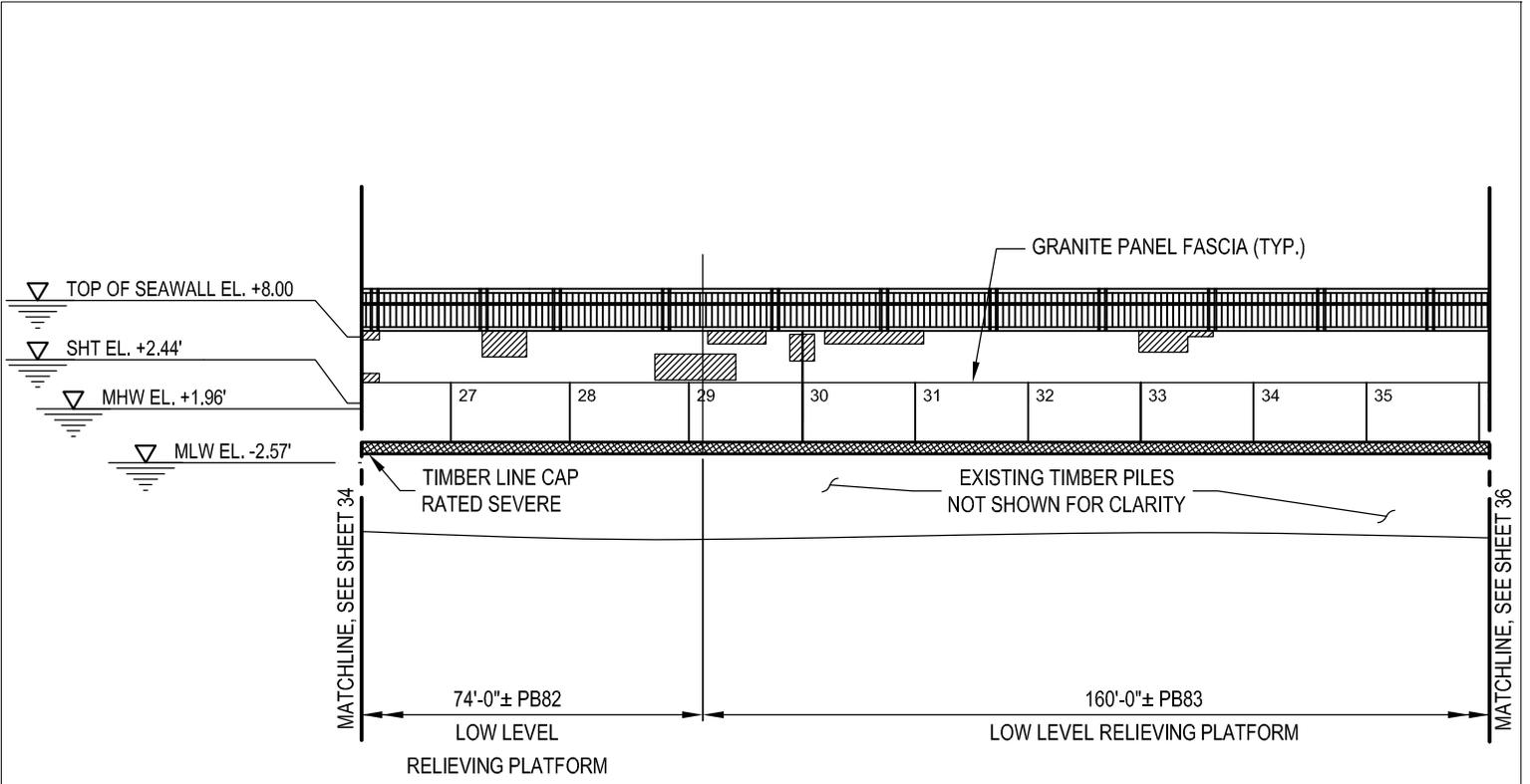


KEY PLAN:
SCALE: NOT TO SCALE

PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE
 DATUM: NAVD88
 ADJACENT OWNERS:
 1. SEE ATTACHED LIST
 2. CITY OF NEW YORK

EAST RIVER ESPLANADE WATERFRONT REHABILITATION
E90TH ST TO E94TH ST
 APPLICANT: NYC PARKS AND RECREATION
 FLUSHING MEADOWS CORONA PARK,
 FLUSHING, NY 11368
 AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

PROPOSED SEAWALL REHAB ELEVATION X
 IN: EAST RIVER
 AT: MANHATTAN
 COUNTY OF: NEW YORK STATE: NY

 SHT 34 OF 43 DATE: 07/01/2021

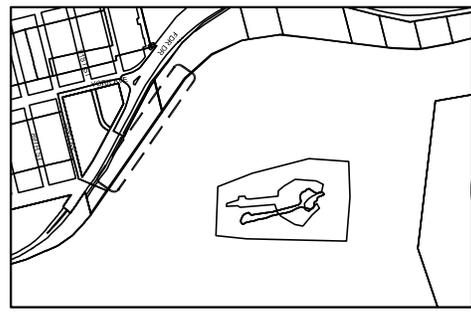


35 PROPOSED SEAWALL REHABILITATION ELEVATION

SCALE: 1/16" = 1'-0"

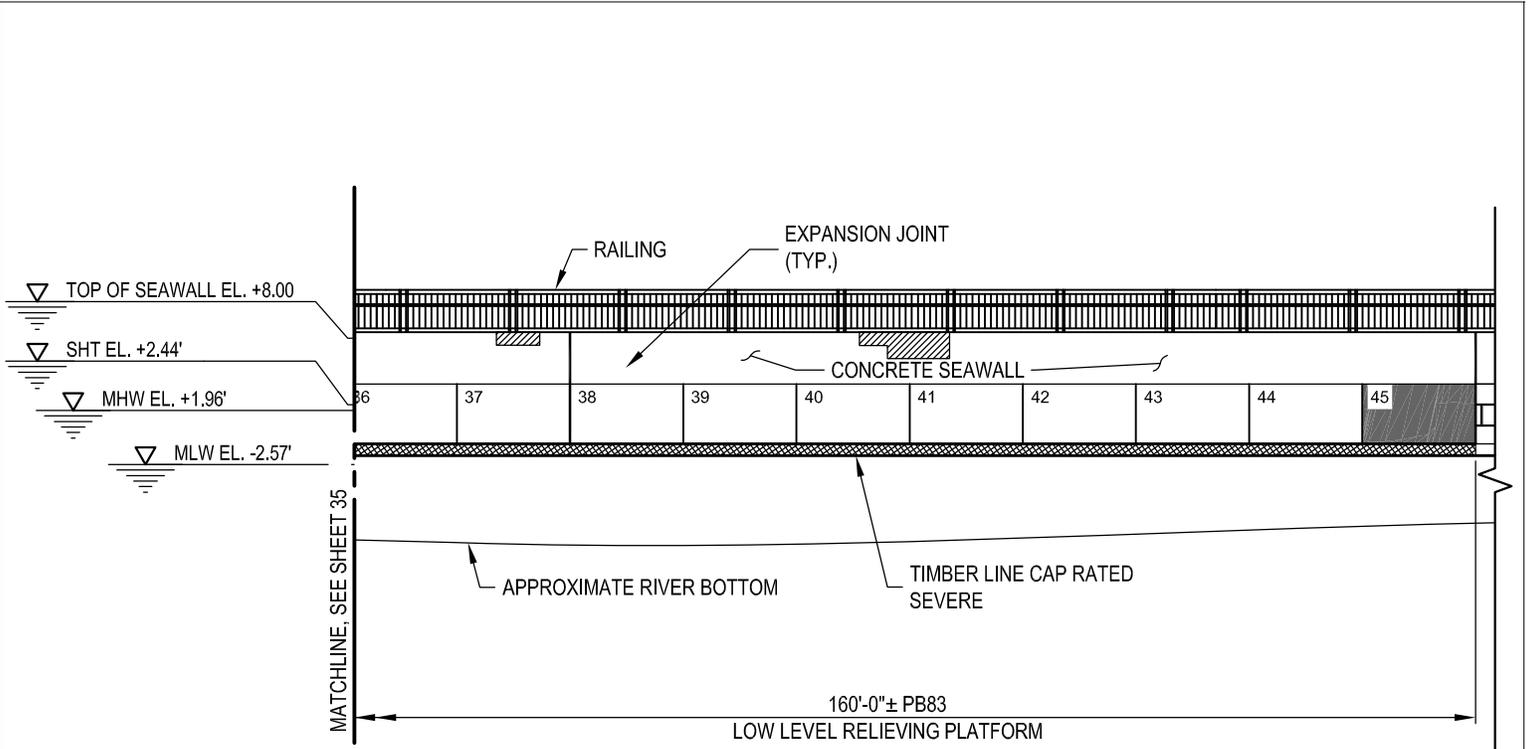
LEGEND:

- GRANITE FASCIA PANEL TO BE REPLACED IN KIND
- CONCRETE SPALL REPAIR
- REPLACE TIMBER LINE CAP WITH REINFORCED CONCRETE CAP



KEY PLAN:
SCALE: NOT TO SCALE

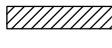
<p>PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE</p> <p>DATUM: NAVD88</p> <p>ADJACENT OWNERS: 1. SEE ATTACHED LIST 2. CITY OF NEW YORK</p>	<p>EAST RIVER ESPLANADE WATERFRONT REHABILITATION E90TH ST TO E94TH ST</p> <p>APPLICANT: NYC PARKS AND RECREATION FLUSHING MEADOWS CORONA PARK, FLUSHING, NY 11368</p> <p>AGENT: McLAREN ENGINEERING GROUP 530 CHESTNUT RIDGE ROAD WOODCLIFF LAKE, NJ 07677</p>	<p>PROPOSED SEAWALL REHAB ELEVATION XI</p> <p>IN: EAST RIVER AT: MANHATTAN COUNTY OF: NEW YORK STATE: NY</p> <p>0 8' 16' 32'</p> <p>SHT 35 OF 43 DATE: 07/01/2021</p>
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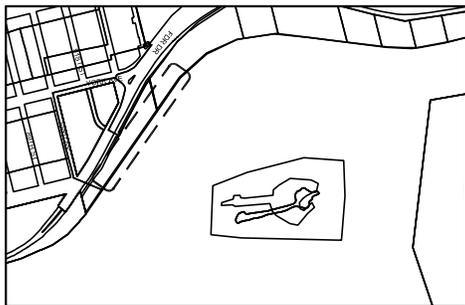


A PROPOSED SEAWALL REHABILITATION ELEVATION

SCALE: 1/16" = 1'-0"

LEGEND:

-  GRANITE FASCIA PANEL TO BE REPLACED IN KIND
-  CONCRETE SPALL REPAIR
-  REPLACE TIMBER LINE CAP WITH REINFORCED CONCRETE CAP



KEY PLAN:
SCALE: NOT TO SCALE

EAST RIVER ESPLANADE WATERFRONT REHABILITATION E90TH ST TO E94TH ST

APPLICANT: NYC PARKS AND RECREATION
FLUSHING MEADOWS CORONA PARK,
FLUSHING, NY 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

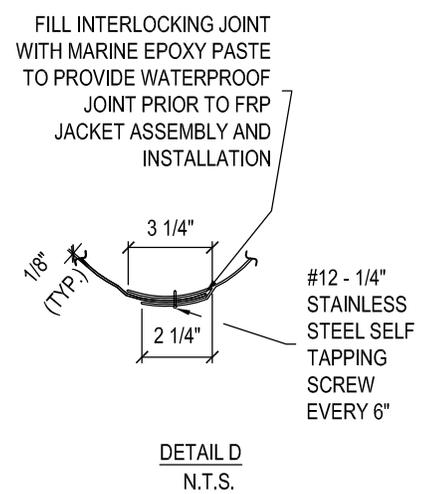
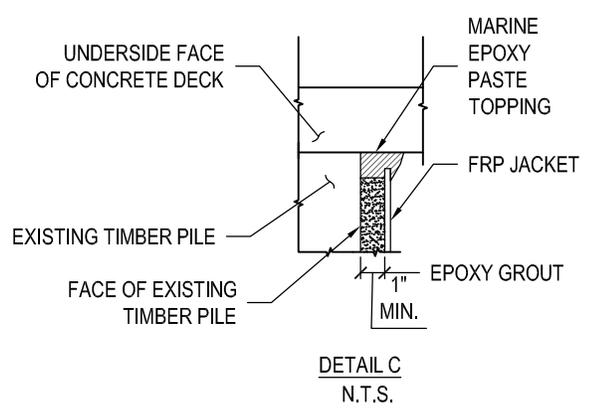
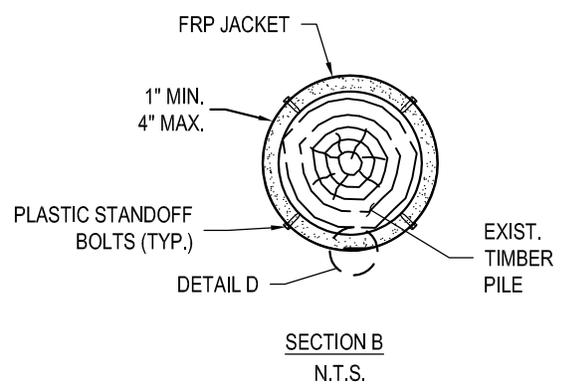
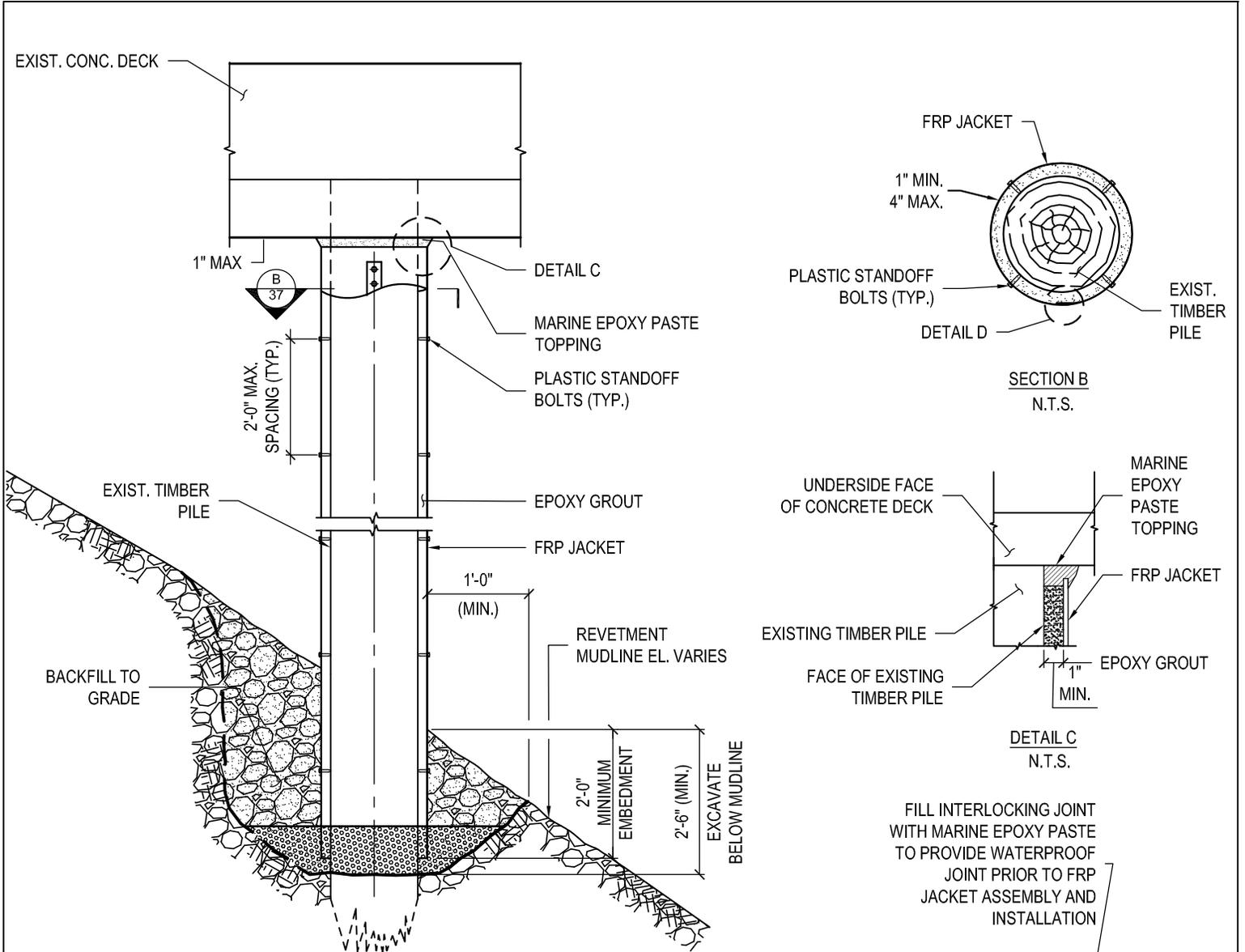
PROPOSED SEAWALL REHAB ELEVATION XII

IN: EAST RIVER
AT: MANHATTAN
COUNTY OF: NEW YORK STATE: NY

0 8' 16' 32'



SHT 36 OF 43 DATE: 07/01/2021

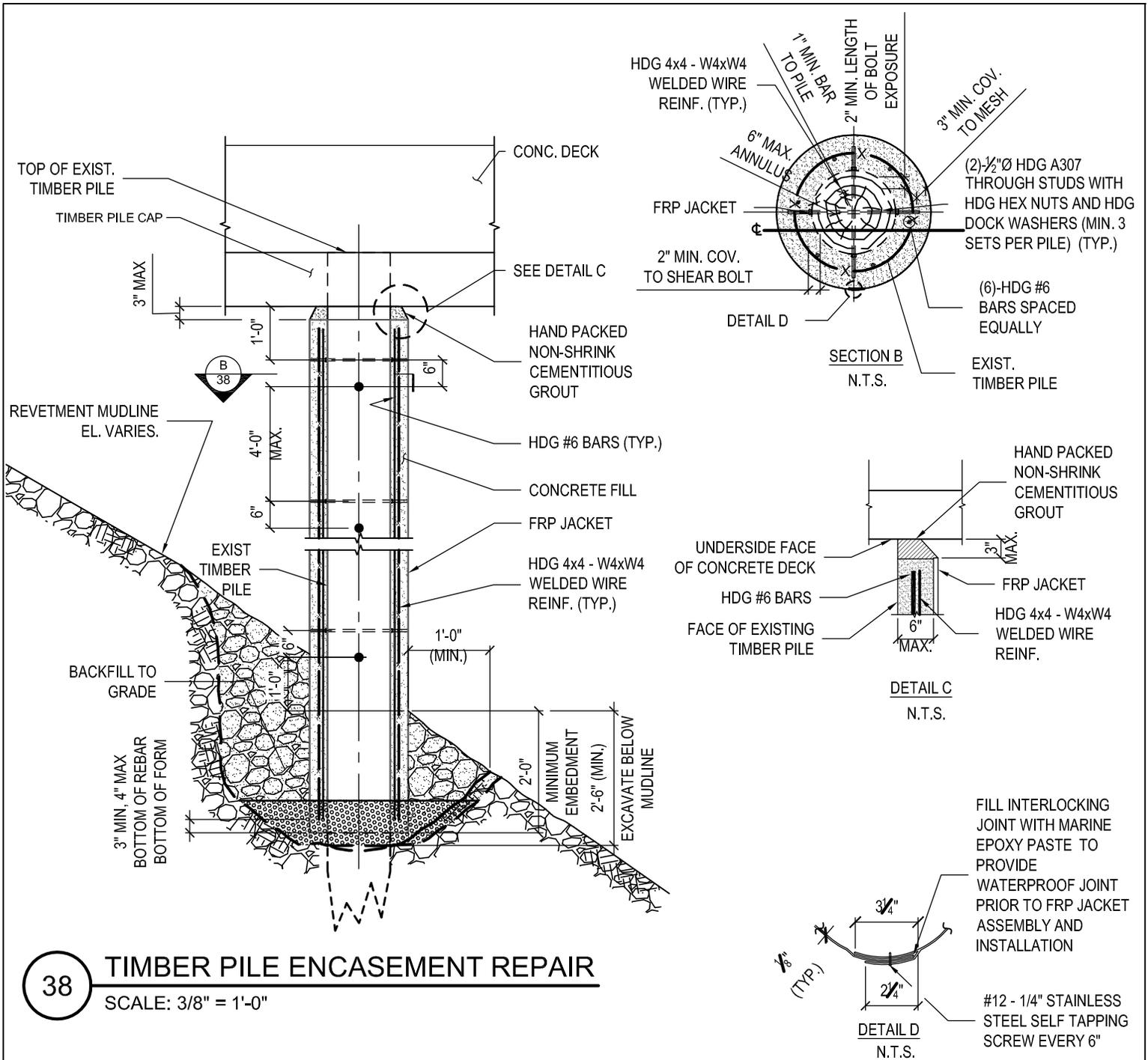


37 **TIMBER PILE EPOXY JACKET REPAIR**
SCALE: 3/8" = 1'-0"

PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE
DATUM: NAVD88
ADJACENT OWNERS:
1. SEE ATTACHED LIST

EAST RIVER ESPLANADE WATERFRONT REHABILITATION 62ND ST TO 64TH ST
APPLICANT: NYC PARKS AND RECREATION
FLUSHING MEADOWS CORONA PARK,
FLUSHING, NY 11368
AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

PILE REHAB DETAILS I
IN: EAST RIVER
AT: MANHATTAN
COUNTY OF: NEW YORK STATE: NY
0 2' 4'
SHT 37 OF 43 DATE: 07/01/2021



38 **TIMBER PILE ENCASEMENT REPAIR**
SCALE: 3/8" = 1'-0"

<p>PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE</p> <p>DATUM: NAVD88</p> <p>ADJACENT OWNERS: 1. SEE ATTACHED LIST</p>	<p>EAST RIVER ESPLANADE WATERFRONT REHABILITATION 62ND ST TO 64TH ST</p> <p>APPLICANT: NYC PARKS AND RECREATION FLUSHING MEADOWS CORONA PARK, FLUSHING, NY 11368</p> <p>AGENT: McLAREN ENGINEERING GROUP 530 CHESTNUT RIDGE ROAD WOODCLIFF LAKE, NJ 07677</p>	<p>PILE REHAB DETAILS II</p> <p>IN: EAST RIVER AT: MANHATTAN COUNTY OF: NEW YORK STATE: NY</p> <p>0 2' 4'</p> <p>SHT 38 OF 43 DATE: 07/01/2021</p>
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#6 REINF. BAR USING HILTI-RE 500 EPOXY OR EQUIVALENT (TYP.)

#6 REINF. BAR (TYP.)

6 3/4" EMBED. (TYP.)

EXISTING MUDLINE EL. VARIES

SHORE POST OR JACK

HDG 4x4 - W4 x W4 WELDED WIRE REINF. (TYP.)

3" MIN. 4" MAX. BOTTOM OF REBAR BOTTOM OF FORM

1'-0" 6"

2'-0" MINIMUM EMBEDMENT

2'-6" (MIN.) EXCAVATE BELOW MUDLINE

PEA GRAVEL BACKFILL

EXISTING TIMBER PILE

FILL FRP JACKET WITH NON-SHRINK, NON WATER SEPERABLE CEMENTITIOUS GROUT EXTENDED WITH 3/8" AGGREGATE

NEW TIMBER POST WHERE PROPOSED

FRP JACKET

(2) 1/2" HDG A307 THROUGH STUDS WITH HDG HEX NUTS AND HDG DOCK WASHERS, ROTATE 90° EVERY 6" O.C., INSTALL SNUG IN 1/2" Ø HOLE (TYP.)

EXISTING/ NEW TIMBER PILE INTERFACE

1'-0" (MIN.) BACKFILL TO GRADE

2'-0" MINIMUM EMBEDMENT

2'-6" (MIN.) EXCAVATE BELOW MUDLINE

PEA GRAVEL BACKFILL

EXISTING TIMBER PILE

HDG 4x4 - W4xW4 WELDED WIRE REINF. (TYP.)

1" MIN. BAR TO PILE

2" MIN. LENGTH OF BOLT EXPOSURE

3" MIN. COV. TO MESH

6" MAX. ANNULUS

FRP JACKET

2" MIN. COV. TO SHEAR BOLT

DETAIL C

SECTION B N.T.S.

(2)-1/2" Ø HDG A307 THROUGH STUDS WITH HDG HEX NUTS AND HDG DOCK WASHERS (MIN. 3 SETS PER PILE) (TYP.)

(6)-HDG #6 BARS SPACED EQUALLY

EXIST. TIMBER PILE

FILL INTERLOCKING JOINT WITH MARINE EPOXY PASTE TO PROVIDE WATERPROOF JOINT PRIOR TO FRP JACKET ASSEMBLY AND INSTALLATION

3/8" (TYP.)

3/4"

2 1/4"

#12 - 1/4" STAINLESS STEEL SELF TAPPING SCREW EVERY 6"

DETAIL C N.T.S.

39 TIMBER PILE EPOXY JACKET REPAIR

SCALE: 3/8" = 1'-0"

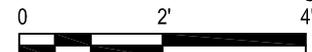
EAST RIVER ESPLANADE WATERFRONT REHABILITATION 62ND ST TO 64TH ST

APPLICANT: NYC PARKS AND RECREATION
FLUSHING MEADOWS CORONA PARK,
FLUSHING, NY 11368

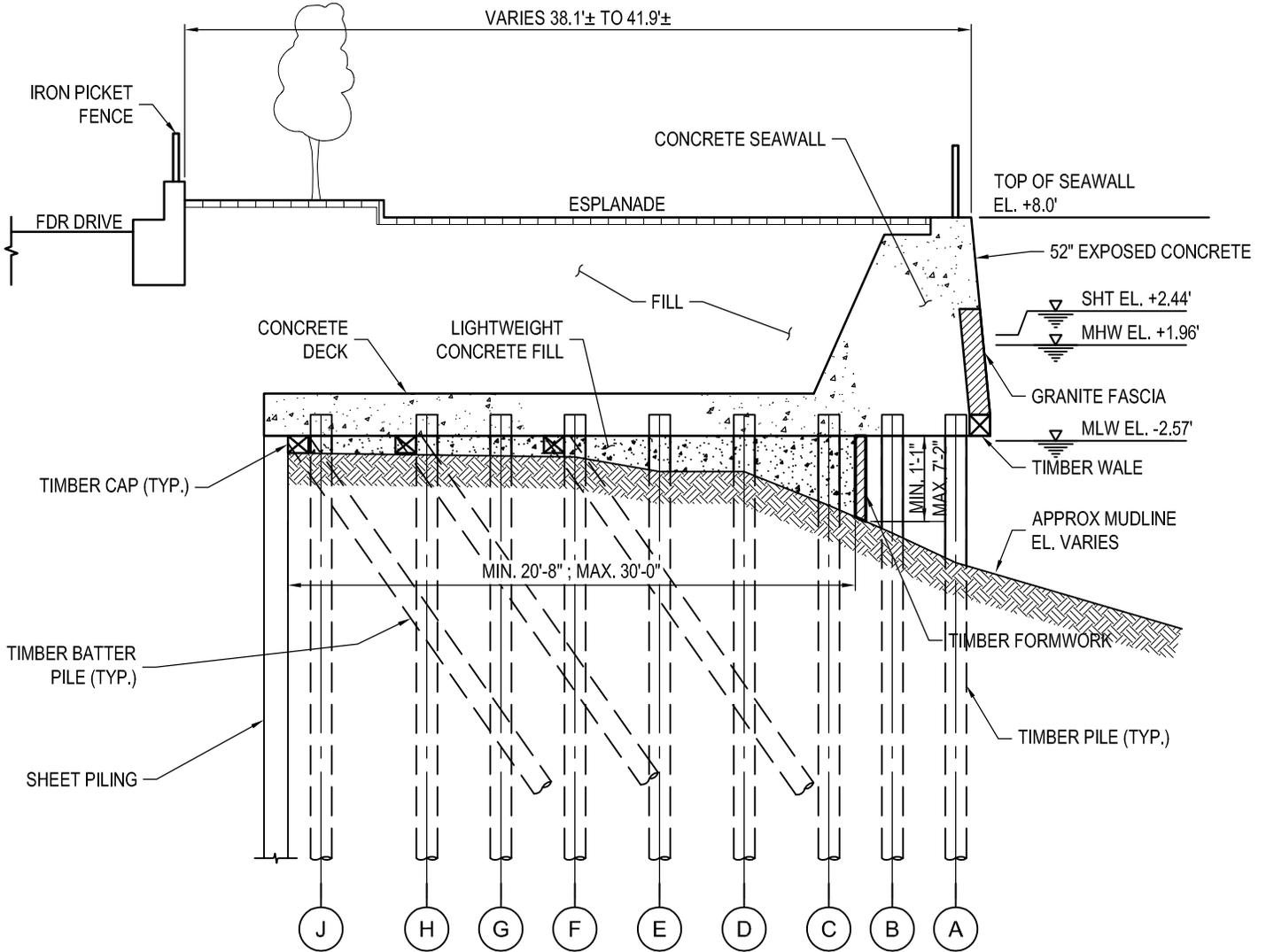
AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

PILE REHAB DETAILS III

IN: EAST RIVER
AT: MANHATTAN
COUNTY OF: NEW YORK STATE: NY



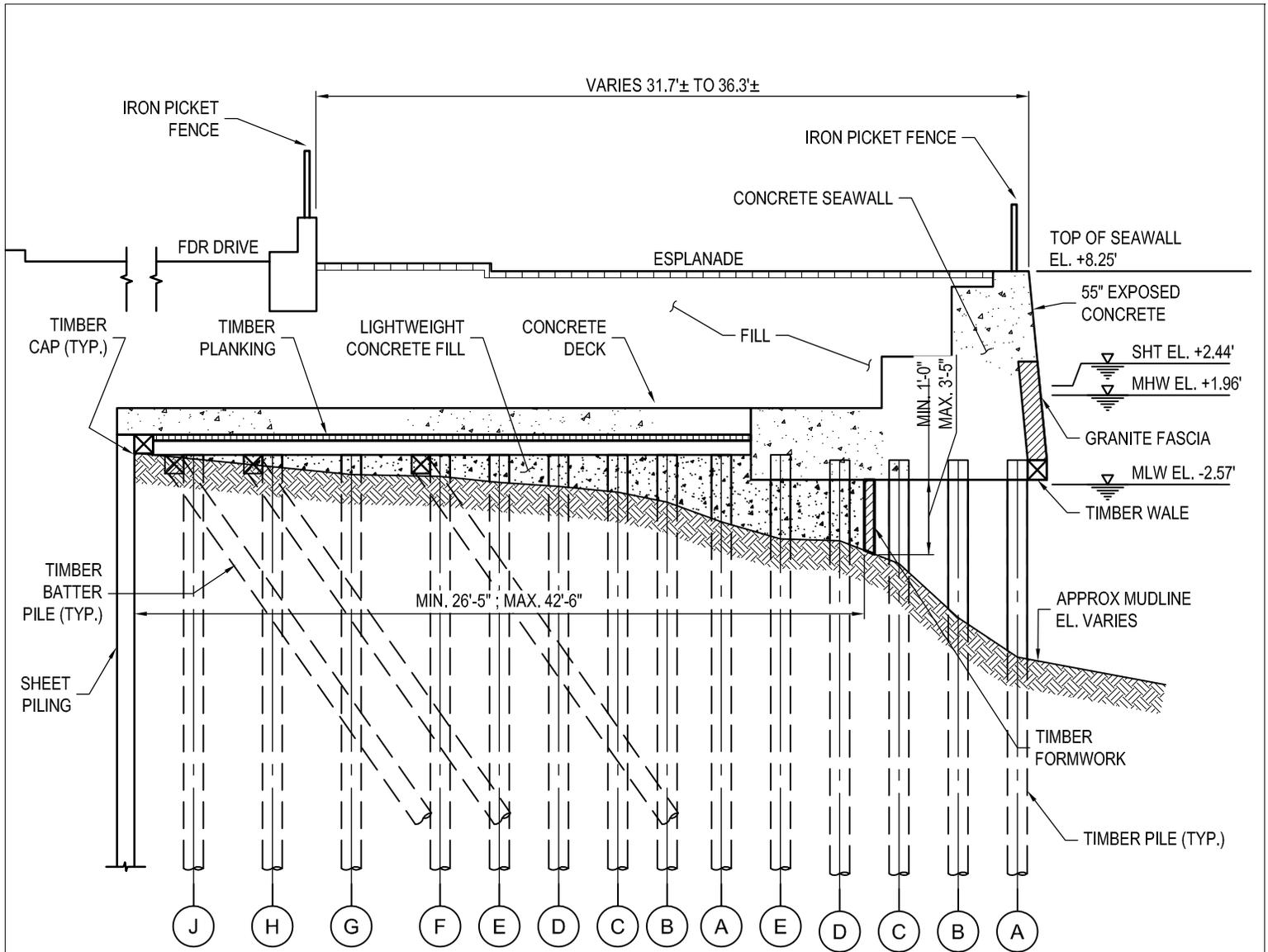
SHT 39 OF 43 DATE: 07/01/2021



40 **MASS INSHORE ENCASEMENT REPAIR - PB 77/78/79**
 SCALE: 1/8" = 1'-0"

NOTES: ELEVATIONS SHOWN REFERENCE NAVD 88.

<p>EAST RIVER ESPLANADE WATERFRONT REHABILITATION E90TH ST TO E94TH ST</p> <p>APPLICANT: NYC PARKS AND RECREATION FLUSHING MEADOWS CORONA PARK, FLUSHING, NY 11368</p> <p>AGENT: McLAREN ENGINEERING GROUP 530 CHESTNUT RIDGE ROAD WOODCLIFF LAKE, NJ 07677</p>	<p>MASS INSHORE ENCASEMENT DETAILS I</p> <p>IN: EAST RIVER AT: MANHATTAN COUNTY OF: NEW YORK STATE: NY</p> <p>0 4' 8' 16'</p> <p>SHT 40 OF 43 DATE: 07/01/2021</p>
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41

MASS INSHORE ENCASEMENT REPAIR - PB 80

SCALE: 1/8" = 1'-0"

NOTES: ELEVATIONS SHOWN REFERENCE NAVD 88.

PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE

DATUM: NAVD88

ADJACENT OWNERS:
 1. SEE ATTACHED LIST
 2. CITY OF NEW YORK

EAST RIVER ESPLANADE WATERFRONT REHABILITATION
 E90TH ST TO E94TH ST

APPLICANT: NYC PARKS AND RECREATION
 FLUSHING MEADOWS CORONA PARK,
 FLUSHING, NY 11368

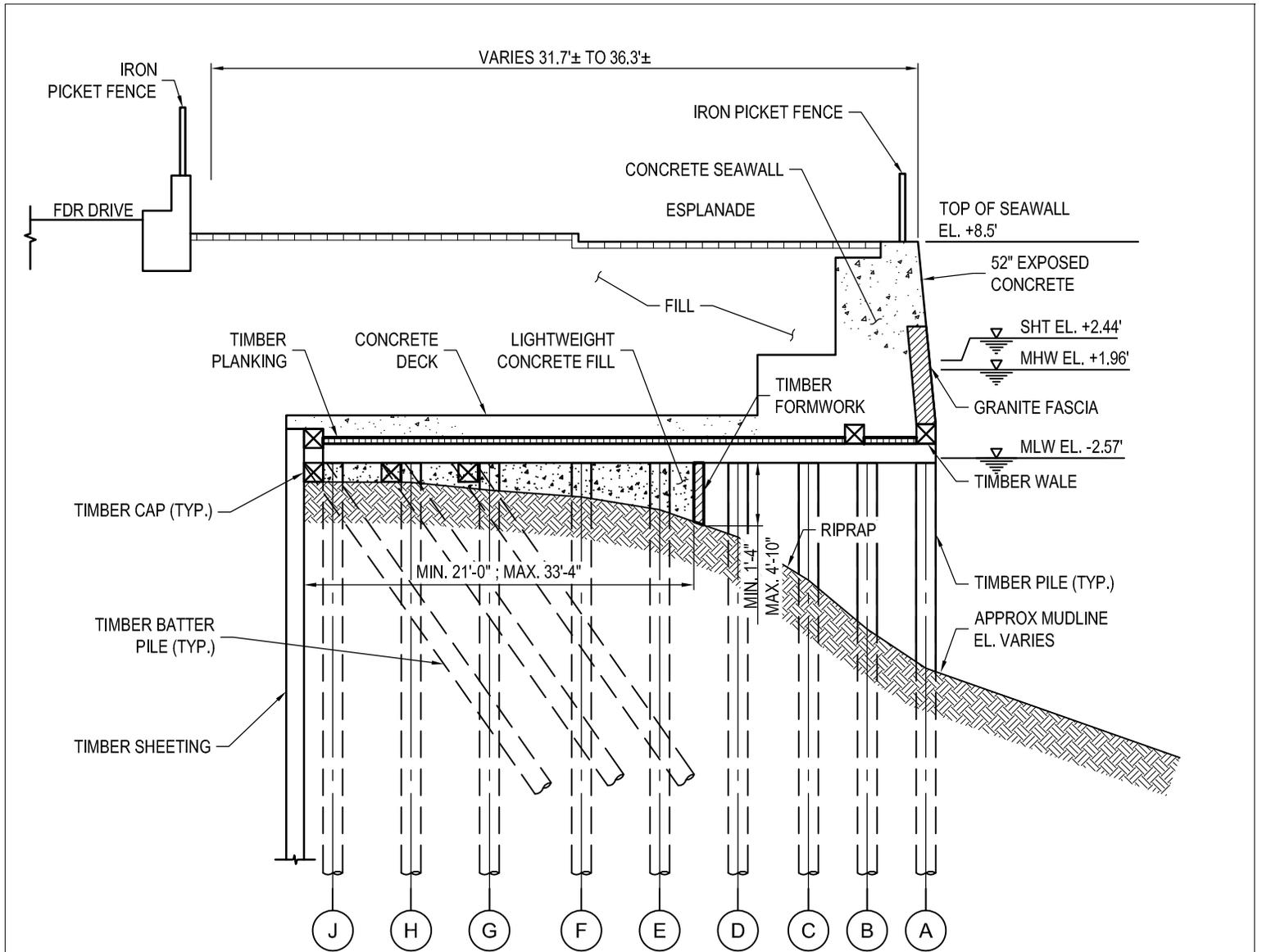
AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

MASS INSHORE ENCASEMENT DETAILS II

IN: EAST RIVER
 AT: MANHATTAN
 COUNTY OF: NEW YORK STATE: NY

0 4' 8' 16'

SHT 41 OF 43 DATE: 07/01/2021



42 MASS INSHORE ENCASEMENT REPAIR - PB 81/82/83
 SCALE: 1/8" = 1'-0"

NOTES: ELEVATIONS SHOWN REFERENCE NAVD 88.

PURPOSE: REHABILITATION OF THE EAST RIVER ESPLANADE
 DATUM: NAVD88
 ADJACENT OWNERS:
 1. SEE ATTACHED LIST
 2. CITY OF NEW YORK

EAST RIVER ESPLANADE WATERFRONT REHABILITATION
 E90TH ST TO E94TH ST
 APPLICANT: NYC PARKS AND RECREATION
 FLUSHING MEADOWS CORONA PARK,
 FLUSHING, NY 11368
 AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

MASS INSHORE ENCASEMENT DETAILS III
 IN: EAST RIVER
 AT: MANHATTAN
 COUNTY OF: NEW YORK STATE: NY
 0 4' 8' 16'
 SHT 42 OF 43 DATE: 07/01/2021

USACE FILE: NAN-2021-01292-EBR

INSHORE MASS ENCASEMENT			STRUCTURAL ENCASEMENT	
LOCATION	AREA (SQ.FT)	VOLUME (CY)	AREA (SQ.FT)	VOLUME (CY)
PB77	7346	682.4	0	0
DOT30	1076	81.5	0	0
PB78	4276	377	1	0.1
PB79	7597	619.4	6	1.5
PB80	3470	198.5	6	1.8
PB81	2708	221.3	25	9.7
PB82	1872	164	17	6
PB83	3991	297	58	19
TOTAL PROJECT SITE	32,337	2,600.7	113	38.1

NOTE:

NUMBERS PROVIDED SHOW THE FILL BELOW MHW AND SHT

PURPOSE: REHABILITATION OF THE
EAST RIVER ESPLANADE

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE ATTACHED LIST
2. CITY OF NEW YORK

**EAST RIVER ESPLANADE WATERFRONT
REHABILITATION
E90TH ST TO E94TH ST**

APPLICANT: NYC PARKS AND RECREATION
FLUSHING MEADOWS CORONA PARK,
FLUSHING, NY 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

FILL CALCULATIONS

IN: EAST RIVER
AT: MANHATTAN
COUNTY OF: NEW YORK STATE: NY

SHT 43 OF 43 DATE: 07/01/2021

USACE FILE: NAN-2021-01292-EBR

TIDAL DATUM CHART			
	MHHW	NAVD88	MLLW
FEMA BASED FLOOD ELEVATIONS (BFE) PRELIMINARY FIRM MAPS 01/30/2015-ZONE AE13	10.47	13.00	15.62
SPRING HIGH TIDE (SHT)	0.15	2.68	5.30
MEAN HIGHER-HIGH WATER (MHHW)	0.00	2.53	5.15
MEAN HIGH WATER (MHW)	-0.30	2.23	4.85
NAVD88	-2.53	0.00	2.62
MEAN SEA LEVEL (MSL)	-2.61	-0.08	2.54
MEAN TIDE LEVEL (MTL)	-2.61	-0.08	2.54
MEAN LOW WATER (MLW)	-4.97	-2.44	0.18
MEAN LOWER-LOW WATER (MLLW)	-5.15	-2.62	0.00

NOTES:

1. WATER ELEVATIONS BASED ON NOAA VDATUM V.3.5 "NEW JERSEY/NEW YORK/CONNECTICUT - NORTHERN NJ, NY HARBOR, WESTERN LONG ISLAND SOUND, V 3.5".
2. ELEVATIONS SHOWN IN FEET.
3. ELEVATIONS SHOWN ON DRAWINGS REFERENCE NAVD88.

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

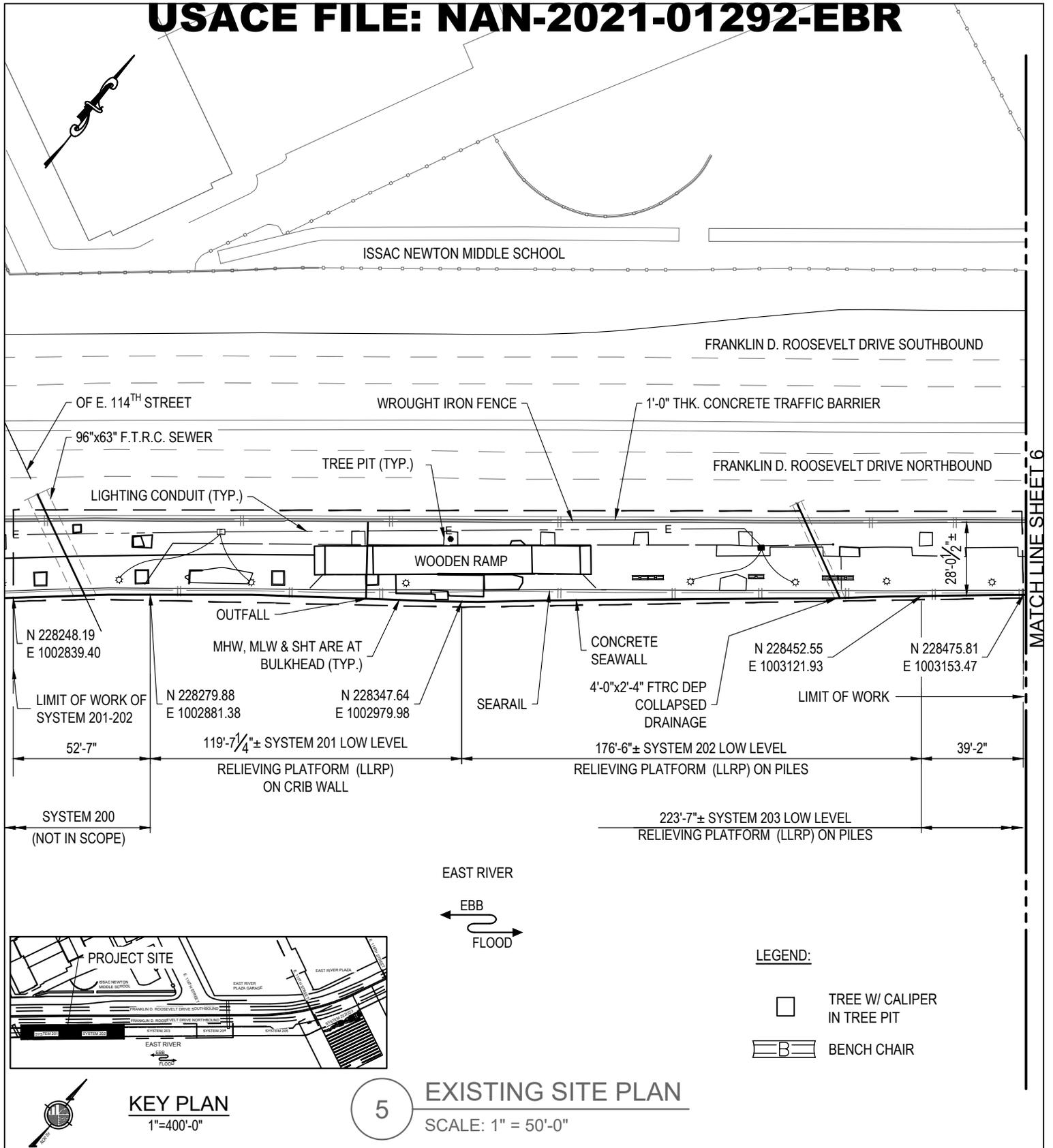
TIDAL DATUM CHART

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY STATE: NY

SHT 3 OF 53

11/09/2021

USACE FILE: NAN-2021-01292-EBR



PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

EXISTING S201&S202 SITE PLAN

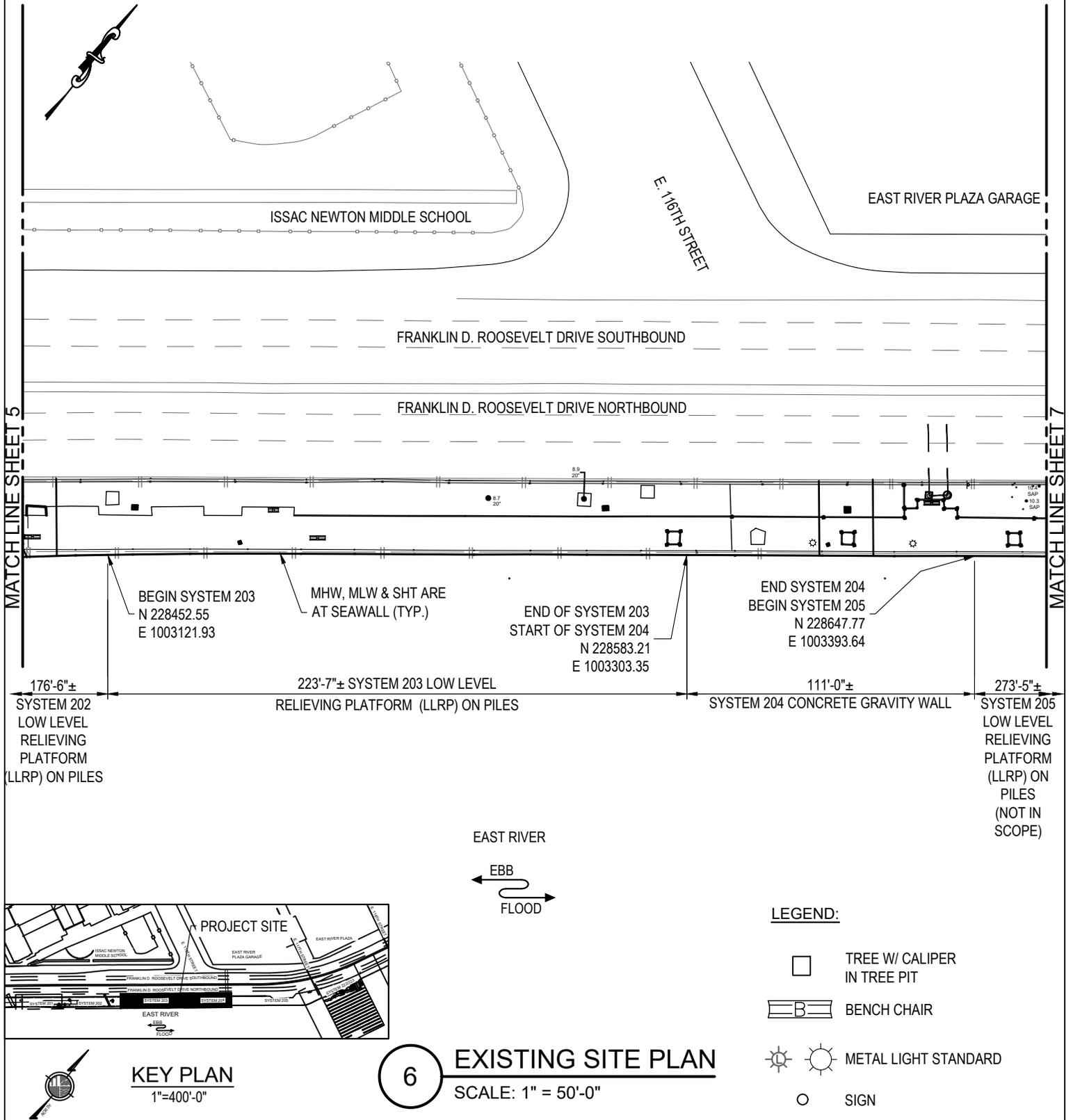
IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY **STATE:** NY

0 50' 100'

SHT 5 OF 53

11/09/2021

USACE FILE: NAN-2021-01292-EBR



MATCHLINE SHEET 5

MATCHLINE SHEET 7

BEGIN SYSTEM 203
N 228452.55
E 1003121.93

MHW, MLW & SHT ARE
AT SEAWALL (TYP.)

END OF SYSTEM 203
START OF SYSTEM 204
N 228583.21
E 1003303.35

END SYSTEM 204
BEGIN SYSTEM 205
N 228647.77
E 1003393.64

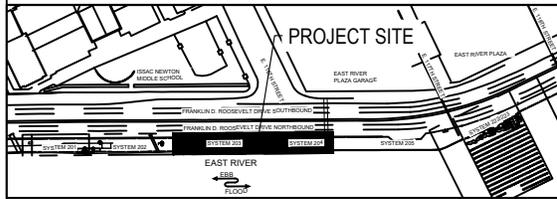
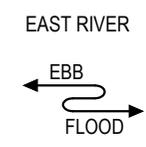
176'-6"± 223'-7"± SYSTEM 203 LOW LEVEL 111'-0"± 273'-5"±

SYSTEM 202
LOW LEVEL
RELIEVING
PLATFORM
(LLRP) ON PILES

RELIEVING PLATFORM (LLRP) ON PILES

SYSTEM 204 CONCRETE GRAVITY WALL

SYSTEM 205
LOW LEVEL
RELIEVING
PLATFORM
(LLRP) ON
PILES
(NOT IN
SCOPE)



KEY PLAN
1"=400'-0"

6 EXISTING SITE PLAN
SCALE: 1" = 50'-0"

- LEGEND:**
- TREE W/ CALIPER IN TREE PIT
 - BENCH CHAIR
 - METAL LIGHT STANDARD
 - SIGN

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:
1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

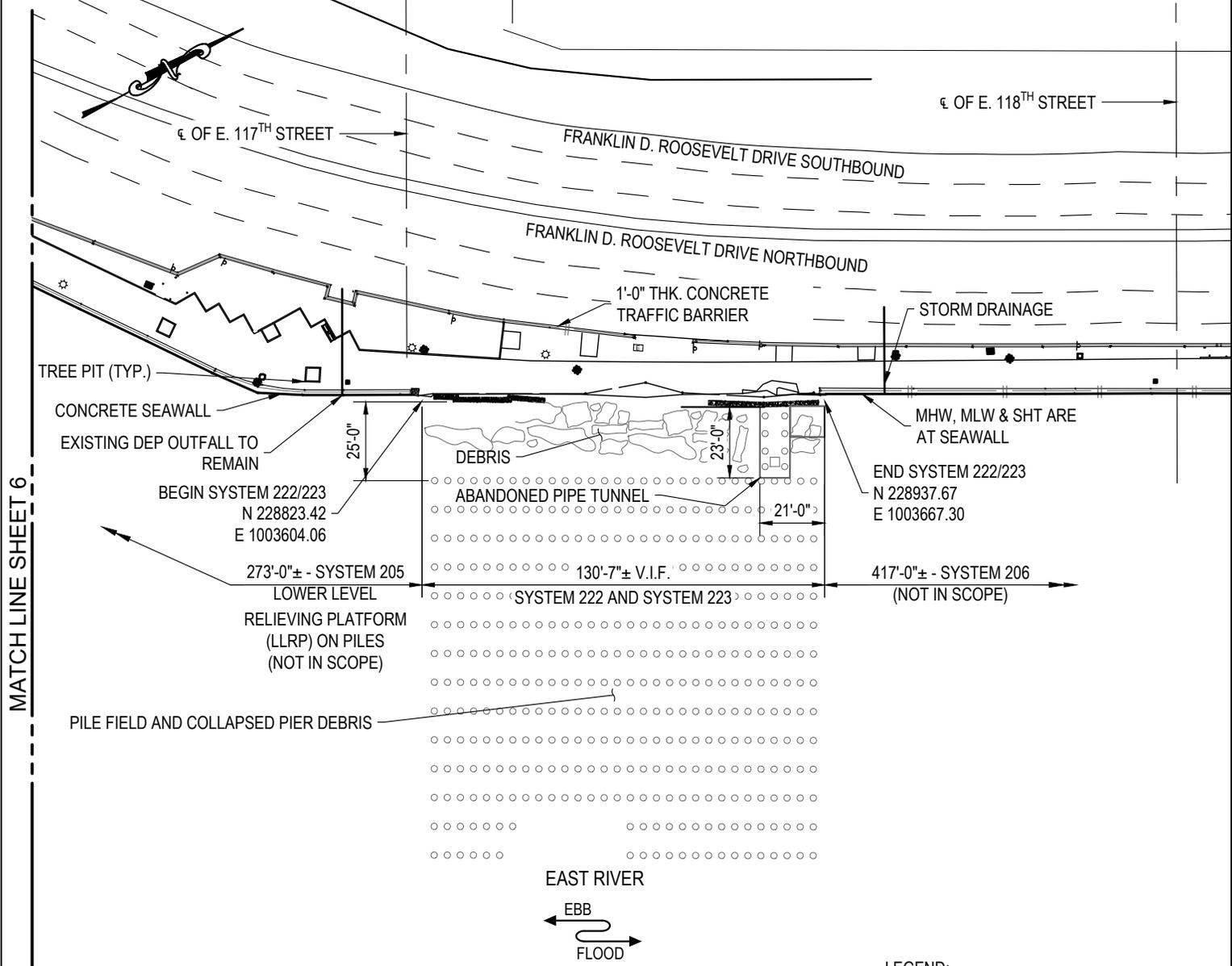
AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

EXISTING S203&S204 SITE PLAN

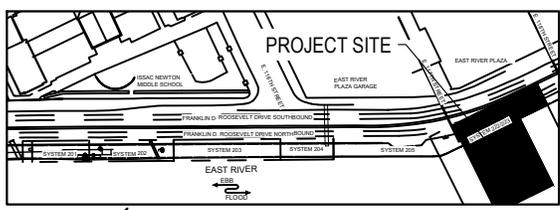
IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY **STATE:** NY

0 50' 100'

SHT 6 OF 53 11/09/2021



MATCH LINE SHEET 6



- LEGEND:**
- METAL LIGHT STANDARD
 - SIGN
 - BENCH CHAIR
 - SEWER MANHOLE
 - ELECTRIC BOX

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:
1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

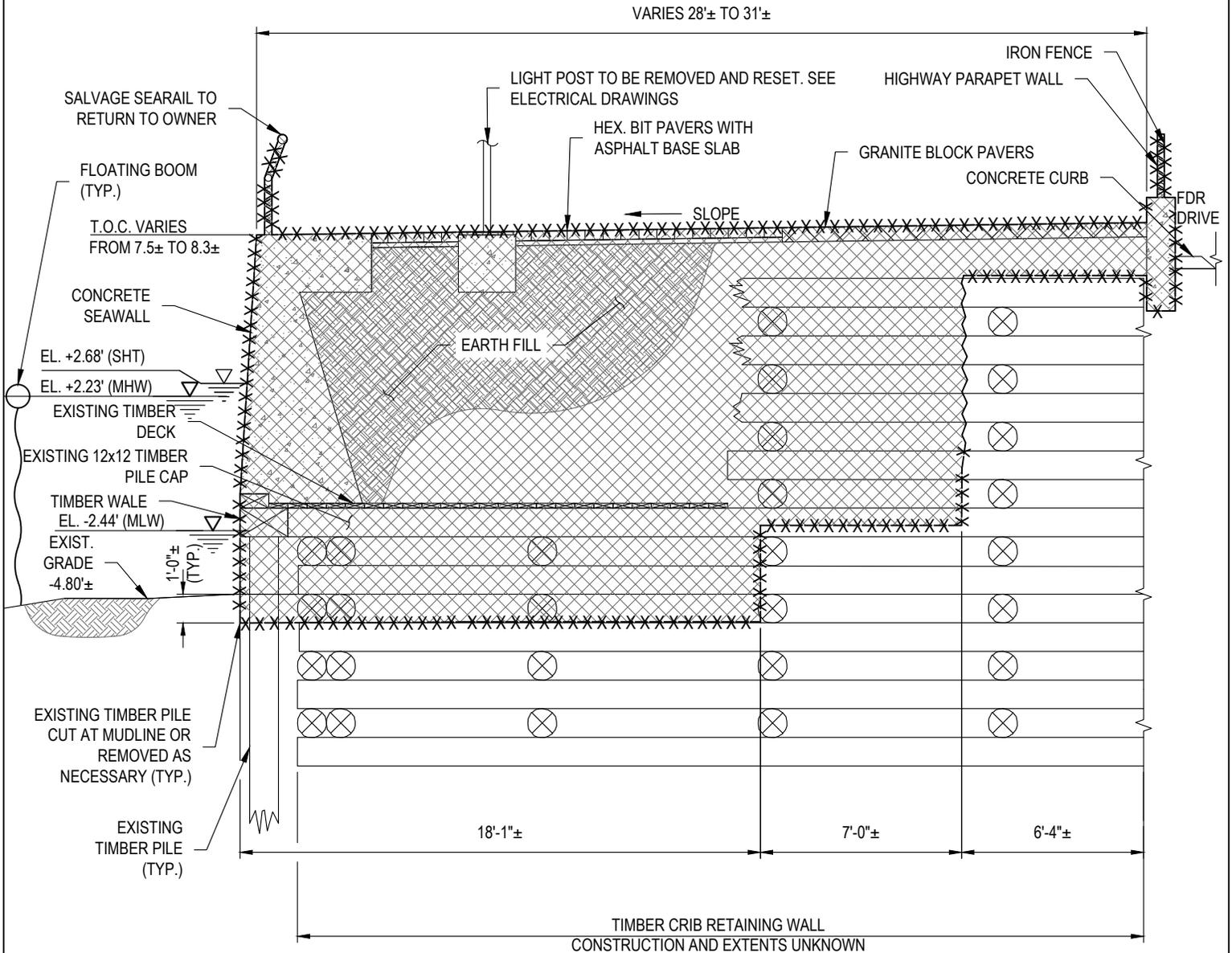
EXISTING S206 SITE PLAN

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY **STATE:** NY

0 50' 100'

SHT 7 OF 53 11/09/2021

USACE FILE: NAN-2021-01292-EBR



8 **EXISTING SECTION SYSTEM 201**
SCALE: 3/16" = 1'-0"

NOTE:
BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATER INCLUDE, BUT ARE NOT LIMITED TO USAGE OF PUMP PORTS, SEDIMENT BOOMS, POURING IN LIFTS.

LEGEND:
-XXXXXXXX- APPROXIMATE LIMITS OF DEMOLITION, REMOVAL AND EXCAVATION

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

DEMOLITION S201 SECTION

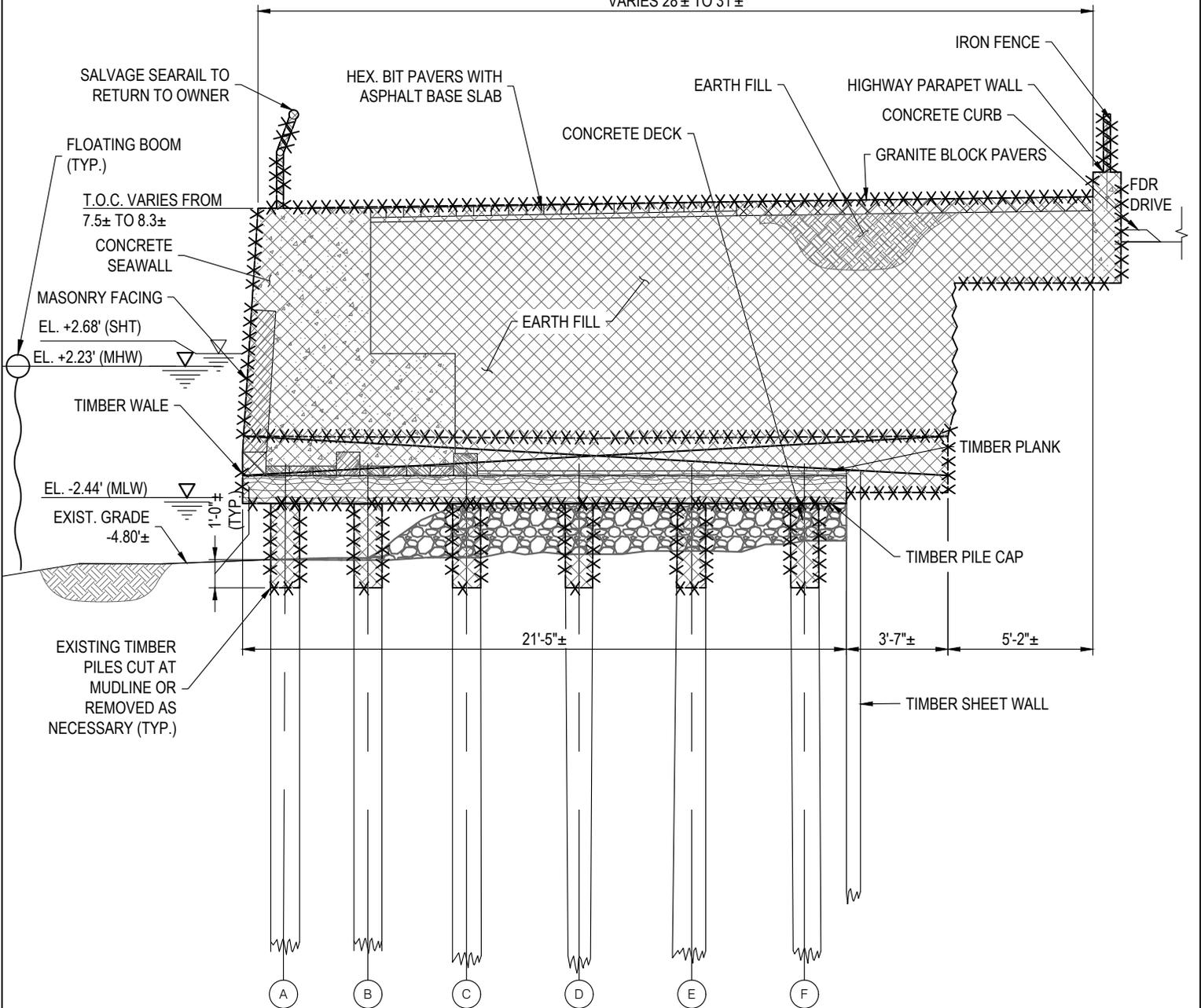
IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY STATE: NY

0 4' 8' 12'

SHT 8 OF 53 11/09/2021

USACE FILE: NAN-2021-01292-EBR

VARIES 28'± TO 31'±



9 EXISTING SECTION SYSTEM 202

SCALE: 3/16" = 1'-0"

LEGEND:

XXXXXXXXX APPROXIMATE LIMITS OF DEMOLITION, REMOVAL AND EXCAVATION

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

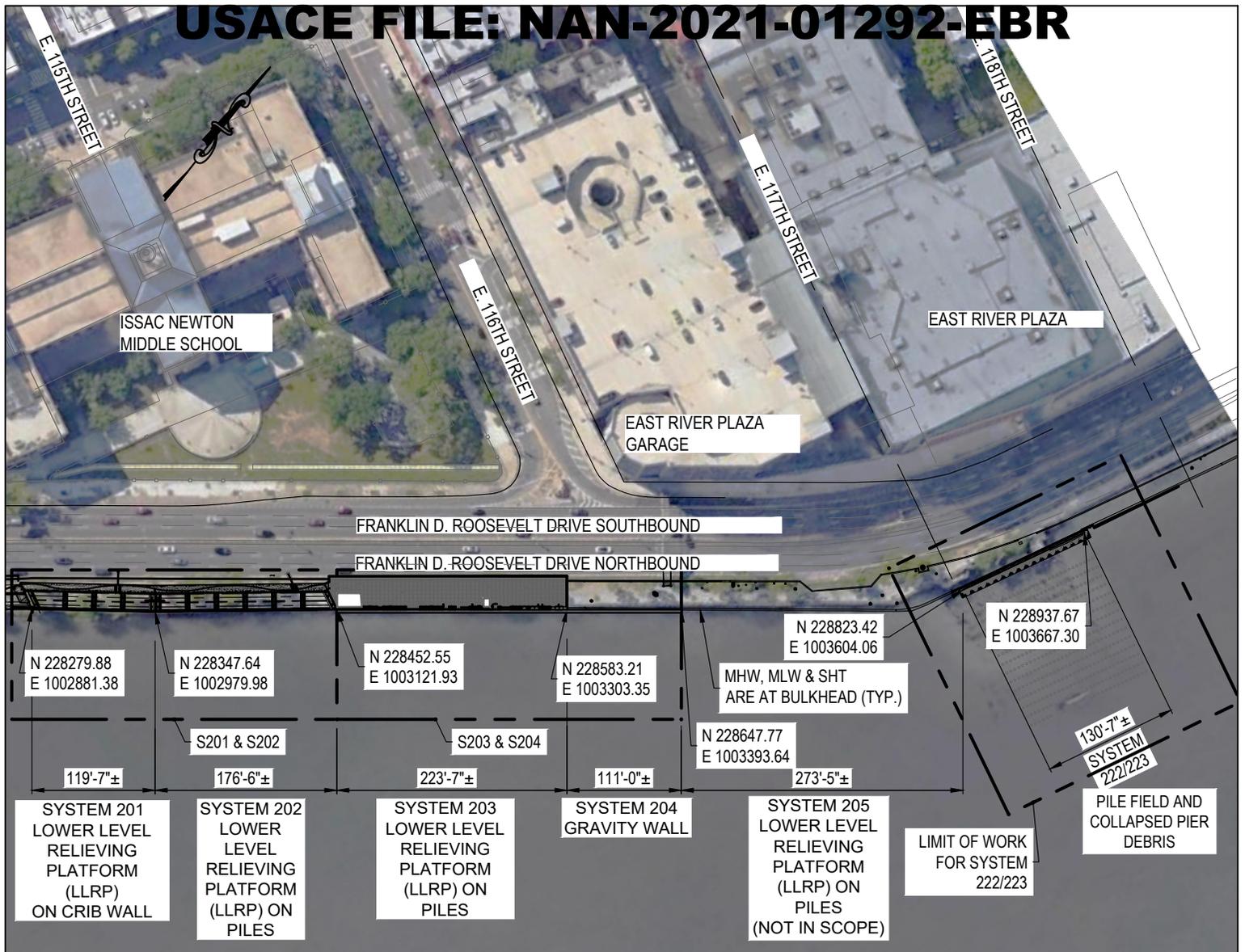
DEMOLITION S202 SECTION

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY STATE: NY

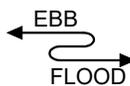


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USACE FILE: NAN-2021-01292-EBR



EAST RIVER



LEGEND:

- PROPOSED PLATFORM
- PROPOSED BULKHEAD
- STEEL COMBINATION WALL (PAZ42/AZ38-700N)
- RELIEVING PLATFORM REHABILITATION PLAN
- SINKHOLE REHABILITATION PLAN
- CONCRETE SEAWALL AND GRAVITY REPAIR

10 OVERALL PROPOSED SITE PLAN
 SCALE: 1" = 150'-0"

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
 PARKS & RECREATION
 OLMSTED CENTER-FLUSHING
 MEADOWS CORONA PARK
 FLUSHING, NEW YORK 11368

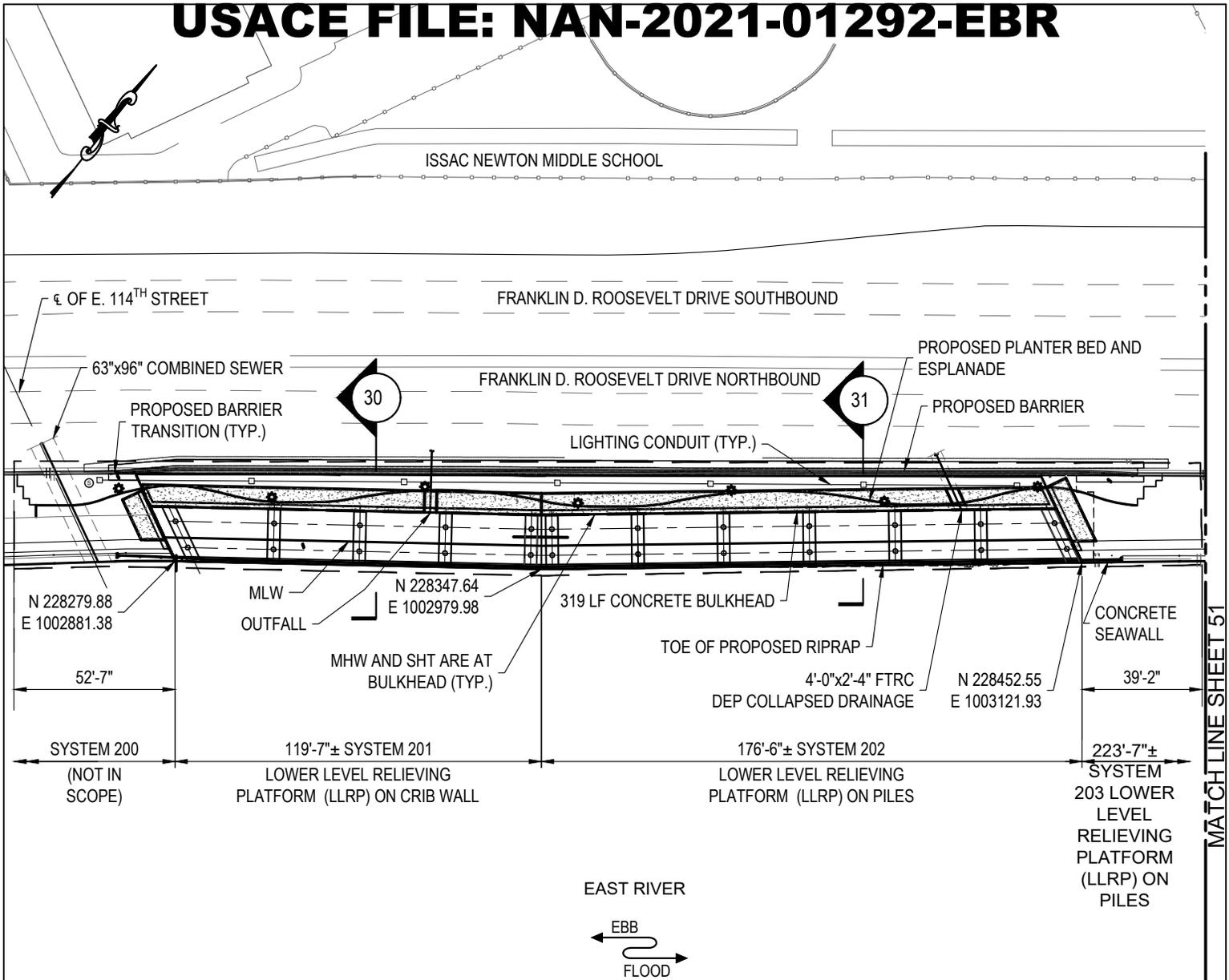
AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

OVERALL PROPOSED SITE PLAN

IN: MANHATTAN
 AT: EAST RIVER
 COUNTY OF: NY STATE: NY



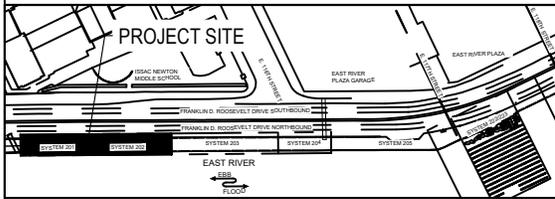
SHT 10 OF 53 11/09/2021



MATCHLINE SHEET 51

11 PROPOSED S201 & S202 SITE PLAN

SCALE: 1" = 50'-0"



NOTE:

- BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATER INCLUDE, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, SEDIMENT BOOMS, POURING IN LIFTS.

LEGEND:



KEY PLAN
1"=400'-0"

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

PROPOSED S201 & S202 SITE PLAN

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY STATE: NY



SHT 11 OF 53 11/09/2021

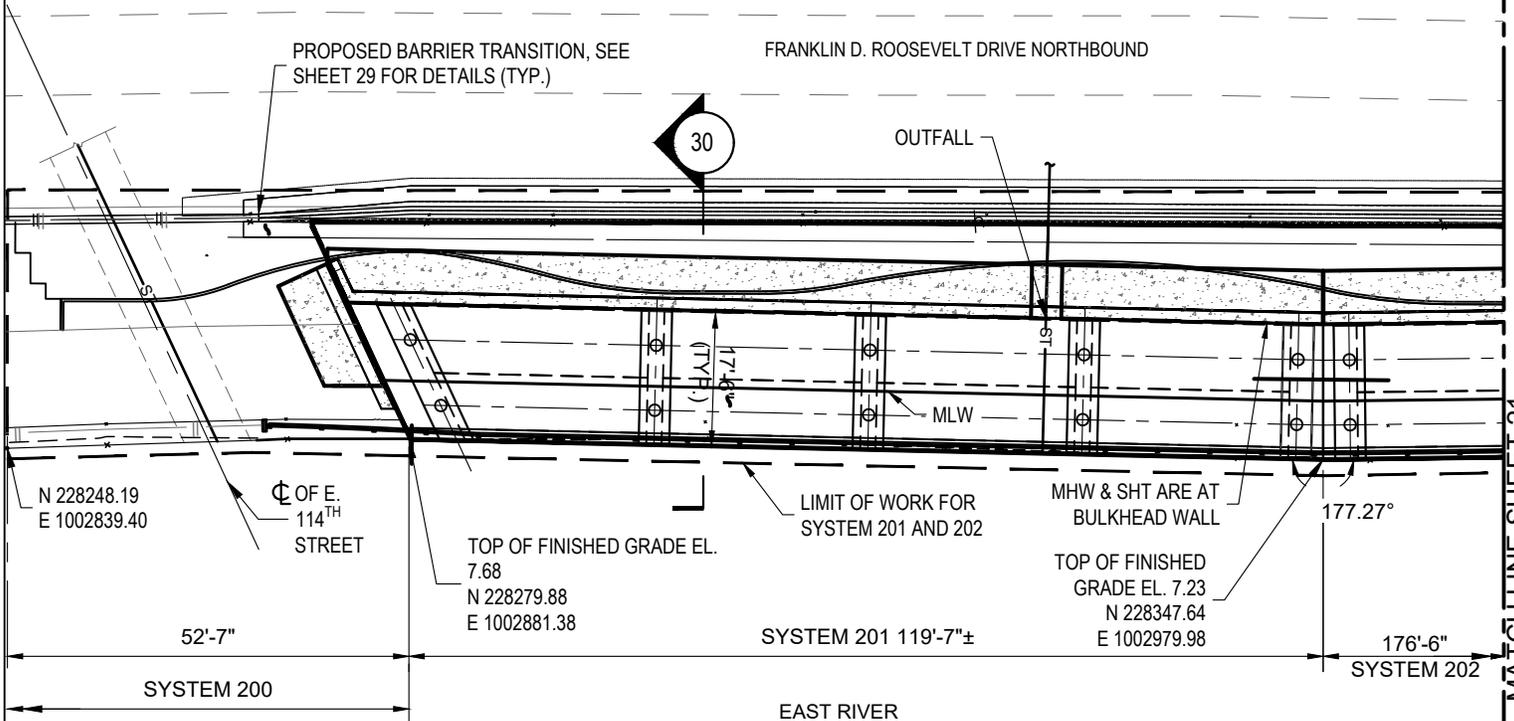
USACE FILE: NAN-2021-01292-EBR

FRANKLIN D. ROOSEVELT DRIVE SOUTHBOUND

FRANKLIN D. ROOSEVELT DRIVE NORTHBOUND

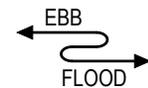
PROPOSED BARRIER TRANSITION, SEE SHEET 29 FOR DETAILS (TYP.)

OUTFALL



MATCHLINE SHEET 21

EAST RIVER



12

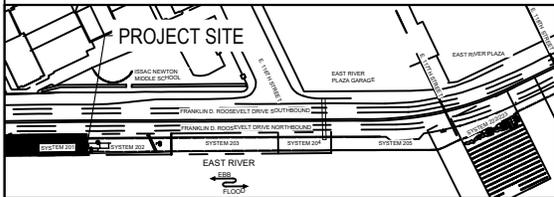
GENERAL PLAN

SCALE: 1" = 25'-0"

NOTE:

- BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATER INCLUDE, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, SEDIMENT BOOMS, POURING IN LIFTS.

LEGEND:



KEY PLAN

1"=400'-0"

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

- SEE APPENDIX A

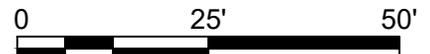
EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

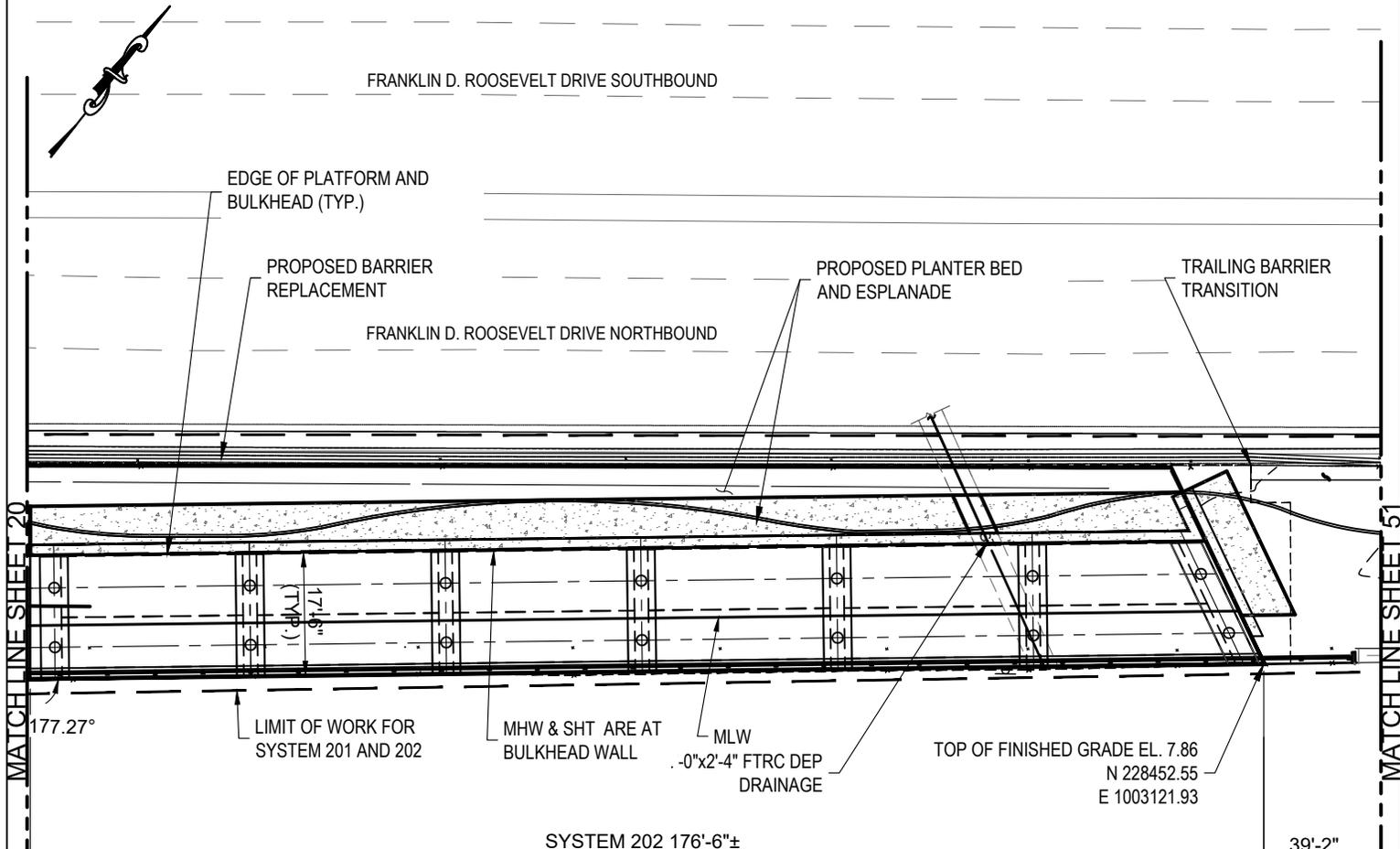
PROPOSED S201 GENERAL PLAN

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY STATE: NY



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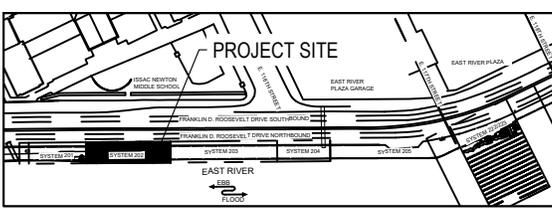
USACE FILE: NAN-2021-01292-EBR



13 GENERAL PLAN

SCALE: 1" = 25'-0"

NOTE:
 1. BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATER INCLUDE, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, SEDIMENT BOOMS, POURING IN LIFTS.



KEY PLAN
 1"=400'-0"

LEGEND:
 LIMITS OF CONSTRUCTION

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:
 1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
 PARKS & RECREATION
 OLMSTED CENTER-FLUSHING
 MEADOWS CORONA PARK
 FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

PROPOSED S202 GENERAL PLAN

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY **STATE:** NY

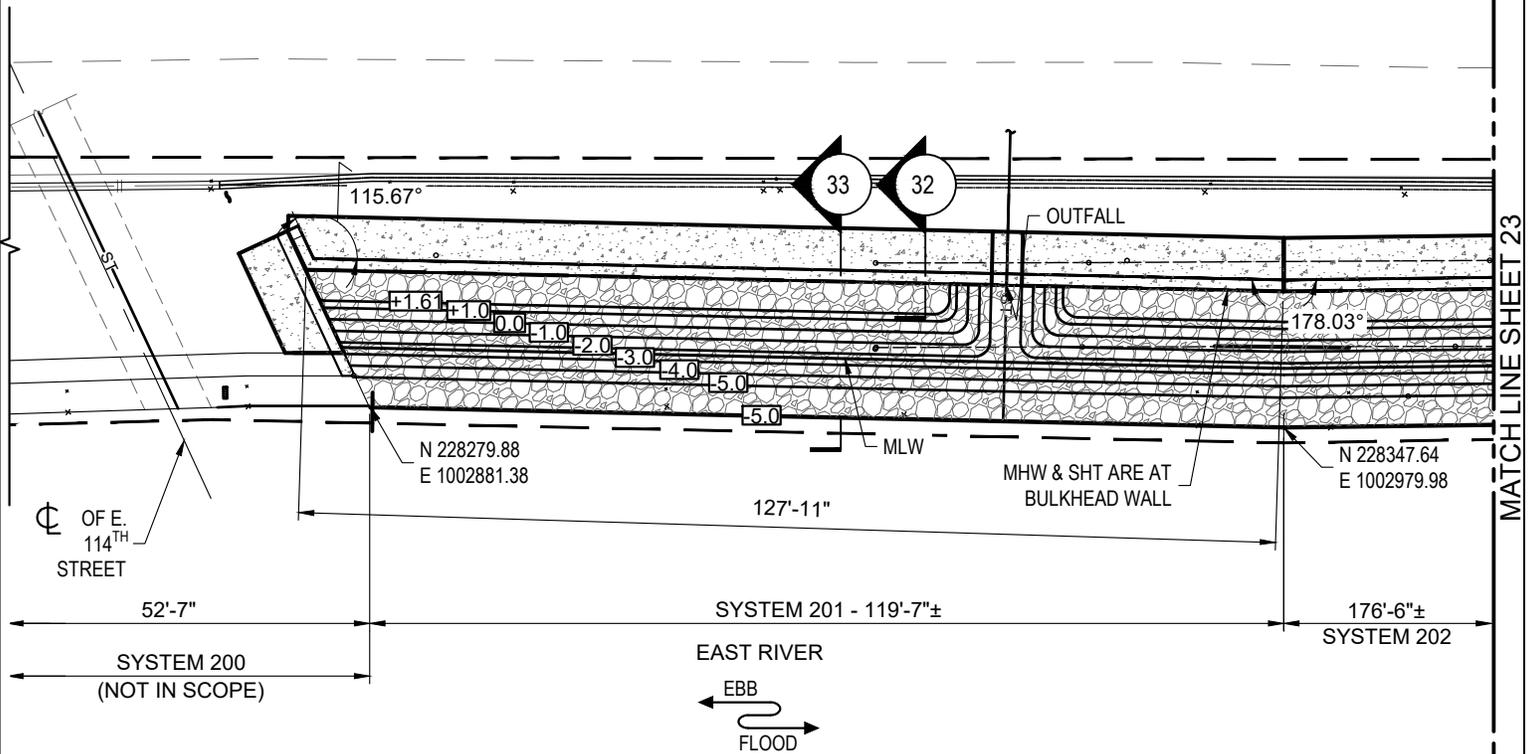
0 25' 50'

SHT 13 OF 53 11/09/2021

USACE FILE: NAN-2021-01292-EBR

FRANKLIN D. ROOSEVELT DRIVE SOUTHBOUND

FRANKLIN D. ROOSEVELT DRIVE NORTHBOUND



14 PROPOSED S201 BULKHEAD PLAN

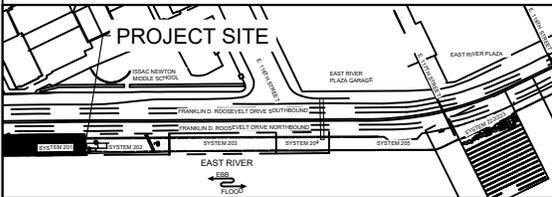
SCALE: 1" = 25'-0"

NOTES:

- CONTRACTION JOINTS TO BE SPACED AT 20'-0" O.C. MAX.
- EXPANSION JOINTS TO BE PLACED AT 80'-0" O.C. MAX.
- BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATER INCLUDE, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, SEDIMENT BOOMS, POURING IN LIFTS.

LEGEND:

-  PROPOSED BULKHEAD
-  PROPOSED RIPRAP
-  PROPOSED CONTOUR LINE
-  LIMITS OF CONSTRUCTION



KEY PLAN
1"=400'-0"

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

- SEE APPENDIX A

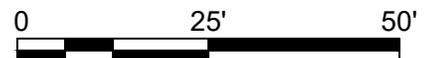
EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

BULKHEAD S201 PLAN

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY STATE: NY

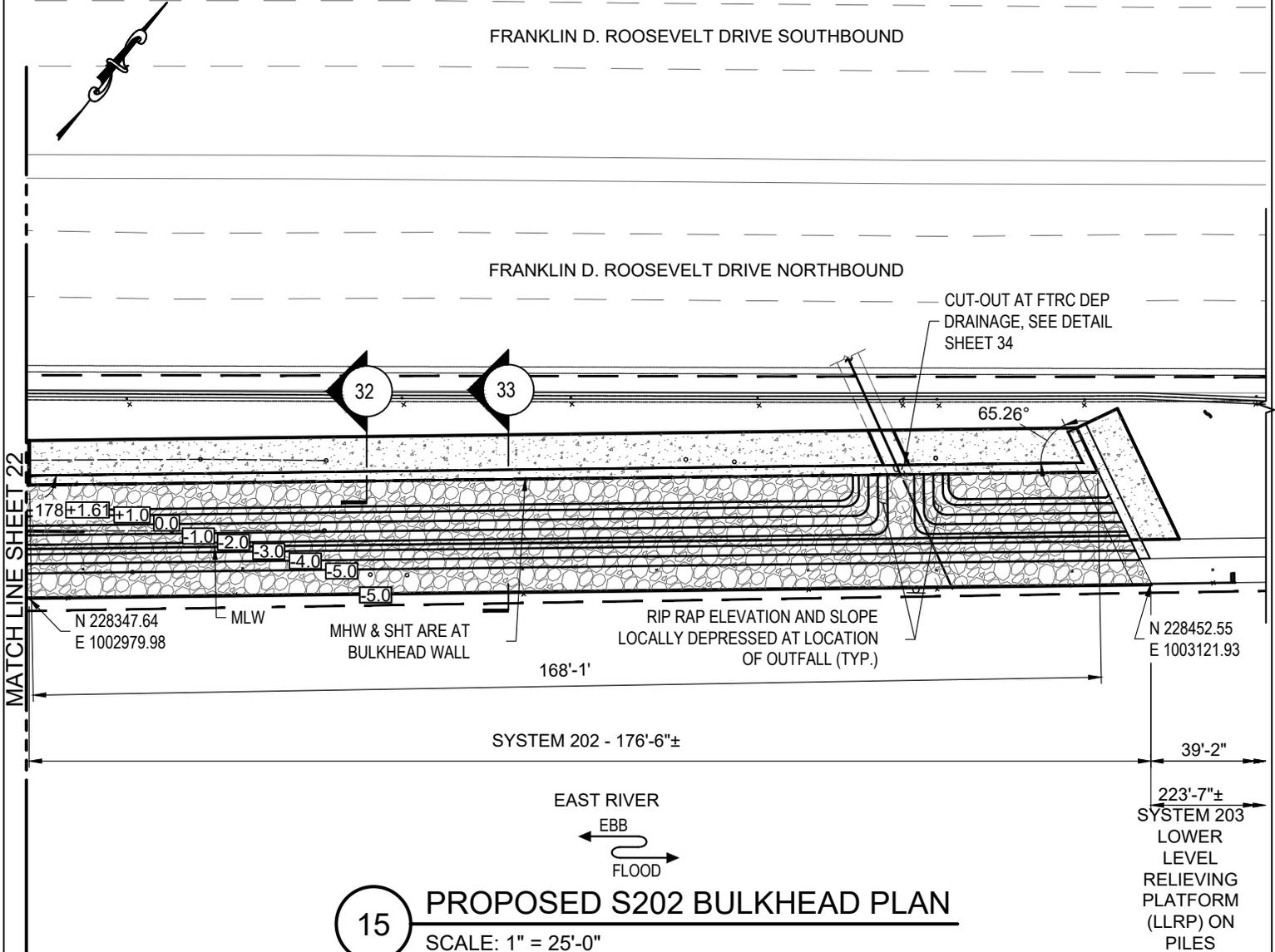


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USACE FILE: NAN-2021-01292-EBR

FRANKLIN D. ROOSEVELT DRIVE SOUTHBOUND

FRANKLIN D. ROOSEVELT DRIVE NORTHBOUND

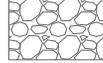


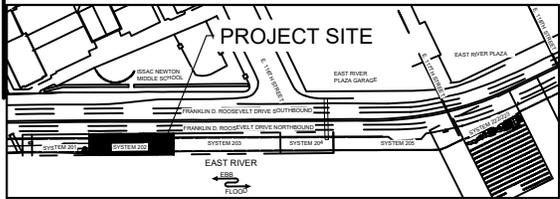
15 **PROPOSED S202 BULKHEAD PLAN**
SCALE: 1" = 25'-0"

NOTES:

1. CONTRACTION JOINTS TO BE SPACED AT 20'-0" O.C. MAX.
2. EXPANSION JOINTS TO BE PLACED AT 80'-0" O.C. MAX.
3. BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATER INCLUDE, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, SEDIMENT BOOMS, POURING IN LIFTS.

LEGEND:

-  PROPOSED BULKHEAD
-  PROPOSED RIPRAP
-  PROPOSED CONTOUR LINE
-  LIMITS OF CONSTRUCTION



KEY PLAN
1"=400'-0"

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88
ADJACENT OWNERS:
1. SEE APPENDIX A

EAST RIVER ESPLANADE
APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368
AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

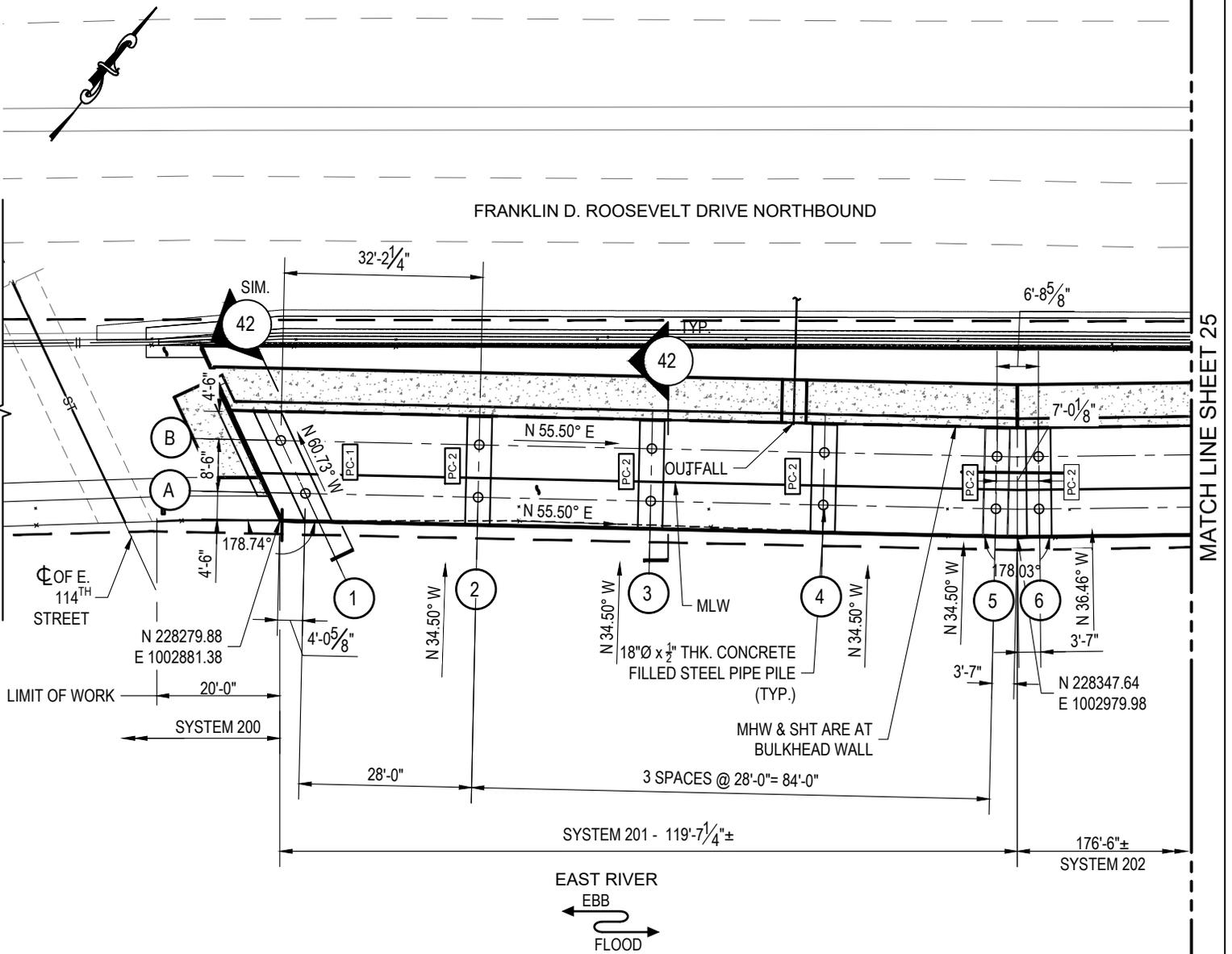
BULKHEAD S202 PLAN
IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY STATE: NY

SHT 15 OF 53 11/09/2021

USACE FILE: NAN-2021-01292-EBR

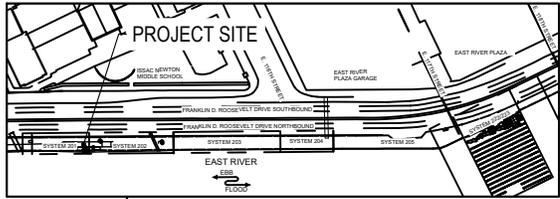
FRANKLIN D. ROOSEVELT DRIVE SOUTHBOUND

FRANKLIN D. ROOSEVELT DRIVE NORTHBOUND



16 PILE AND PILE CAP S201 PLAN

SCALE: 1" = 25'-0"



- NOTES:**
- BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATER INCLUDE, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, SEDIMENT BOOMS, POURING IN LIFTS.

LEGEND:

○	# PROPOSED STEEL PIPE PILE = 10
PC-1	PILE CAP DESIGNATION

— — — — — LIMITS OF CONSTRUCTION

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:
1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

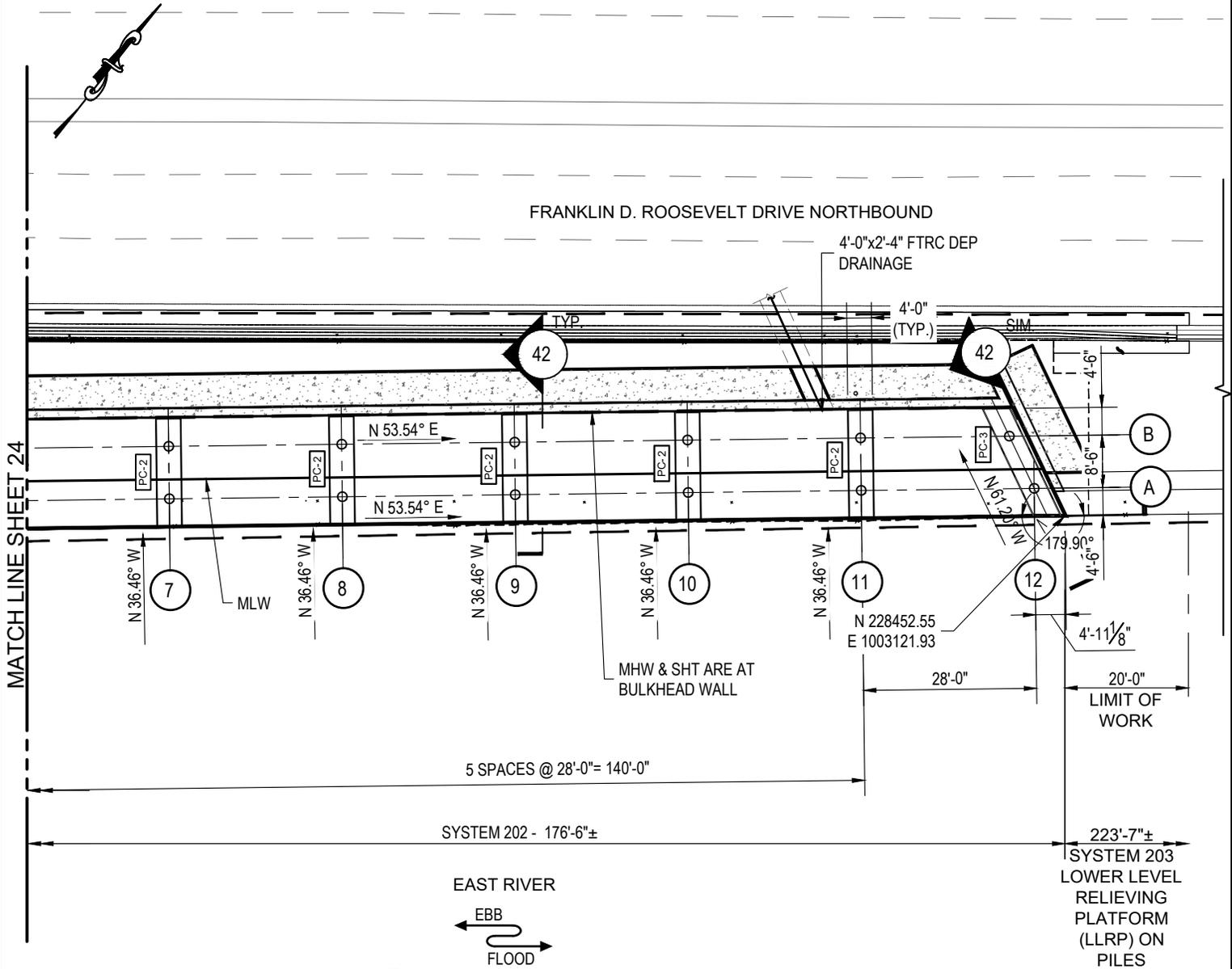
AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

PILE AND PILE CAP S201 PLAN

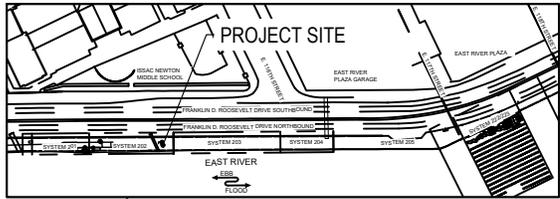
IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY **STATE:** NY

0 25' 50'

SHT 16 OF 53 11/09/2021



17 PILE AND PILE CAP S202 PLAN
SCALE: 1" = 25'-0"



- NOTES:**
- BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATER INCLUDE, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, SEDIMENT BOOMS, POURING IN LIFTS.

LEGEND:

○	# PROPOSED STEEL PIPE PILE = 14
PC-1	PILE CAP DESIGNATION

— — — — — LIMITS OF CONSTRUCTION

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:
1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

PILE AND PILE CAP S202 PLAN

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY **STATE:** NY

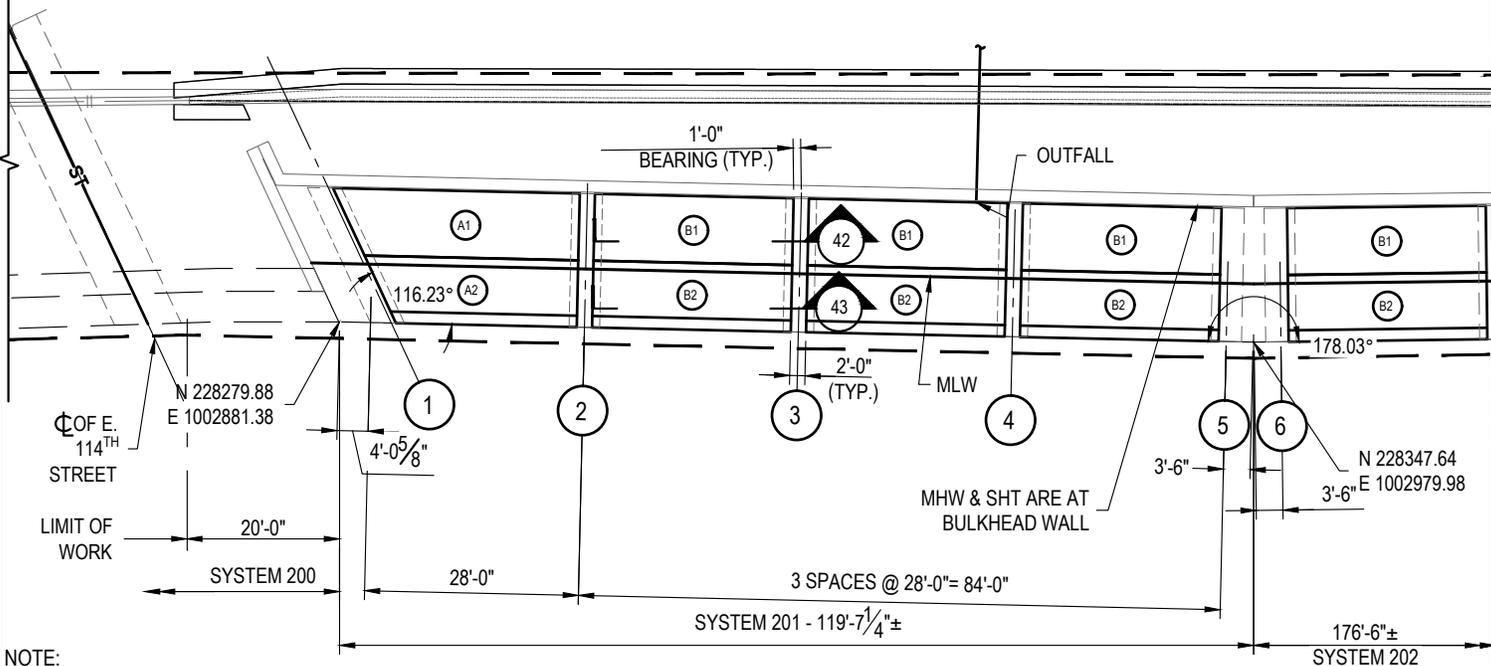
0 25' 50'

SHT 17 OF 53 11/09/2021

USACE FILE: NAN-2021-01292-EBR

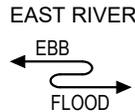
FRANKLIN D. ROOSEVELT DRIVE SOUTHBOUND

FRANKLIN D. ROOSEVELT DRIVE NORTHBOUND



MATCH LINE SHEET 27

NOTE:
 1. BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATER INCLUDE, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, SEDIMENT BOOMS, POURING IN LIFTS.

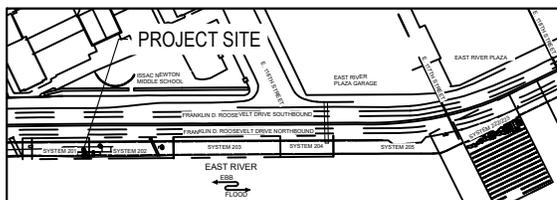


LEGEND:

- B1 PLANK DESIGNATION
- LIMITS OF CONSTRUCTION

18 PRESTRESSED PLANK S201 PLAN

SCALE: 1" = 25'-0"



KEY PLAN
1"=400'-0"

PRESTRESSED PLANK SCHEDULE				
PLANK DESIGNATION	CONCRETE STRENGTH		PRESTRESS REINFORCING	
	MINIMUM FINAL f _c (PSI)	MINIMUM RELEASE f _{ci} (PSI)	# OF STRANDS	MINIMUM EFFECTIVE PRESTRESS (KIPS)
B1	8000	4000	17	518
B2	8000	4000	17	518
C1	8000	4000	17	518
C2	8000	4000	17	518

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE APPENDIX A

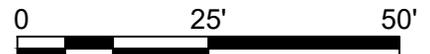
EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
 PARKS & RECREATION
 OLMSTED CENTER-FLUSHING
 MEADOWS CORONA PARK
 FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

PRESTRESSED PLANK S201 PLAN

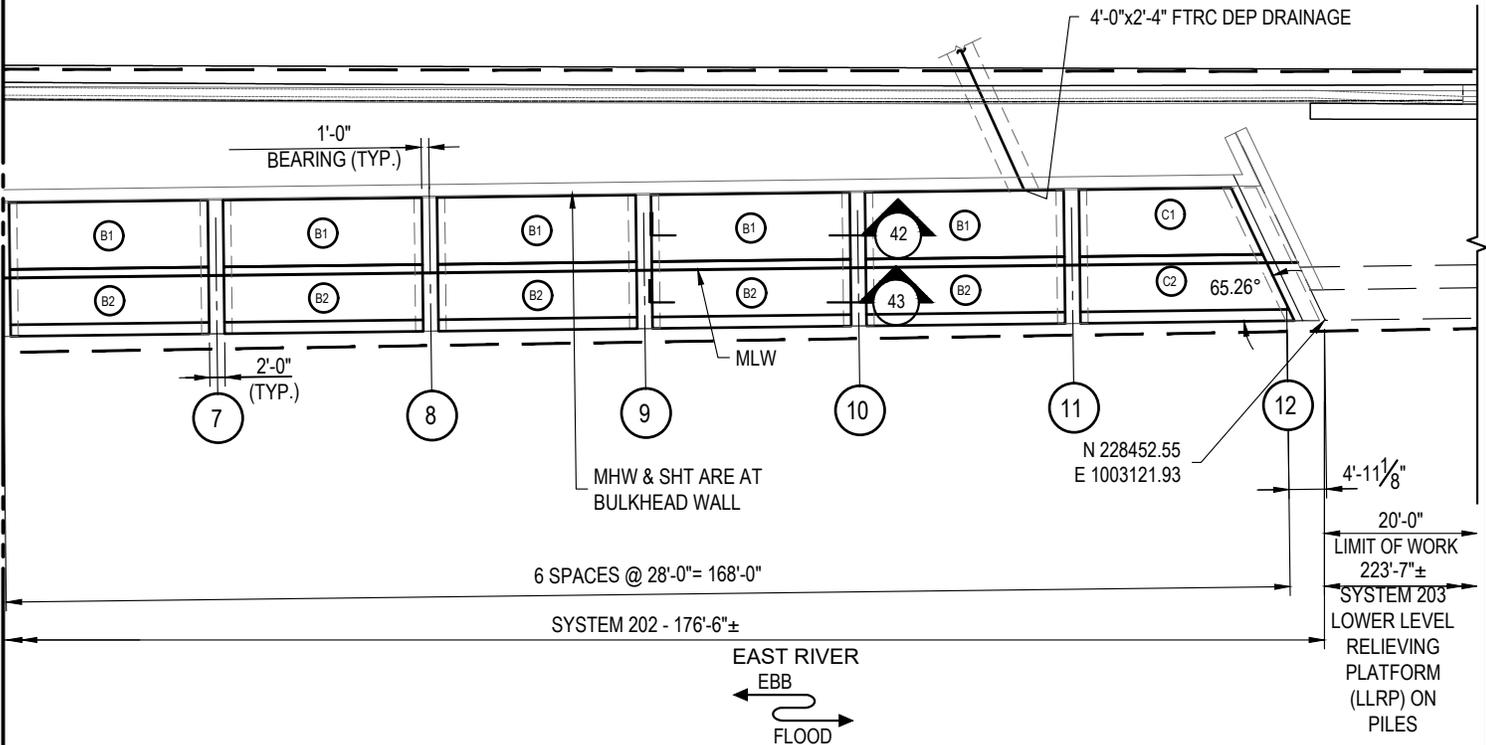
IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY **STATE:** NY



SHT 18 OF 53 11/09/2021

FRANKLIN D. ROOSEVELT DRIVE NORTHBOUND

MATCH LINE SHEET 26



19

PRESTRESSED PLANK S201 PLAN

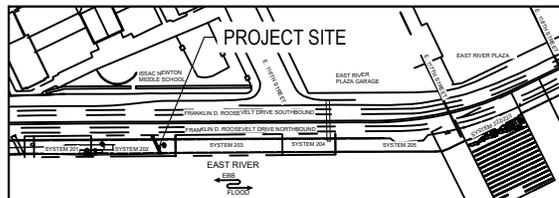
SCALE: 1" = 25'-0"

NOTE:

- BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATER INCLUDE, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, SEDIMENT BOOMS, POURING IN LIFTS.

LEGEND:

- B1 PLANK DESIGNATION
- LIMITS OF CONSTRUCTION



KEY PLAN
1"=400'-0"

PRESTRESSED PLANK SCHEDULE				
PLANK DESIGNATION	CONCRETE STRENGTH		PRESTRESS REINFORCING	
	MINIMUM FINAL f _c (PSI)	MINIMUM RELEASE f _{ci} (PSI)	# OF STRANDS	MINIMUM EFFECTIVE PRESTRESS (KIPS)
B1	8000	4000	17	518
B2	8000	4000	17	518
C1	8000	4000	17	518
C2	8000	4000	17	518

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

- SEE APPENDIX A

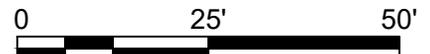
EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

PRESTRESSED PLANK S202 PLAN

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY STATE: NY



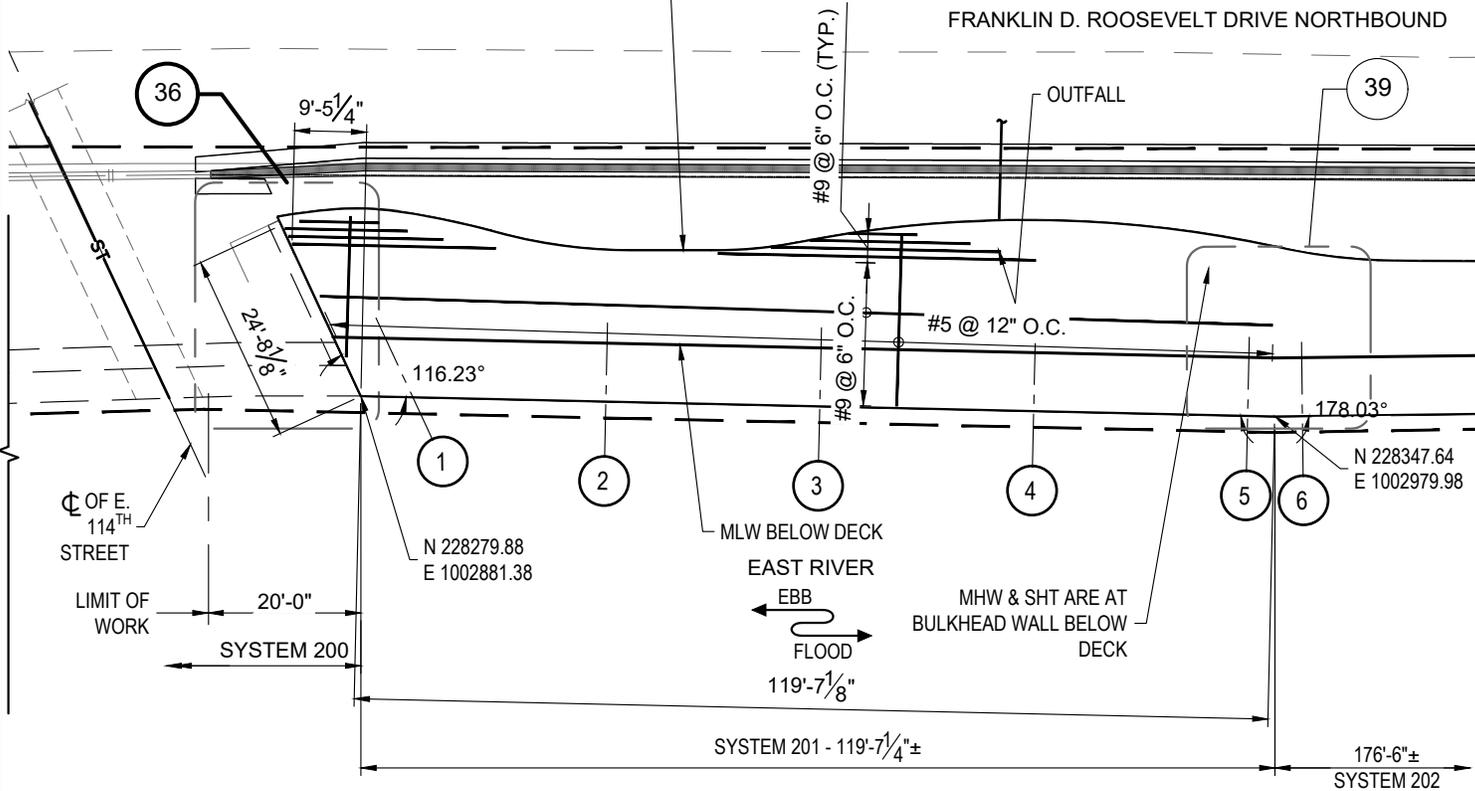
SHT 19 OF 53

11/09/2021

FRANKLIN D. ROOSEVELT DRIVE SOUTHBOUND

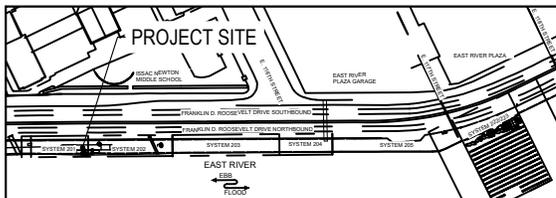
FRANKLIN D. ROOSEVELT DRIVE NORTHBOUND

TOPPING SLAB TO EXTEND OVER
BULKHEAD WALL AND FOLLOW
CURVATURE OF PLANTING BED GRANITE
EDGE BLOCK



20 S201 CAST-IN-PLACE DECK REINFORCEMENT

SCALE: 1" = 25'-0"



KEY PLAN
1"=400'-0"

NOTE:

- BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATER INCLUDE, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, SEDIMENT BOOMS, POURING IN LIFTS.

LEGEND:

LIMITS OF CONSTRUCTION

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

- SEE APPENDIX A

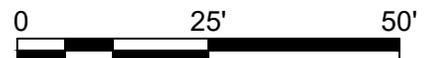
EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

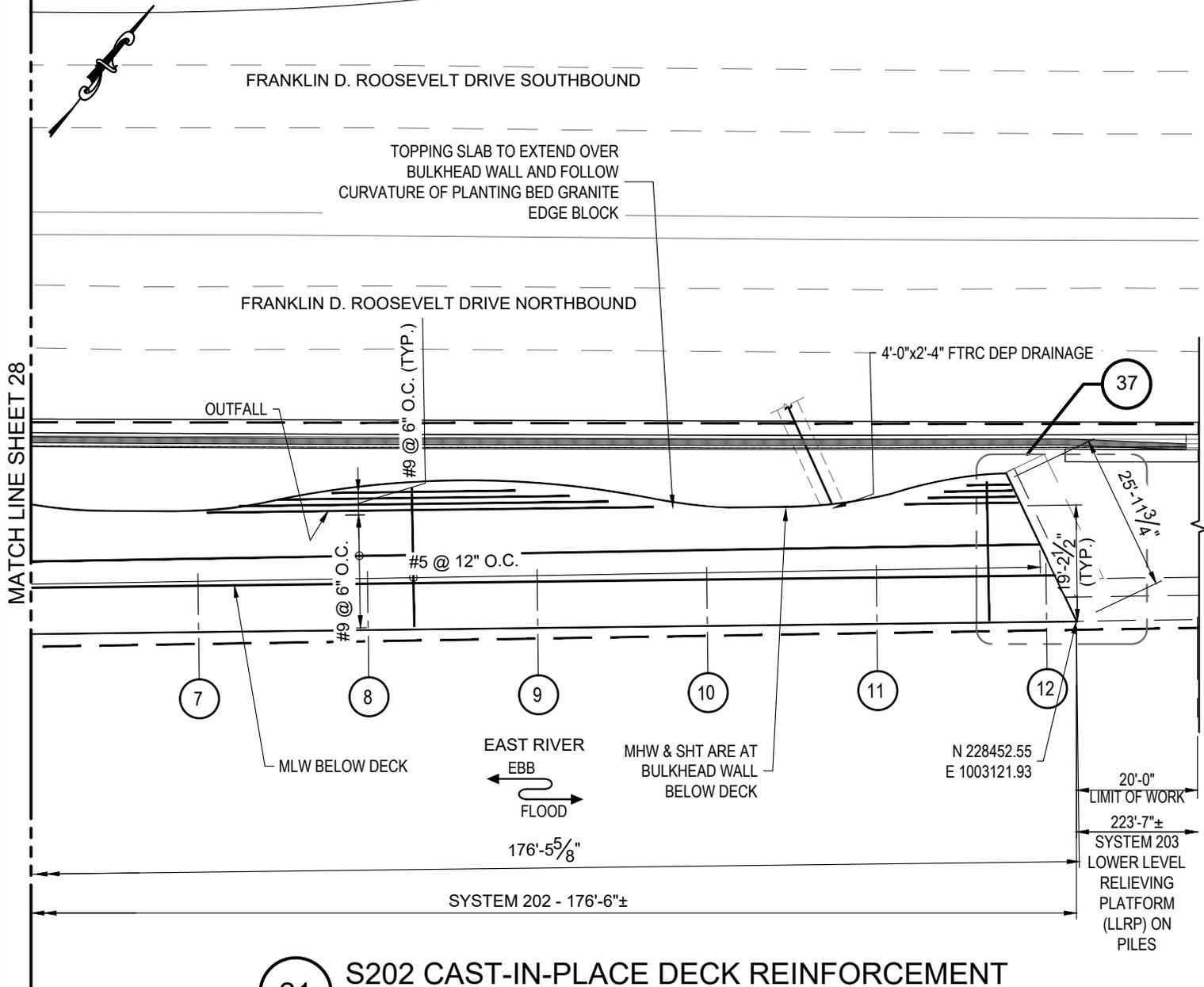
AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

S201 CAST-IN-PLACE DECK REINFORCEMENT PLAN

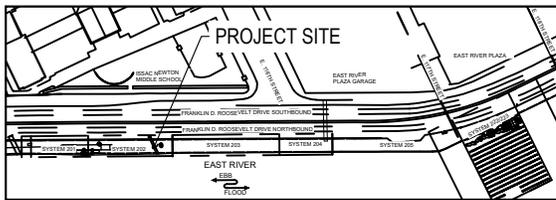
IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY STATE: NY



SHT 20 OF 53 11/09/2021



21 S202 CAST-IN-PLACE DECK REINFORCEMENT
SCALE: 1" = 25'-0"



KEY PLAN
1"=400'-0"

NOTE:

- BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATER INCLUDE, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, SEDIMENT BOOMS, POURING IN LIFTS.

LEGEND:

LIMITS OF CONSTRUCTION

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

- SEE APPENDIX A

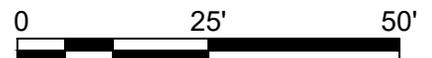
EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

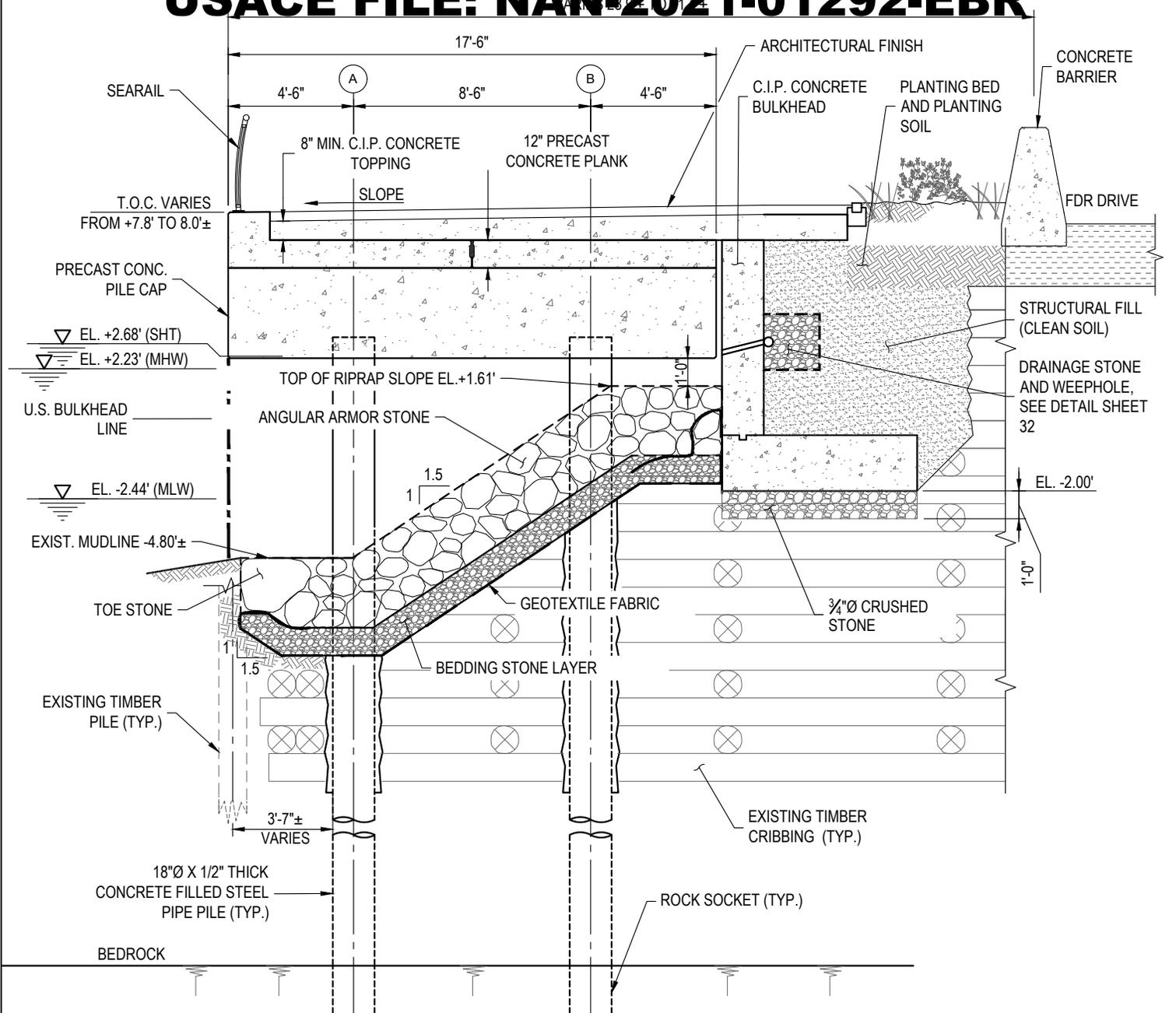
AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

S202 CAST-IN-PLACE DECK REINFORCEMENT PLAN

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY STATE: NY



SHT 21 OF 53 11/09/2021



22 PROPOSED RECONSTRUCTION - SYSTEM 201

SCALE: 3/16" = 1'-0"

- NOTES:**
1. BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATER INCLUDE, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, SEDIMENT BOOMS, POURING IN LIFTS.
 2. NET FILL INCLUDES CUT CREATED BY REMOVAL OF EXISTING TIMBER CRIBBING AND FILL INTRODUCED BY THE RIPRAP AND 18" DIA. PILES.

LOCATION	VOLUME OF CUT BELOW MHW (CY)	AREA OF CUT BELOW MHW AND SHT (SQ.FT)	VOLUME OF CUT BELOW SHT (CY)
SYSTEM 201/202 RIPRAP FILL	672.08	3793	725.27
SYSTEM 201/202 PILE FILL	5.51	42	5.70
SYSTEM 201/202 DEMOLITION CUT	-892.47	0	-980.34
SECTION A TOTAL	-214.88	3835	-249.37

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:
1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

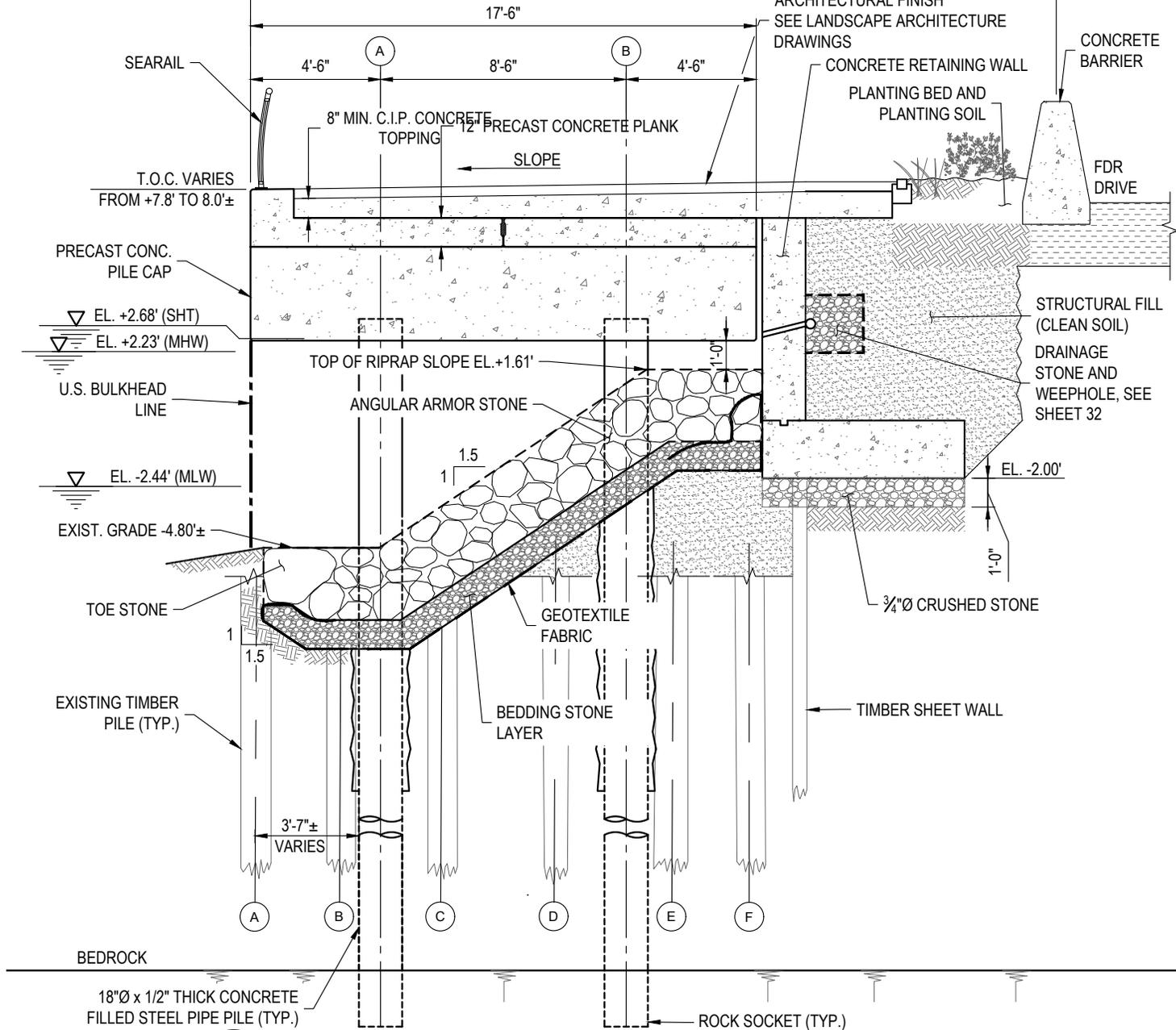
AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

S201 PROPOSED SECTION

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY **STATE:** NY

0 4' 8' 12'

SHT 22 OF 53 11/09/2021



23 PROPOSED RECONSTRUCTION - SYSTEM 202

SCALE: 3/16" = 1'-0"

NOTES:

1. BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATER INCLUDE, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, SEDIMENT BOOMS, POURING IN LIFTS.
2. NET FILL INCLUDES CUT CREATED BY REMOVAL OF EXISTING TIMBER CRIBBING AND FILL INTRODUCED BY THE RIPRAP AND 18" DIA. PILES.

LOCATION	VOLUME OF CUT BELOW MHW (CY)	AREA OF CUT BELOW MHW AND SHT (SQ.FT)	VOLUME OF CUT BELOW SHT (CY)
SYSTEM 201/202 RIPRAP FILL	672.08	3793	725.27
SYSTEM 201/202 PILE FILL	5.51	42	5.70
SYSTEM 201/202 DEMOLITION CUT	-892.47	0	-980.34
SECTION A TOTAL	-214.88	3835	-249.37

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
 PARKS & RECREATION
 OLMSTED CENTER-FLUSHING
 MEADOWS CORONA PARK
 FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

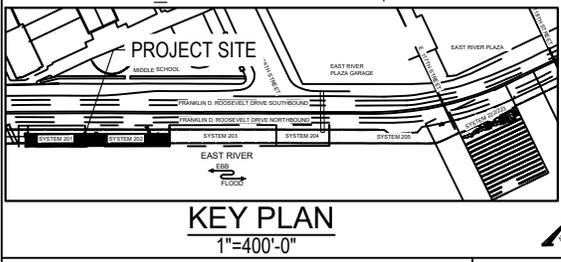
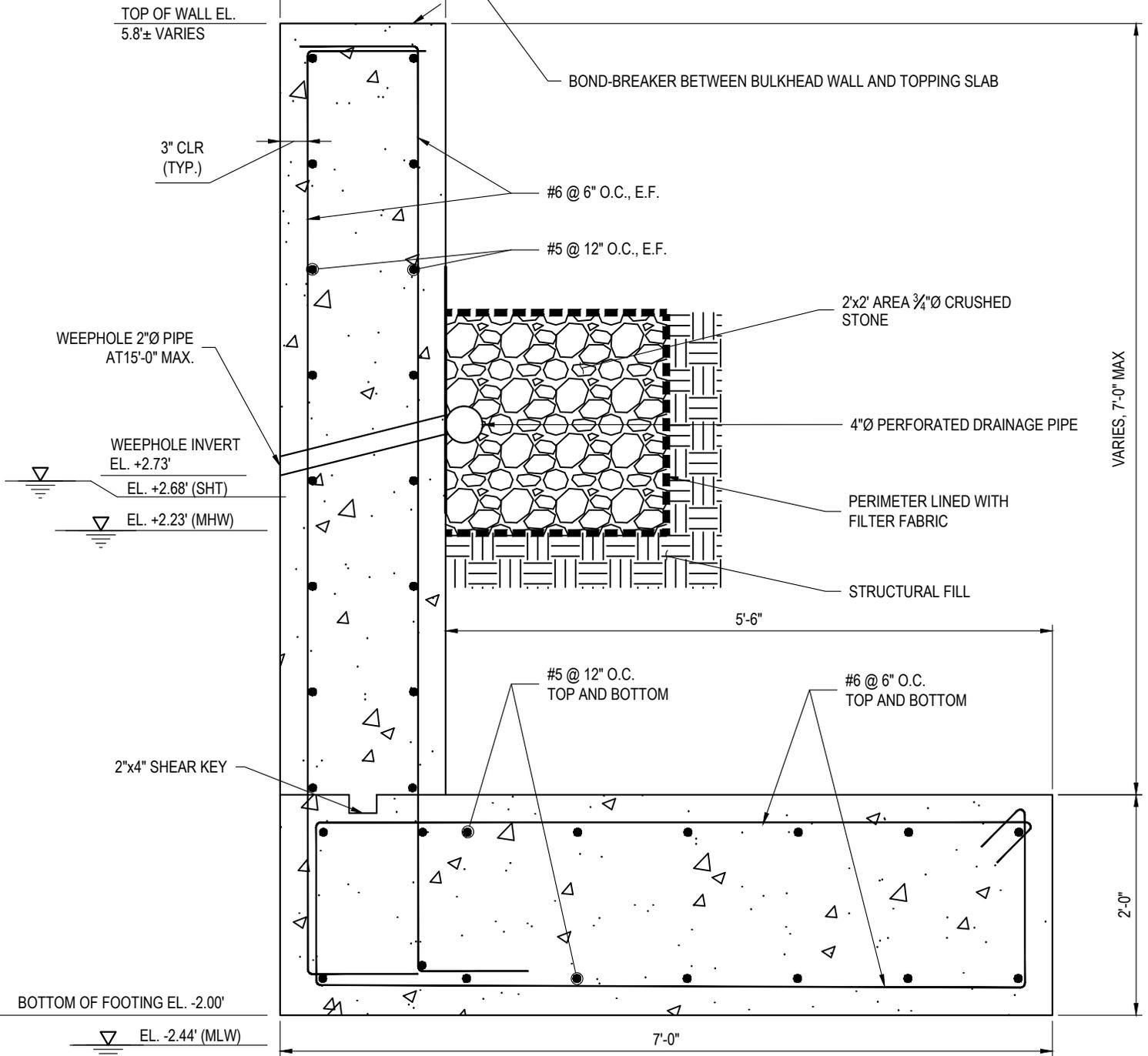
S202 PROPOSED SECTION

IN: MANHATTAN
 AT: EAST RIVER
 COUNTY OF: NY STATE: NY

0 4' 8' 12'

SHT 23 OF 53 11/09/2021

USACE FILE: NAN-2021-01292-EBR



24 BULKHEAD WALL DETAIL
SCALE: 3/4" = 1'-0"

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

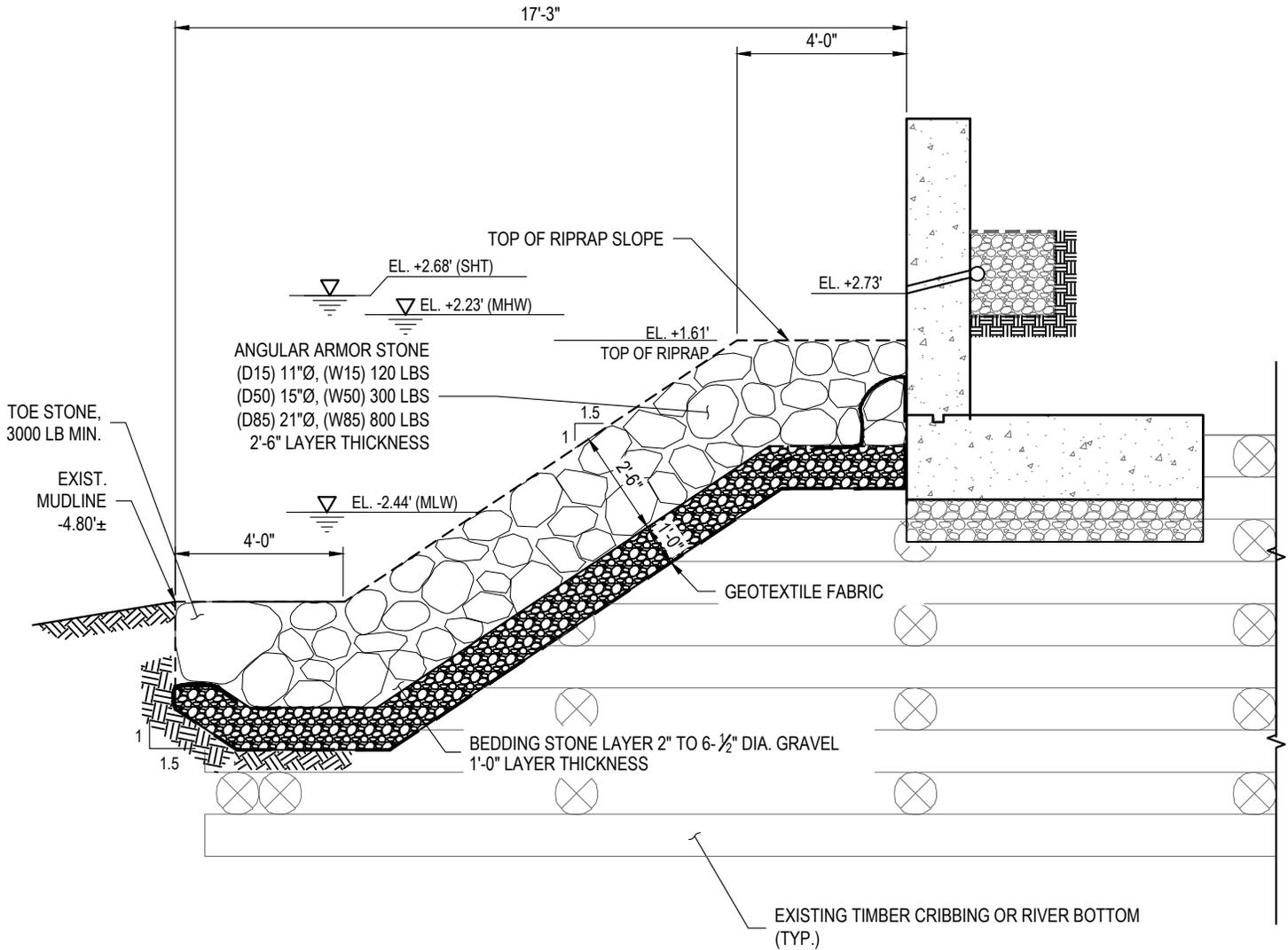
AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

S201 & S202 BULKHEAD WALL DETAIL

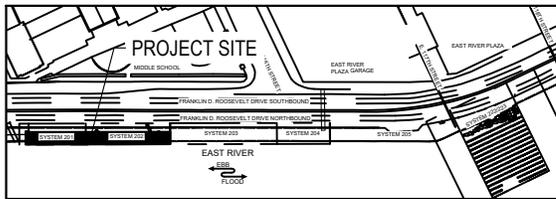
IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY STATE: NY

0 1' 2' 3'

SHT 24 OF 53 **11/09/2021**



25 **TYPICAL RIPRAP DETAIL**
SCALE: 1/4" = 1'-0"



KEY PLAN
1"=400'-0"

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

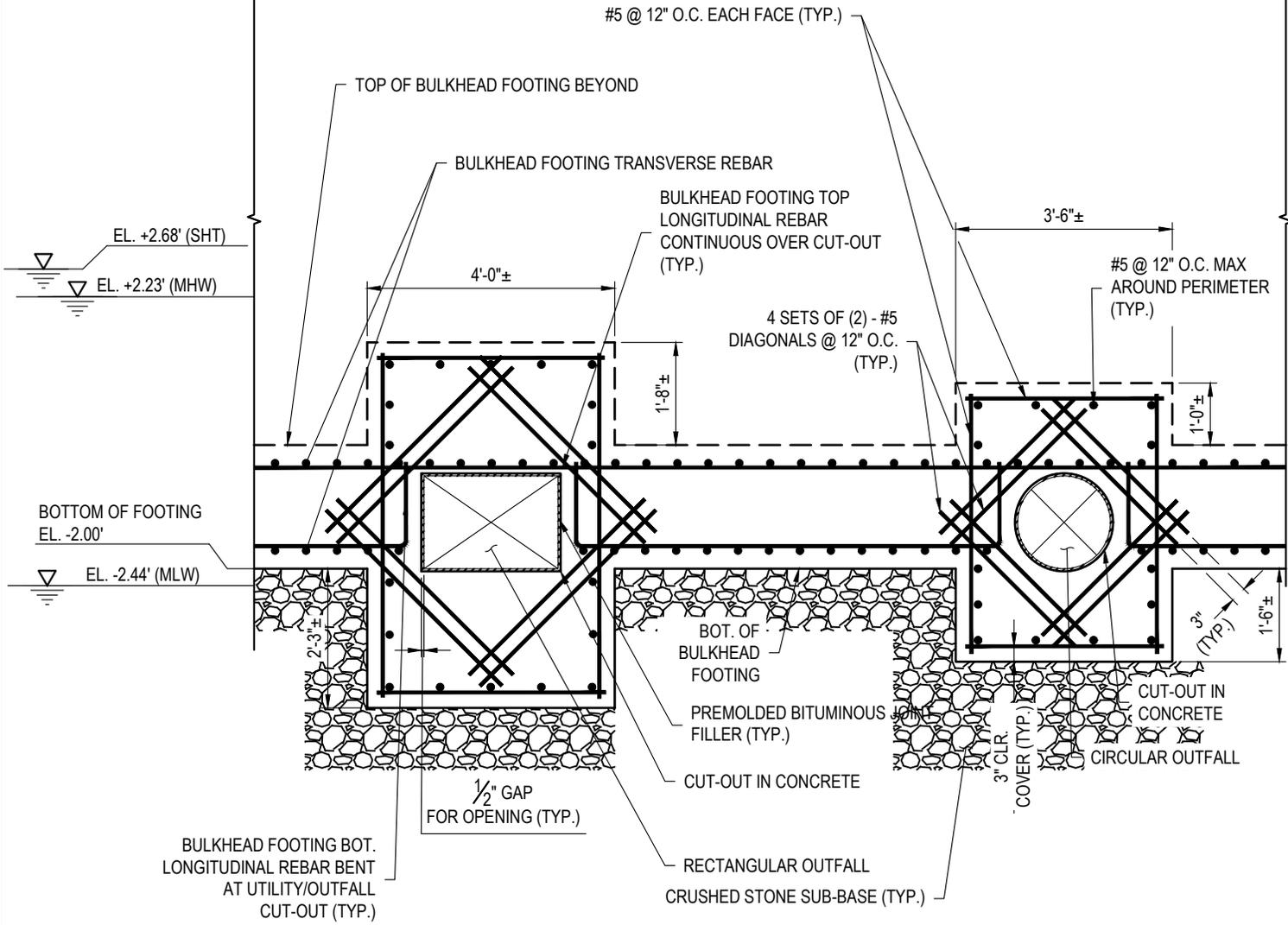
AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

S201 & S202 TYPICAL RIPRAP DETAIL

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY STATE: NY



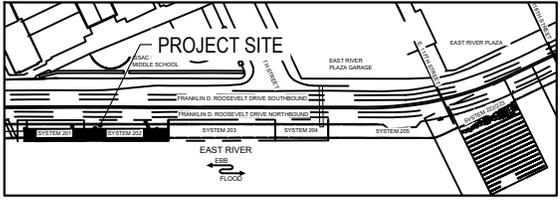
SHT 25 OF 53 11/09/2021



26 TYPICAL OUTFALL CUT-OUT AT BULKHEAD WALL

SCALE: 3/8" = 1'-0"

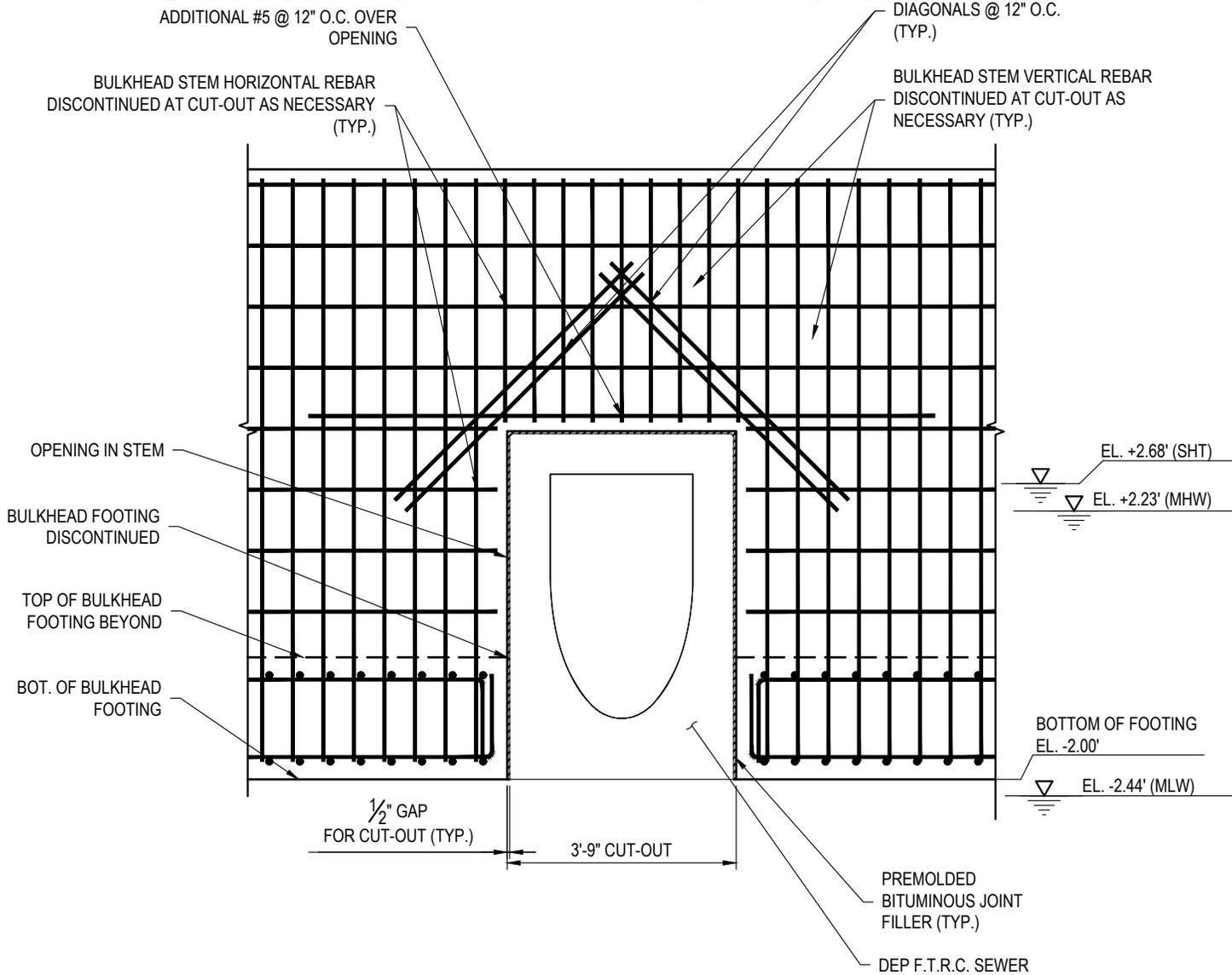
- NOTES:
1. BULKHEAD STEM REINFORCEMENT NOT SHOWN FOR CLARITY.
 2. SIZE AND INVERT OF OUTFALLS TO BE VERIFIED IN FIELD. SIMILARLY, ADDITIONAL BULKHEAD FOOTING SIZE AROUND CUT-OUT TO BE VERIFIED IN FIELD AND AT MINIMUM BE LARGE ENOUGH TO INCLUDE THE DIAGONAL BARS.



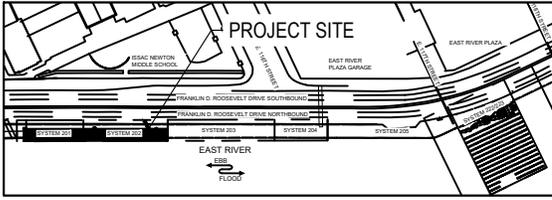
KEY PLAN
1"=400'-0"

<p>PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET</p> <p>DATUM: NAVD88</p> <p>ADJACENT OWNERS: 1. SEE APPENDIX A</p>	<p>EAST RIVER ESPLANADE</p> <p>APPLICANT: CITY OF NEW YORK PARKS & RECREATION OLMSTED CENTER-FLUSHING MEADOWS CORONA PARK FLUSHING, NEW YORK 11368</p> <p>AGENT: McLAREN ENGINEERING GROUP 530 CHESTNUT RIDGE ROAD WOODCLIFF LAKE, NJ 07677</p>	<p>S201 & S202 TYPICAL OUTFALL CUT-OUT AT BULKHEAD WALL</p> <p>IN: MANHATTAN AT: EAST RIVER COUNTY OF: NY STATE: NY</p> <p>0 2' 4' 6'</p> <p>SHT 26 OF 53 11/09/2021</p>
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USACE FILE: NAN-2021-01292-EBR



27 **DEP OUTFALL CUT-OUT AT BULKHEAD WALL**
 SCALE: 3/8" = 1'-0"



KEY PLAN
 1" = 400'-0"

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:
 1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
 PARKS & RECREATION
 OLMSTED CENTER-FLUSHING
 MEADOWS CORONA PARK
 FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

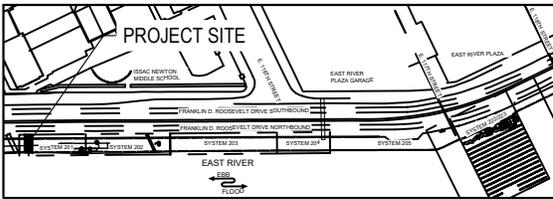
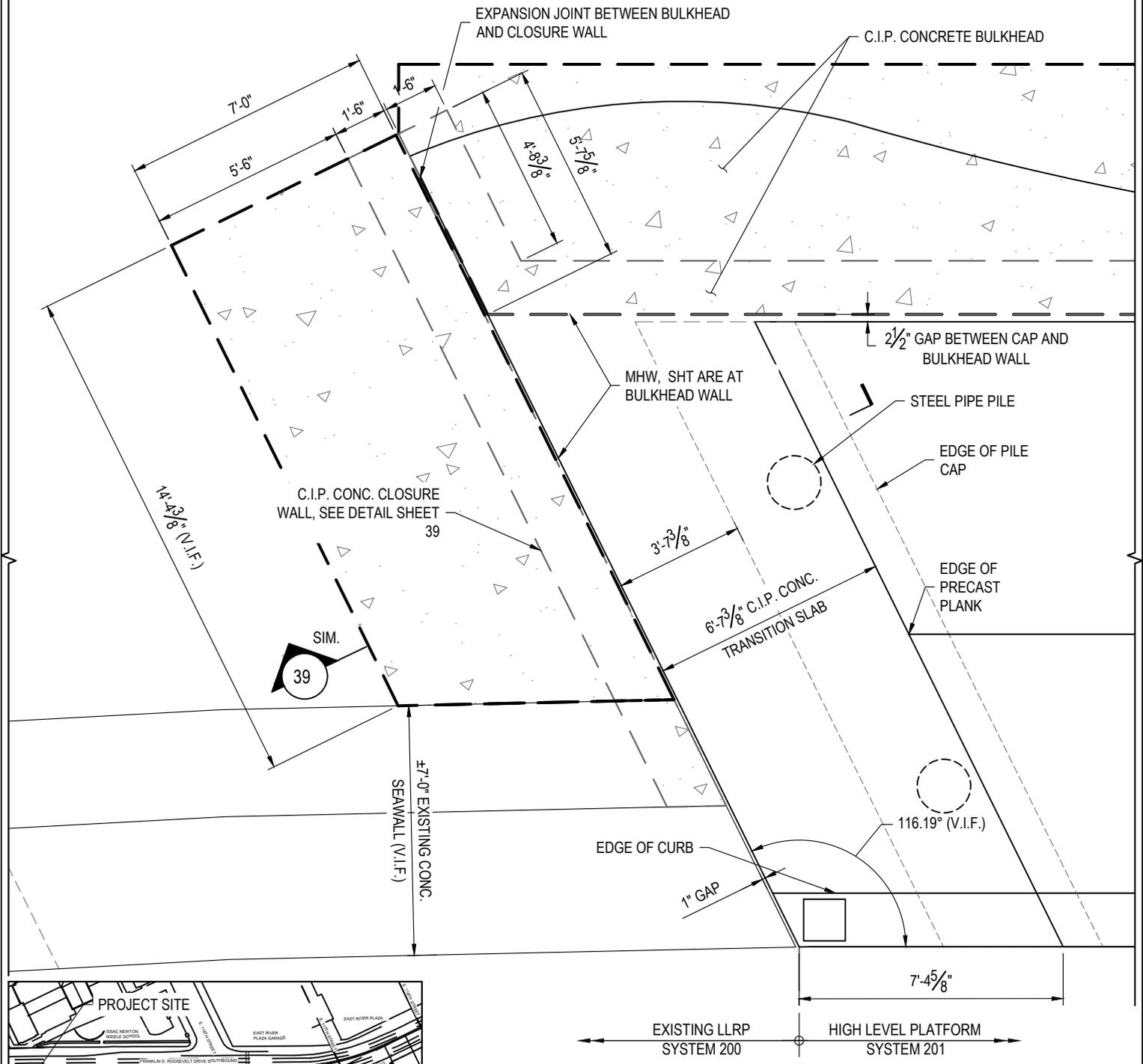
S202 DEP OUTFALL CUT-OUT AT BULKHEAD WALL

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY **STATE:** NY

0 2' 4' 6'

SHT 27 OF 53 11/09/2021

USACE FILE: NAN-2021-01292-EBR



28 S201 SOUTH TRANSITION PLAN
SCALE: 1/4" = 1'-0"

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:
1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

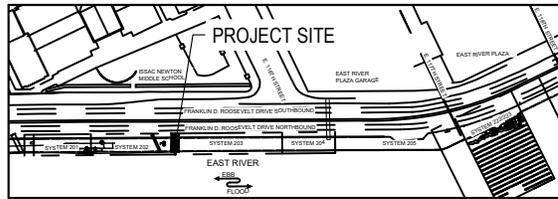
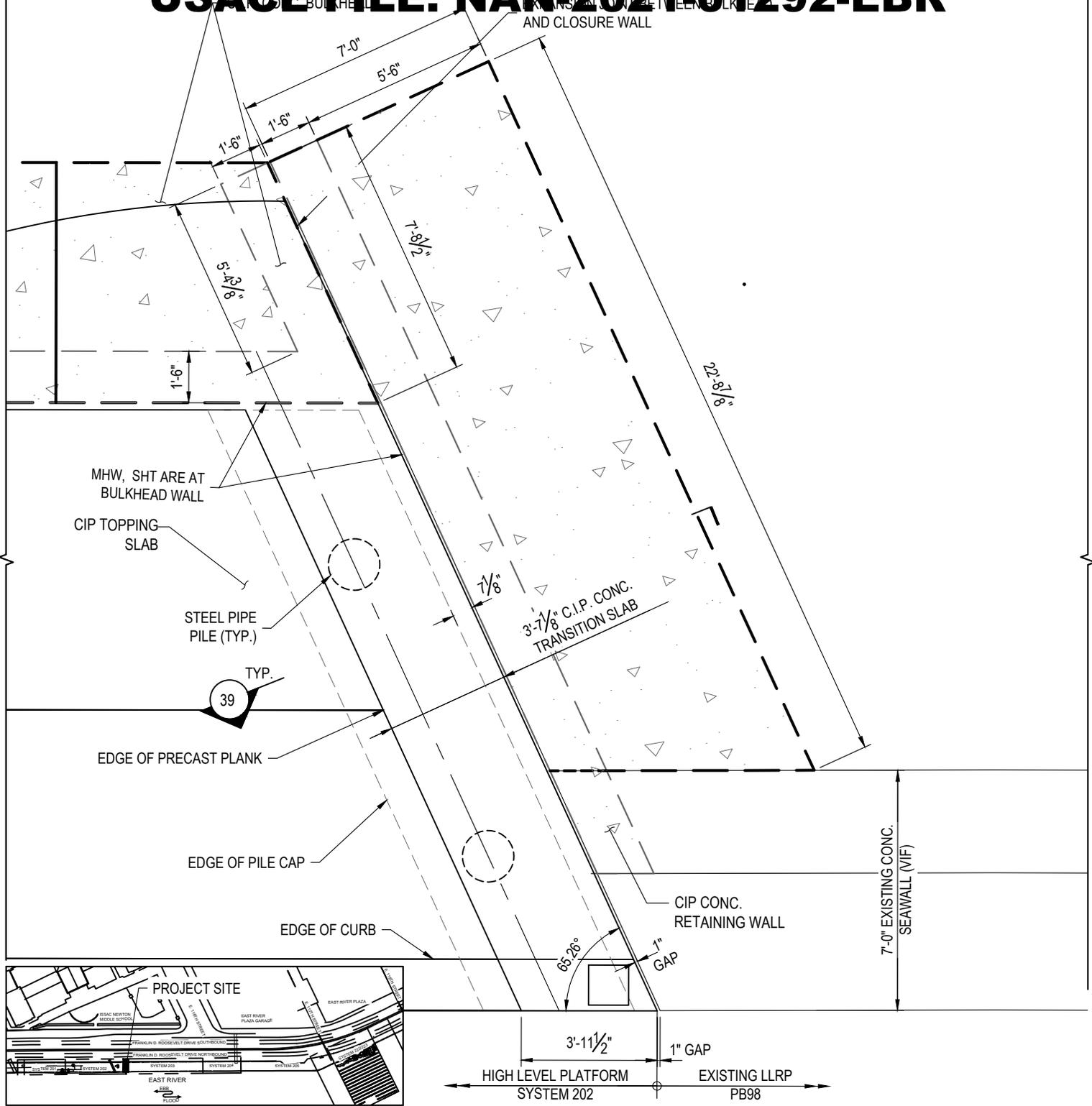
AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

S201 SOUTH TRANSITION PLAN

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY **STATE:** NY

0 2' 4' 8'

SHT 28 OF 53 11/09/2021



KEY PLAN
1"=400'-0"

29 S202 NORTH TRANSITION PLAN
SCALE: 1/4" = 1'-0"

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:
1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

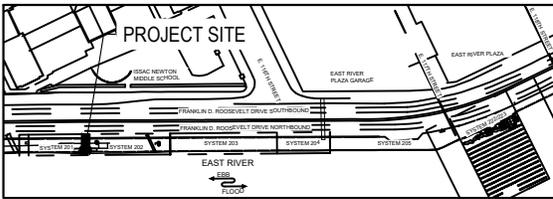
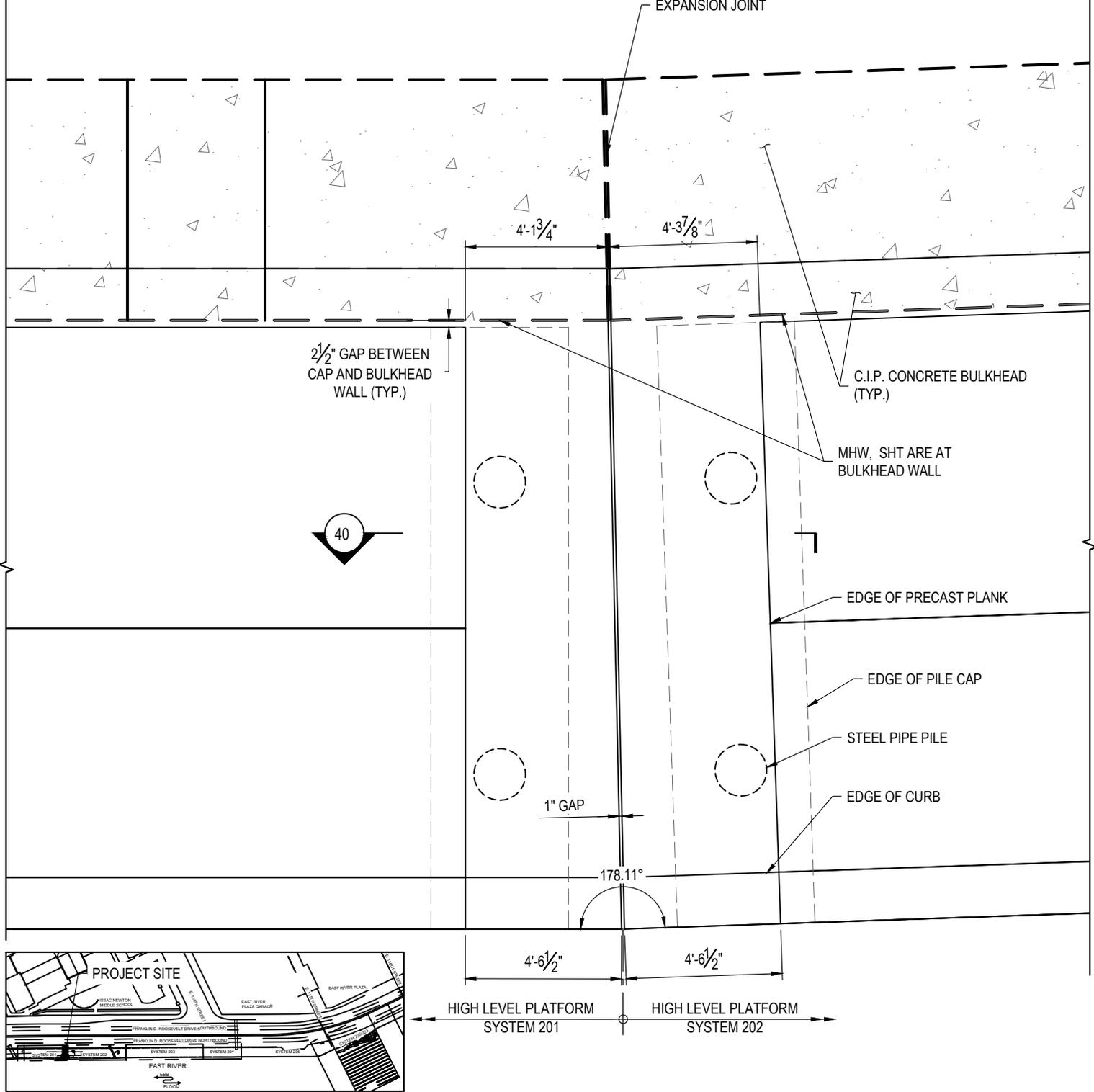
AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

S202 NORTH TRANSITION PLAN

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY STATE: NY

0 2' 4' 8'

SHT 29 OF 53 11/09/2021



30 **S201 & S202 CENTER TRANSITION PLAN**
 SCALE: 1/4" = 1'-0"

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:
 1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
 PARKS & RECREATION
 OLMSTED CENTER-FLUSHING
 MEADOWS CORONA PARK
 FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

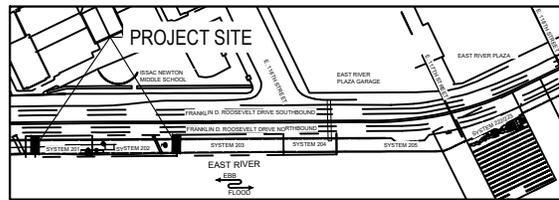
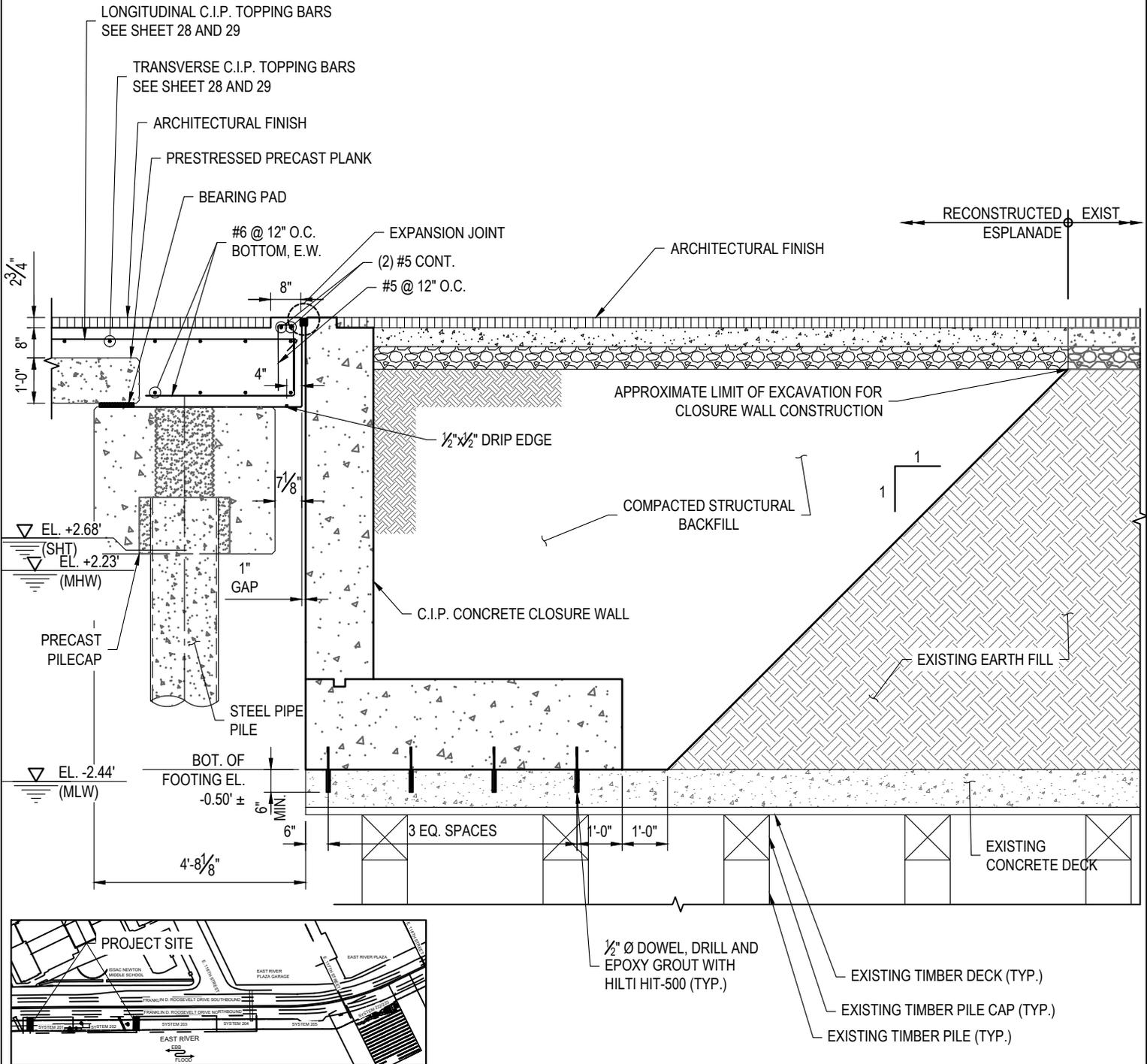
S201 & S202 CENTER TRANSITION PLAN

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY **STATE:** NY

0 2' 4' 8'

SHT 30 OF 53 11/09/2021

USACE FILE: NAN-2021-01292-EBR



KEY PLAN
1"=400'-0"

31

S201 & S202 TYPICAL TRANSITION SECTION

SCALE: 5/16" = 1'-0"

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

S201 & S202 TYPICAL NORTH AND SOUTH TRANSITION SECTION

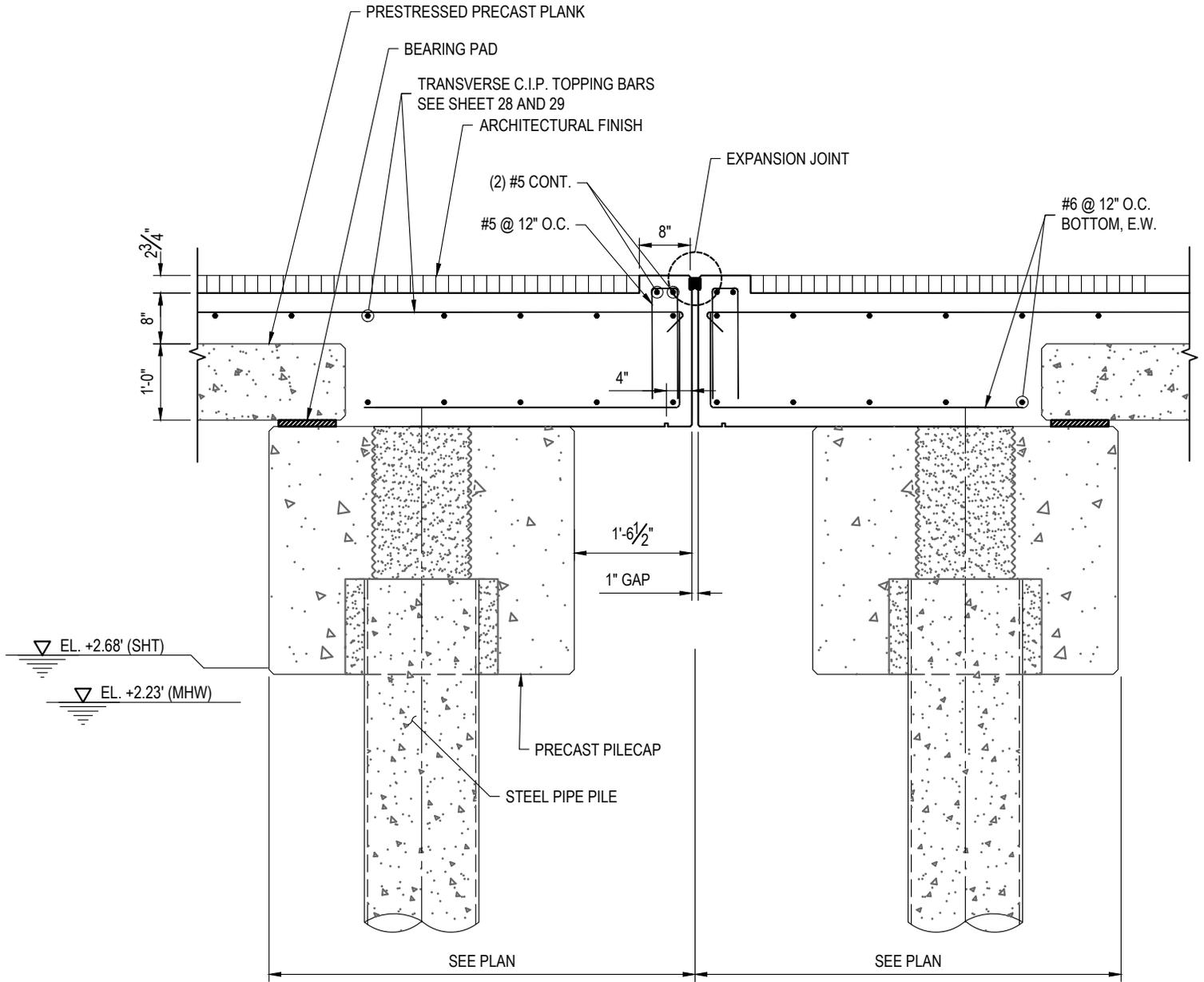
IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY STATE: NY



SHT 31 OF 53

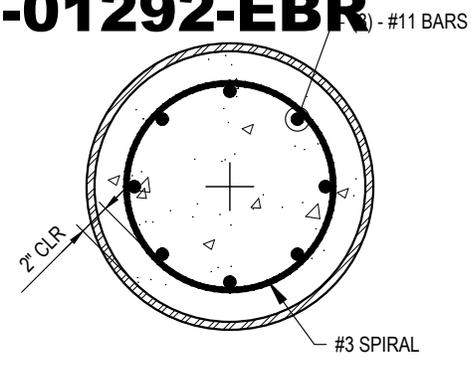
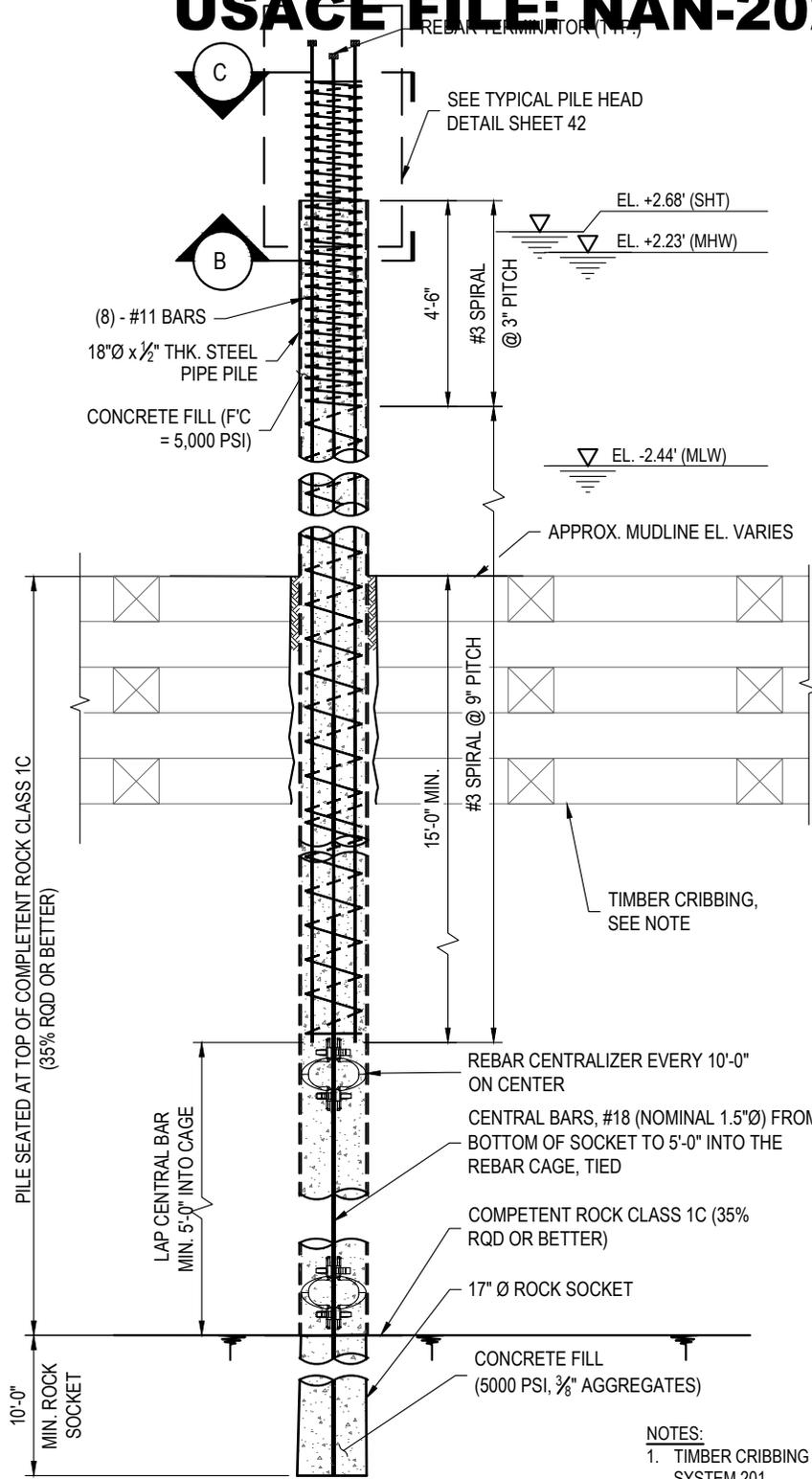
11/09/2021

USACE FILE: NAN-2021-01292-EBR

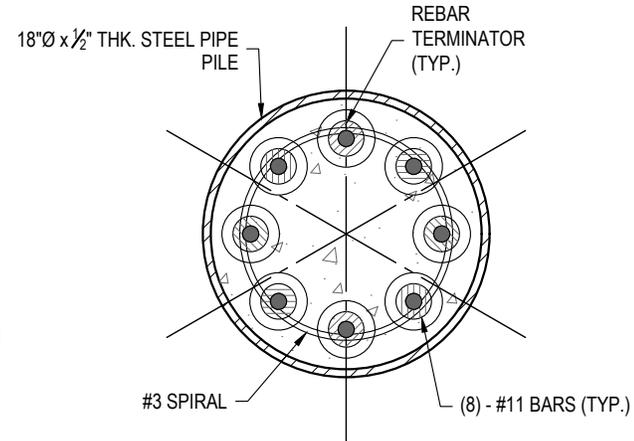


32 S201 & S202 CENTER TRANSITION SECTION
SCALE: 1/2" = 1'-0"

<p>PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET</p> <p>DATUM: NAVD88</p> <p>ADJACENT OWNERS: 1. SEE APPENDIX A</p>	<p>EAST RIVER ESPLANADE</p> <p>APPLICANT: CITY OF NEW YORK PARKS & RECREATION OLMSTED CENTER-FLUSHING MEADOWS CORONA PARK FLUSHING, NEW YORK 11368</p> <p>AGENT: McLAREN ENGINEERING GROUP 530 CHESTNUT RIDGE ROAD WOODCLIFF LAKE, NJ 07677</p>	<p>S201 & S202 TYPICAL CENTER TRANSITION SECTION</p> <p>IN: MANHATTAN AT: EAST RIVER COUNTY OF: NY STATE: NY</p> <p>0 1' 2' 4'</p> <p>SHT 32 OF 53 11/09/2021</p>
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B SECTION
SCALE: 1" = 1'-0"



C SECTION
SCALE: 1" = 1'-0"

33 TYPICAL PILE DETAIL
SCALE: 1/4" = 1'-0"

- NOTES:**
1. TIMBER CRIBBING ONLY LOCATED AT STRUCTURE SYSTEM 201.
 2. DEPTH OF TIMBER CRIBBING IS UNKNOWN AND MAY EXTEND TO TOP OF BEDROCK.

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:
1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

S201 & S202 TYPICAL PILE DETAILS

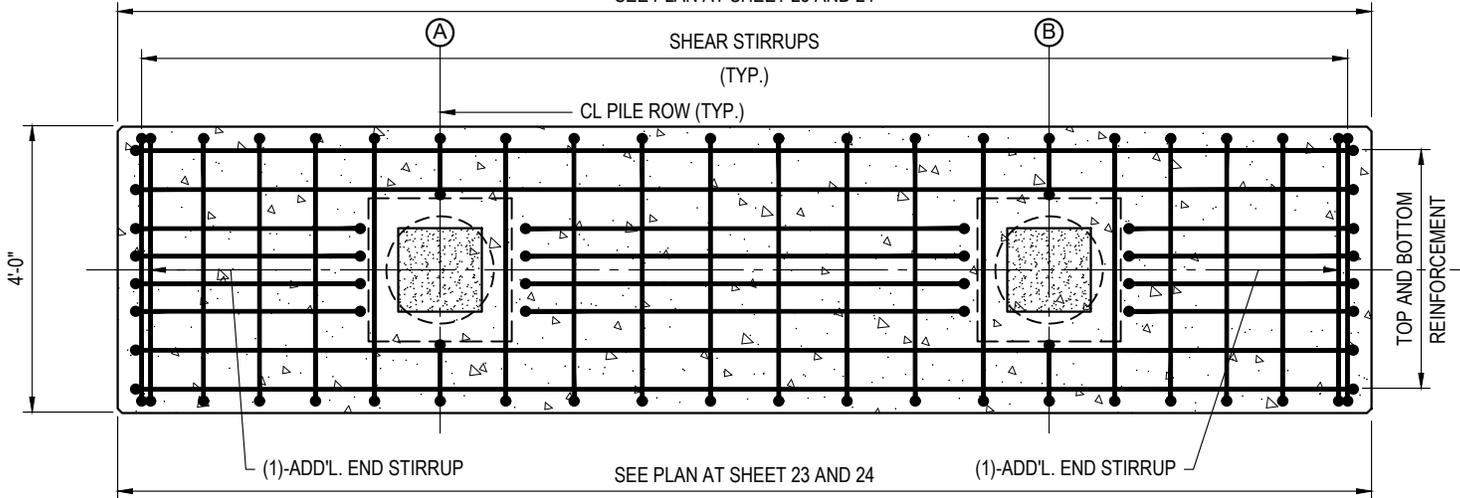
IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY **STATE:** NY

0 2' 4' 8'

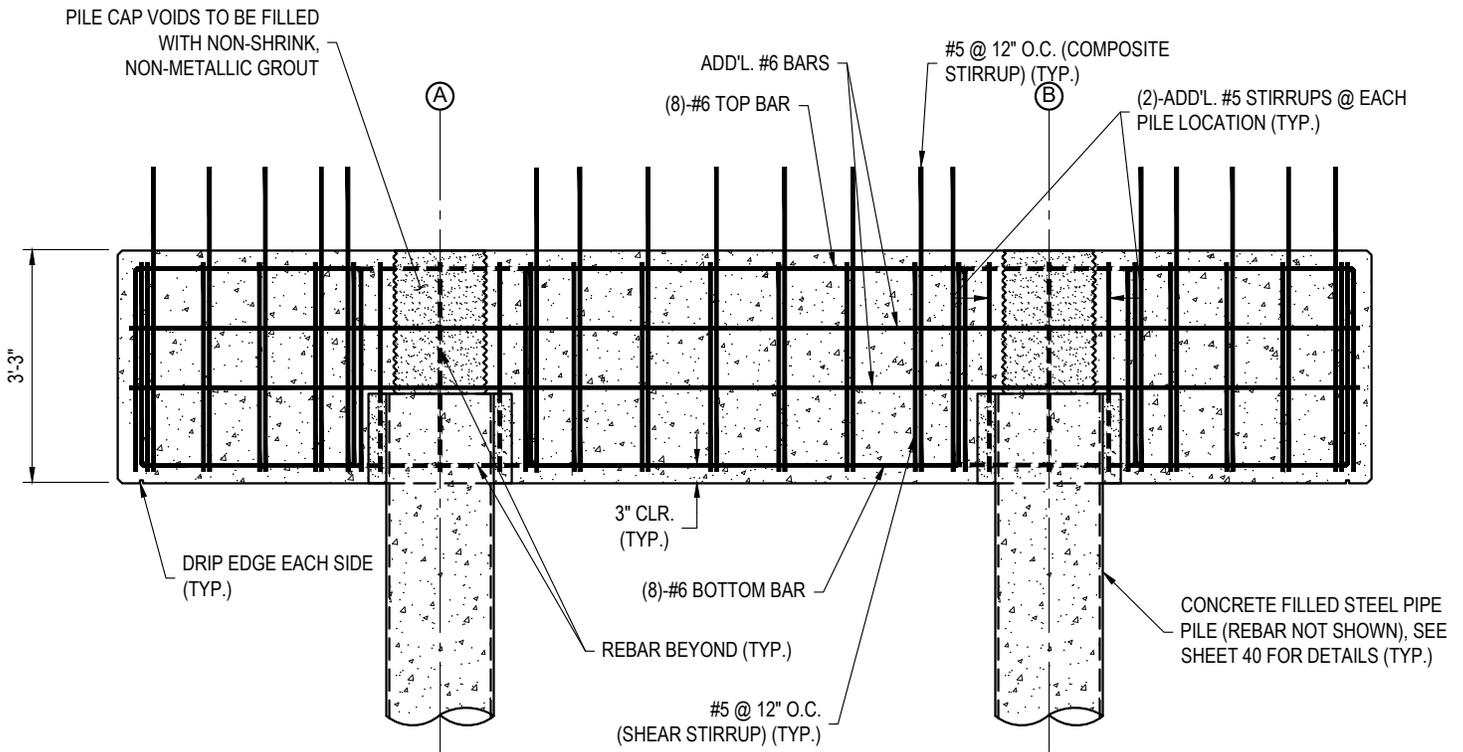
SHT 33 OF 53 11/09/2021

USACE FILE: NAN-2021-01292-EBR

SEE PLAN AT SHEET 23 AND 24



PLAN



SECTION

34 PILE CAP REINFORCEMENT DETAIL

SCALE: 3/8" = 1'-0"

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

S201&S202 PRECAST PILE CAP DETAILS

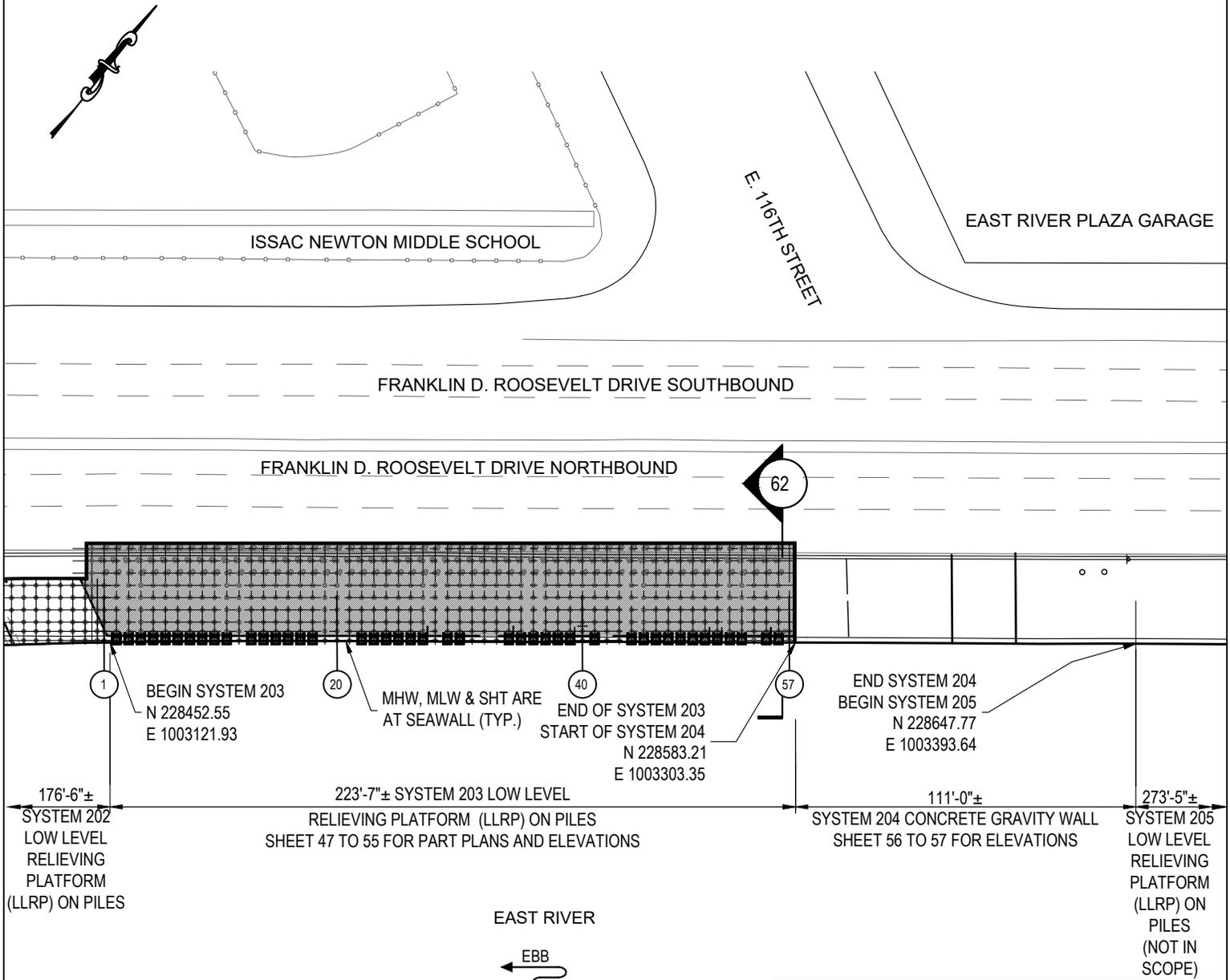
IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY STATE: NY

0 2' 4' 6'

SHT 34 OF 53

11/09/2021

USACE FILE: NAN-2021-01292-EBR

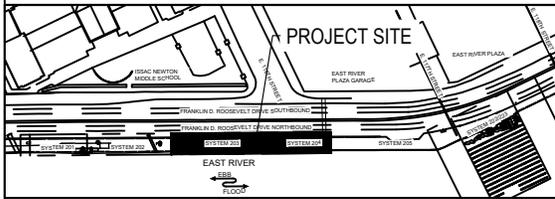


176'-6"± SYSTEM 202 LOW LEVEL RELIEVING PLATFORM (LLRP) ON PILES

223'-7"± SYSTEM 203 LOW LEVEL RELIEVING PLATFORM (LLRP) ON PILES SHEET 47 TO 55 FOR PART PLANS AND ELEVATIONS

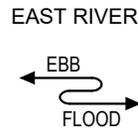
111'-0"± SYSTEM 204 CONCRETE GRAVITY WALL SHEET 56 TO 57 FOR ELEVATIONS

273'-5"± SYSTEM 205 LOW LEVEL RELIEVING PLATFORM (LLRP) ON PILES (NOT IN SCOPE)



KEY PLAN
1"=400'-0"

35 PROPOSED SITE PLAN
SCALE: 1" = 50'-0"



LEGEND	DESCRIPTION
○	TIMBER PLUMB PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA)
●	FULL LENGTH STRUCTURAL ENCASEMENT (SCE) OF TIMBER PLUMB PILE
⊠	EXCAVATION AND BACKFILL (SOFT MUDLINE)
⊠	EXCAVATION AND BACKFILL (HARD MUDLINE)
▨	MASS ENCASEMENT WITH CELLULAR CONCRETE FILL
⊞	TIMBER PILE CAP REPLACEMENT = 165 FL

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:
1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

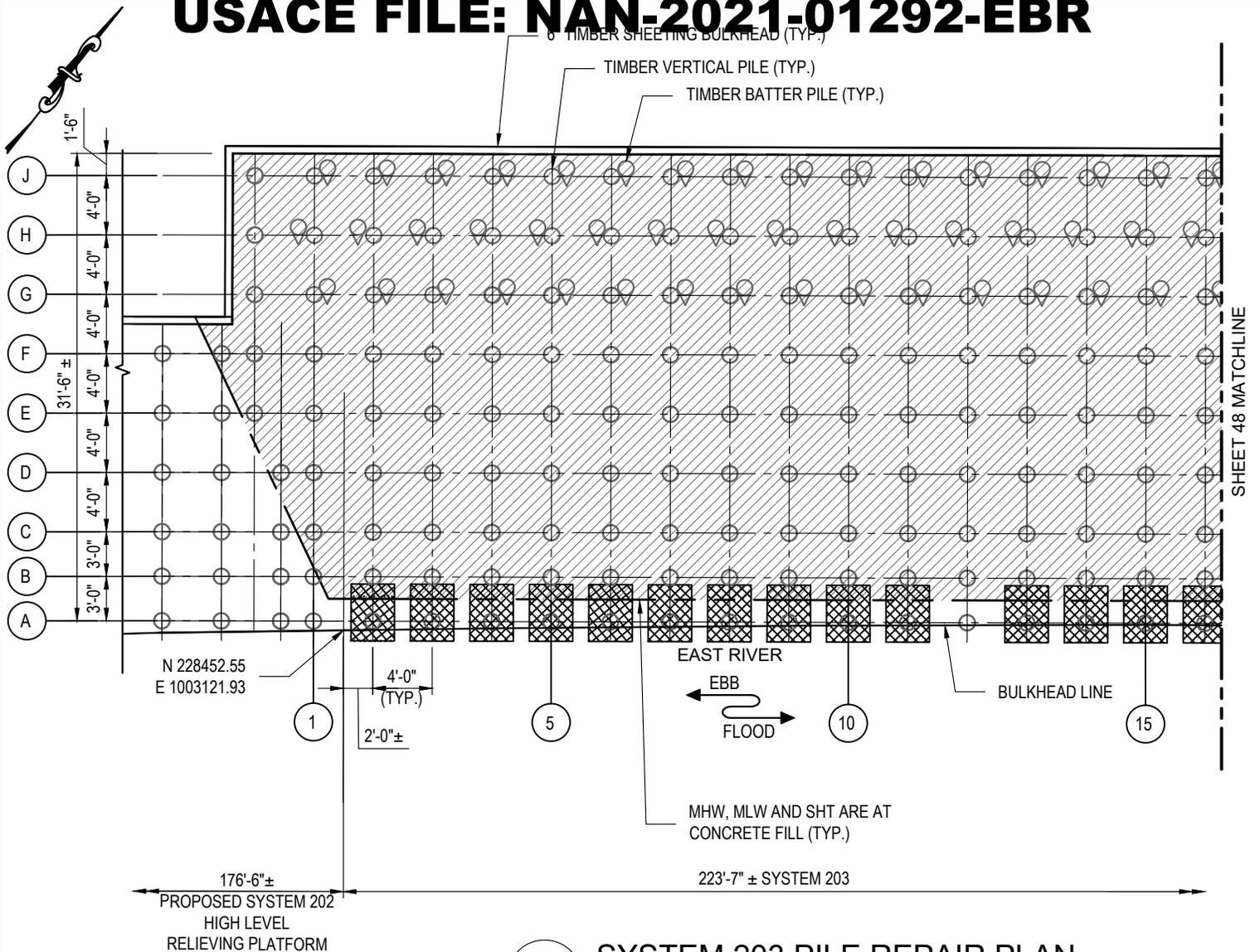
AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

PROPOSED S203 & S204 SITE PLAN

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY **STATE:** NY

0 50' 100'

SHT 35 OF 53 11/09/2021



36 SYSTEM 203 PILE REPAIR PLAN

SCALE: 3/32" = 1'-0"

NOTES:

- BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATERWAY INCLUDES, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, POURING IN LIFTS, SEDIMENT BOOMS, FORM WORK EMBEDDED INTO MUDLINE.
- EXISTING OUTFALLS ARE TO REMAIN AS IS, NEW OUTFALLS ARE NOT PROPOSED.

LEGEND	DESCRIPTION
○	TIMBER PLUMB PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA) = 48 TOTAL
●	FULL LENGTH STRUCTURAL ENCASEMENT (SCE) OF TIMBER PLUMB PILE = 7 TOTAL
▨	EXCAVATION AND BACKFILL (SOFT MUDLINE)
▩	EXCAVATION AND BACKFILL (HARD MUDLINE)
▧	MASS ENCASEMENT WITH CELLULAR CONCRETE FILL
▣	TIMBER PILE CAP REPLACEMENT = 165 LF

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

- SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

S203 RELIEVING PLATFORM REPAIR PLAN -1

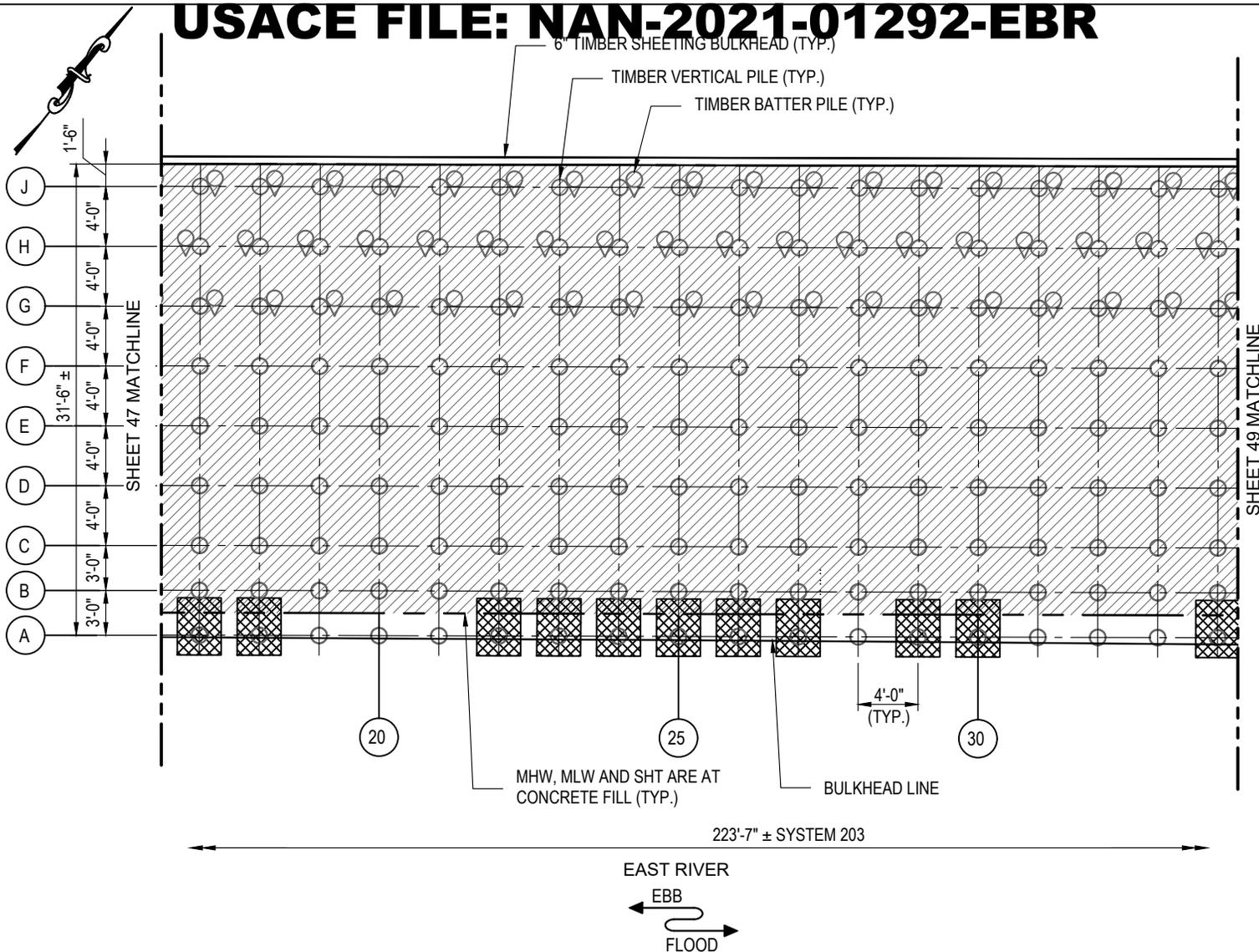
IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY STATE: NY

0 8' 16' 24'



SHT 36 OF 53

11/09/2021



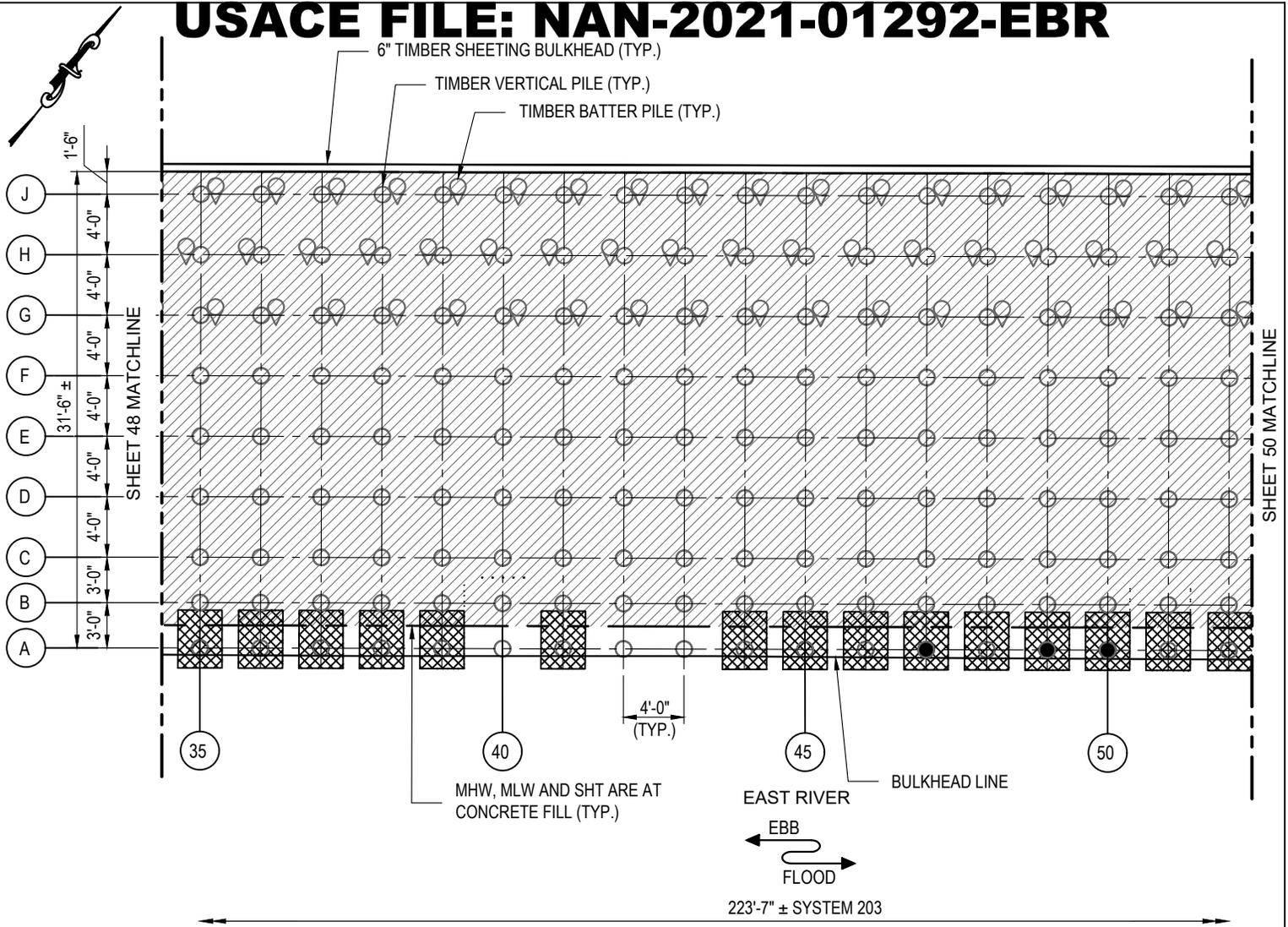
37 SYSTEM 203 PILE REPAIR PLAN
 SCALE: 3/32" = 1'-0"

- NOTES:
- BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATERWAY INCLUDES, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, POURING IN LIFTS, SEDIMENT BOOMS, FORM WORK EMBEDDED INTO MUDLINE.
 - EXISTING OUTFALLS ARE TO REMAIN AS IS, NEW OUTFALLS ARE NOT PROPOSED.

LEGEND	DESCRIPTION
○	TIMBER PLUMB PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA) = 48 TOTAL
●	FULL LENGTH STRUCTURAL ENCASEMENT (SCE) OF TIMBER PLUMB PILE = 7 TOTAL
⊗	EXCAVATION AND BACKFILL (SOFT MUDLINE)
⊗	EXCAVATION AND BACKFILL (HARD MUDLINE)
▨	MASS ENCASEMENT WITH CELLULAR CONCRETE FILL
▩	TIMBER PILE CAP REPLACEMENT = 165 LF

<p>PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET</p> <p>DATUM: NAVD88</p> <p>ADJACENT OWNERS: 1. SEE APPENDIX A</p>	<p>EAST RIVER ESPLANADE</p> <p>APPLICANT: CITY OF NEW YORK PARKS & RECREATION OLMSTED CENTER-FLUSHING MEADOWS CORONA PARK FLUSHING, NEW YORK 11368</p> <p>AGENT: McLAREN ENGINEERING GROUP 530 CHESTNUT RIDGE ROAD WOODCLIFF LAKE, NJ 07677</p>	<p>S203 RELIEVING PLATFORM REPAIR PLAN -2</p> <p>IN: MANHATTAN AT: EAST RIVER COUNTY OF: NY STATE: NY</p> <p>0 8' 16' 24'</p> <p>SHT 37 OF 53 11/09/2021</p>
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USACE FILE: NAN-2021-01292-EBR



38 SYSTEM 203 PILE REPAIR PLAN

SCALE: 3/32" = 1'-0"

LEGEND	DESCRIPTION
○	TIMBER PLUMB PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASEMENT AREA) = 48 TOTAL
●	FULL LENGTH STRUCTURAL ENCASEMENT (SCE) OF TIMBER PLUMB PILE = 7 TOTAL
⊗	EXCAVATION AND BACKFILL (SOFT MUDLINE)
⊗	EXCAVATION AND BACKFILL (HARD MUDLINE)
▨	MASS ENCASEMENT WITH CELLULAR CONCRETE FILL
⊗	TIMBER PILE CAP REPLACEMENT = 165 LF

NOTES:

- BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATERWAY INCLUDES, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, POURING IN LIFTS, SEDIMENT BOOMS, FORM WORK EMBEDDED INTO MUDLINE.
- EXISTING OUTFALLS ARE TO REMAIN AS IS, NEW OUTFALLS ARE NOT PROPOSED.

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

- SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

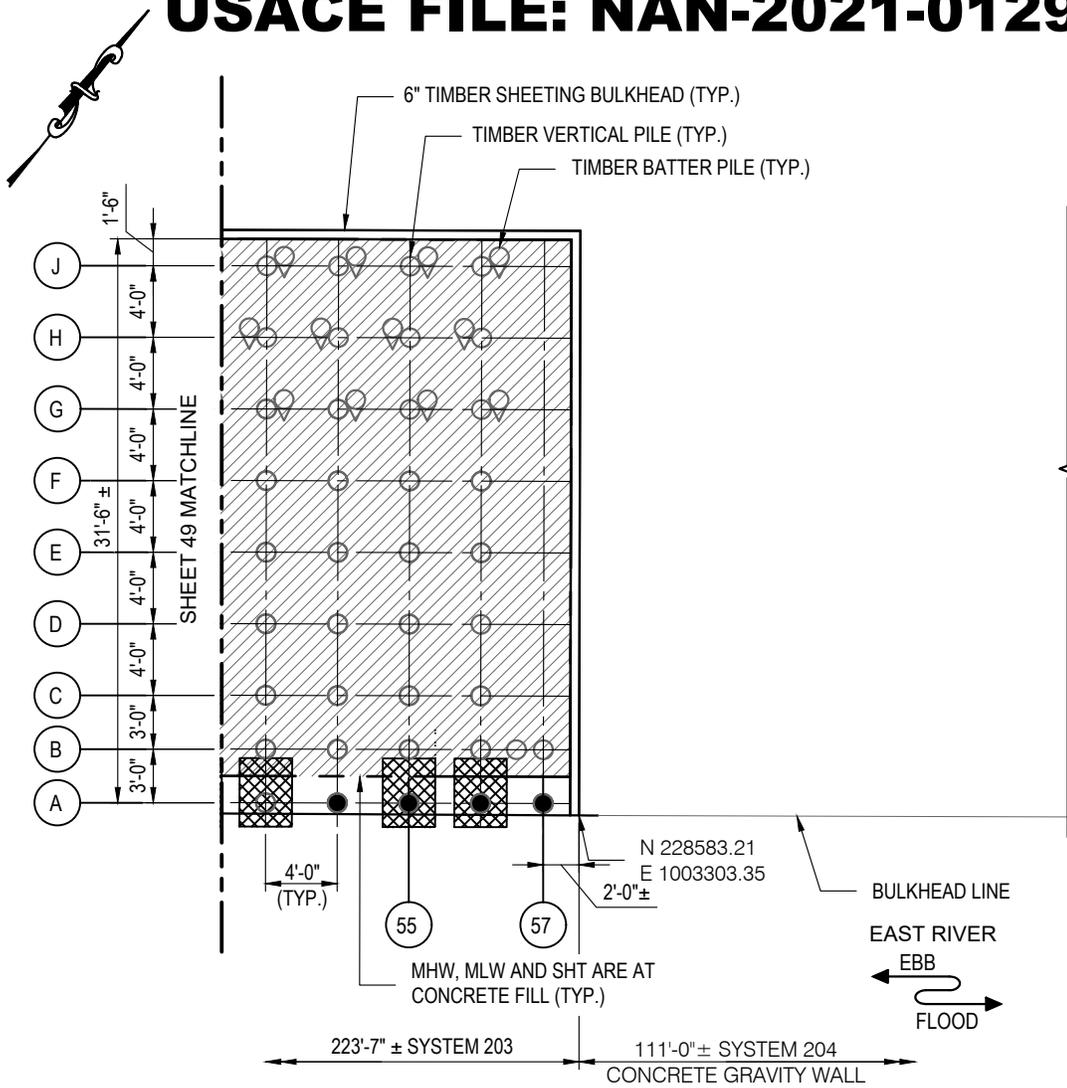
AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

S203 RELIEVING PLATFORM REPAIR PLAN -3

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY STATE: NY



SHT 38 OF 53 11/09/2021



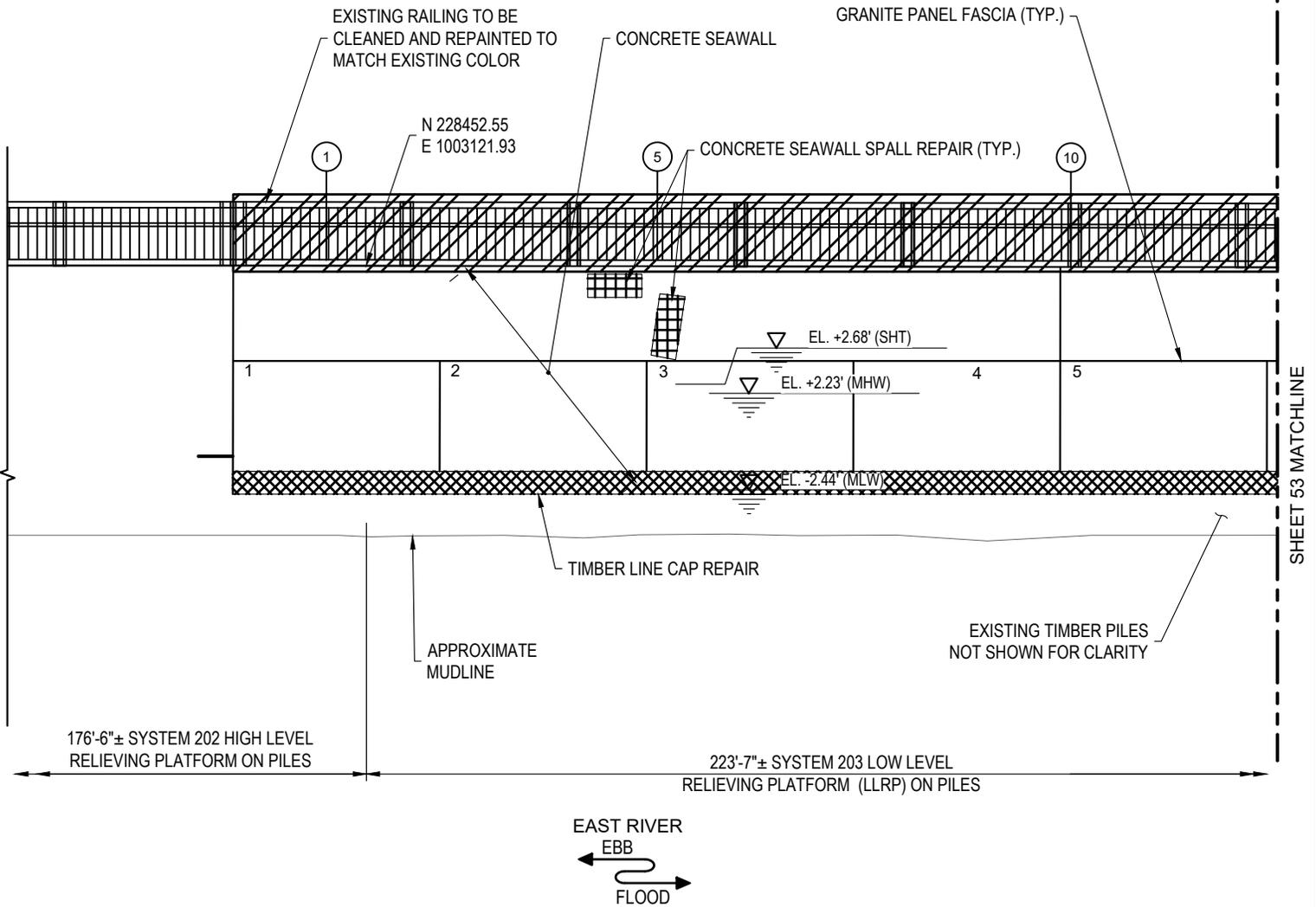
39 **SYSTEM 203 PILE REPAIR PLAN**
 SCALE: 3/32" = 1'-0"

LEGEND	DESCRIPTION
○	TIMBER PLUMB PILE EPOXY JACKET REPAIR (OUTSIDE MASS ENCASUREMENT AREA) = 48 TOTAL
●	FULL LENGTH STRUCTURAL ENCASUREMENT (SCE) OF TIMBER PLUMB PILE = 7 TOTAL
▤	EXCAVATION AND BACKFILL (SOFT MUDLINE)
▥	EXCAVATION AND BACKFILL (HARD MUDLINE)
▨	MASS ENCASUREMENT WITH CELLULAR CONCRETE FILL
▩	TIMBER PILE CAP REPLACEMENT = 165 LF

- NOTES:**
- BEST MANAGEMENT PRACTICES TO PREVENT DEBRIS AND SEDIMENT ASSOCIATED WITH THE CONSTRUCTION FROM ENTERING THE WATERWAY INCLUDES, BUT ARE NOT LIMITED TO, USAGE OF PUMP PORTS, POURING IN LIFTS, SEDIMENT BOOMS, FORM WORK EMBEDDED INTO MUDLINE.
 - EXISTING OUTFALLS ARE TO REMAIN AS IS, NEW OUTFALLS ARE NOT PROPOSED.

<p>PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET</p> <p>DATUM: NAVD88</p> <p>ADJACENT OWNERS: 1. SEE APPENDIX A</p>	<p>EAST RIVER ESPLANADE</p> <p>APPLICANT: CITY OF NEW YORK PARKS & RECREATION OLMSTED CENTER-FLUSHING MEADOWS CORONA PARK FLUSHING, NEW YORK 11368</p> <p>AGENT: McLAREN ENGINEERING GROUP 530 CHESTNUT RIDGE ROAD WOODCLIFF LAKE, NJ 07677</p>	<p>S203 RELIEVING PLATFORM REPAIR PLAN -4</p> <p>IN: MANHATTAN AT: EAST RIVER COUNTY OF: NY STATE: NY</p> <p>0 8' 16' 24'</p> <p>SHR 39 OF 53 11/09/2021</p>
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USACE FILE: NAN-2021-01292-EBR



40 **SYSTEM 203 CONCRETE SEAWALL REPAIR ELEVATION - 1**
 SCALE: 1/8" = 1'-0"

SEAWALL REPAIR LEGEND

-  REHABILITATE EXISTING SEARAIL
-  CONCRETE SEAWALL SPALL REPAIR
-  TIMBER LINE CAP REPLACEMENT

NOTES:

1. CONTRACTOR TO FIELD VERIFY AND CONFIRM WITH ENGINEER ALL REPAIR QUANTITIES AND LOCATIONS BEFORE COMMENCING WORK.
2. IF NEEDED, RAILING AND RAILING ANCHORAGE MAY BE REMOVED IN ORDER TO COMPLETE SPALL REPAIRS. RAILING AND RAILING ANCHORAGE MUST BE RESET IN ORIGINAL LOCATION.
3. EXISTING OUTFALLS ARE TO REMAIN AS IS, NEW OUTFALLS ARE NOT PROPOSED.
4. WORK LIMITED TO REPAIRS OF CONCRETE SEAWALL. NO IN-WATER FILL CREATED.

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
 PARKS & RECREATION
 OLMSTED CENTER-FLUSHING
 MEADOWS CORONA PARK
 FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

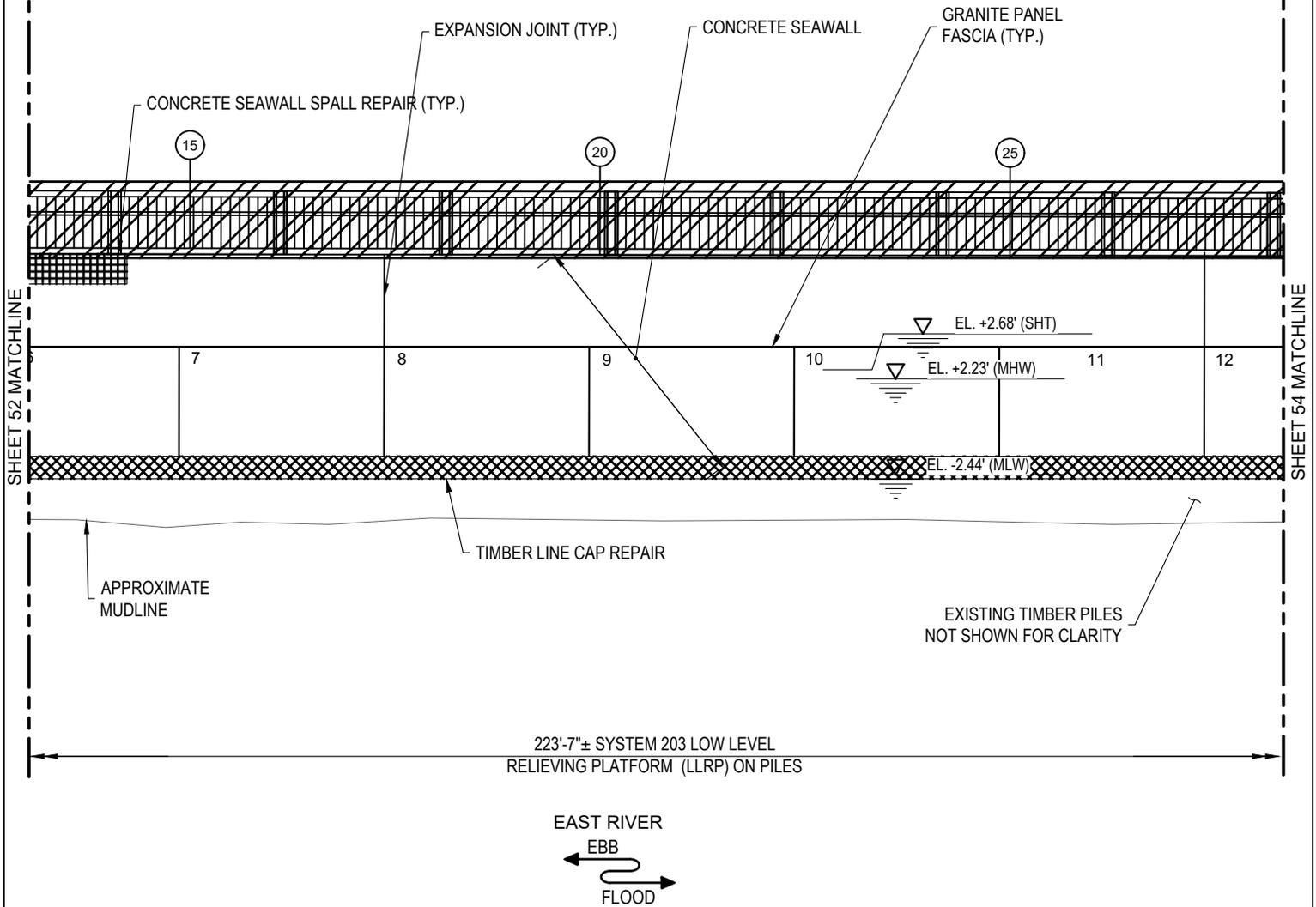
S203 CONCRETE SEAWALL REPAIR ELEVATIONS-1

IN: MANHATTAN
 AT: EAST RIVER
 COUNTY OF: NY STATE: NY



SHT 40 OF 53 11/09/2021

USACE FILE: NAN-2021-01292-EBR



41 SYSTEM 203 CONCRETE SEAWALL REPAIR ELEVATION - 2
 SCALE: 1/8" = 1'-0"

SEAWALL REPAIR LEGEND

-  REHABILITATE EXISTING SEARAIL
-  CONCRETE SEAWALL SPALL REPAIR
-  TIMBER LINE CAP REPLACEMENT

NOTES:

1. CONTRACTOR TO FIELD VERIFY AND CONFIRM WITH ENGINEER ALL REPAIR QUANTITIES AND LOCATIONS BEFORE COMMENCING WORK.
2. IF NEEDED, RAILING AND RAILING ANCHORAGE MAY BE REMOVED IN ORDER TO COMPLETE SPALL REPAIRS. RAILING AND RAILING ANCHORAGE MUST BE RESET IN ORIGINAL LOCATION.
3. EXISTING OUTFALLS ARE TO REMAIN AS IS, NEW OUTFALLS ARE NOT PROPOSED.
4. WORK LIMITED TO REPAIRS OF CONCRETE SEAWALL. NO IN-WATER FILL CREATED.

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
 PARKS & RECREATION
 OLMSTED CENTER-FLUSHING
 MEADOWS CORONA PARK
 FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

S203 CONCRETE SEAWALL REPAIR ELEVATIONS-2

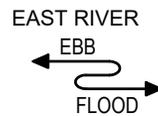
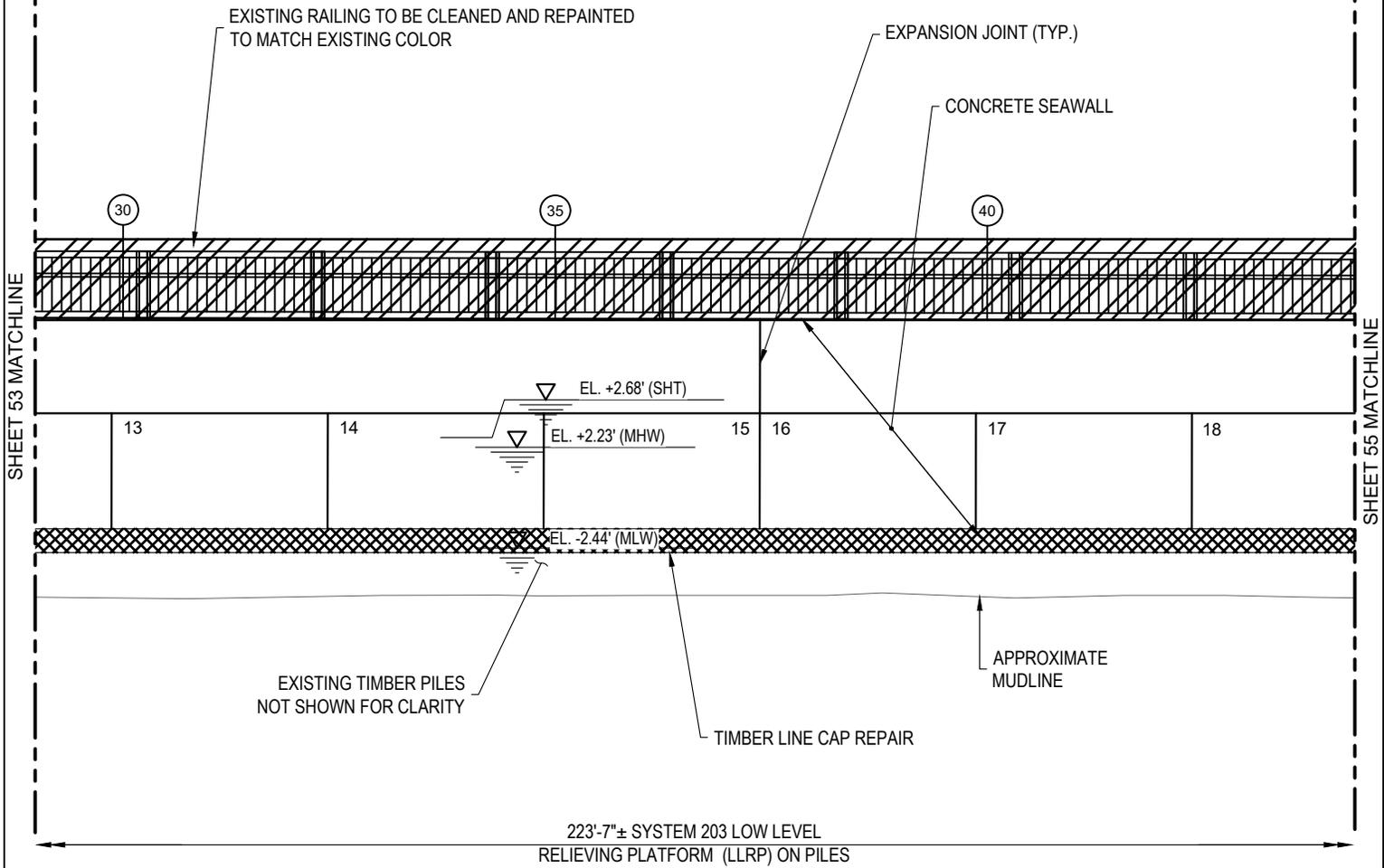
IN: MANHATTAN
 AT: EAST RIVER
 COUNTY OF: NY STATE: NY



SHT 41 OF 53

11/09/2021

USACE FILE: NAN-2021-01292-EBR



42 **SYSTEM 203 CONCRETE SEAWALL REPAIR ELEVATION - 3**
 SCALE: 1/8" = 1'-0"

SEAWALL REPAIR LEGEND

-  REHABILITATE EXISTING SEARAIL
-  CONCRETE SEAWALL SPALL REPAIR
-  TIMBER LINE CAP REPLACEMENT

NOTES:

1. CONTRACTOR TO FIELD VERIFY AND CONFIRM WITH ENGINEER ALL REPAIR QUANTITIES AND LOCATIONS BEFORE COMMENCING WORK.
2. IF NEEDED, RAILING AND RAILING ANCHORAGE MAY BE REMOVED IN ORDER TO COMPLETE SPALL REPAIRS. RAILING AND RAILING ANCHORAGE MUST BE RESET IN ORIGINAL LOCATION.
3. EXISTING OUTFALLS ARE TO REMAIN AS IS, NEW OUTFALLS ARE NOT PROPOSED.
4. WORK LIMITED TO REPAIRS OF CONCRETE SEAWALL. NO IN-WATER FILL CREATED.

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE APPENDIX A

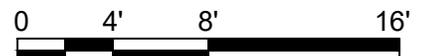
EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
 PARKS & RECREATION
 OLMSTED CENTER-FLUSHING
 MEADOWS CORONA PARK
 FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
 530 CHESTNUT RIDGE ROAD
 WOODCLIFF LAKE, NJ 07677

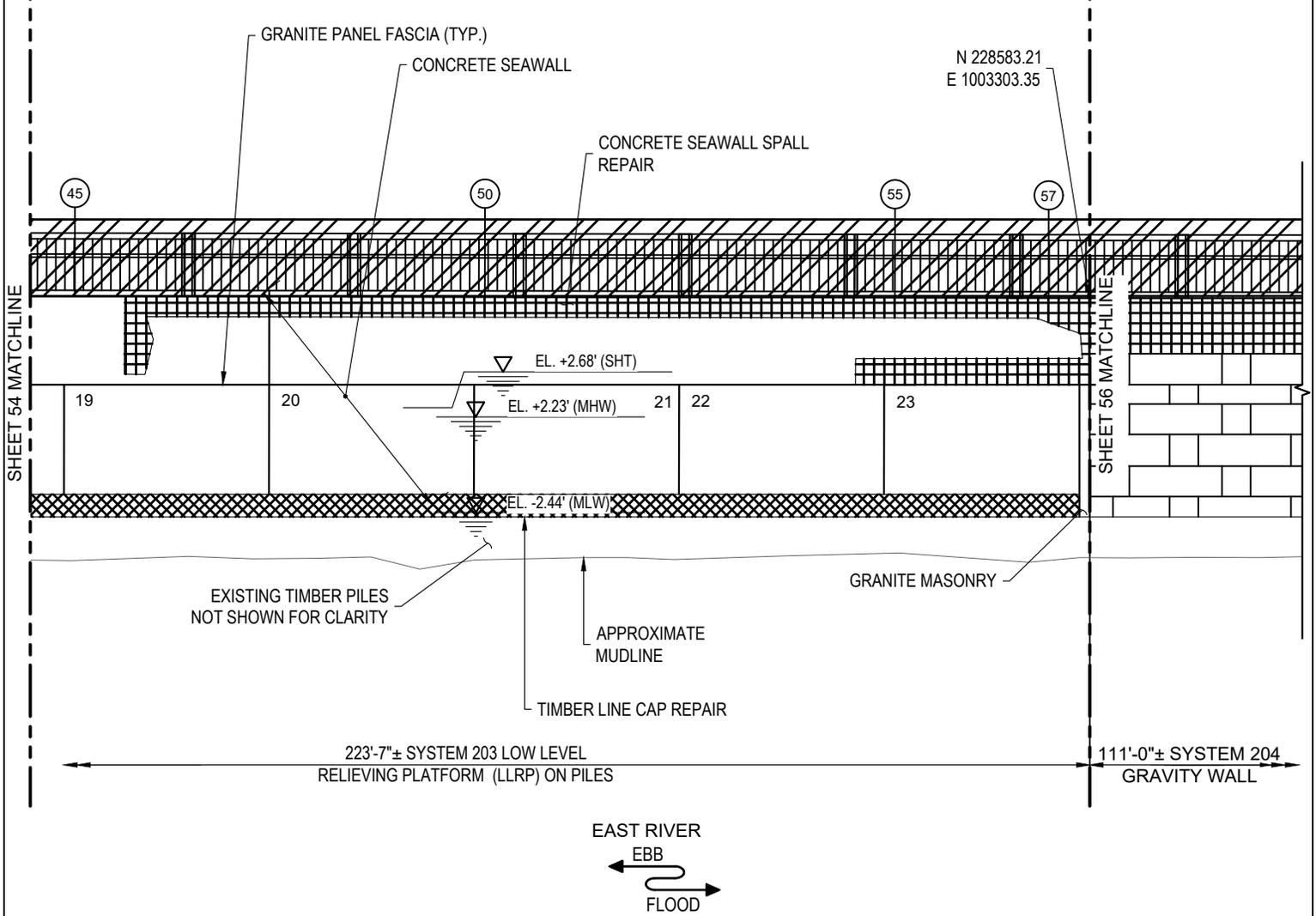
S203 CONCRETE SEAWALL REPAIR ELEVATIONS-3

IN: MANHATTAN
 AT: EAST RIVER
 COUNTY OF: NY STATE: NY



SHT 42 OF 53 11/09/2021

USACE FILE: NAN-2021-01292-EBR



43 SYSTEM 203 CONCRETE SEAWALL REPAIR ELEVATION - 4
SCALE: 1/8" = 1'-0"

SEAWALL REPAIR LEGEND

-  REHABILITATE EXISTING SEARAIL
-  CONCRETE SEAWALL SPALL REPAIR
-  TIMBER LINE CAP REPLACEMENT

NOTES:

1. CONTRACTOR TO FIELD VERIFY AND CONFIRM WITH ENGINEER ALL REPAIR QUANTITIES AND LOCATIONS BEFORE COMMENCING WORK.
2. IF NEEDED, RAILING AND RAILING ANCHORAGE MAY BE REMOVED IN ORDER TO COMPLETE SPALL REPAIRS. RAILING AND RAILING ANCHORAGE MUST BE RESET IN ORIGINAL LOCATION.
3. EXISTING OUTFALLS ARE TO REMAIN AS IS, NEW OUTFALLS ARE NOT PROPOSED.
4. WORK LIMITED TO REPAIRS OF CONCRETE SEAWALL. NO IN-WATER FILL CREATED.

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE APPENDIX A

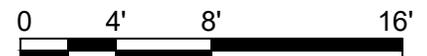
EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

S203 CONCRETE SEAWALL REPAIR ELEVATIONS-4

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY STATE: NY



SHT 43 OF 53 11/09/2021

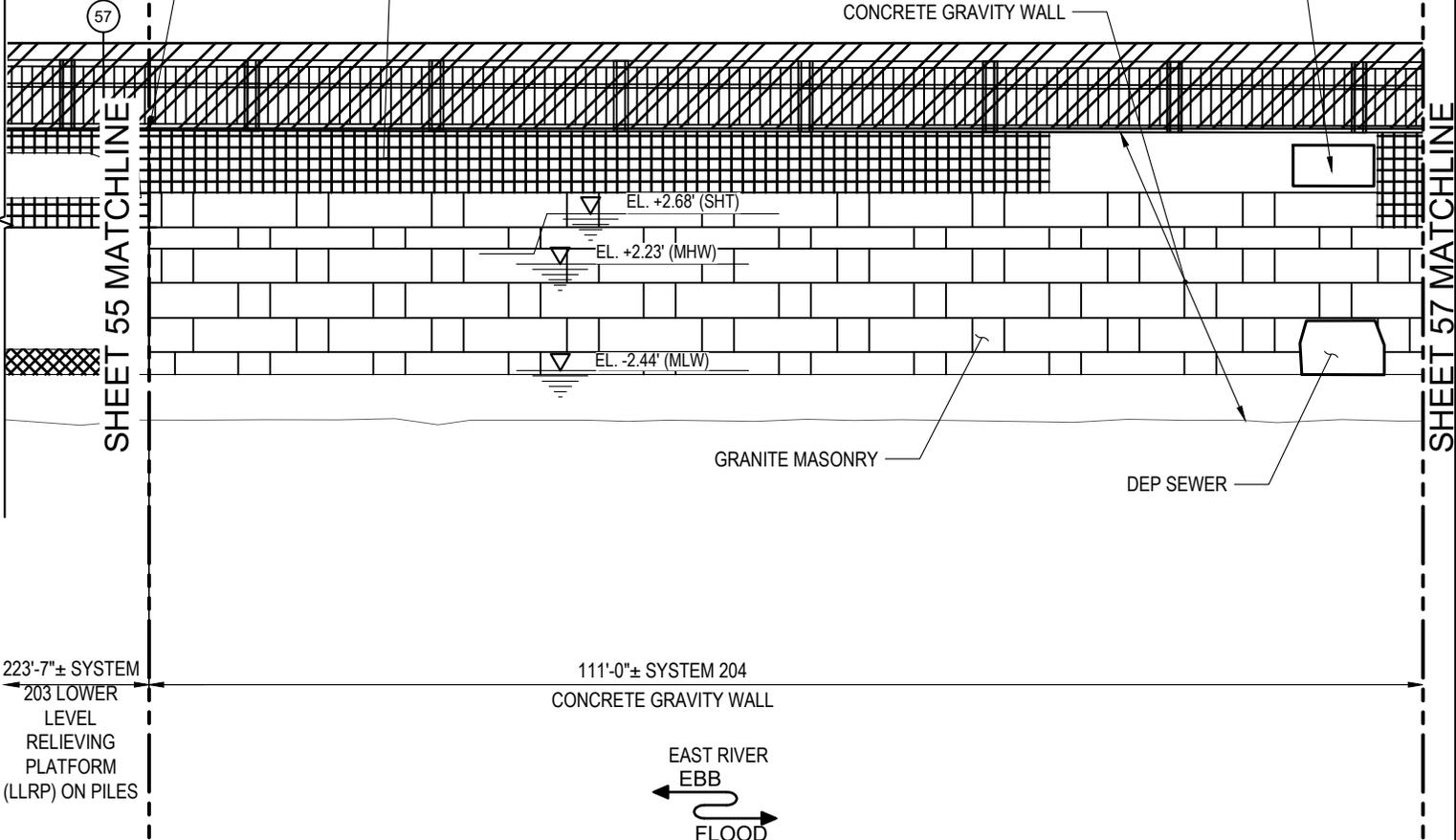
USACE FILE: NAN-2021-01292-EBR

N 228583.21
E 1003303.35

CONCRETE SEAWALL SPALL REPAIR (TYP.)

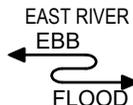
SIGNAGE

CONCRETE GRAVITY WALL



223'-7"± SYSTEM
203 LOWER
LEVEL
RELIEVING
PLATFORM
(LLRP) ON PILES

111'-0"± SYSTEM 204
CONCRETE GRAVITY WALL



44 **SYSTEM 204 CONCRETE GRAVITY WALL REPAIR ELEVATION - 1**
SCALE: 1/8" = 1'-0"

SEAWALL REPAIR LEGEND

-  REHABILITATE EXISTING SEARAIL
-  CONCRETE SEAWALL SPALL REPAIR
-  TIMBER LINE CAP REPLACEMENT

NOTES:

1. CONTRACTOR TO FIELD VERIFY AND CONFIRM WITH ENGINEER ALL REPAIR QUANTITIES AND LOCATIONS BEFORE COMMENCING WORK.
2. IF NEEDED, RAILING AND RAILING ANCHORAGE MAY BE REMOVED IN ORDER TO COMPLETE SPALL REPAIRS. RAILING AND RAILING ANCHORAGE MUST BE RESET IN ORIGINAL LOCATION.
3. EXISTING OUTFALLS ARE TO REMAIN AS IS, NEW OUTFALLS ARE NOT PROPOSED.
4. WORK LIMITED TO REPAIRS OF CONCRETE SEAWALL. NO IN-WATER FILL CREATED.

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

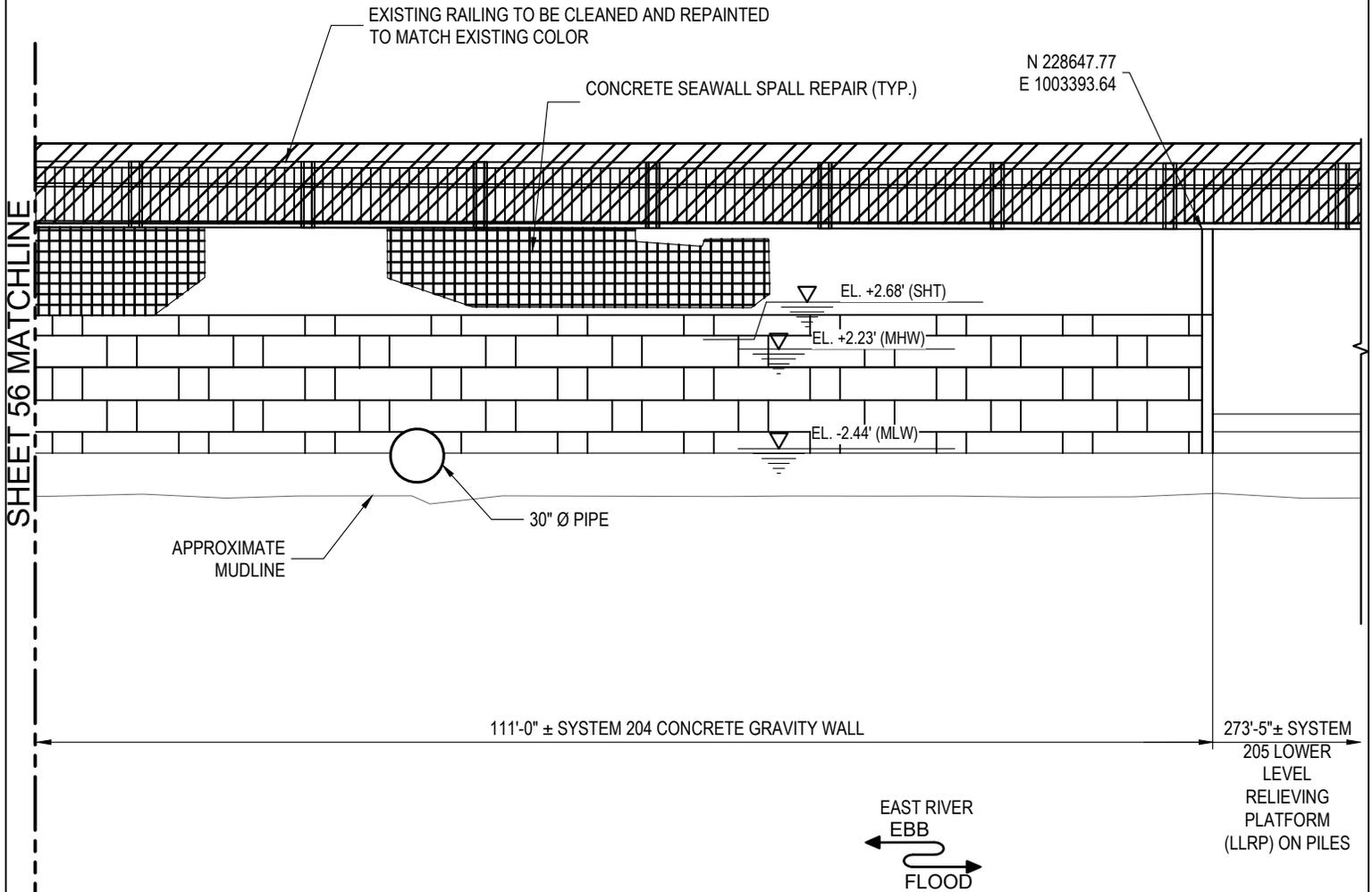
**S204 CONCRETE SEAWALL
REPAIR ELEVATIONS-1**

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY STATE: NY



SHT 44 OF 53 11/09/2021

USACE FILE: NAN-2021-01292-EBR



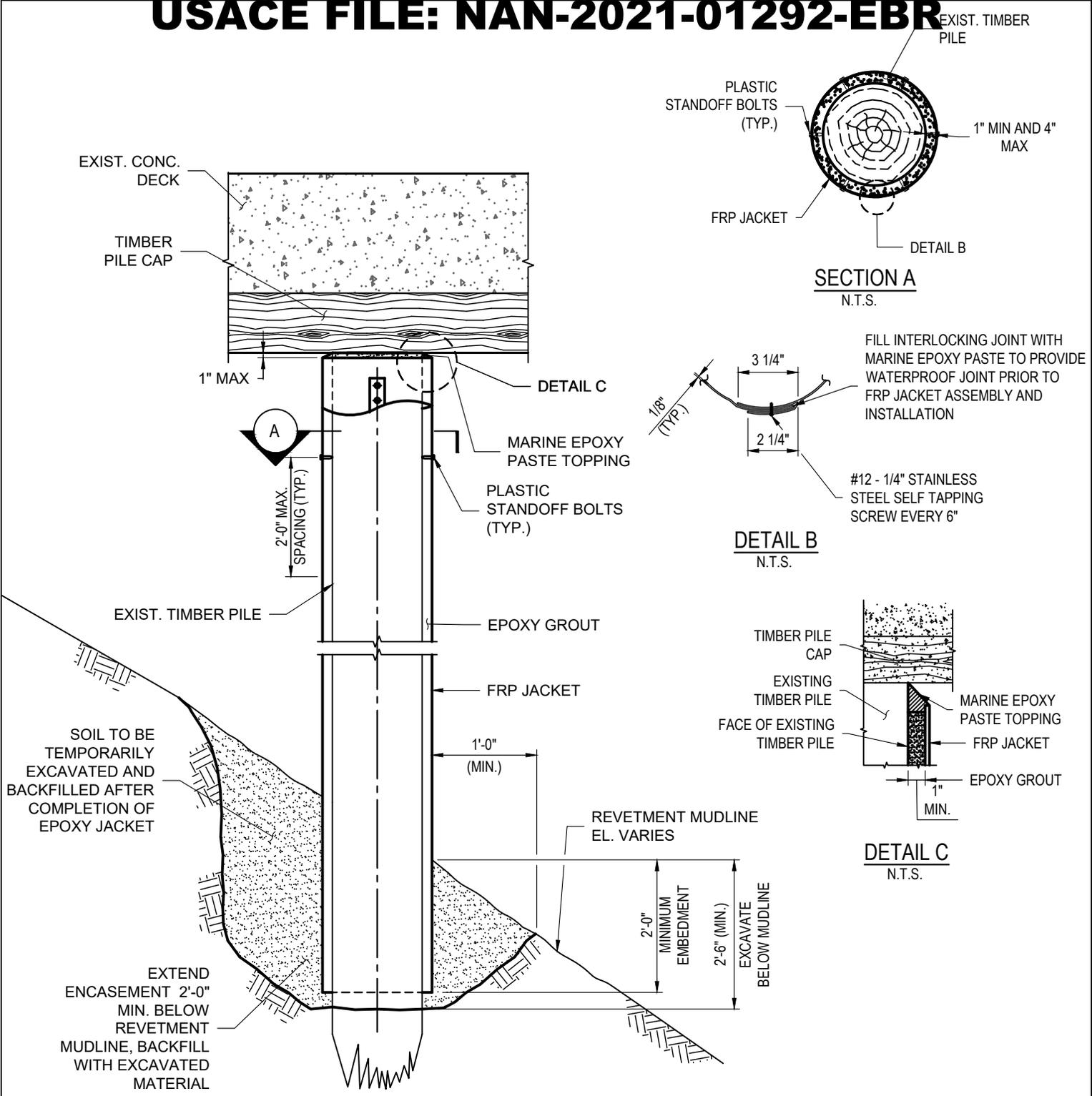
45 SYSTEM 204 CONCRETE GRAVITY WALL REPAIR ELEVATION - 2
 SCALE: 1/8" = 1'-0"

SEAWALL REPAIR LEGEND

	REHABILITATE EXISTING SEARAIL
	CONCRETE SEAWALL SPALL REPAIR
	TIMBER LINE CAP REPLACEMENT

- NOTES:**
1. CONTRACTOR TO FIELD VERIFY AND CONFIRM WITH ENGINEER ALL REPAIR QUANTITIES AND LOCATIONS BEFORE COMMENCING WORK.
 2. IF NEEDED, RAILING AND RAILING ANCHORAGE MAY BE REMOVED IN ORDER TO COMPLETE SPALL REPAIRS. RAILING AND RAILING ANCHORAGE MUST BE RESET IN ORIGINAL LOCATION.
 3. EXISTING OUTFALLS ARE TO REMAIN AS IS, NEW OUTFALLS ARE NOT PROPOSED.
 4. WORK LIMITED TO REPAIRS OF CONCRETE SEAWALL. NO IN-WATER FILL CREATED.

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114 TH TO E117 TH STREET DATUM: NAVD88 ADJACENT OWNERS: 1. SEE APPENDIX A	EAST RIVER ESPLANADE APPLICANT: CITY OF NEW YORK PARKS & RECREATION OLMSTED CENTER-FLUSHING MEADOWS CORONA PARK FLUSHING, NEW YORK 11368 AGENT: McLAREN ENGINEERING GROUP 530 CHESTNUT RIDGE ROAD WOODCLIFF LAKE, NJ 07677	S204 CONCRETE SEAWALL REPAIR ELEVATIONS-2 IN: MANHATTAN AT: EAST RIVER COUNTY OF: NY STATE: NY <div style="text-align: center;">  </div> SHT 45 OF 53 11/09/2021
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46 **TIMBER PILE EPOXY JACKET REPAIR**
N.T.S.

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:
1. SEE APPENDIX A

EAST RIVER ESPLANADE

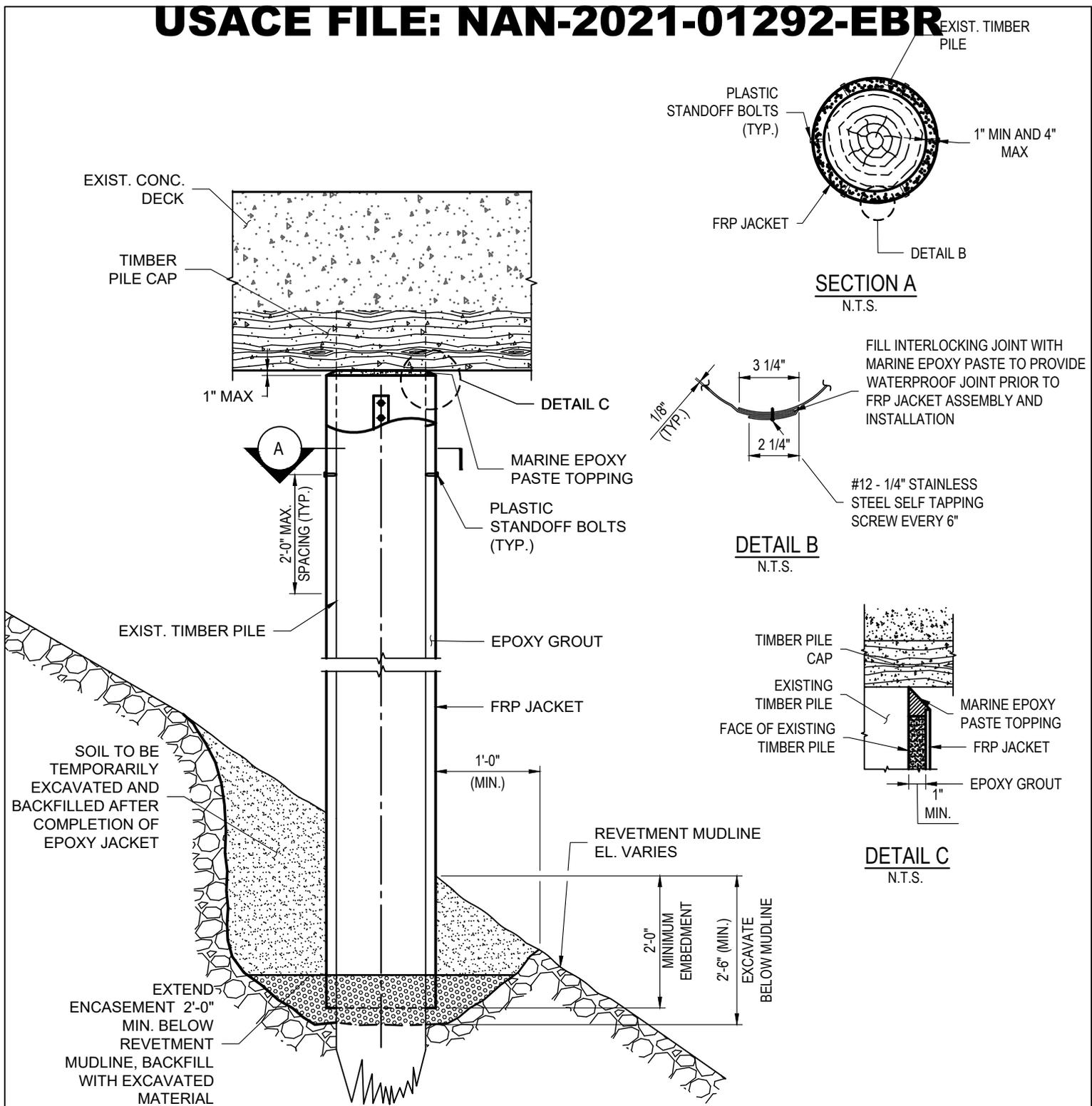
APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

S203 & S204 TIMBER PILE EPOXY JACKET (SOFT MUDLINE)

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY **STATE:** NY

SHT 46 OF 53 11/09/2021



SECTION A
N.T.S.

DETAIL B
N.T.S.

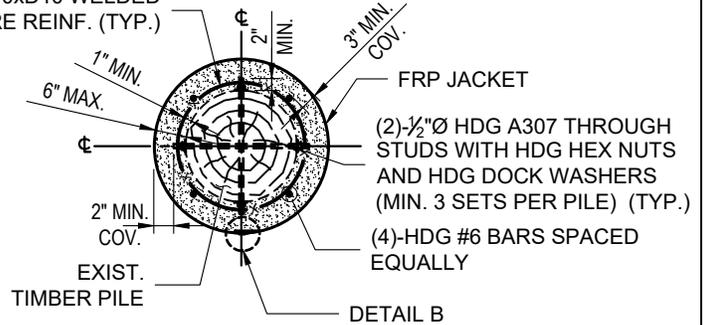
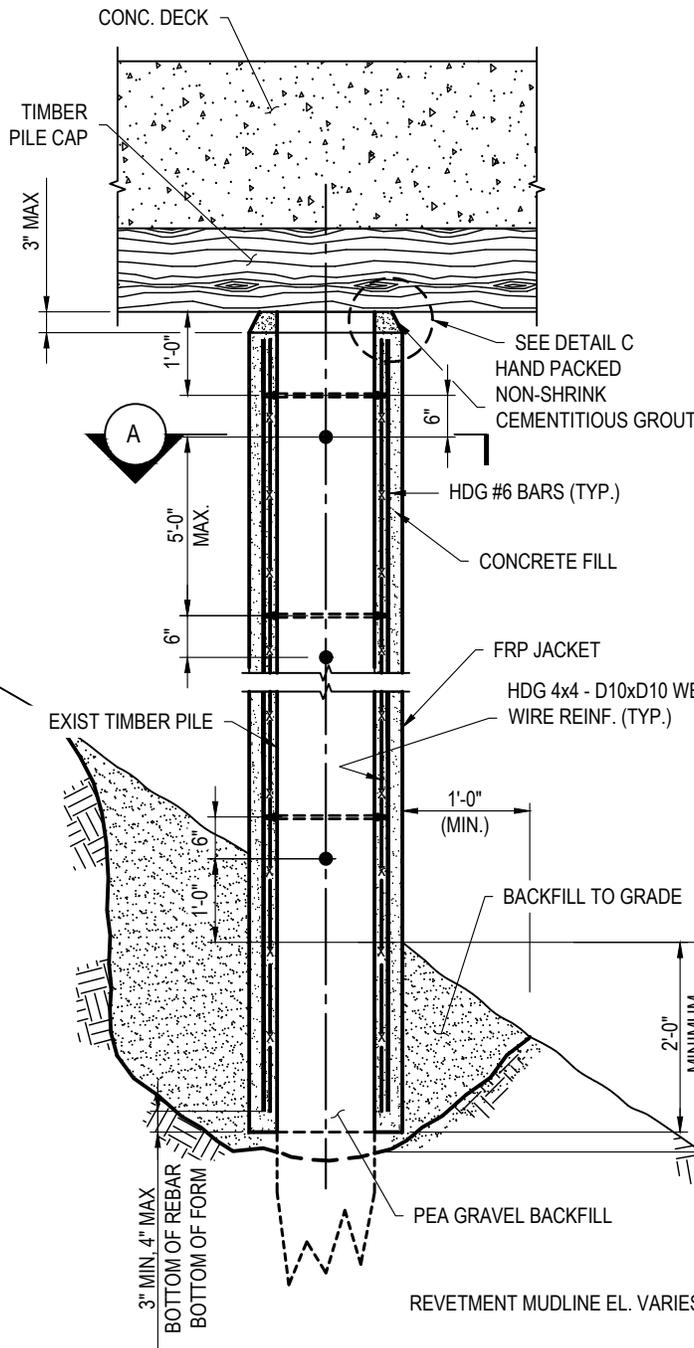
DETAIL C
N.T.S.

47 **TIMBER PILE EPOXY JACKET REPAIR**
N.T.S.

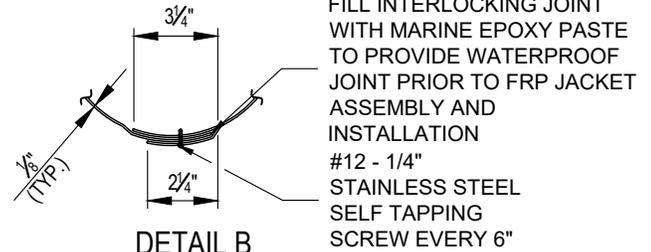
<p>PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET</p> <p>DATUM: NAVD88</p> <p>ADJACENT OWNERS: 1. SEE APPENDIX A</p>	<p>EAST RIVER ESPLANADE</p> <p>APPLICANT: CITY OF NEW YORK PARKS & RECREATION OLMSTED CENTER-FLUSHING MEADOWS CORONA PARK FLUSHING, NEW YORK 11368</p> <p>AGENT: McLAREN ENGINEERING GROUP 530 CHESTNUT RIDGE ROAD WOODCLIFF LAKE, NJ 07677</p>	<p>S203 & S204 TIMBER PILE EPOXY JACKET (HARD MUDLINE)</p> <p>IN: MANHATTAN AT: EAST RIVER COUNTY OF: NY STATE: NY</p> <p>SHT 47 OF 53 11/09/2021</p>
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USACE FILE: NAN-2021-01292-EBR

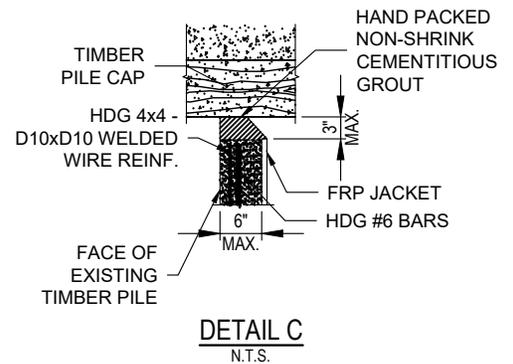
HDG 4x4 - D10xD10 WELDED WIRE REINF. (TYP.)



SECTION A
N.T.S.



DETAIL B
N.T.S.



DETAIL C
N.T.S.

48 **TIMBER PILE STRUCTURAL ENCASEMENT REPAIR**
N.T.S.

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

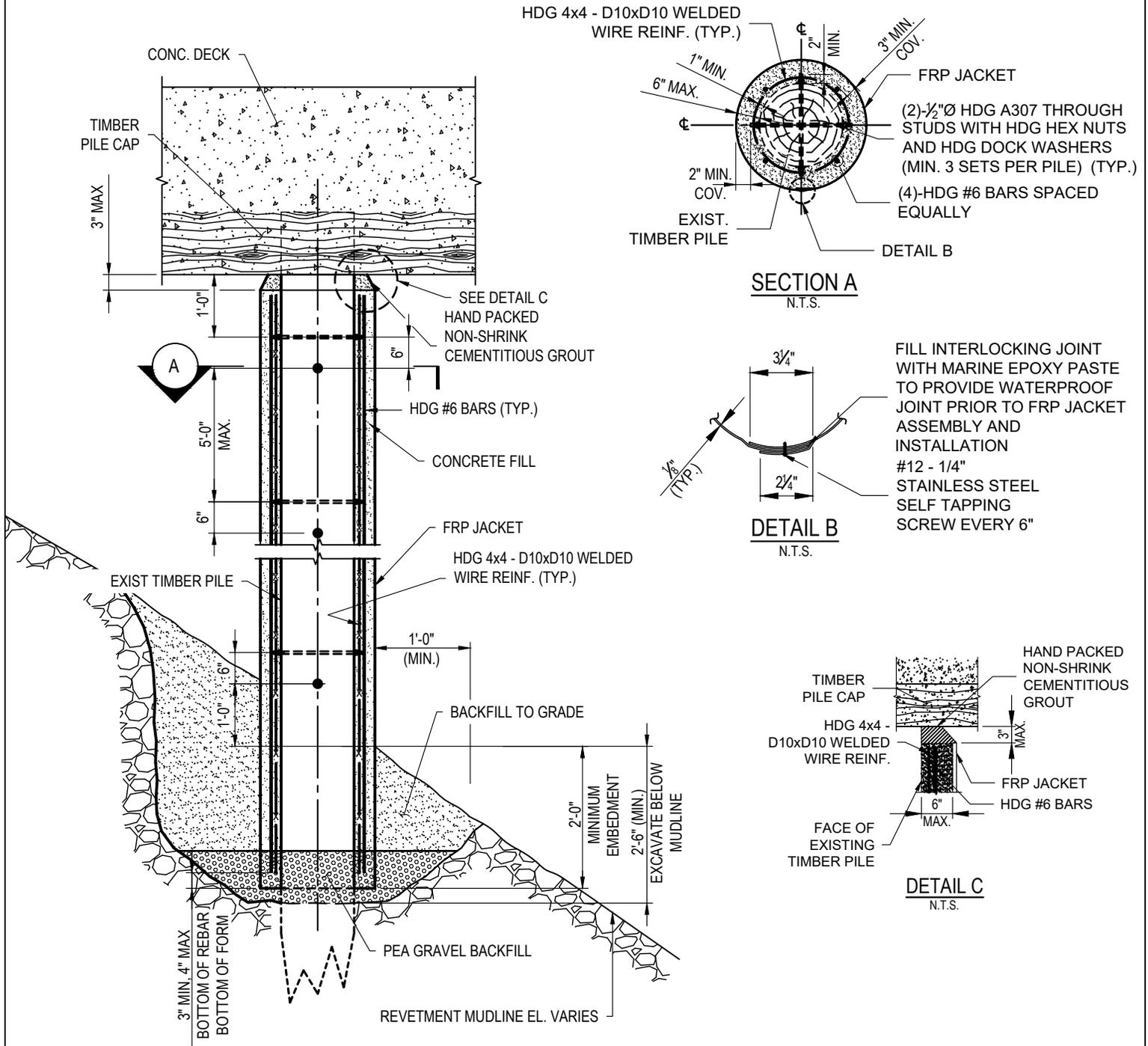
S203 & S204 TIMBER PILE STRUCT ENCASEMENT (SOFT MUDLINE)

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY STATE: NY

SHT 48 OF 53

11/09/2021

USACE FILE: NAN-2021-01292-EBR



49 **TIMBER PILE STRUCTURAL ENCASEMENT REPAIR**
N.T.S.

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

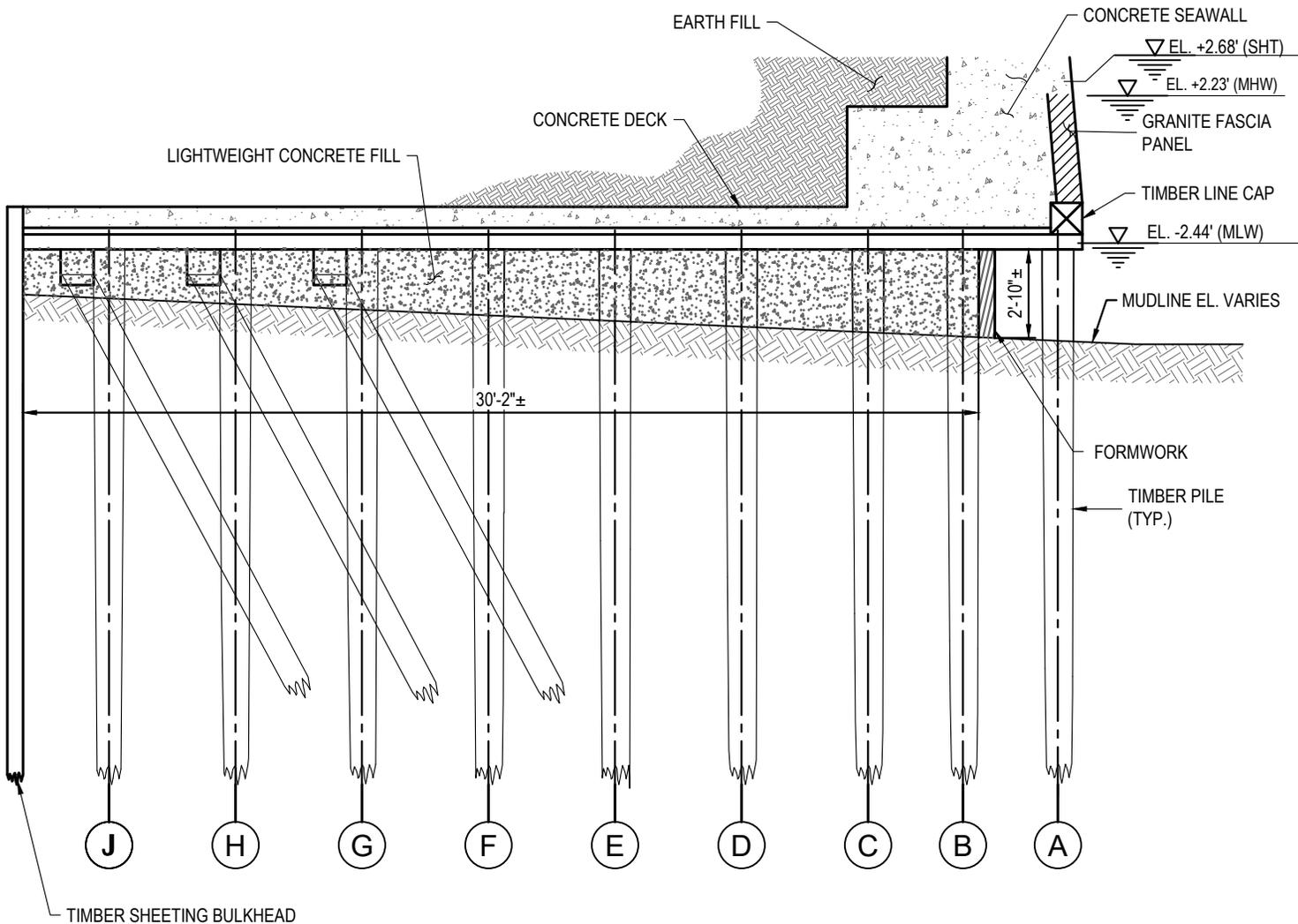
AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

**S203 & S204 TIMBER PILE
STRUCT ENCASEMENT (HARD
MUDLINE)**

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY STATE: NY

SHT 49 OF 53

11/09/2021



50 **S203 & S204 LIGHTWEIGHT CONCRETE FILL**
N.T.S.

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

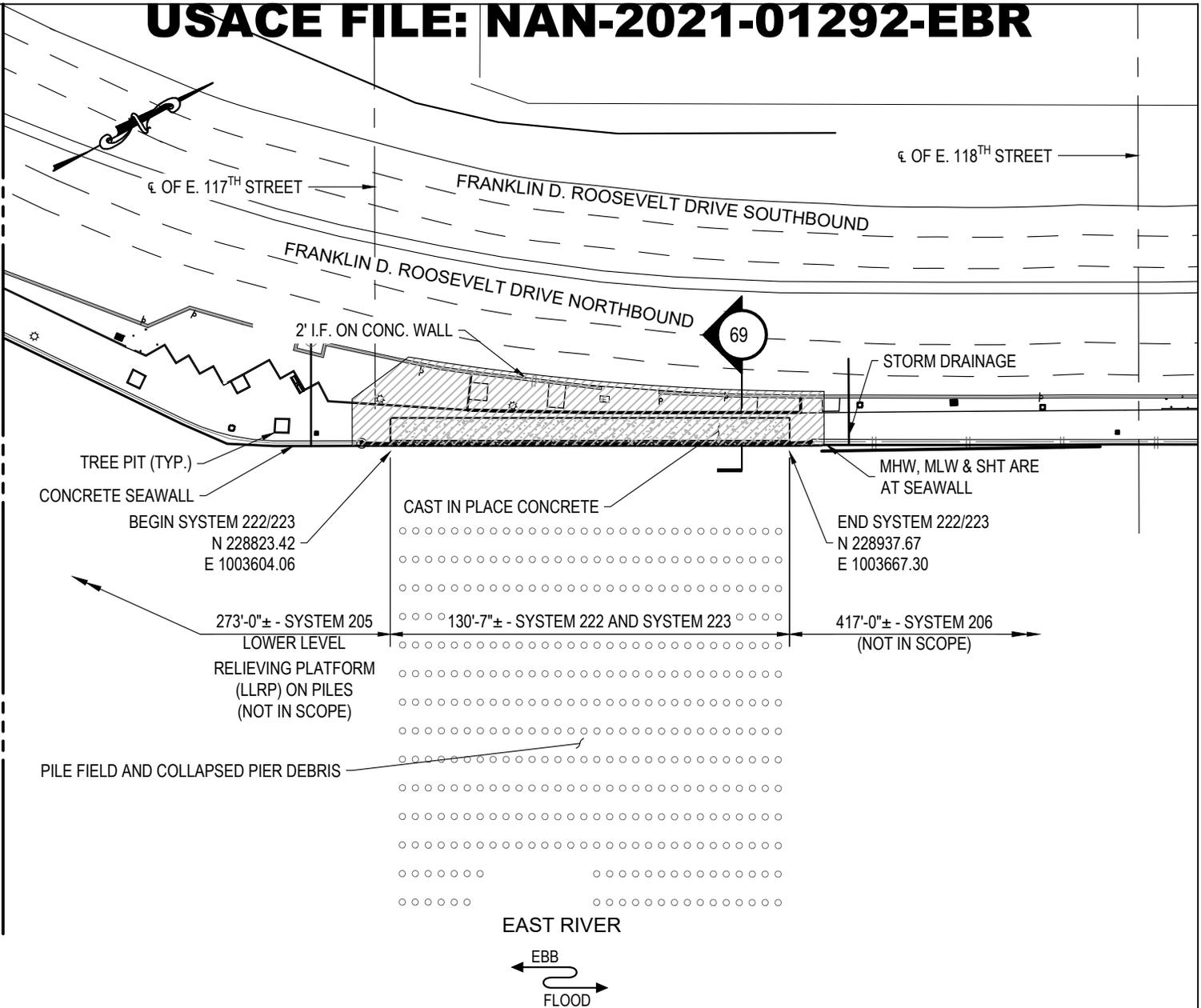
S203&S204 LIGHTWEIGHT CONCRETE FILL

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY STATE: NY

SHT 50 OF 53

11/09/2021

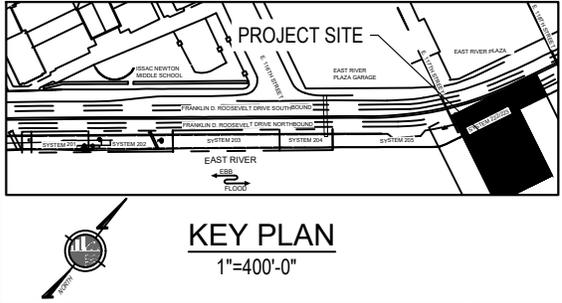
MATCH LINE SHEET 51



51 PROPOSED SITE PLAN

SCALE: 1" = 50'-0"

- NOTES:**
- EXISTING OUTFALLS ARE TO REMAIN AS IS, NEW OUTFALLS ARE NOT PROPOSED.
 - PARTIAL REMOVAL OF SYSTEM 222/223 ELEMENTS WILL RESULT IN REMOVAL OF APPROX. 170 CY OF DEBRIS AND CREATE APPROX. 3,250 SF OF OPEN WATER.



LEGEND	DESCRIPTION
	MASS INSHORE ENCASEMENT = 422.09 CY OVER 4840.98 SF
	CASE-IN-PLACE CONCRETE BULKHEAD

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:
1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

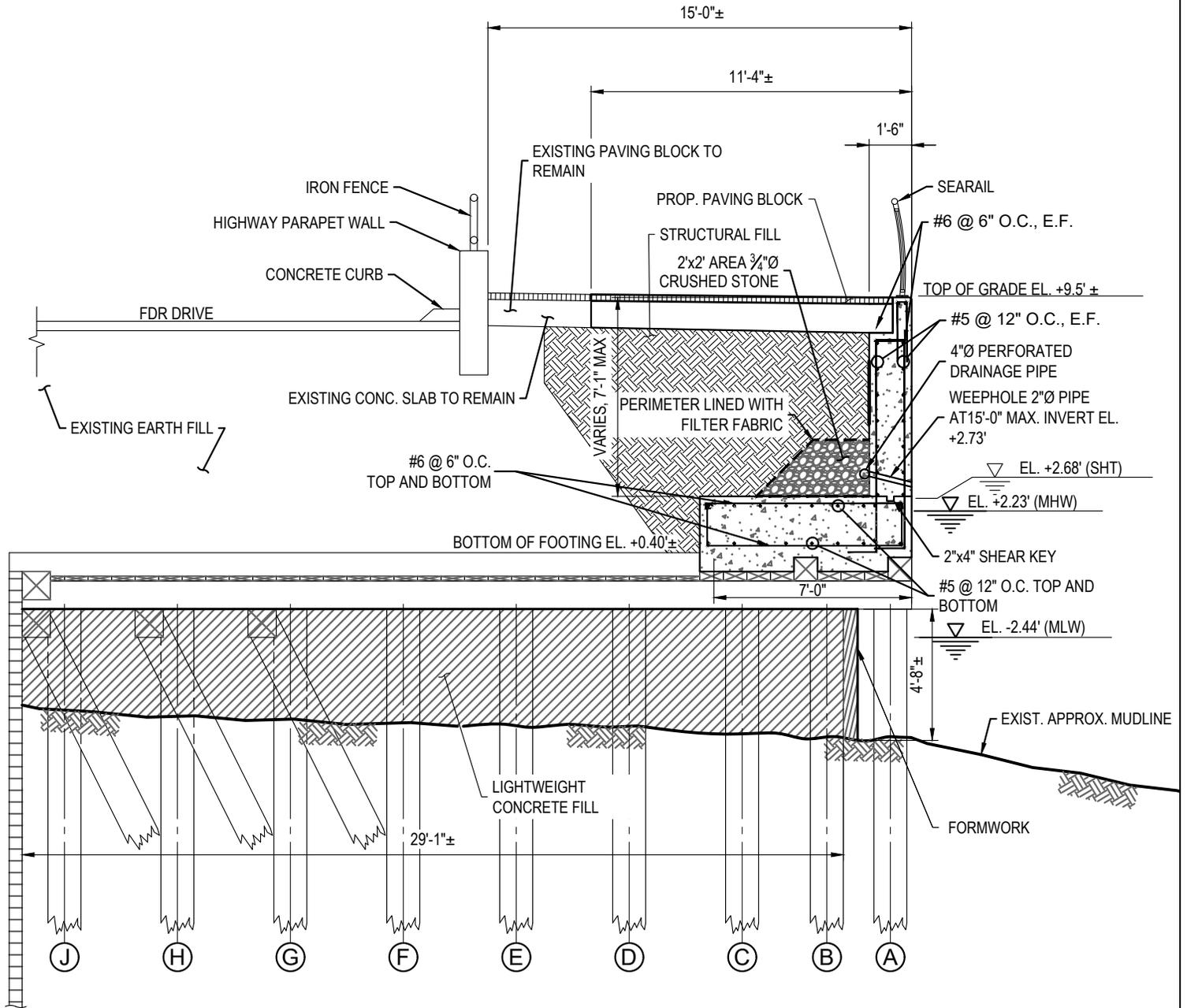
PROPOSED S222/223 SITE PLAN

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY **STATE:** NY

0 400' 800'

SHT 51 OF 53 11/09/2021

USACE FILE: NAN-2021-01292-EBR



52 PROPOSED REHABILITATION - SYSTEM 222/223
SCALE: 3/16" = 1'-0"

NOTE:
1. EXISTING OUTFALLS ARE TO REMAIN AS IS, NEW OUTFALLS ARE NOT PROPOSED.

NOTE:
QUANTITY OF LIGHTWEIGHT CONCRETE FILL

AREA OF FILL (SF) = 4840.98
VOLUME OF FILL (CY) = 422.09

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:
1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

S222/223 PROPOSED REHABILITATION

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY **STATE:** NY

0 4' 8' 12'

SHT 52 OF 53 11/09/2021

USACE FILE: NAN-2021-01292-EBR

LOCATION	VOLUME OF CUT/FILL BELOW MHW (CY)	AREA OF CUT/FILL BELOW MHW (SQ.FT)	VOLUME OF CUT/FILL BELOW SHT (CY)	AREA OF CUT/FILL BELOW SHT (SQ.FT)
SYSTEM 201/202 RIPRAP FILL	672.08	3793	715.27	3793
SYSTEM 201/202 PILE FILL	5.51	42	5.70	42
SYSTEM 201/202 DEMOLITION CUT	-892.47	-7412	-980.34	-7412
SYSTEM 203/204 MASS ENCASEMENT	613.85	8455.12	613.85	8455.12
SYSTEM 203/204 STRUCTURAL CONCRETE ENCASEMENT (SCE)	1	8	3.82	35.44
SYSTEM 222/223 MASS ENCASEMENT	422.09	4840.98	422.09	4840.98
SYSTEM 222/223 DEBRIS REMOVAL	170	3250	170	3250
TOTAL PROJECT SITE	822.06	9727.1	780.39	9727.1

NOTE:

VOLUME OF CUT IS SHOWN AS A NEGATIVE NUMBER.

PURPOSE: RECONSTRUCTION AND STABILIZATION SEAWALLS AT E114TH TO E117TH STREET

DATUM: NAVD88

ADJACENT OWNERS:

1. SEE APPENDIX A

EAST RIVER ESPLANADE

APPLICANT: CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER-FLUSHING
MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

AGENT: McLAREN ENGINEERING GROUP
530 CHESTNUT RIDGE ROAD
WOODCLIFF LAKE, NJ 07677

FILL CALCULATIONS

IN: MANHATTAN
AT: EAST RIVER
COUNTY OF: NY STATE: NY

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11/09/2021