



DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090

REPLY TO
ATTENTION OF:
Regulatory Branch

JUN 24 2013

SUBJECT: DEPARTMENT OF THE ARMY PERMIT Number NAN-2012-00090-M1
Issued to New York State Thruway Authority on 25 April 2013
Authorizing Regulated Work to Facilitate Construction of The New NY
Bridge in the Hudson River Between Tarrytown and Nyack, New York

PERMITTEE:

New York State Thruway Authority
ATTN: Peter Sanderson, Project Director
555 White Plains Rd, 4th Floor
Tarrytown, NY 10591
(518) 436-2810
(914) 789-3200

1. Reference is made to

a. Subject Department of the Army permit issued 25 April 2013.

b. The subject permittee's agent's e-mail permit modification request dated 11 June 2013 for additional regulated work identified during the design phase of the ongoing project design-build process.

2. In accordance with the provisions of Section 10 of the River & Harbors Act of 1899 (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344), the New York District of the U.S. Army Corps of Engineers issued the subject [enclosed] Department of the Army permit [Reference 1(a)] on 25 April 2013 to New York State Thruway Authority

3. The additional regulated work includes a new floating dock structure for safe transfer of personnel and material to and from work boats at the former Castle Oil Terminal in the Hudson River at Sleepy Hollow, Town of Mount Pleasant, Westchester County, New York; and maintenance and repair of approximately 100 linear feet of existing stream culverts and roadbed of an existing access road approximately 300 feet south of the existing Interchange 9 New York State Thruway toll plaza to provide temporary construction access. The improved access road and culvert drainage system would disturb fill approximately 900 square feet of an unnamed, non-navigable, intermittent stream and its associated wetlands.

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4. Based upon an evaluation of the administrative record supporting the issuance of the subject permit, a review of the permittee's submitted materials in support of their permit modification request [reference 1(b)], the subject permit is hereby modified so that:

a. The number of dated permit drawings increase to twenty-five (25) from sixteen (16) to include:


i. Three (3) permit drawings titled Location Map and Temporary Docking Facility dated today, 24 June 2013, are hereby added to the subject issued Department of the Army permit.

ii. Six (6) permit drawings titled Unit 22-Access Road Design dated today, 24 June 2013, are hereby added to the subject issued Department of the Army permit.

b. The following Special Condition (M) is added to the subject issued permit:

(M) The permittee shall mitigate at Piermont Marsh for the herein authorized filling of 900 Square Feet of the unnamed, non-navigable, intermittent stream and its associated wetlands.

5. All other terms, General Conditions, and Special Conditions of the subject issued permit shall remain in effect, including the permit expiration date of 24 MARCH 2019. Going forth this modified permit shall be known as Permit Number NAN-2012-00090-M1. This modified permit shall be available at project offices and regulated work sites.


24 JUN 13
"FOR AND IN BEHALF OF"
PAUL E. OWEN
Colonel, U.S. Army
Commander

Encl (1)
Modified DA Permit

CF: (w/encl)
CENAN-OP-RE (Enforcement)
NYSDEC Region 3 Permit Administrator
TAPPAN ZEE CONSTRUCTORS, LLC

DEPARTMENT OF THE ARMY PERMIT

Permittee: New York State Thruway Authority
200 Southern Boulevard
PO BOX 189,
Albany, New York 12201-0189
(518) 436-2810

Permit Number: NAN-2012-00090

Permit Date: APR 25 2013

Issuing Office: US Army Corps of Engineers New York District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer. You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: Regulated discharges of fill materials and work integral to the construction of the dual-span New NY Bridge north of, and replacing, the existing Tappan Zee Bridge to include:

(i) Construction of four (4) commercial construction vessel mooring buoys as shown on the attached dated permit drawings, to be removed at the end of all marine work.

(ii) Construct a 150-foot permanent new steel bulkhead at the Rockland County Bridge Staging and Maintenance Area encompassing approximately 0.02 acre of navigable waters as measured waterward of the line of Spring High Water on the shoreline, as shown on the attached dated permit drawings.

(iii) New-work bucket dredging to a maximum depth of 14 feet below the plane of Mean Lower Low Water, including one-foot of allowable overdepth dredging, in order to create two (West and East) needed and integral construction vessels access channels as shown on the attached dated permit drawings. All of the approximately 800,000 CYs of dredged material from the two dredging areas (approx. 120 acres) shall be disposed at a State-approved upland disposal site, outside of Department of the Army regulatory jurisdiction.

(iv) Permanently discharge approximately 310,000 CYs of sand bedding and gravel armoring (approx. 94 acres) to a maximum thickness of two feet within the dredged West and East construction vessel access channels to minimize river sediment resuspension because of construction vessel movements.

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(v) Permanently discharge fill materials below the plane of Spring High Water integral to the construction of the US Coast Guard permitted new bridge spans' structures and elements to include, but not limited to, poured concrete into tightly-sealed forms, placement of poured concrete into encapsulated bridge support pilings, placement of stone riprap for anti-scour bedding mats around bridge support structures, placement of stone for river bank stabilization, decanting of excess water from barges during dredging operations, and decanting of excess water from barges during rock drilling dewatering operations.

(vi) Permanently discharge dredged or fill materials into regulated waters or wetlands, and perform regulated construction work, to construct aquatic mitigation sites to include oyster bed restoration, secondary channel and stream restoration, and wetlands mitigation in accordance with the New York State Department of Environmental Conservation issued water quality certificate number 3-9903-00043/00013.

All work shall be performed in accordance with the attached dated permit drawings; Special Conditions (A) thru (L) listed below; and the attached New York State Department of Environmental Conservation issued Section 401 of the Clean Water Act Water Quality Certificate Numbered 3-9903-00043/00013 dated March 25, 2013, including any future amendments; all of which are hereby made part of this permit.

Project Location: IN: Hudson River
AT: River Mile 27, between Nyack, Rockland County and Tarrytown, Westchester County, New York

Permit Conditions:
General Conditions:

1. Time limit for completing the regulated work authorized herein ends on **24 MARCH 2019**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least two (2) months before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains

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while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned Section 401 of the Clean Water Act water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. The permittee shall allow representatives from this office to inspect the authorized activities at any time deemed necessary; and shall promptly provide any required written reports, to ensure that authorized activities are being or have been accomplished in accordance with the terms and conditions of this permit.

Special Conditions:

(A) The permittee shall submit to this office the dates of commencement of the herein authorized activities.

(B) The permittee shall be responsible for complying with the special conditions and/or stipulations incorporated into the Coastal Zone Management Program Consistency Determination issued by the New York State Department of State (NYSDOS) on September 20, 2012, with modification letter dated February 7, 2013 (NYSDOS File Number F-2012-0315), and all future amendments thereto.

(C) The permittee, and its agents, shall not dredge from November 2nd through July 31st of any calendar year in order to minimize adverse aquatic impacts to diadromous fish spawning migrations and their peak biological activity.

(D) The permittee shall comply with the terms and conditions of the National Marine Fisheries Service (NMFS) Biological Opinion (BO) and Incidental Take Statement (ITS) dated April 10, 2013, and all future amendments thereto. This Department of the Army permit does not authorize the permittee, or its agents, to take an animal of an endangered species, in particular, Shortnose sturgeon or Atlantic sturgeon. In order to take a listed species, the permittee shall have a separate authorization under

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the Endangered Species Act (ESA) (16 U.S.C. 1531 et. seq.), e.g., a permit under Section 10 of the Endangered Species Act or a Biological Opinion (BO) under Section 7 of the Endangered Species Act (ESA), with Incidental Take Statement (ITS) provisions with which the permittee must comply. The cited Biological Opinion (BO) contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with the Incidental Take Statement (ITS), that are specified in the Biological Opinion (BO). The permittee's authorization under this Department of the permit is conditioned upon the permittee's compliance with the Incidental Take Statement (ITS) of the Biological Opinion (BO), which terms and conditions are incorporated by reference into this permit. Failure to comply with the terms and conditions associated with the Incidental Take Statement (ITS) of the Biological Opinion (BO), where a take of a listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with this issued Department of the Army permit. The National Marine Fisheries Service (NMFS) is the appropriate authority to determine compliance with the terms and conditions of its Biological Opinion (BO), and with the Endangered Species Act (ESA) (16 U.S.C. 1531 et. seq.)

(E) The permittee shall maintain a copy of this permit on all vessels engaged in dredging and transporting dredged materials.

(F) The permittee shall undertake all dredging activities in such a manner as to avoid large refuse piles, ridges across the bed of the waterway or deep holes, which have a tendency to cause injury to navigable channels or the banks of the waterway.

(G) The permittee shall, no less than 24 hour prior to the commencement of any dredging, notify the United States Coast Guard office (USCG) of the commencement of any dredging and expected completion date, the hours of the day the work will be performed, the names of the vessels on-scene, the VHF radio channel(s) the vessels will monitor, and the project's 24/7 point(s) of contact. This information may be faxed to (718) 354-4190 or mailed to the following address:

USCG Commander
Activities New York (wob)
212 Coast Guard Drive
Staten Island, New York 10305
(718) 354-4012

(H) No less than 24 hours prior to the commencement of any dredging, the permittee shall inform local waterway users of the commencement of any dredging, using the "Local Notice to Mariners." Information required to

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PERMIT NUMBER: NAN-2012-00090

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be provided in the Local Notice to Mariners can be found at [HTTP://www.navcen.uscg.gov](http://www.navcen.uscg.gov). This information may be faxed to (617) 223-8073 or mailed to:

Commander (oan)
First Coast Guard District
408 Atlantic Avenue
Boston, MA 02111-3350

(I) The permittee shall provide the National Oceanic and Atmospheric Administration National Ocean Service (NOAA-NOS) of the project's physical completion date and as-built specifications so that NOAA may initiate the appropriate navigation chart updates and corrections. This information may be faxed to (301) 713-4516 or mailed to the following address:

National Oceanic and Atmospheric Administration
National Ocean Service
N/CS261, Marine Chart Division
Nautical Data Branch, Station 7317
1315 East-West Highway
Silver Springs, MD 20910-3282

(J) The permittee shall verify, in writing, compliance with all required notices to USCG and NOAA-NOS as called for above, within five (5) calendar days of each notice. Verifications shall be delivered to the New York District at the following address:

Chief, Regulatory Branch
US Army Corps of Engineers
26 Federal Plaza, Room 1937
New York, NY 10278-0090

(K) All temporary construction structures and falsework shall be removed to a depth of at least two (2) feet below the river's mud line before this permit expires.

(L) The permittee shall submit to this office the dates of completion of the herein authorized activities.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

(X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S. Code 403).

(X) Section 404 of the Clean Water Act (33 U.S. Code 1344).

() Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

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2. Limits of this authorization:

- a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
- b. This permit does not grant any property rights or exclusive privileges.
- c. This permit does not authorize any injury to the property or rights of others.
- d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability: in issuing this permit, the Federal Government does not assume any liability for the following:

- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
- b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
- d. Design or construction deficiencies associated with the permitted work.
- e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision: This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

- a. You fail to comply with the terms and conditions of this permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures

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PERMIT NUMBER: NAN-2012-00090

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ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions: General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.


Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.



NEW YORK STATE THRUWAY AUTHORITY
(PERMITTEE)

25 April, 2013
(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.


(DISTRICT ENGINEER) 25 APR 13
"FOR AND IN BEHALF OF"
PAUL E. OWEN
Colonel, US Army
Commander

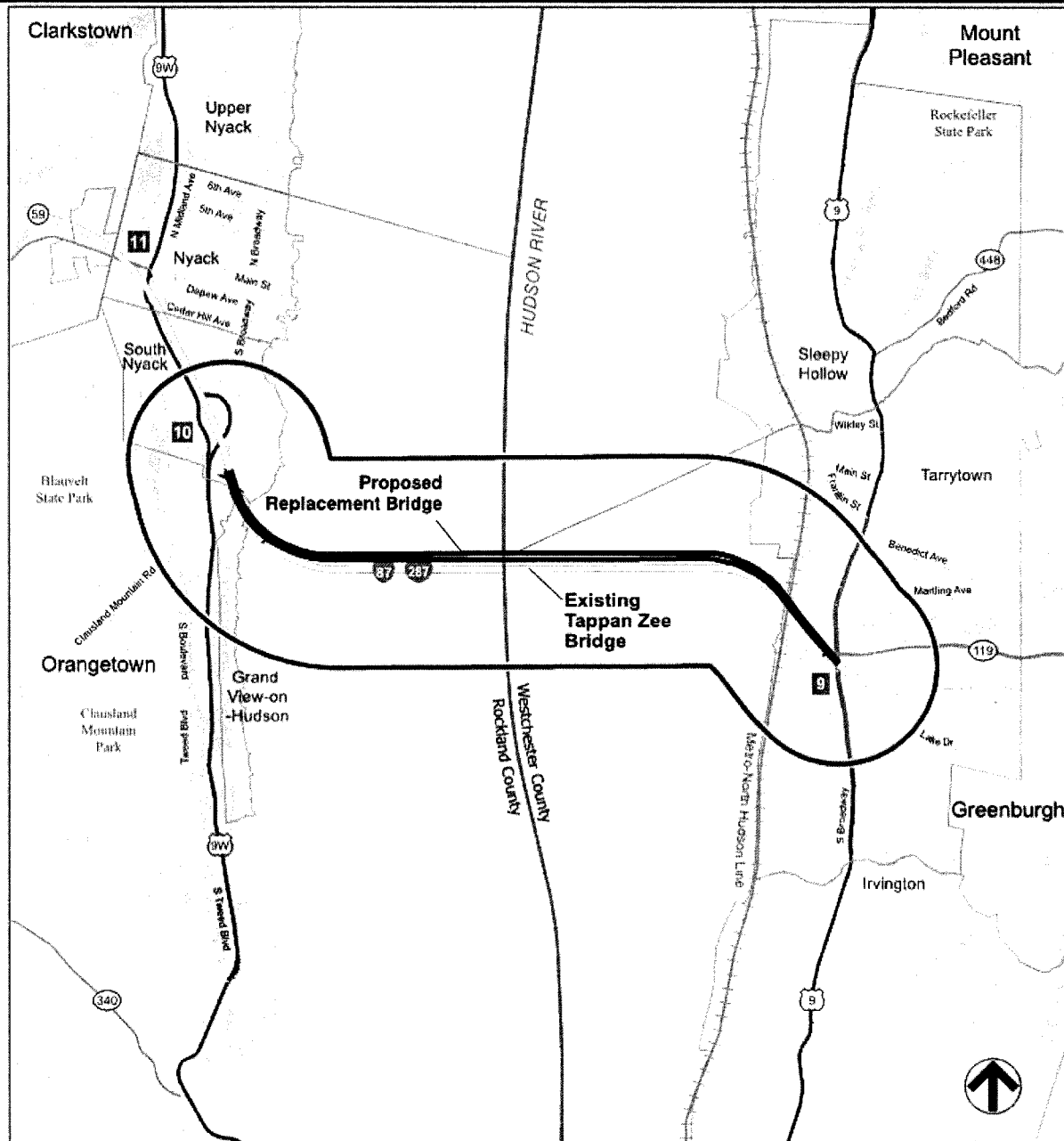
APR 25 2013
(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below. A copy of the permit signed by the transferee should be sent to this office.

(TRANSFeree)

(DATE)

USACE FILE: NAN-2012-00090



0 1/2 1 MILE
SCALE

PURPOSE: REPLACEMENT BRIDGE

DATUM: MLW = -1.69'
MHW = +1.76'
REF. NAVD88

VICINITY MAP

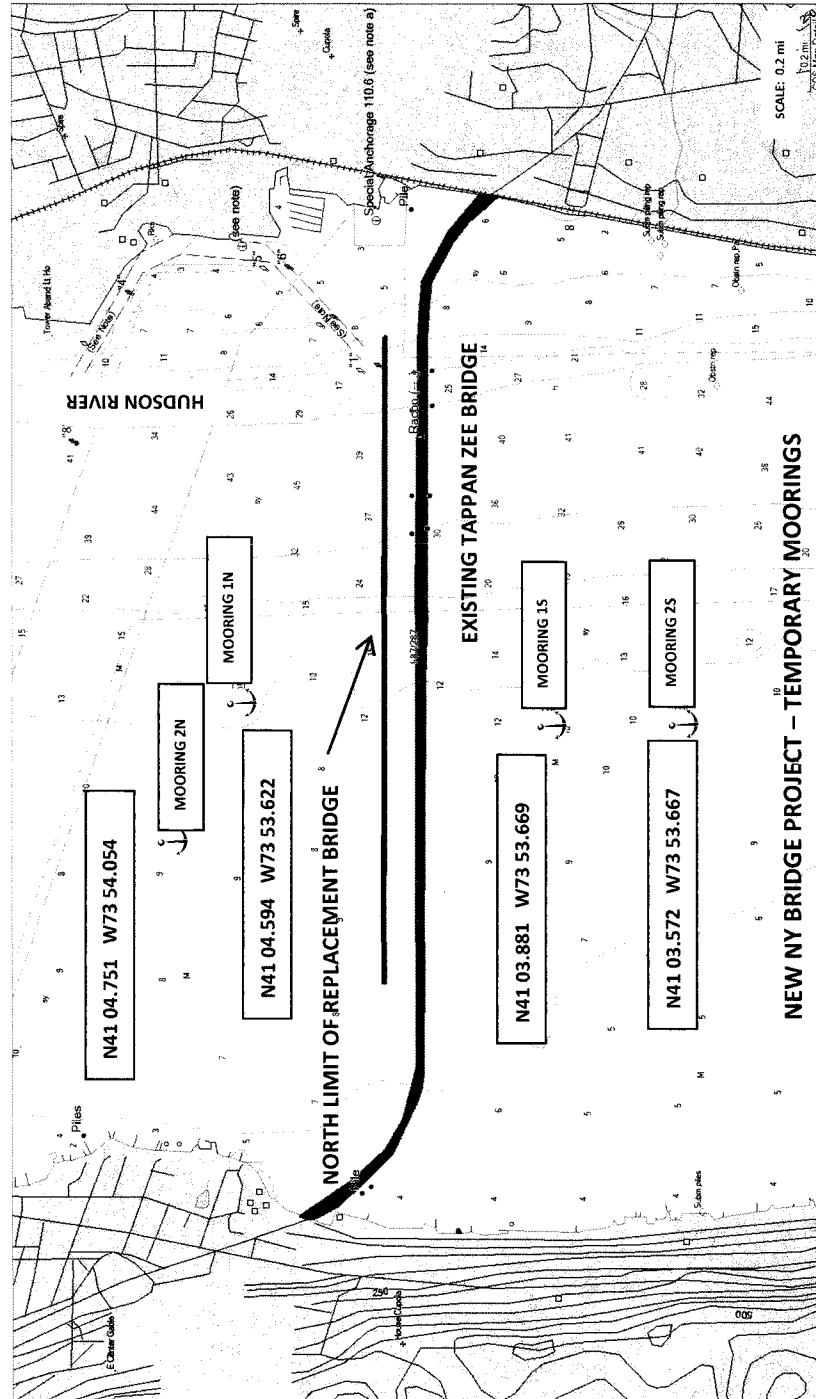
APPLICANT:
NYS THRUWAY AUTHORITY
TAPPAN ZEE BRIDGE
THE NEW NY BRIDGE PROJECT

HUDSON RIVER
MILE POINT 27
SOUTH NYACK - TARRYTOWN, NEW YORK
ROCKLAND AND WESTCHESTER COUNTIES

DATE: APRIL 2013

SHEET 1 OF 26

USACE FILE: NAN-2012-00090



PURPOSE: REPLACEMENT BRIDGE

DATUM: MLW = -1.69'
MHW = +1.76'
REF. NAVD88

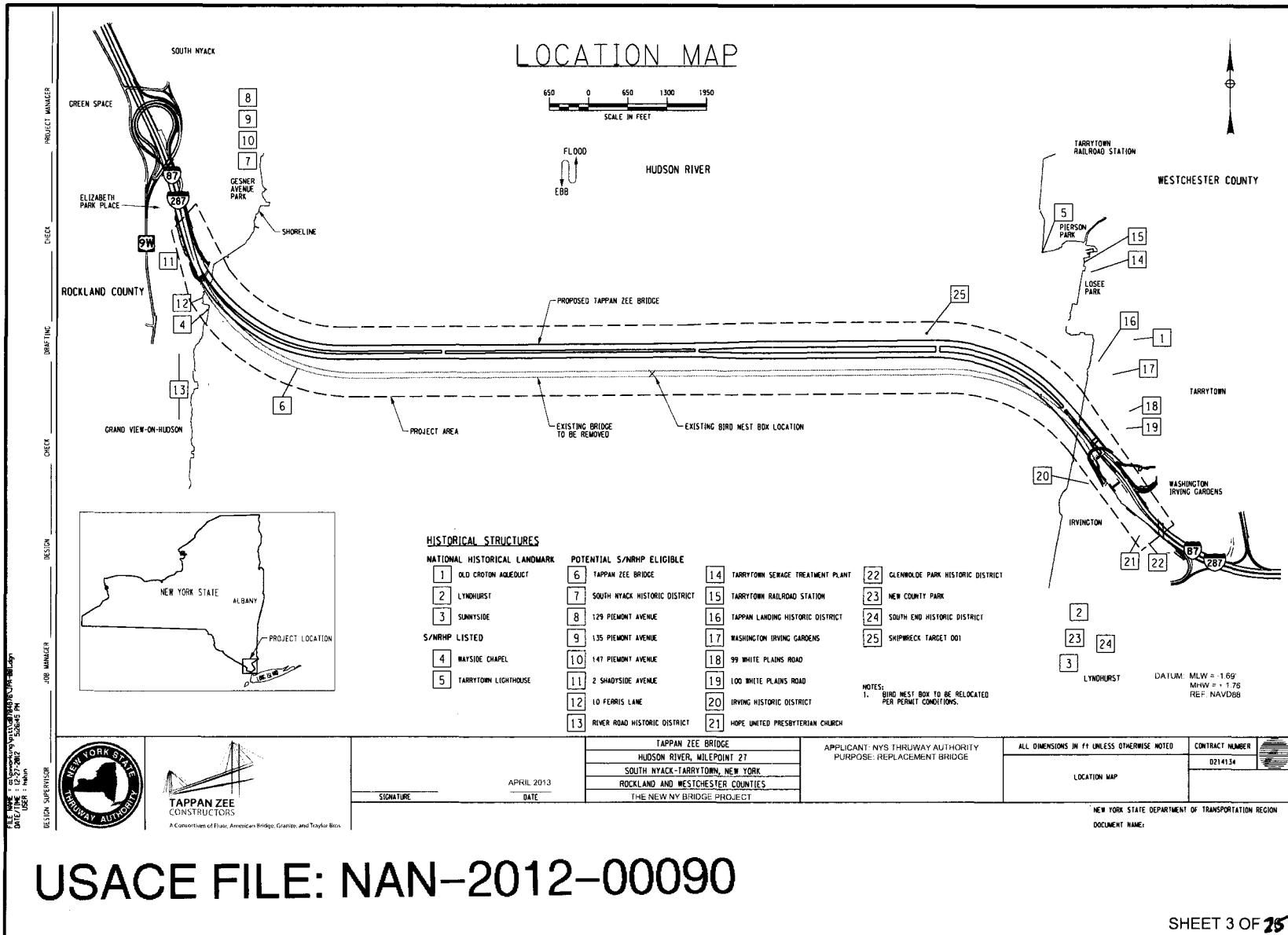
COMMERCIAL MOORING BUOYS

APPLICANT:
NYS THRUWAY AUTHORITY
TAPPAN ZEE BRIDGE
THE NEW NY BRIDGE PROJECT

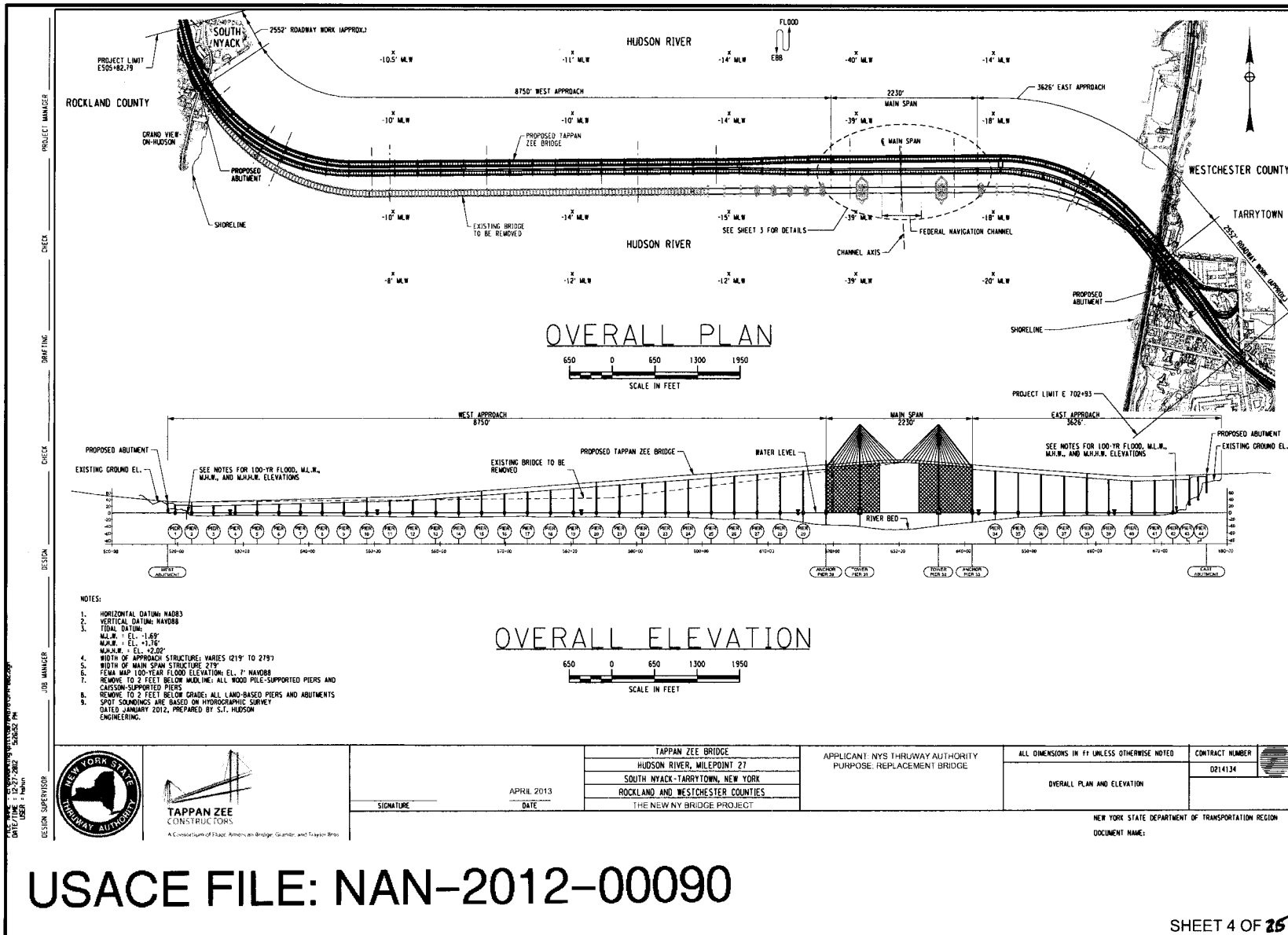
HUDSON RIVER
MILE POINT 27
SOUTH NYACK - TARRYTOWN, NEW YORK
ROCKLAND AND WESTCHESTER COUNTIES

DATE: APRIL 2013

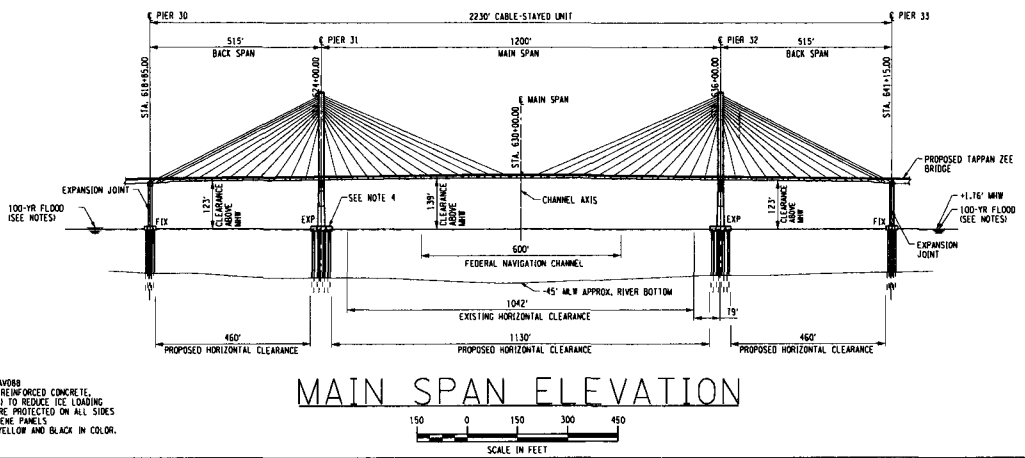
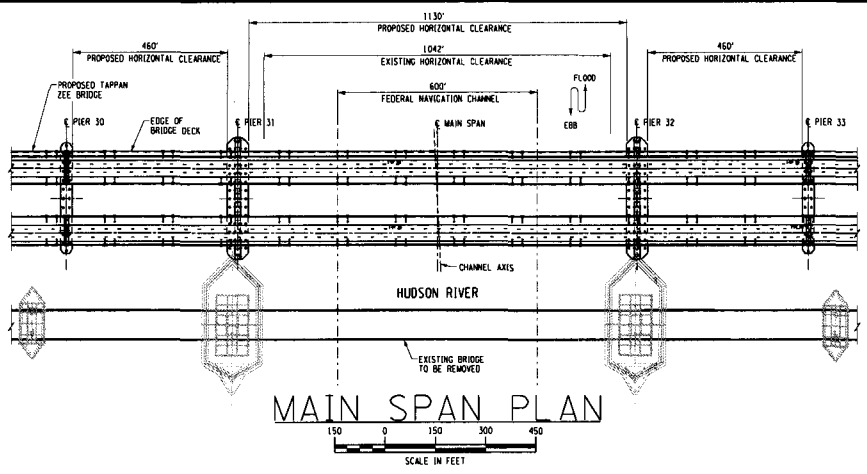
SHEET 2 OF 25



USACE FILE: NAN-2012-00090



DESIGN SUPERVISOR
 PROJECT MANAGER
 CHECK
 DRAFTING
 CHECK
 DESIGN
 JOB MANAGER



NOTES:
 1. FEMA MAP 100-YEAR FLOOD ELEVATION EL. 7' NAVD83
 2. MAIN SPAN ANCHOR PIERS ARE CONSTRUCTED OF REINFORCED CONCRETE, HAVE THREE SIDED NOSES NORTH & SOUTH ENDS TO REDUCE ICE LOADING AND PROVIDE VESSEL IMPACT PROTECTION AND ARE PROTECTED ON ALL SIDES WITH ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE PANELS (2" THICK x 11' HIGH x 4' WIDE) ALTERNATING YELLOW AND BLACK IN COLOR.



A Consortium of Fluor, Parsons, Granite Construction and Tappan Zee Constructors

SIGNATURE _____
 DATE APRIL 2013

TAPPAN ZEE BRIDGE
 HUDSON RIVER, MILEPOINT 27
 SOUTH NYACK-TARRYTOWN, NEW YORK
 ROCKLAND AND WESTCHESTER COUNTIES
 THE NEW NY BRIDGE PROJECT

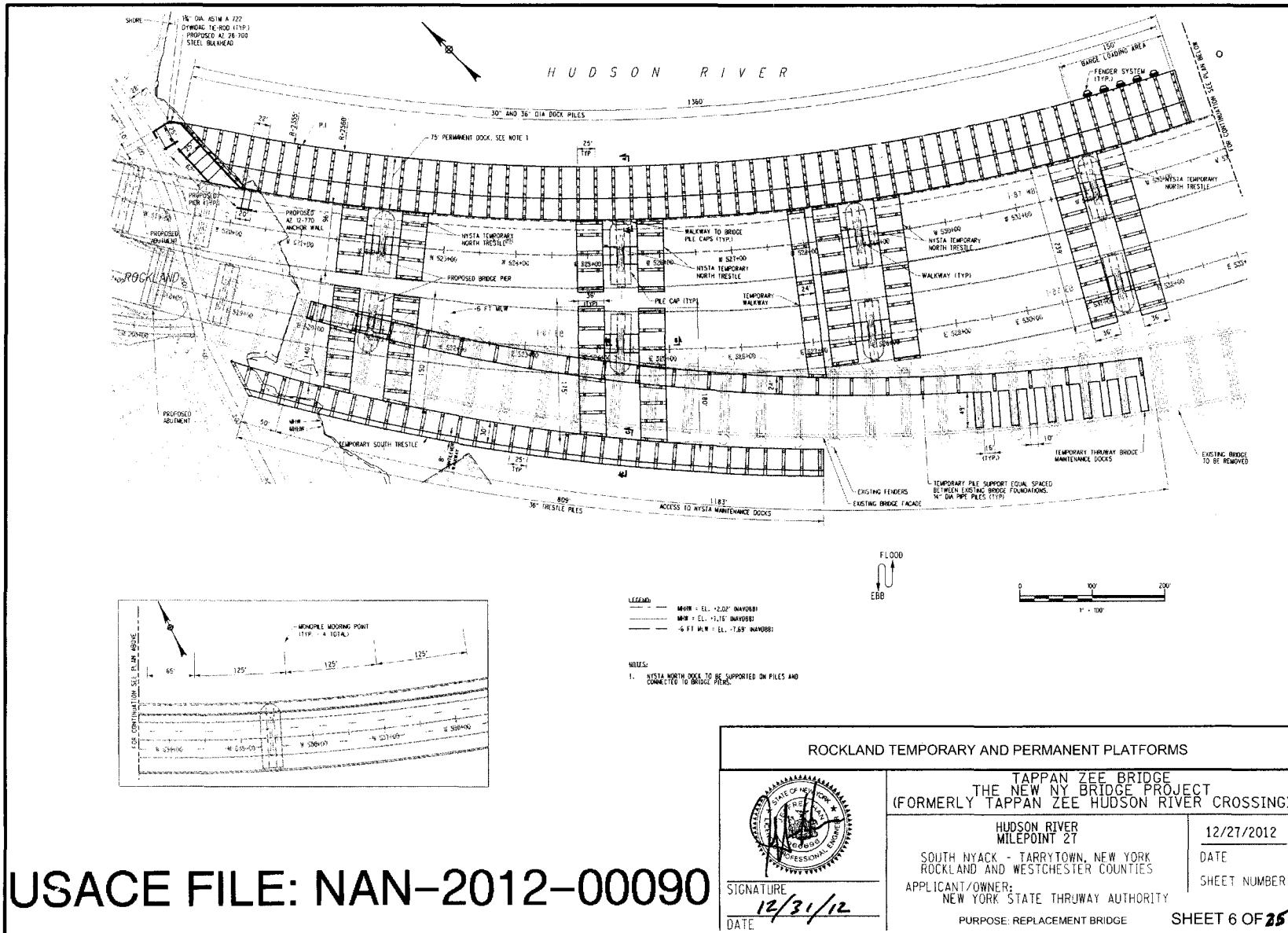
APPLICANT: NYS THRUWAY AUTHORITY
 PURPOSE: REPLACEMENT BRIDGE

ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED
 MAIN SPAN PLAN AND ELEVATION

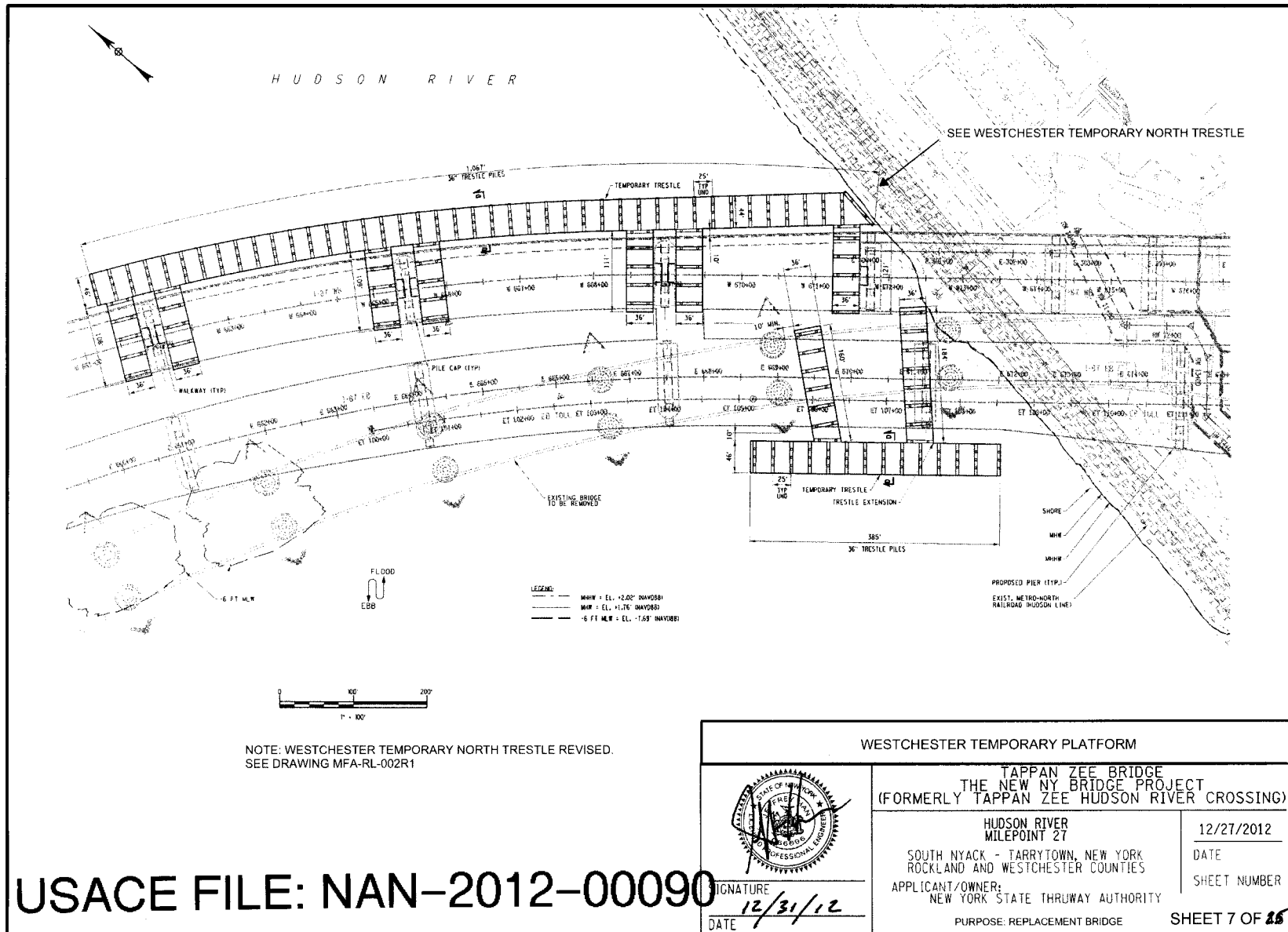
CONTRACT NUMBER
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NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION
 DOCUMENT NAME:

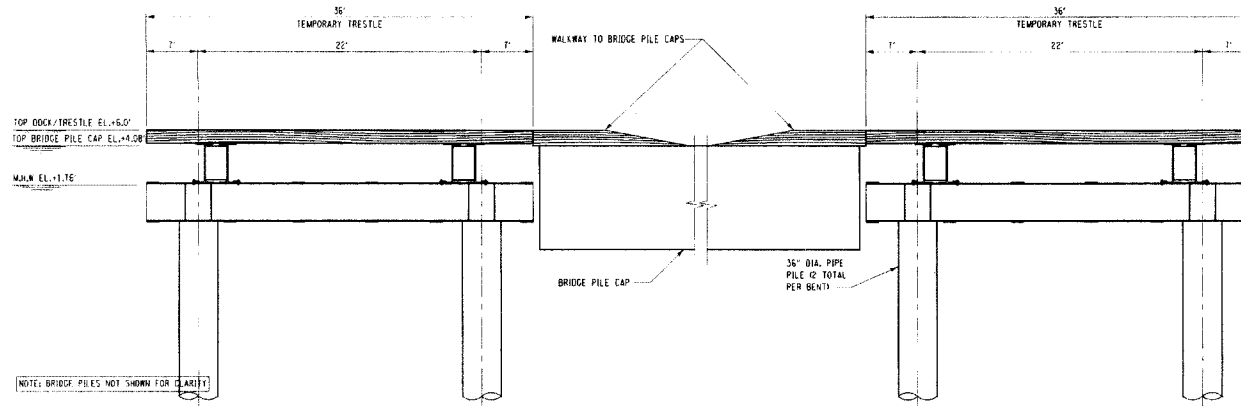
USACE FILE: NAN-2012-00090



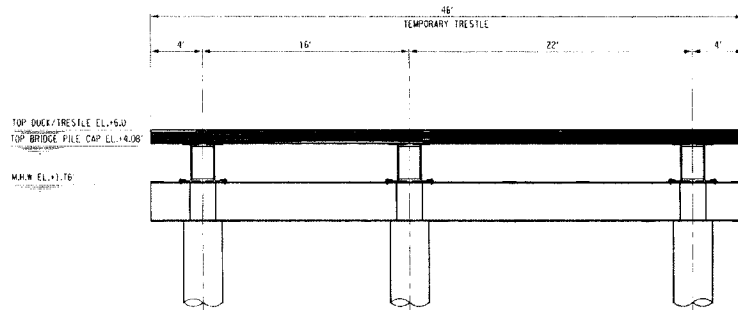
ROCKLAND TEMPORARY AND PERMANENT PLATFORMS		
	TAPPAN ZEE BRIDGE THE NEW NY BRIDGE PROJECT (FORMERLY TAPPAN ZEE HUDSON RIVER CROSSING)	
	HUDSON RIVER MILEPOINT 27	12/27/2012
	SOUTH NYACK - TARRYTOWN, NEW YORK ROCKLAND AND WESTCHESTER COUNTIES	DATE
	APPLICANT/OWNER: NEW YORK STATE THRUWAY AUTHORITY	SHEET NUMBER
SIGNATURE 12/31/12 DATE	PURPOSE: REPLACEMENT BRIDGE	
		SHEET 6 OF 25



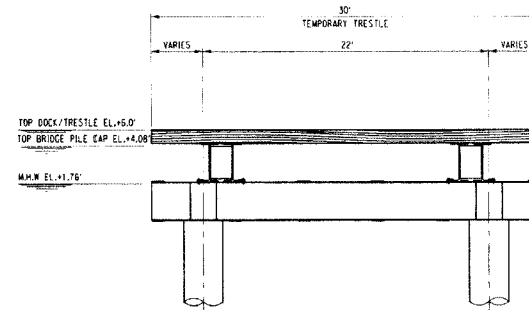
USACE FILE: NAN-2012-00090



TYPICAL PILE BENT
CROSS-SECTION B-B



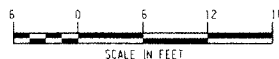
TYPICAL TEMPORARY TRESTLE
CROSS-SECTION D-D



TYPICAL TEMPORARY TRESTLE
CROSS-SECTION C-C

NOTES

- ELEVATIONS REFERENCE NAVD83.
- PILE CAP TO BE PRECAST 30"x48" PRECAST CONCRETE.
- PRECAST PLANKS TO BE 12" THICK WITH 6" STRUCTURAL TOPPING FOR DECK.
- PILE CAPACITY:
ALLOWABLE = 230 TONS
ULTIMATE = 705 TONS SF+3
- SECTION FOR TRESTLE AND PIER BETWEEN STATIONS 520+0 TO 525+0.
- LENGTH OF PILE VARIES BETWEEN 30' LONG TO 120' LONG.
- 25' BENT SPACING.
- POWER PEDESTALS SHALL BE ADMIRAL-SS 14 INCH MODEL AS MANUFACTURED BY MARINA POWER AND LIGHTING, INC. (800-723-8009). POWER PEDESTALS SHALL BE INSTALLED AT 100 FOOT SPACING ALONG THE PIER AND AT THE HEAD OF EACH VESSEL SLIP. 18 PEDESTALS ARE ESTIMATED.



TYPICAL TRESTLE CROSS SECTIONS



SIGNATURE

DATE

12/31/12

TAPPAN ZEE BRIDGE
THE NEW NY BRIDGE PROJECT
(FORMERLY TAPPAN ZEE HUDSON RIVER CROSSING)

HUDSON RIVER
MILEPOINT 27

SOUTH NYACK - TARRYTOWN, NEW YORK
ROCKLAND AND WESTCHESTER COUNTIES

APPLICANT/OWNER:
NEW YORK STATE THRUWAY AUTHORITY

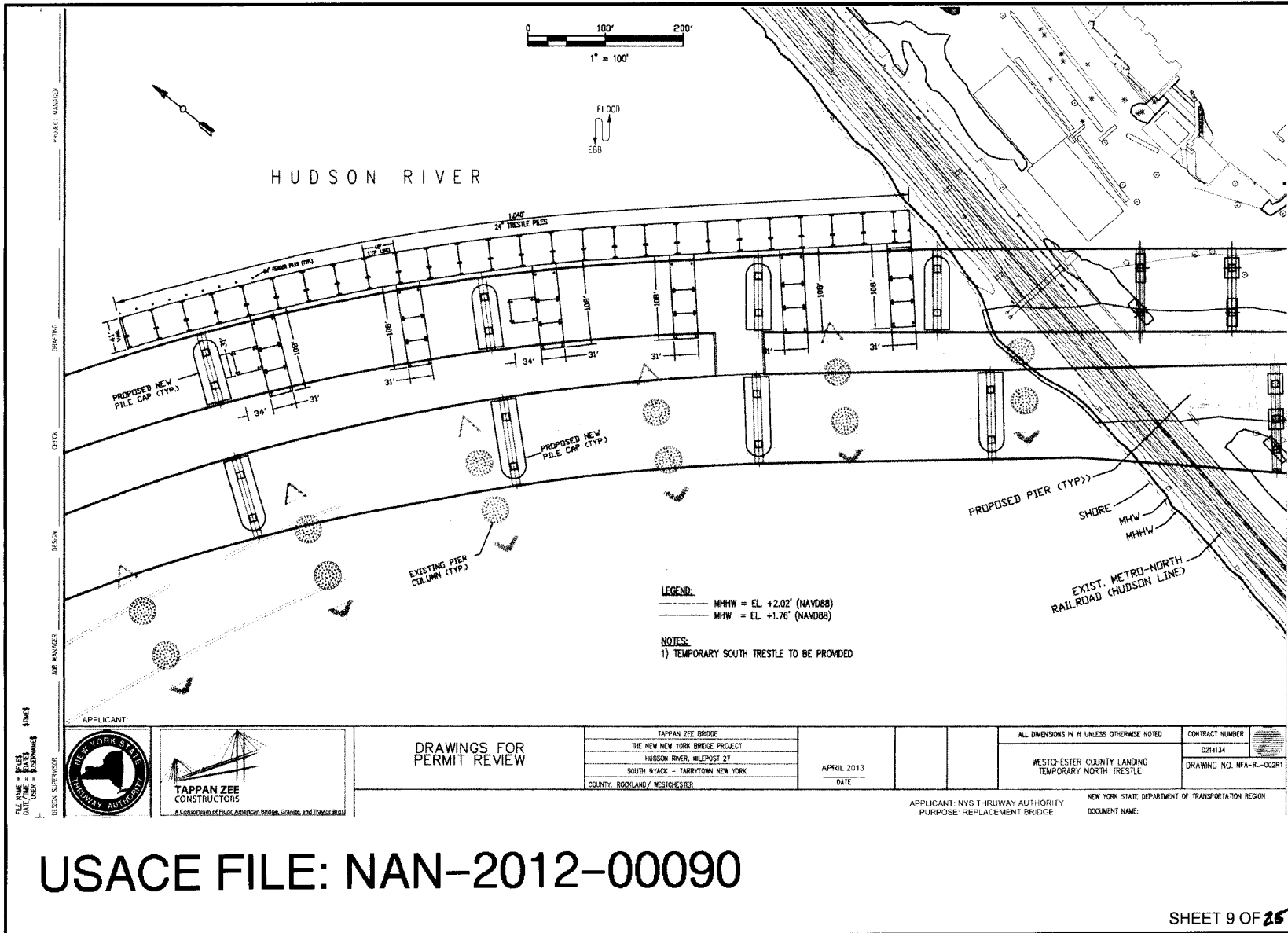
PURPOSE: REPLACEMENT BRIDGE

12/27/2012

DATE

SHEET NUMBER

SHEET 8 OF 25



PROJECT MANAGER

CHECK

SHIFTING

CHECK

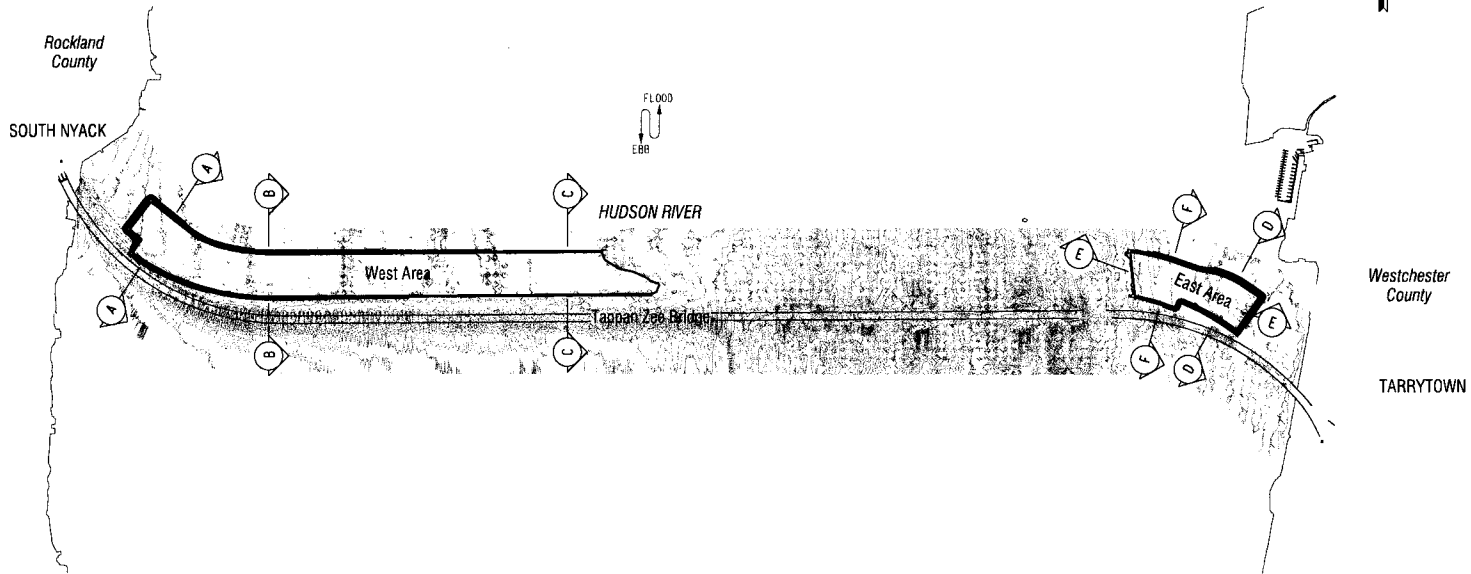
DESIGN

JOB MANAGER

DESIGN SUPERVISOR

Rockland
County

SOUTH NYACK



DATUM: MLW = -1.69'
MHW = +1.76'
REF: NAVD88

NOTES:

1. DIMENSIONS AND LOCATION OF TEMPORARY ACCESS CHANNEL BOTTOM BASED ON THAT PROVIDED BY NYSTA DRAWING NO. DIR-001THRU 004.
2. BASED UPON S.T. HUDSON ENGINEERS, INC. HYDROGRAPHIC SURVEY DATED JANUARY 26, 2012, SIGNED BY MR. MARK KLEIN #182 AND SIGNED AND SEALED BY MR. MICHAEL FASNACHT, NYSPE #57352.
3. AREAS IN TABLE BASED ON TOP OF SLOPE OF ACCESS CHANNEL AND ARMORING ELEVATION.

DREDGING	DEPTH AT MEAN LOW LOWER WATER (MLLW)	WEST AREA		EAST AREA		TOTAL	
		SCHEDULED: AUG-OCT 2013		SCHEDULED: AUG-OCT 2013			
		SURFACE AREA (AC.)	VOLUME (MCY)	SURFACE AREA (AC.)	VOLUME (MCY)	SURFACE AREA (AC.)	VOLUME (MCY)
ACCESS CHANNEL	-13	95.3	0.52	24.1	0.16	119.4	0.68
OVERDEPTH ALLOWANCE	-14		0.10		0.02		0.12
DREDGING TOTAL			0.62		0.18	119.4	0.80
ARMORING	-11	76.1	0.25	17.1	0.06	93.2	0.31

0 600' 1200' 1800' 2400'



REVISIONS

DESCRIPTION OF ALTERATIONS:

APPLICANT: NYS THRUWAY AUTHORITY

PURPOSE: REPLACEMENT BRIDGE

APRIL 2013

DATE

TAPPAN ZEE BRIDGE
HUDSON RIVER, MILEPOINT 27
SOUTH NYACK - TARRYTOWN, NEW YORK
THE NEW NY BRIDGE PROJECT
COUNTY: ROCKLAND/WESTCHESTER

PW

BRIDGES

CULVERTS

ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED
PROPOSED TEMPORARY ACCESS
CHANNEL DREDGING PLAN

CONTRACT NUMBER

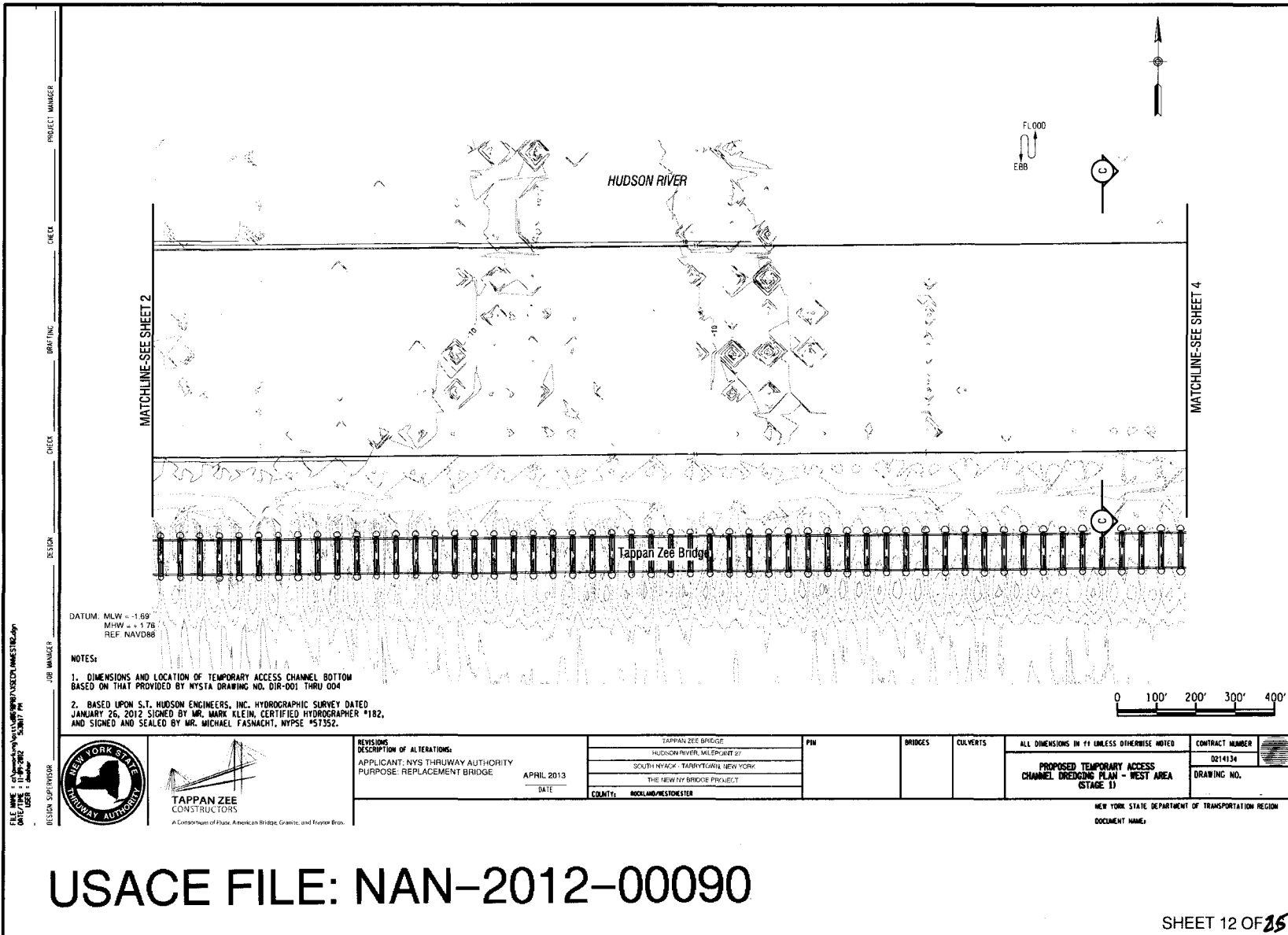
D2M14

DRAWING NO.

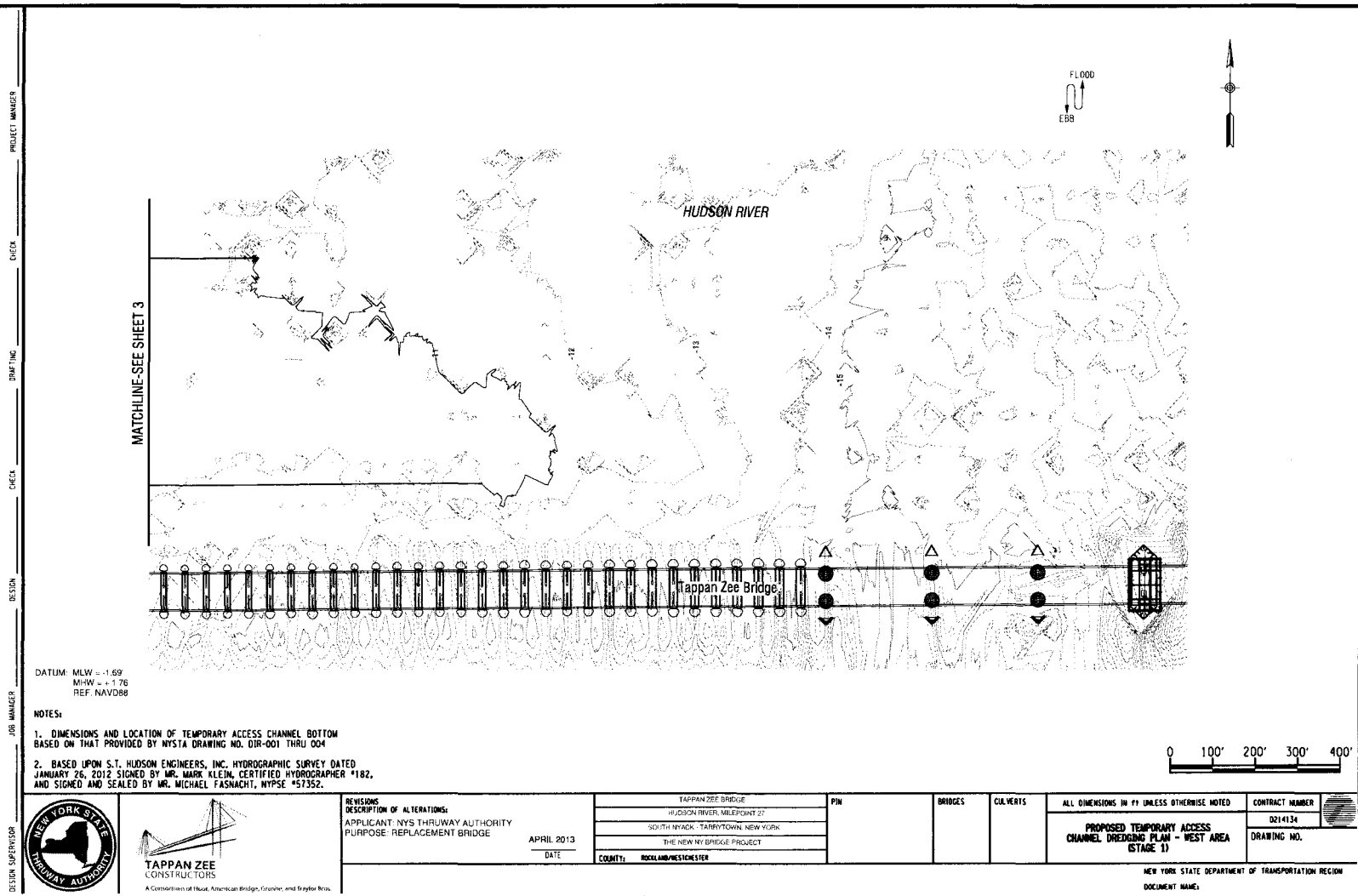
NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION
DOCUMENT NAME:

USACE FILE: NAN-2012-00090

SHEET 10 OF 25



USACE FILE: NAN-2012-00090



FILE NAME: C:\Users\jason\Documents\Tappan Zee Bridge\Tappan Zee Bridge.dwg
DATE: 11/11/2013 10:11 AM
USER: jason

DESIGN SUPERVISOR _____
DESIGN _____
CHECK _____
DRAFTING _____
DESK _____
PROJECT MANAGER _____



REVISIONS
DESCRIPTION OF ALTERATIONS:
APPLICANT: NYS THRUWAY AUTHORITY
PURPOSE: REPLACEMENT BRIDGE
APRIL 2013
DATE

TAPPAN ZEE BRIDGE
HUDSON RIVER, MILEPOINT 37
SOUTH NYACK, TAPPANTOWN, NEW YORK
THE NEW NY BRIDGE PROJECT
COUNTY: ROCKLAND/WESTCHESTER

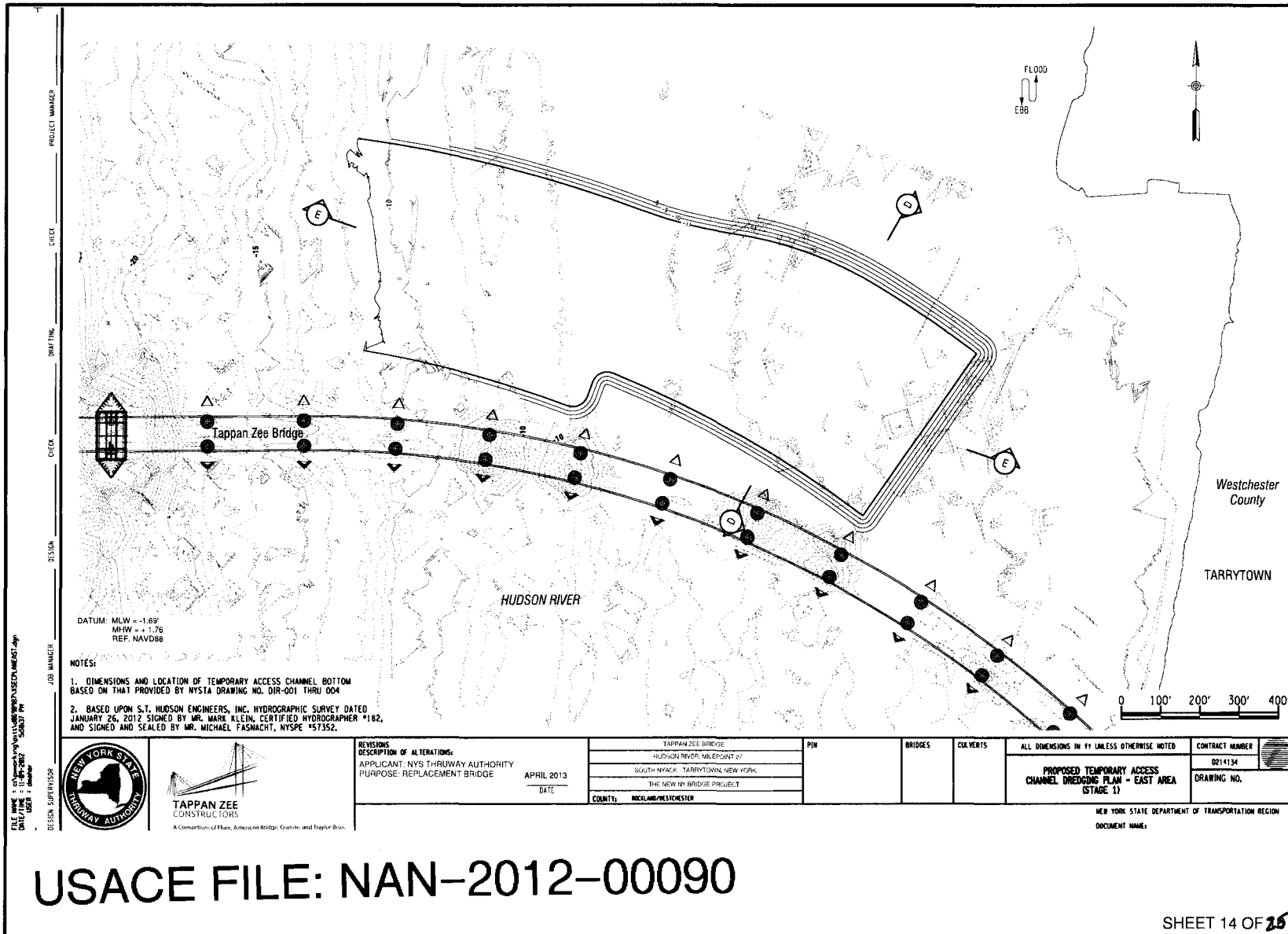
PIN
BRIDGES
CULVERTS

ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED
PROPOSED TEMPORARY ACCESS
CHANNEL DREDGING PLAN - WEST AREA
(STAGE 1)

CONTRACT NUMBER
0214134
DRAWING NO.

NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION
DOCUMENT NAME:

USACE FILE: NAN-2012-00090



PROJECT MANAGER

CHECK

DRAWING

CHECK

DESIGN

JOB MANAGER

DATUM: MLW = -1.69'
 MHW = +1.76'
 REF: NAVD88



A Consortium of Fluor American Bridge, Granite, and Taylor Inc.

REVISIONS

DESCRIPTION OF ALTERATIONS:
 APPLICANT: NYS THRUWAY AUTHORITY
 PURPOSE: REPLACEMENT BRIDGE

APRIL 2013
 DATE

TAPPAN ZEE BRIDGE
 HUDSON RIVER, MILEPOINT 27
 SOUTH NYACK, TAPPANZEE NEW YORK
 THE NEW NY BRIDGE PROJECT
 COUNTY: ROCKLAND/WESTCHESTER

PIN

BRIDGES

CULVERTS

ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED

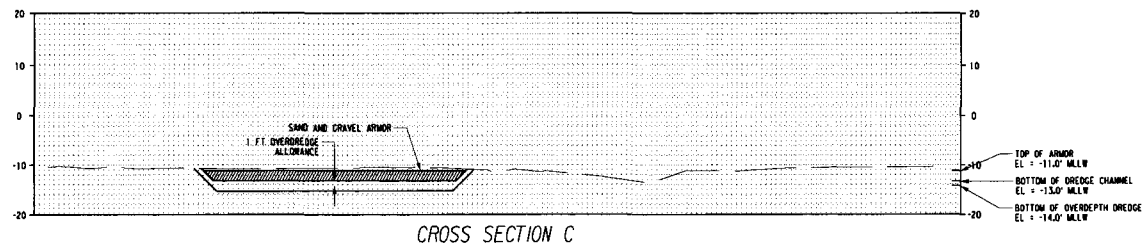
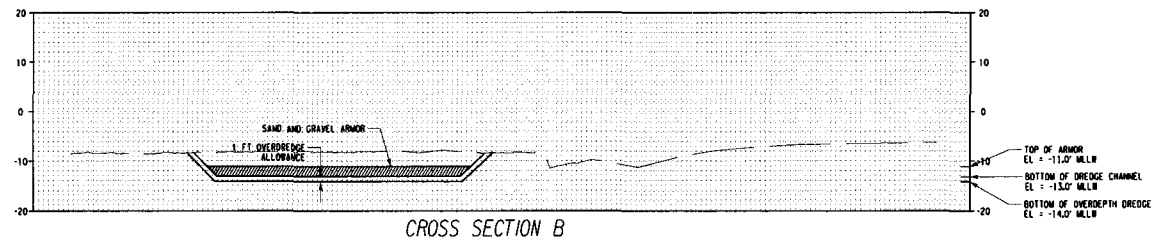
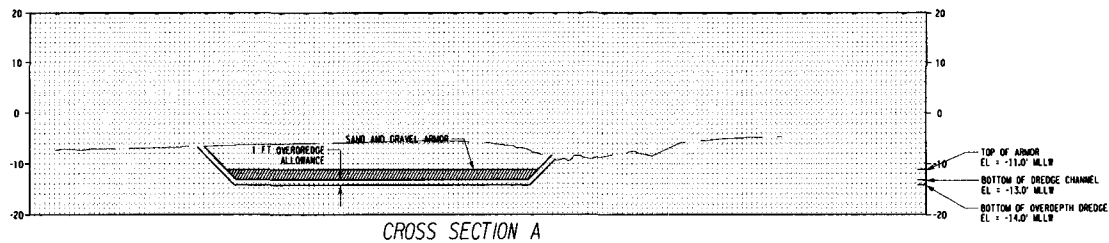
CONTRACT NUMBER

D214134

DRAWING NO.

SHEET NO.

NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION
 DOCUMENT NAME:



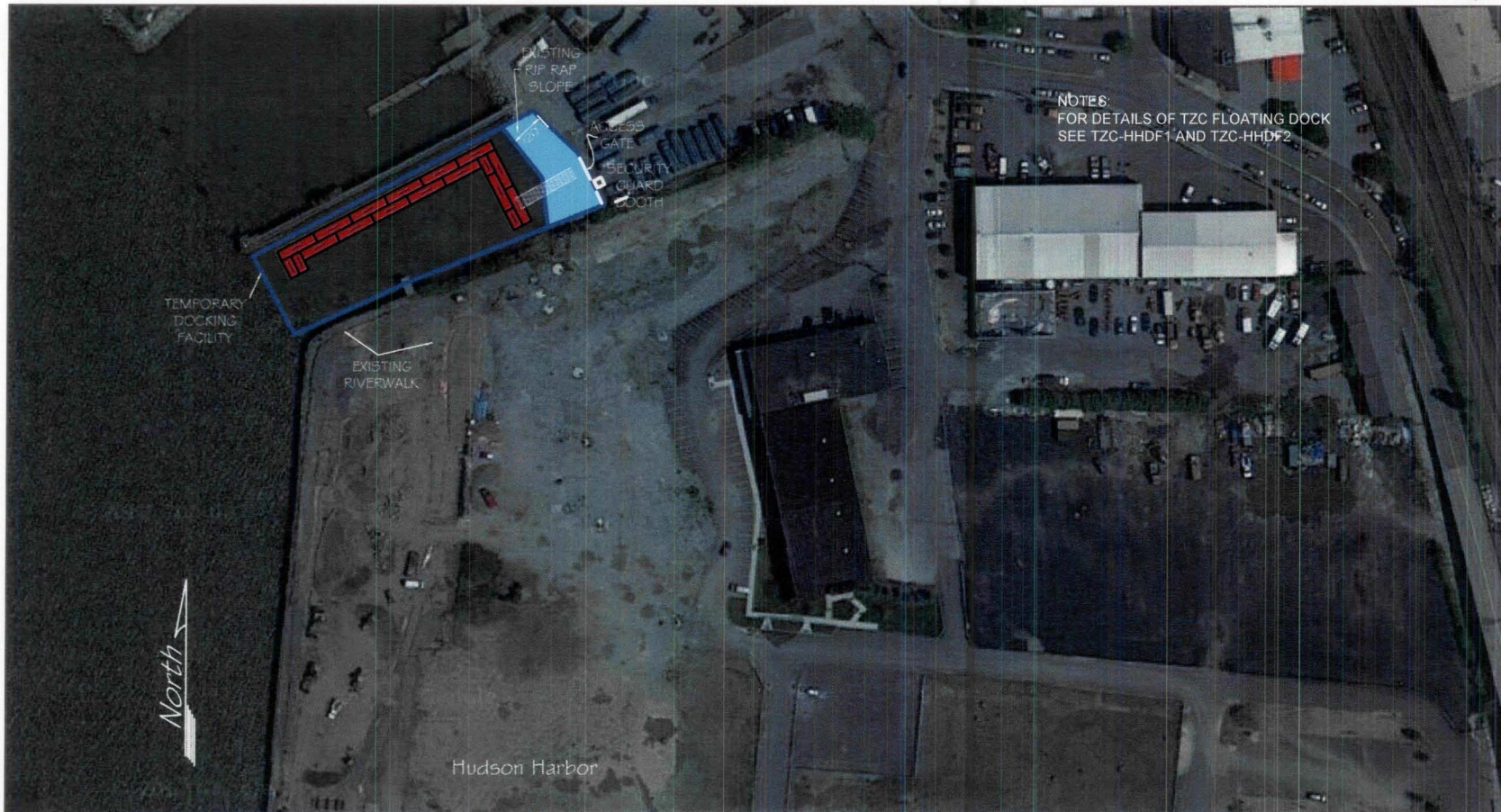
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DESIGN SUPERVISOR

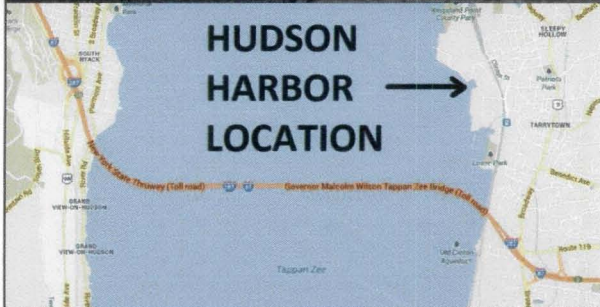
USACE FILE: NAN-2012-00090

SHEET 15 OF 25

JUN 24 2013



NOTES:
FOR DETAILS OF TZC FLOATING DOCK
SEE TZC-HHDF1 AND TZC-HHDF2



0 100 200
SCALE IN FEET

TAPPAN ZEE HUDSON RIVER CROSSING
THE NEW NY BRIDGE
NEW YORK STATE THRUWAY AUTHORITY
ROCKLAND & WESTCHESTER COUNTIES

TEMPORARY DOCKING FACILITY AND
LOCATION MAP AT HUDSON HARBOR
TARRYTOWN VILLAGE, WESTCHESTER COUNTY



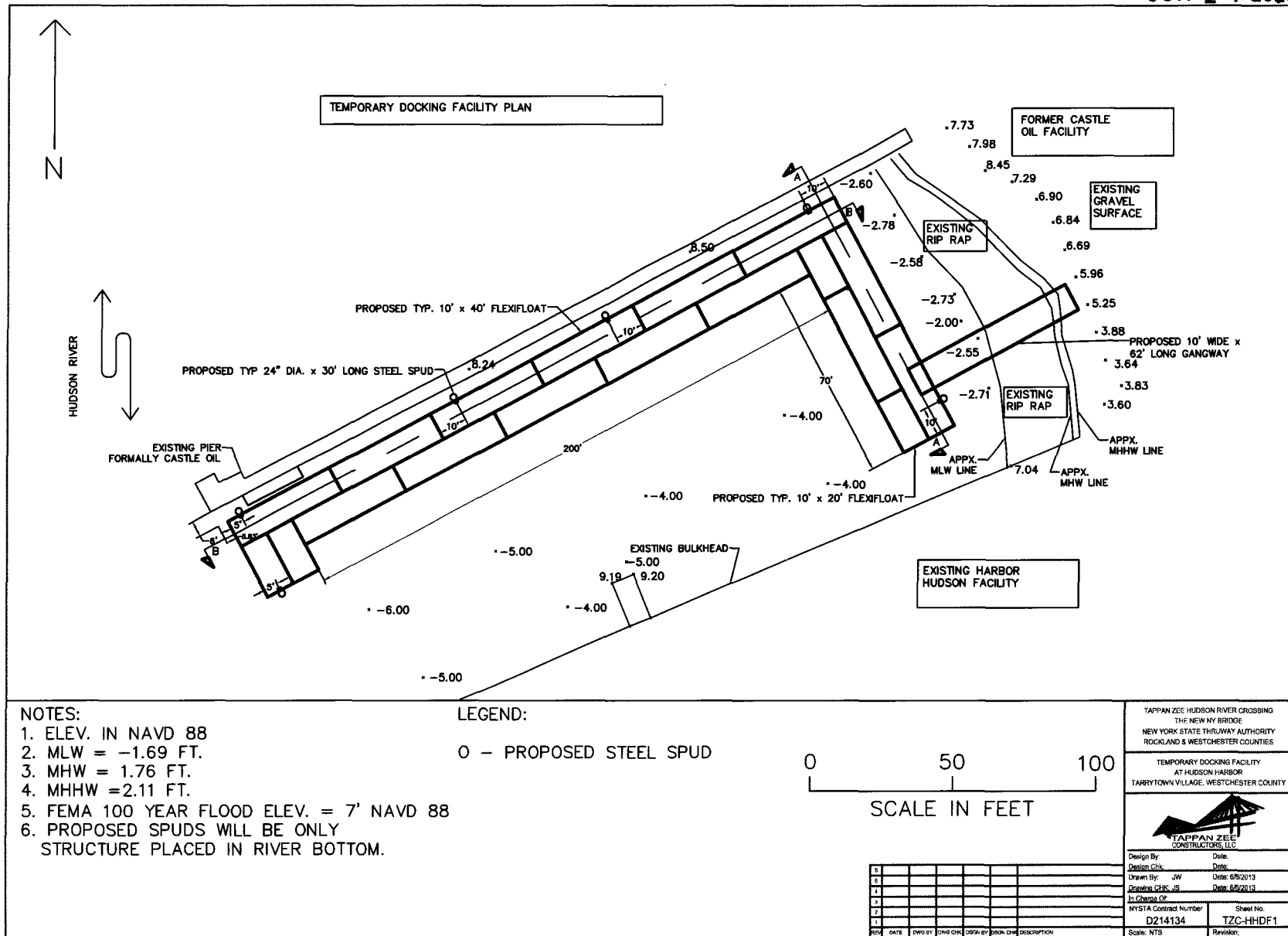
Design By:	Date:
Design Ck:	Date:
Drawn By: JW	Date: 6/6/2013
Reviewed Ck: JS	Date: 6/6/2013
NYSTA Contract Number	Sheet No.
D214134	TZC-HHDF3
Scale: NTS	Revision:

REV	DATE	DWG BY	DWG CHK	DSN BY	DSN CHK	DESCRIPTION
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2						
3						
4						
5						
6						

USACE FILE: NAN-2012-00090

SHEET 17 of 25
JUN 24 2013

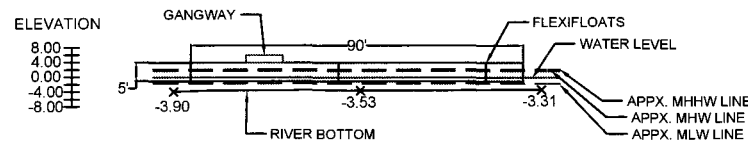
JUN 24 2013



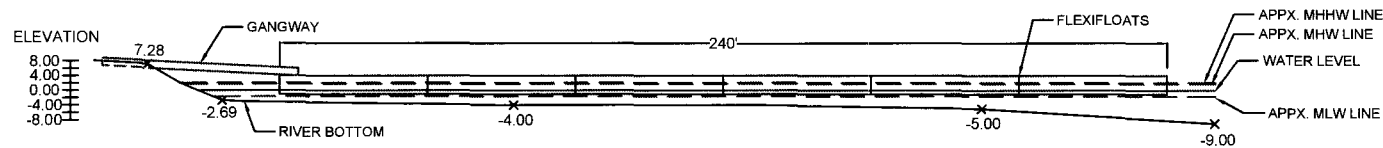
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SHEET 18 of 25
JUN 24 2013

JUN 24 2013



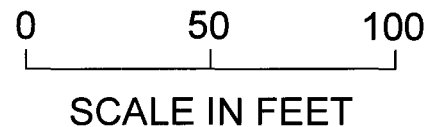
TEMPORARY DOCKING FACILITY - SECTION A




TEMPORARY DOCKING FACILITY - SECTION B

DATUM:

1. ELEV. IN NAVD 88
2. MLW = -1.69 FT.
3. MHW = 1.76 FT.
4. MHHW = 2.11 FT.
5. FEMA 100 YEAR FLOOD ELEVATION = 7' NAVD 88



REV	DATE	DWG BY	CHKD BY	ORGN BY	DESCRPTION
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2					
3					
4					
5					

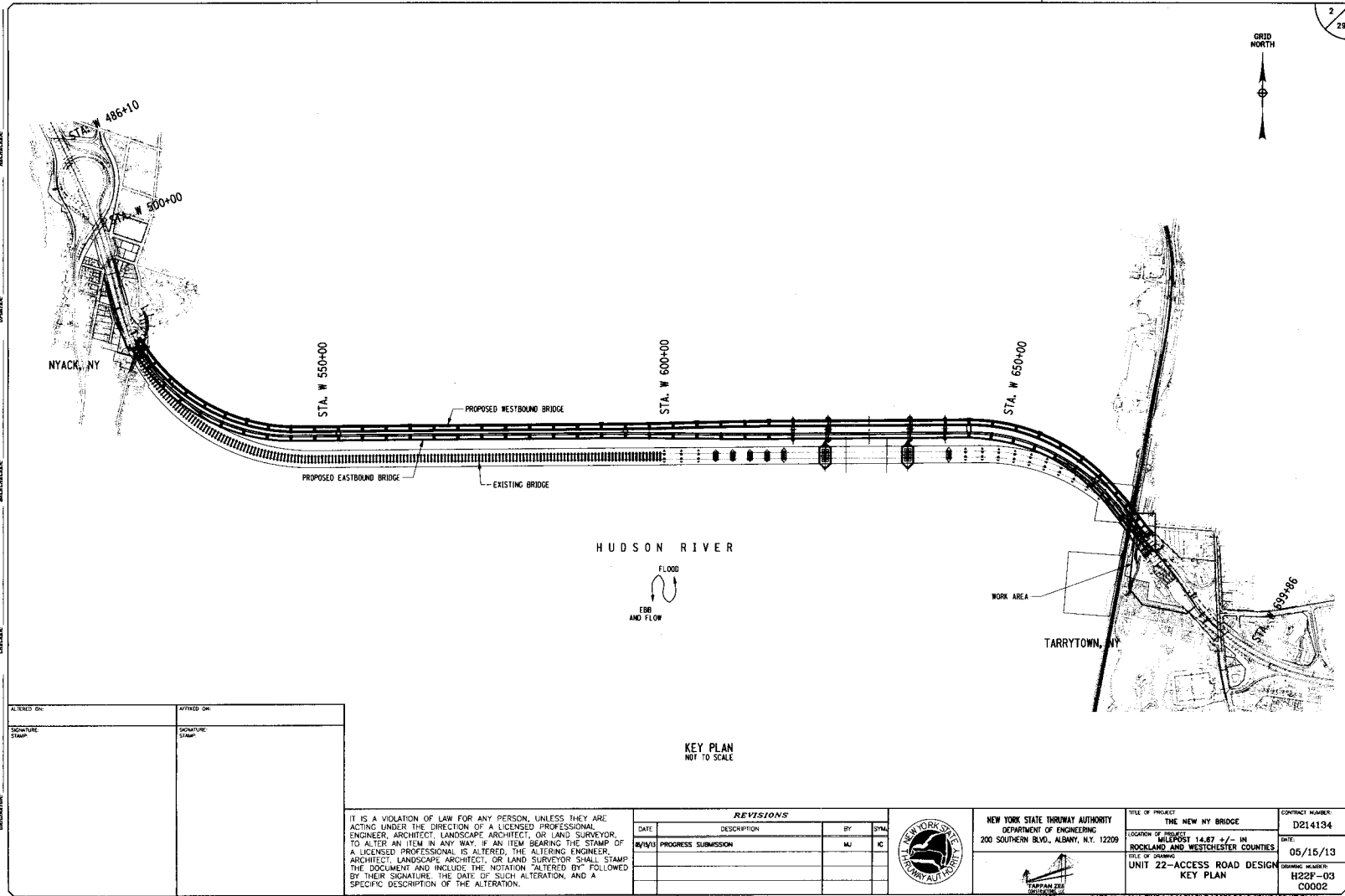
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TEMPORARY DOCKING FACILITY AT HUDSON HARBOR TARRYTOWN VILLAGE, WESTCHESTER COUNTY	
 TAPPAN ZEE CONSTRUCTORS, LLC	
Design By:	Date:
Checked By:	Date:
Drawn By: JW	Date: 6/8/2013
Drawing CHK: JS	Date: 6/8/2013
In Charge Of:	
NYSTA Contract Number D214134	Sheet No. TZC-HHDF2
Scale: NTS	Revision:

USACE FILE: NAN-2012-00090

SHEET 19 of 25
JUN 24 2013

JUN 24 2013

2
29



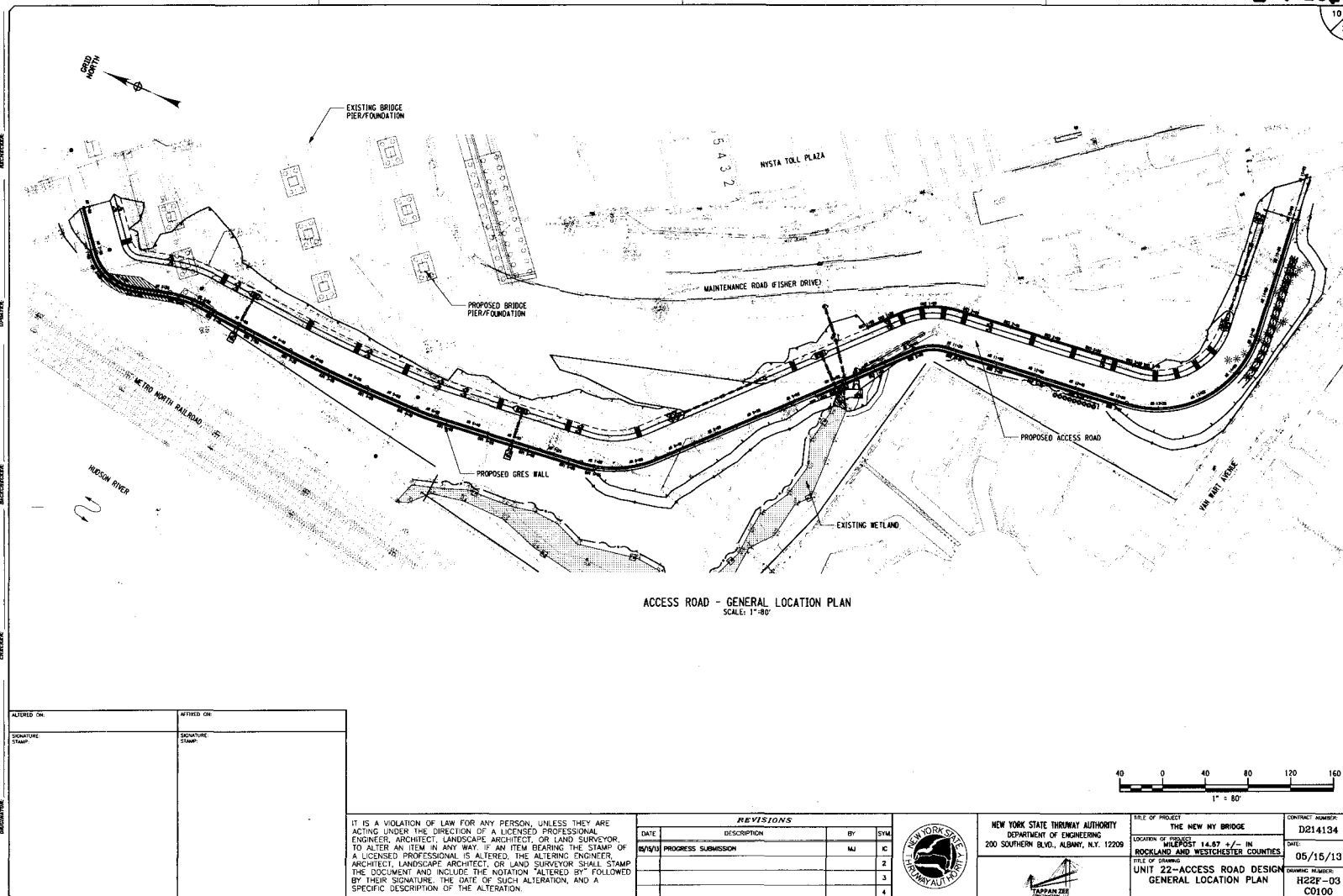
USACE FILE: NAN-2012-00090

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JUN 24 2013

JUN 24 2023

10
29



ALTERED ON	WITNESSED ON
SIGNATURE	SIGNATURE
Stamp	Stamp

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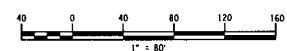
REVISIONS			
DATE	DESCRIPTION	BY	SYM
05/15/13	PROGRESS SUBMISSION	NAJ	K
			2
			3
			4



NEW YORK STATE THRUWAY AUTHORITY
DEPARTMENT OF ENGINEERING
200 SOUTHERN BLVD., ALBANY, N.Y. 12209

FILE OF PROJECT
THE NEW NY BRIDGE
LOCATION OF BRIDGE
MILEPOST 14.87 +/- IN
ROCKLAND AND WESTCHESTER COUNTIES
FILE OF DRAWING
UNIT 22-ACCESS ROAD DESIGN
GENERAL LOCATION PLAN
DRAWING NUMBER
H22P-03
C0100

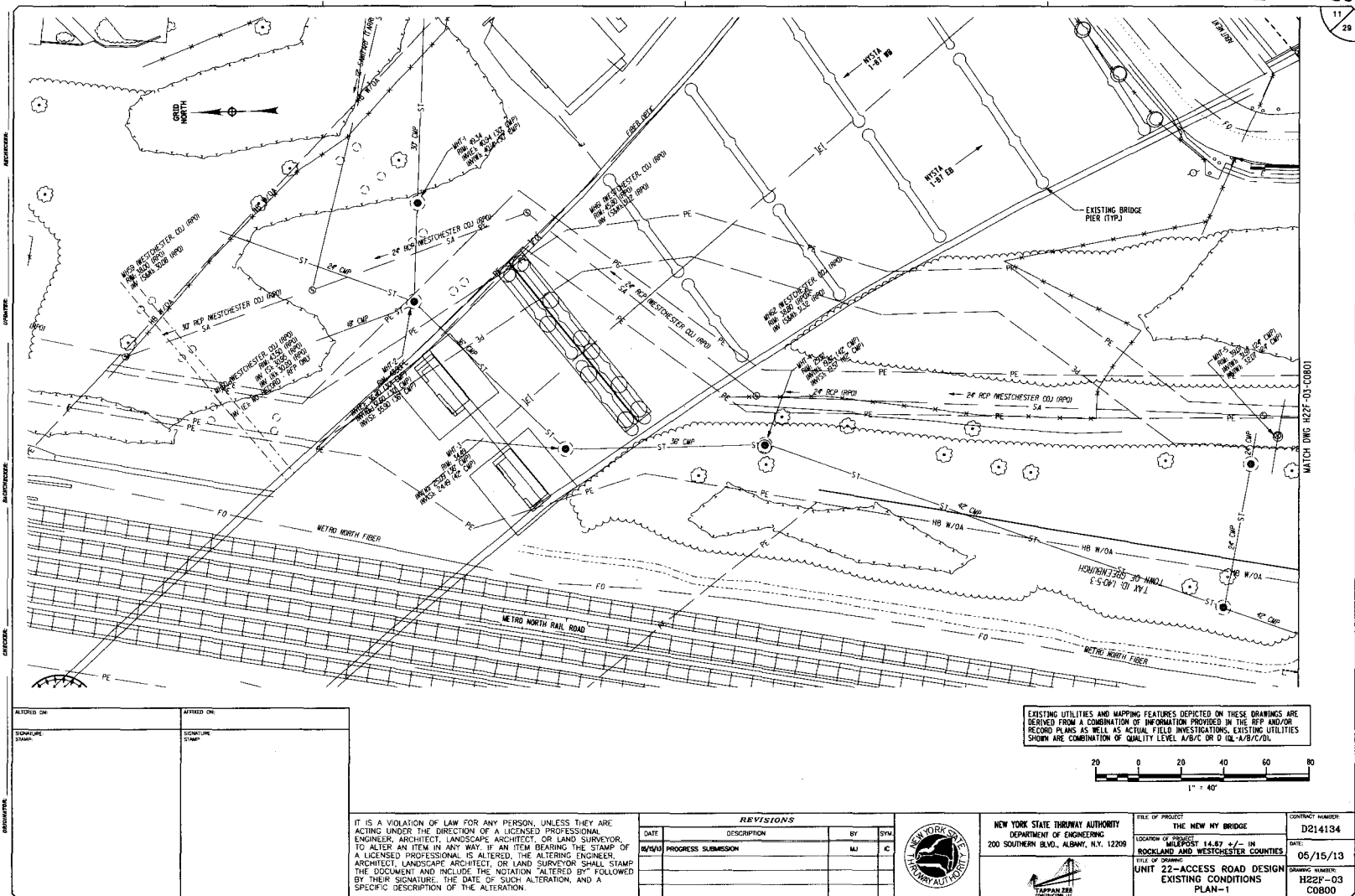
CONTRACT NUMBER
D214134
DATE
05/15/13
DRAWING NUMBER
H22P-03
C0100



USACE FILE: NAN-2012-00090

SHEET 21 of 25
JUN 24 2023

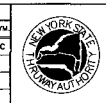
JUN 24 2023



ALTERED ON:	APPROVED ON:
SIGNATURE:	SIGNATURE:

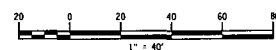
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

REVISIONS			
DATE	DESCRIPTION	BY	SYN
6/15/21	PROGRESS SUBMISSION	MJ	IC



NEW YORK STATE THRUWAY AUTHORITY
DEPARTMENT OF ENGINEERING
200 SOUTHERN BLVD., ALBANY, N.Y. 12209

TITLE OF PROJECT THE NEW NY BRIDGE	CONTRACT NUMBER D214134
LOCATION OF PROJECT MILEPOST 14.87 +/- IN ROCKLAND AND WESTCHESTER COUNTIES	DATE 05/15/13
TITLE OF DRAWING UNIT 22-ACCESS ROAD DESIGN EXISTING CONDITIONS PLAN-1	DRAWING NUMBER H22P-03 C0800



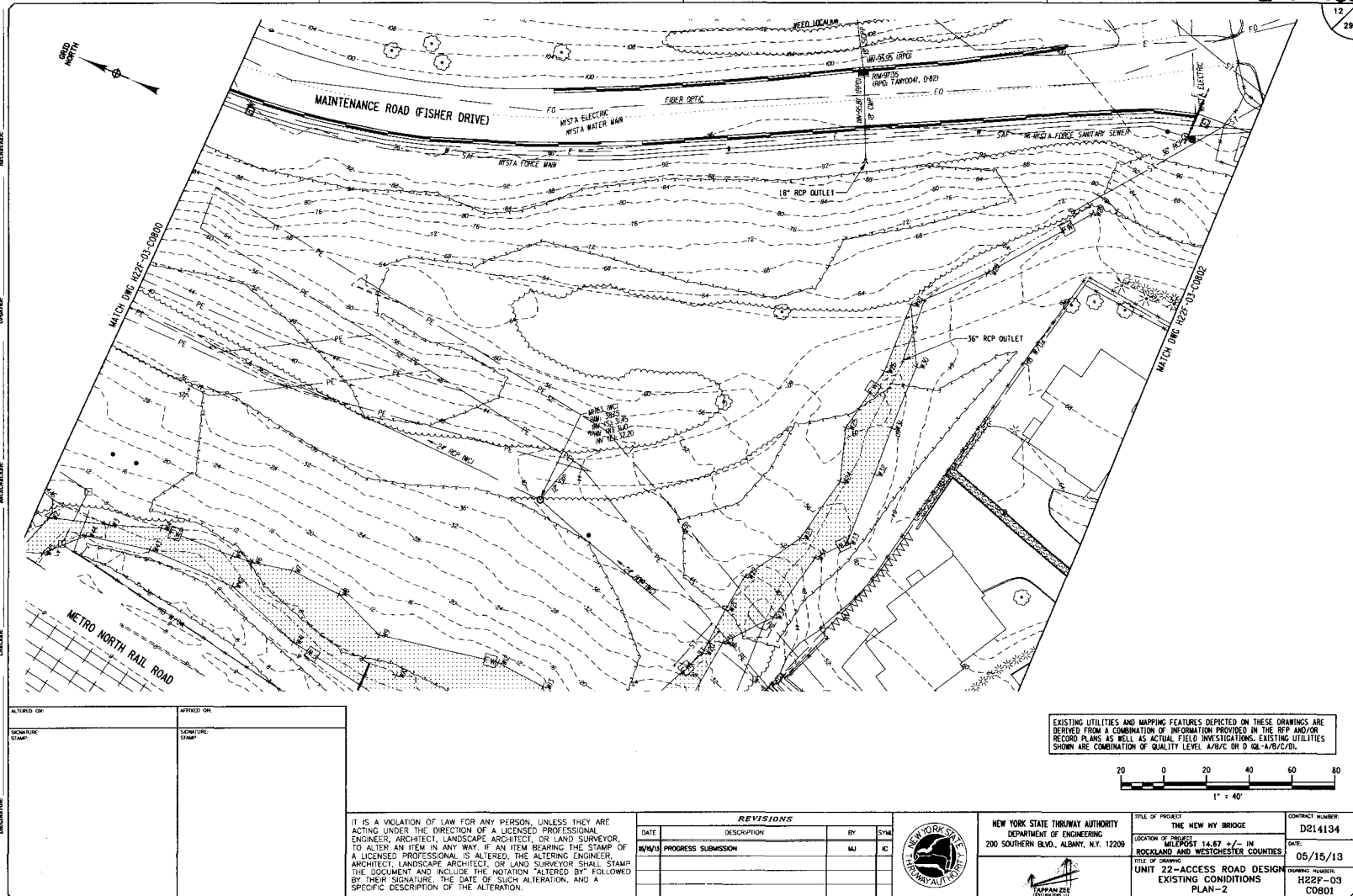
USACE FILE: NAN-2012-00090

SHEET 22 of 25
JUN 24 2023

DOCUMENT TRACKING CODE: 1027-03

JUN 24 2023

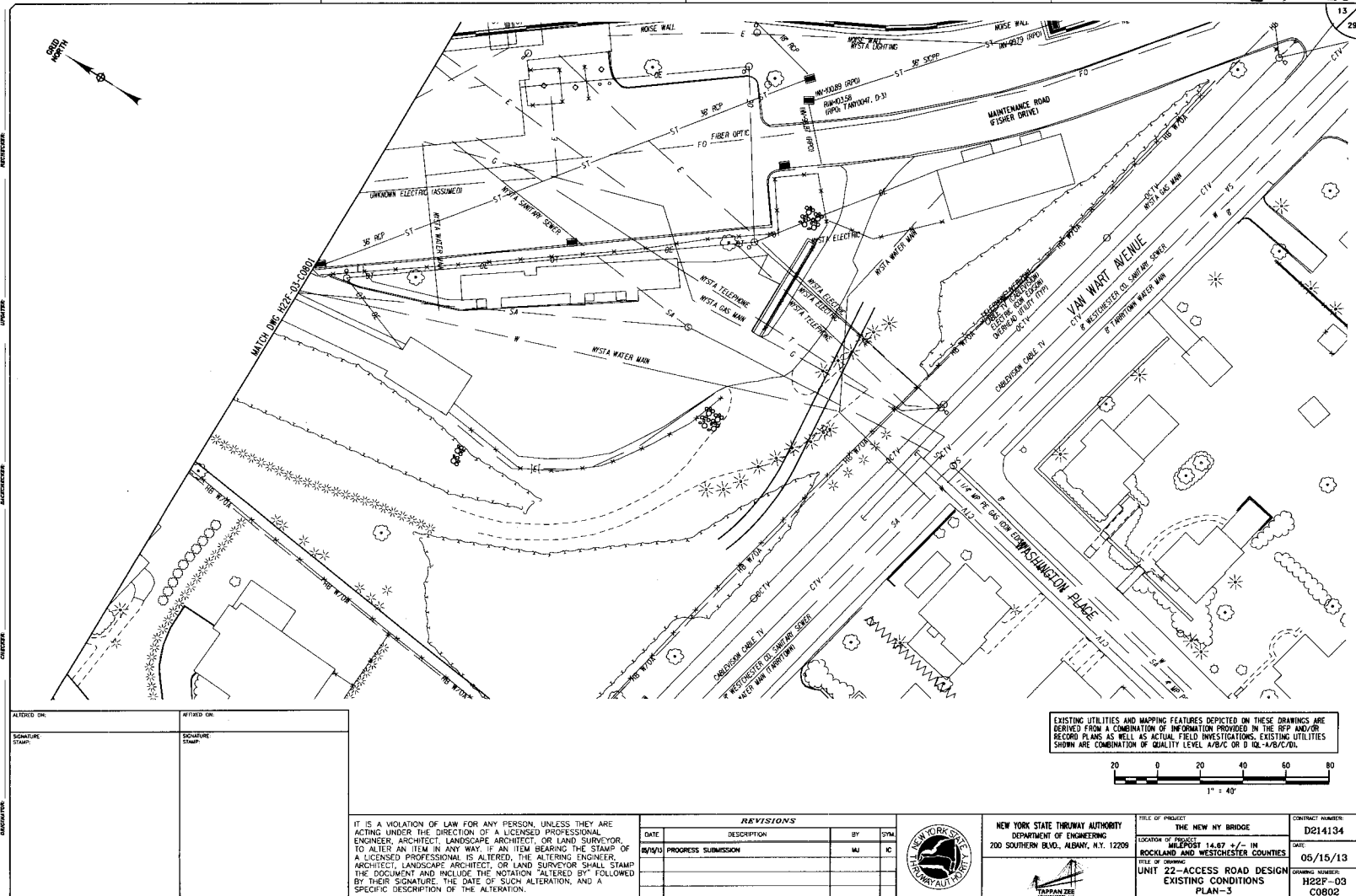
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USACE FILE: NAN-2012-00090

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JUN 24 2023

JUN 24 2023

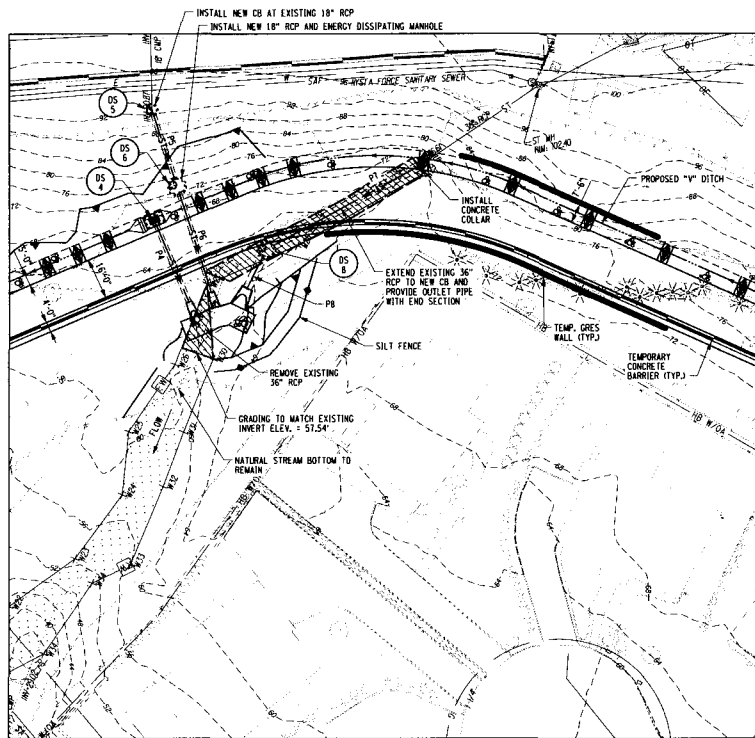


USACE FILE: NAN-2012-00090

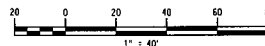
SHEET 24 of 25
JUN 24 2023

JUN 24 2013

21
29



CULVERT REPLACEMENT PLAN



WETLAND IMPACT AREA	
FILLED AREA	
900 SF	

LEGEND:

- EXISTING WETLAND BOUNDARY
- WETLAND FILL AREA
- TREE / VEGETATION PROTECTION BARRIER
- SILT FENCE
- STONE CHECK DAM

NOTES:

1. EROSION CONTROL MEASURES AS INDICATED ON THE PLANS SHALL BE PLACED AS CLOSE AS POSSIBLE TO THE EDGE OF THE EXISTING WETLANDS TO BE PRESERVED WITHOUT INTERFERING WITH GRADING OPERATIONS.
2. WETLAND AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO THE AREAS SHOWN ON THE PLANS. THESE AREAS SHALL BE SEEDED WITH WETLAND SEED MIX AS SOON AS WORK IN THESE AREAS IS FINISHED. CULVERT MODIFICATION WILL BE IMMEDIATELY ADJACENT TO ACCESS ROAD WORK.
3. CONSTRUCTION METHODS WILL COMPLY WITH THE FINAL REGIONAL CONDITIONS, WATER QUALITY CERTIFICATION AND COASTAL ZONE CONCURRENCE FOR NATIONWIDE PERMIT 14.
4. SLOPE APPLIED EROSION CONTROL PRODUCT SHALL BE PLACED ON SLOPES GREATER THAN 3 ON 1.
5. HEAVY MACHINERY SHALL NOT BE PLACED WITHIN DELINEATED WETLANDS.
6. EROSION CONTROL MEASURES TO BE REMOVED UPON ESTABLISHMENT.

SEED MIX B				
A - MIN. GERMINATION				
B - MIN. 2 GERMINATION & HARD SEED				
C - LBS. PURE LIVE SEED/ACRE				
NAME	VARIETY	A	B	C
ANNUAL RYEGRASS	COMMERCIAL	90		15
PERENNIAL RYEGRASS	COMMERCIAL	90		50
POA ANNUA	COMMERCIAL	85		35

ALTERED ON:	ALTERED ON:
SIGNATURE:	SIGNATURE:
STAMP:	STAMP:

REFERENCES

REF. NO. DRAWING TITLE

UNLESS NOTED OTHERWISE, ALL REFERENCED DRAWINGS ARE WITHIN THIS DESIGN PACKAGE.

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REVISIONS			
DATE	DESCRIPTION	BY	CHK
06/10/13	PROGRESS SUBMISSION	MJ	IC



NEW YORK STATE THRUWAY AUTHORITY
DEPARTMENT OF ENGINEERING
200 SOUTHERN BLVD., ALBANY, N.Y. 12209

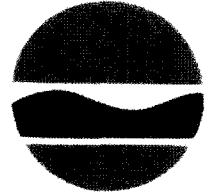
TITLE OF PROJECT: THE NEW NY BRIDGE
LOCATION OF PROJECT: MILEPOST 14.67 +/- IN ROCKLAND AND WESTCHESTER COUNTIES
FILE OF DRAWING: UNIT 22-ACCESS ROAD DESIGN CULVERT REPLACEMENT PLAN
CONTRACT NUMBER: D214134
DATE: 06/07/13
DRAWING NUMBER: H22F-03 C1400

DOCUMENT TRACKING CODE: H22F-03

USACE FILE: NAN-2012-00090

SHEET 25 of 25
JUN 24 2013

**New York State
Department of Environmental Conservation**



PERMIT

Under the New York State Environmental Conservation Law (ECL)

PERMITTEE AND FACILITY INFORMATION

PERMITTEE

New York State Thruway Authority
200 Southern Boulevard PO Box 189
Albany, NY 12209-0189

USACE FILE: NAN-2012-00090-WSC

RECEIVED BY REGULATORY

MAR 27 2013

NY DIST. CORPS OF ENGINEERS

FACILITY

Tappan Zee Bridge/The New NY Bridge

PROJECT LOCATION

The Hudson River north of the existing Tappan Zee Bridge.

AUTHORIZED ACTIVITY

The Permittee will construct a new crossing of the Hudson River consisting of two parallel structures between Rockland County and Westchester County. The new bridge will replace the existing Tappan Zee Bridge, which will be demolished.

This permit approves the following Authorized Activity:

1. Implementation of a phased Pile Load Testing Program, including the installation and removal of 15 temporary piles in the Hudson River.
2. Construction of two parallel bridge structures extending from landings to be built in Rockland and Westchester Counties. The new structures will span the Hudson River navigation channel using cable-stayed towers. This work will require the dredging, installation of piles, pile caps, piers, and other support structures in the Hudson River, and includes the following:
 - Dredging of 951,000 cubic yards of sediment over 139 acres of Hudson River bottom.
 - Covering, or "armoring," 107 acres of dredged river bottom with sand and stone up to two feet in depth.
 - Construction of 6.69 acres of temporary fixed platforms and 2.44 acres of trestles and permanent fixed platforms supported by steel piles, over the Hudson River.
 - Construction of 42 in-water pile-supported support piers.
 - Installation of 150 linear feet of steel sheet pile bulkhead.
 - Installation of piles (other than piles for Pile Load Testing Program in 1, above).
3. Demolition and removal of the existing Tappan Zee Bridge from the bed and banks of the Hudson River.



4. An Incidental Take, as defined in 6NYCRR Part 182.2(j), for potential physiological effects to an estimated 43 Atlantic sturgeon and 43 shortnose sturgeon during project construction, including potentially lethal injury to two Atlantic and two shortnose sturgeon.

PERMIT AUTHORIZATIONS

TIDAL WETLANDS – ECL Article 25

Permit ID 3-9903-00043/00012

New Permit Effective Date: March 25, 2013

Expiration Date: March 24, 2019

SECT. 401 WATER QUALITY CERTIFICATION – ECL Article 15

Permit ID 3-9903-00043/00013

New Permit Effective Date: March 25, 2013

Expiration Date: March 24, 2019

ENDANGERED/THREATENED SPECIES (INCIDENTAL TAKE) – ECL Article 11

Permit ID 3-9903-00043/00014

New Permit Effective Date: March 25, 2013

Expiration Date: March 24, 2019

NYSDEC APPROVAL

By accepting this permit the Permittee agrees that the Department's approval is contingent on compliance with the ECL, all applicable regulations and all permit conditions.

Permit Administrator: John J. Ferguson, Chief Permit Administrator
Address: NYSDEC ALBANY HEADQUARTERS
625 BROADWAY, 4TH FLOOR
ALBANY, NY 12233

Authorized Signature: _____

Date: 3-25-13



SECTION 401 WATER QUALITY CERTIFICATION

The Department of Environmental Conservation hereby certifies that the Authorized Activity, when conducted in compliance with permit conditions, will comply with effluent limitations and standards under Sections 301, 302, 303, 306 and 307 of the Clean Water Act of 1977 (PL 95-217).

NET CONSERVATION BENEFIT

By letter dated June 25, 2012, the Permittee provided an Endangered and Threatened Species Mitigation Plan. By letter July 23, 2012 the Permittee submitted an Implementation Plan. Each plan fulfills the requirements of 6 NYCRR §182.11(d).

Within 120 days of the effective date of this permit (except as identified in C, below) the Permittee must submit to the Department for its approval refinements to these plans, including final details, schedule, and execution program, as outlined below. These final details are to be developed in collaboration with the Department.

Carrying out the Authorized Activity in conformity with the conditions of this Permit and executing the final Endangered and Threatened Species Mitigation Plan as outlined below – and as finalized in collaboration with, and approved by, the Department – will result in a Net Conservation Benefit to the shortnose and Atlantic sturgeon of the Hudson River.

The Endangered and Threatened Species Mitigation Plan will consist of the following:

- A. Mapping of Hudson River shallows less than four meters deep to document benthic habitat used by Atlantic and shortnose sturgeon. Mapping will extend from the Troy Dam south to New York Harbor, and will use techniques consistent with those used by the NOAA Coastal Services Center to map the shallows from Saugerties north to the Troy Dam. The mapping effort may omit the Saugerties to Troy Dam river stretch if the new data can be integrated with the NOAA data into a seamless digital product that can be viewed by general public users. To support and illuminate the sturgeon-related mitigation actions that follow, this work must be completed *within two years of the effective date of the Permit*.
- B. A study of sturgeon foraging habits using gastric lavage to obtain gut contents in order to link sturgeons' diet to benthic habitats. Twenty to thirty of each life stage and species described below are to be lavaged; these fish will not be tagged with sonic tags. Biological characteristics (length and weight) will be collected; a PIT tag will be applied to each fish prior to release.



- C. *No more than 90 days after the effective date of this permit*, or as soon as the Permittee can obtain requisite authorizations to do so, including National Marine Fisheries Services (NMFS) approvals, the Permittee must begin capture and tagging of approximately 30 adult shortnose sturgeon (>500 mm TL); 30 juvenile shortnose sturgeon (300-500 mm TL); 30 pre-migrant juvenile (450 to 1000 mm TL) Atlantic sturgeon; and 30 sub-adult (1000-1300 mm TL) Atlantic sturgeon.
- D. Shortnose sturgeon will be captured at overwintering locations in Haverstraw Bay in early spring (late March through early April and New York harbor in late fall. Attempts to collect juvenile shortnose sturgeon will also be made during the fall downriver of the spawning area which is above Coxsackie. Juvenile Atlantic sturgeon will be captured in late winter and early spring in Haverstraw Bay; sub-adult fish in late spring through early summer in the Tappan Zee reach.
- E. Sonic tags are to be the same as those used in the existing NYSDEC program (LOTEK Dual Mode transmitters). Sturgeon shall be measured for total length, identified to species, examined for a Passive Integrated Transponder (PIT) tag, and if not found to have been tagged, the sturgeon shall be marked with a PIT tag applied in the flesh below the base of the dorsal fin (left side), and surgically implanted with a sonic tag and released. Application of all tags will follow the procedures as outlined in the NMFS permit. Any fish previously tagged with a PIT tag shall be identified to species, measured, PIT tag recorded then released.
- F. Tracking of acoustically marked fish from the vicinity of the bridge construction site and other locations to contribute knowledge of species distribution and habitat use with the Hudson River Estuary. Two techniques will be used: Stationary Gateway receivers, described in Permit Condition 40, below; and Mobile tracking.
- i. Stationary gateway receivers will be used to identify sonic tagged fish as they enter the lower Hudson River, but prior to their arrival in the bridge construction zone. In addition, the applicants shall install stationary gateway receivers at intervals within a 50 kilometer (km) stretch encompassing the bridge construction site. At minimum, receivers shall be placed as follows to cover the entire width of the river:
- George Washington Bridge to Piermont – One centrally located receiver every 5 km.
 - Piermont to Stony Point – three at equally spaced intervals across river every 5 km.

Stationary gateway receivers will be in place *within 90 days of the effective date of the Permit*.

- ii. Mobile tracking will be designed to provide a more precise location to determine the bottom and habitat type the tagged fish utilizes. The 50 km stretch of river centered on the Tappan Zee Bridge will be monitored by mobile tracking for tagged fish two days per week on a schedule to be determined and approved by the Department as part of the final Endangered and Threatened Species Mitigation Plan. Tracking procedures will be consistent with NYSDEC procedures.



Progress reports will be submitted to the Department on a schedule to be developed, with data files, numbers of fish caught, tagged or lavaged, and a summary of work to present, including progress in stomach content analyses and/or fish tracking data.

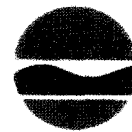
- G. Development and implementation of an outreach campaign, designed in collaboration with, and approved by, the Department, directed at the commercial fishing industry with the goal of reducing the impact of commercial by-catch of Atlantic sturgeon in the near shore Atlantic Ocean.

MITIGATION

Within ninety days of the effective date of this Permit the Permittee will submit to the Department for its review and approval a Compensatory Mitigation Plan for dredging-related impacts to the benthic community, tidal wetlands and open water community, and plant and animal species utilizing these resources. The final plan will be developed in collaboration with the Department consistent with the Department's July 3, 2102 letter to counsel for New York State concerning the Mitigation Proposal. Upon Department approval Permittee shall implement the Compensatory Mitigation Plan in accordance with the schedule in the approved plan.

The Compensatory Mitigation Plan will include the following:

- A. Oyster Restoration - Permittee will re-establish 13 acres of hard bottom/shell oyster habitat.
- i. In collaboration with the Department, the Permittee will seek to harvest local oysters and historic reef materials from the dredge zone and stockpile these for subsequent habitat re-establishment.
 - ii. Habitat re-establishment will occur as soon as possible following construction, and shall take place in the vicinity of the new bridge.
 - iii. The habitat will be created using native materials to the maximum extent practicable, supplemented as necessary, resulting in a density and pattern of distribution commensurate with that removed in the course of bridge construction. While it's assumed that collecting a live oysters from a nearby reef and conveying them to a marine oyster hatchery to be raised, spawned, and cultured will provide the brood stock to re-establish the oyster reef; Permittee may propose alternative measures.
 - iv. All details of the oyster restoration, including the location of the restored habitat, identification of the sources for shell/non-shell material, and the location where broodstock will be cultured, will be developed in collaboration with the Department.



- B. Secondary Channel Restoration at Gay's Point— To be completed *within seven years of the effective date of Permit*.
- i. In collaboration with DEC staff, the Permittee will develop a secondary channel restoration conceptual design project intended to increase habitat diversity and function at Gay's Point (Columbia County).
 - ii. The Permittee will prepare and expeditiously implement a plan to sample and analyze sediment contaminants in the prospective dredge spoil removal area at Gay's Point, and will determine the costs of sediment disposal.
 - iii. If the secondary channel restoration project at Gay's Point can be implemented in a cost-effective manner the Permittee will finalize a restoration design, and, after receiving the Department's approval, implement a secondary channel restoration demonstration project. The design will document the project baseline and reference site conditions, develop target conditions and restoration goals, and specify restoration activities.
 - iv. Alternatively, if the initial assessment shows that a secondary channel restoration project would exceed budget thresholds, as decided by the Department and the Permittee, Permittee will propose and, upon Department approval, implement an alternative project designed to provide equal habitat benefits.
 - v. The secondary channel restoration plan shall include one year of baseline condition assessment and post-construction monitoring (of a duration to be determined later) of water quality, water flows, vegetation coverage, and other biotic indicators to assess progress toward restoration goals and target conditions. The Permittee will prepare a final report to DEC documenting the restoration process, interim conditions and outcomes, and final conditions and outcomes, including comparisons to baseline and reference conditions.
- C. Wetlands Enhancement at Piermont Marsh - To be completed *within seven years of the effective date of Permit*.
- i. The Permittee must design and after receiving the Department's approval implement a plan to enhance and restore Piermont Marsh that will reduce invasive species (primarily *Phragmites*), restore the hydrologic connection of an oxbow in Crumkill Creek, enhance the quality of Sparkill Creek stormwater entering the marsh, and assess the feasibility of restoring historic wetlands. Annual progress reports will be provided to the Department, and a final report will be provided within six months of completion.
 - ii. *Phragmites* control will be implemented on approximately 200 acres through application of herbicide or other means with the goal, where practically achievable, of complete eradication



from 90% of the project area while minimizing damages to native vegetation. Maintenance spraying will be performed over a five-year period as needed.

- iii. The oxbow in Crumkill Creek in the central area will be restored along with historic flow regimes of the creek channel by the one-time placement of a small amount of fill in the existing by-pass, diverting flow into the historic oxbow.
- iv. The Permittee shall design and implement a green infrastructure project intended to improve the quality of stormwater entering Sparkill Creek, and will monitor this project for a period to be decided between the Department and Permittee.
- v. The Permittee will assess the feasibility of restoring historic wetlands in an area at the northern end of Piermont Marsh through removal of landfill materials and restoration of the native marsh community. As part of the assessment, the Permittee will conduct baseline studies of existing plant and animal communities, sample and analyze sediment contaminants in the former landfill area, and determine the costs of landfill material and sediment removal and disposal.

The Permittee will prepare annual monitoring/progress reports and within six months of project completion submit a final report documenting the restoration process, interim conditions and outcomes, final conditions and outcomes, and recommendations for ongoing management and future restoration projects.

- D. Supplemental Habitat Replacement or Enhancement - *Within one year of the effective date of this Permit*, and after consultation with the Department, the Permittee will submit to the Department for its review and approval a plan for supplemental compensatory mitigation projects which have a total capital cost of \$2 million. Permittee shall implement the projects *within seven years of approval of the supplemental mitigation plan*.

PERMIT CONDITIONS

PROJECT PLANS

1. The Pile Load Testing Program, also known as the Pile Installation Demonstration Program 2 (PIDP 2), in Authorized Activity item 1, above, must be conducted in substantial conformity with the program description and drawings provided in a December 28, 2012 letter from Elizabeth Novak of NYSTA to John Ferguson of this Department as supplemented by a letter submitted on her behalf dated March 21, 2013. *At least 30 days before starting the Pile Load Testing Program* the Permittee must give the Department a current program description and drawings showing the work to be done.



2. The dredging, pile driving, pile caps, piers, armoring and other support structures and project components in Authorized Activity item 2, above, must be conducted in substantial conformity with the project description and drawings provided in a January 3, 2013 letter from Elizabeth Novak of NYSTA to John Ferguson of this Department.
3. The Permittee must notify the Department of material alterations to any Authorized Activity before starting that Activity.

ENVIRONMENTAL COMPLIANCE MONITOR

4. The Permittee will retain an independent Oversight Environmental Compliance Monitor (OECM) for the duration of Authorized Activity and six months thereafter. The OECM will perform the following duties:
 - A. Be present on-site during all Authorized Activity.
 - B. Observing and inspecting the Authorized Activity.
 - C. Reporting to the Department on a weekly basis (or another frequency to be approved by the Department) regarding compliance with this Permit and its terms, requirements, and conditions; and with the New York State Environmental Conservation Law (NYSECL) and its implementing regulations, where applicable and appropriate.
 - D. Reporting noncompliance with the Permit or the NYSECL and implementing regulations immediately to the Department, but no later than 12 hours after observation.
5. *At least 30 days before starting the work described in Authorized Activity item 2 above* the Permittee must provide the Department with an Environmental Compliance Plan for implementation of this requirement, including the following information:
 - A. The procedures established to ensure compliance with the Permit and the applicable NYS Environmental Conservation Law and implementing regulations.
 - B. The personnel responsible for compliance with this condition, including:
 - (1) Names, titles and responsibilities, training, years of relevant experience, licensing and applicable training;
 - (2) Organization structure, including specific names, duties and responsibilities.
 - C. Environmental compliance tracking and reporting procedures, including
 - (1) Process meetings and reporting requirements, including the purpose and frequency of reports;
 - (2) Environmental compliance schedule;



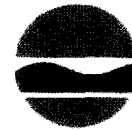
- (3) Method of reporting to the Department non-compliance with permit conditions and NYS Environmental Conservation Law;
 - (4) QA/QC procedures for environmental compliance.
6. The work identified in Authorized Activity item 2 above may start when the Department has given written approval of the Environmental Compliance Plan.

TEMPORARY AND PERMANENT PLATFORMS AND BULKHEAD

7. *At least 30 days before work begins on the construction of temporary or permanent platforms, or bulkheads, the Permittee must submit final plans for same to the Department. The plans must specify the number, location and diameter of all piles supporting the platforms and piers to be installed in the Hudson River; and the dimensions and height above mean low water of the deck of each platform.*

PILE DRIVING

8. The results of sound attenuation tests conducted during the 2012 Pile Installation Demonstration Program (PIDP); and any additional test results from underwater sound attenuation studies during the 2013 PIDP2 will be used to determine the most effective underwater sound attenuation system. An underwater sound attenuation system or systems must be deployed during driving of steel piles four feet and larger in diameter to minimize to the maximum extent practicable the effects of underwater sound upon fishes in the Hudson River.
9. *At least 30 days before starting installation of permanent piles four feet in diameter or more within each specific in-river design unit (as identified in the March 21, 2013 letter) the Permittee must give the Department design plans and operational specifications for the underwater sound attenuation system for that design unit. Except for piles installed during the 2013 PIDP2, installation of piles four feet and larger in diameter may begin when the Department has given written approval of the underwater sound attenuation system for each in-river design unit. Upon Department approval the final sound attenuation plan will be posted on the project website maintained by the Permittee.*
10. The underwater sound attenuation system may be incorporated into falsework structures and the containment boom required by Condition 15, below.
11. The underwater sound attenuation system must include monitoring of underwater sound during installation of piles four feet in diameter or more, and must verify that the system is deployed and operating in accordance with design specifications.
12. Pile driving may be conducted from 7AM to 7PM only.



13. Vibratory pile drivers shall be used to the maximum extent practicable.
14. At all times during pile driving an acoustic corridor will be maintained, having a total length of at least one mile across the Hudson River, running east to west, within which impact pile driving is prohibited. This corridor must be continuous for 1500 feet at all times. Within the corridor the sound level from pile driving must be less than 187 dB re $1\mu\text{Pa}^2\text{s}$ cSEL criterion at all times.
15. A floating containment boom shall be deployed around the pile and false work structures when work is being conducted.
16. Water from pile and cofferdam dewatering installations may cause no increase in turbidity that results in a substantial visible contrast to the Hudson River outside the piling or cofferdam. As described in the Final Environmental Impact Statement the discharge must be treated if necessary to prevent such substantial visible contrast.
17. Cofferdams must be backfilled using clean material; no excavated sediment may be placed in the River or the cofferdam.

CONCRETE PRODUCTION, DELIVERY & PLACEMENT

18. *At least 45 days before concrete is to be used for the Authorized Activity* the Permittee must submit plans and descriptions of the means of concrete production, delivery and placement. Discharge of concrete and concrete leachate is prohibited. In-water concrete production, delivery and placement, and actions preliminary to same, may start when the Department has given written approval of these plans. The Permit authorizes no withdrawal of water from the Hudson River that may require a permit from the Department pursuant to 6 NYCRR Part 601.

DREDGING

19. *At least 45 days before dredging begins in any year* the Permittee must submit to the Department a Dredging Plan verifying conformity with the conditions (20-35) of the permit in this Dredging section. The plan must include starting and ending dates and dredging locations. .
20. Dredging may be conducted from August 1 to November 1, only, in any calendar year.
21. This Permit authorizes no upland handling, transferring, storage, disposing or placing of dredged materials in New York State; any such activity will require approvals from the Department before dredging begins.
22. Barge overflow is prohibited.



23. Dredging must be conducted using a closed clamshell dredge. Drawings and specifications of the closed clamshell bucket and other dredging equipment, including specifications demonstrating that appropriate design considerations are incorporated in the equipment, must be provided to the Department at least 45 days before dredging related activities start.
24. The bucket must be lifted in a continuous motion through the water column and into the barge. Bucket decanting and loss of dredged material into the River during barge loading will be minimized to the maximum extent practicable.
25. Dredging equipment must be operated in a manner that minimizes the resuspension of sediments in the Hudson River. Dredging operations may not cause turbidity that results in a substantial visible contrast to the Hudson River outside of the 500 foot mixing zone as set forth in the Water Quality Monitoring section below.
26. Best management practices include lowering the bucket to the level of the barge gunwales prior to release of the load and placing the dredged material in the barge in a controlled manner. Excessive loss of material from the bucket should be investigated and repaired. Bucket retrieval rates will be controlled to minimize turbidity.
27. If decanting of barges is necessary, a detailed plan must be submitted to the Department for review and approval before decanting may start.

The following will apply if dewatering is approved by the Department:

- A. The overlying water in the barge may be pumped to the water column after 24 hours of settling.
 - B. Decanting of the barge shall be conducted in a manner that precludes adding substantial suspended solids, turbidity or sheens to the receiving water body. During pumping of the decant water, great care shall be taken to avoid re-suspending or pumping previously settled sediment.
 - C. A flocculent may be added to enhance settling. If a flocculent is proposed to be used, the form "Water Treatment Chemical Usage Notification Requirements for SPDES Permittee" must be submitted and approved by DEC prior to its use.
 - D. Decanting activities may not cause turbidity that results in a substantial visible contrast to the Hudson River outside of the 500 foot mixing zone as set forth in the Water Quality Monitoring section below. In the event that this requirement is exceeded, the Department will be notified and an evaluation of the adequacy of the holding time and/or the need to add a flocculant to aid in settling shall be undertaken by the Permittee.
28. All side slopes of the dredged channel will have a maximum 1:3 slope.



29. The Permittee will monitor the sedimentation rate within Piermont Marsh, prior to and during dredging operations. A plan detailing the procedures the Permittee will employ for this task must be submitted to the Department no less than 60 days before dredging starts.
30. All sediment transporting barges must be inspected and certified as properly sealed.
31. Loss of material during transport is prohibited.
32. If material is transferred between barges, measures must be implemented to minimize the potential for discharge to the river, as described in the FEIS.
33. Sidecasting of dredged sediment is prohibited.
34. By January 30 following every calendar year in which dredging has occurred the Permittee must submit to the Department a Dredging Report specifying the location and amount of sediments dredged and deposited either uplands or at the HARS.
35. The top three feet of East Sediment Mound #3 near the existing bridge must be removed.

ARMORING

36. *At least 45 days before dredging starts* the Permittee must submit to the Department an armoring plan that describes the source and size of the armoring materials and layering/placement methods. Armoring may begin when the Department has given written approval of the armoring plan.
37. Armoring material must be placed using methods designed to minimize resuspension of newly-exposed sediment (as described in the FEIS). Armoring activities may not cause turbidity that results in a substantial visible contrast to the Hudson River outside of the 500 foot mixing zone as set forth in the Water Quality Monitoring section below.
38. The total depth of armoring deposited in the excavated access channel will be no more than two feet.
39. Stone and sand may be placed only in the dredged access channel and its side slopes.

FISH MONITORING

40. *As soon as possible, but no more than 60 days after the effective date of this Permit*, and before installation of permanent piles four feet or more in diameter the Permittee must submit to the Department a plan for monitoring the movement of shortnose and Atlantic sturgeon in the vicinity of the Tappan Zee Bridge.



The plan will include at minimum the following components:

- A. *As soon as possible, but no more than 60 days after the effective date of this Permit, and before starting installation of permanent piles four feet or more in diameter, and prior to the commencement of dredging, the Permittee will have in place an operational-capable array of stationary receivers capable of detecting sonic tags in the vicinity of any Authorized Activities. These receivers may include those currently used by the NYSDEC (LOTEK MAP, and LOTEK dual mode) and those used by other coastal researchers (VEMCO).*

Receivers must be range tested in the field and placed in such a way that fish in the vicinity of the bridge and the construction zone north of the existing bridge, can be detected by at least three receivers.

Data downloads shall occur every 60 days at minimum including GPS coordinates of each receiver location to verify the location of each remote receiver. Following each data download, a report shall be submitted with data files, and a summary of fish present and /or moving through the construction zone.

41. The Permittee must survey the project area (River Mile 27) daily during driving of permanent piles and dredging for the purpose of locating stunned or dead fish. An Standard Operating Procedure (SOP) detailing the procedures for this survey must be submitted to the Department for approval as soon as practicable, but at least 30 days before starting dredging or installation of permanent piles four feet or more in diameter.
42. All live stunned or injured sturgeon shall be placed in a holding tank onboard a survey vessel and transported outside the area ensonified by pile driving. The sturgeon shall be measured for total length, identified to species, examined for a Passive Integrated Transponder (PIT) tag, and if untagged, the sturgeon will be marked with a PIT tag applied in the flesh below the base of the dorsal fin (left side), then released. Application of the PIT tag will follow the procedures as outlined in the NMFS protocol.
43. Necropsies shall be performed on any dead sturgeon collected. After completion of the necropsy all dead sturgeon must be placed on ice and held for delivery to the Department. After collection of a dead Shortnose or Atlantic sturgeon the Permittee shall contact the Department's Hudson River Fisheries Unit Leader during the following DEC work day for delivery procedures.
44. *Within 90 days of the effective date of this Permit, the Permittee must submit detailed procedures for the necropsies, which identifies the contractor that will perform the necropsies and the location of the laboratory where the necropsies will be performed.*



BRIDGE DEMOLITION

45. *At least 45 days before any in-water demolition-related work begins* the Permittee must submit a plan to the Department providing details of all in-water demolition-related work including, among other things, a detailed plan for any dredging, cofferdams, or silt curtains. The plan will demonstrate conformity with all special conditions (45-51) in this Bridge Demolition Section.
46. Bridge demolition must be conducted in a manner that minimizes the resuspension of sediment.
47. All debris and materials from the demolition of the existing Tappan Zee Bridge must be removed from the bed and banks of the Hudson River.
48. Piles, caissons, abutments, fenders and other in-water components of the existing Tappan Zee Bridge must be removed to two feet below the mud line. Silt curtains must be deployed during this operation.
49. A floating containment booms and/or silt curtains must be deployed around all active substructure demolition areas to control and contain debris and discharges to meet water quality standards.
50. A debris containment net must be deployed and maintained at all times during demolition of the bridge deck and superstructure.
51. Blasting for bridge demolition is prohibited.

POST-CONSTRUCTION

52. *Within one year of completion of the Authorized Activity, and again at two years and five years* after completion of the Authorized Activity, the Permittee must submit a bottom hydrographic survey report of the dredged area to the Department. For comparison purposes, a pre-construction bottom hydrographic survey of the same area must be provided with the first post-construction survey
53. *Within one year of completion of the Authorized Activity, and again at two years and five years* after completion of the Authorized Activities a benthic invertebrate survey must be conducted at the dredged area, and a report and data submitted to the Department. For comparison purposes a pre-construction survey must be provided with the first post-construction survey.
54. *Within 60 days of completion of bridge demolition*, a hydrographic survey of the river bottom beneath the footprint of the demolished bridge must be submitted to the Department. For comparison purposes a pre-demolition survey must be provided with the post-construction survey.



PEREGRINE FALCON

55. The Permittee must minimize disturbance to Peregrine Falcons during all phases of the bridge replacement project. All activities must maintain the maximum distance from the peregrine falcon nest on the existing bridge as practical. No less than 30 days before starting the Authorized Activity the Permittee must submit a plan for protection of the falcon nest to the Department.
56. Any upland blasting must be approved in writing by the Department and must avoid impacts to nesting peregrine falcons.
57. The Permittee must evaluate Peregrine Falcon nesting activity during each year of construction and demolition to determine if a pair is active on the territory, are nesting, and the success of that nest. Any reports of impacts to the nest should be reported to the Wildlife Manager at the NYS DEC Region 3 Headquarters in New Paltz, NY.
58. A Peregrine Falcon nest box must be installed on the new bridge between September 1 and January 31 in any calendar year, when construction is finished and before demolition of the old bridge. The design and location of the nest box on the new structure must be approved by the Department.

WATER QUALITY MONITORING

59. *At least 45 days before starting dredging activities; decanting activities; removal of large debris fields; pile driving in zone C; channel armoring; cofferdam construction; removal of the existing bridge; or any activity that may cause resuspension of bottom sediments, Permittee must submit a water quality monitoring plan to the Department. If activities occur concurrently in multiple locations, each activity that may cause resuspension of bottom sediments must be monitored separately. The Plan must be in effect at all times during these activities. The above activities may start when the Department has given written approval of the plan.*
60. The plan shall include monitoring for total suspended solids (TSS), turbidity (visual monitoring) and the following contaminants: total mercury, dissolved nickel, copper, lead, zinc, PCB and naphthalene and benzo(a)pyrene. The plan must: (i) describe procedures for background sampling, and sampling at the edge of a 500-foot mixing zone around the activities identified in condition 59, above (ii) include daily sampling during each tidal cycle; (iii) use an Acoustic Doppler Current Profiler to locate the plume; (iii) require whole water samples in the vertical water column (from at least 3 depths) along a transect within the plume; and (iv) include upstream transect. When silt curtains are deployed, monitoring should take place immediately outside the confines of the silt curtain.
61. The following Water Quality Standards must be achieved immediately outside of the silt curtain or at the edge of the 500-foot mixing zone around the activities identified in condition 59, above,



subject to the monitoring requirements of condition 64 below. When a Detection Limit listed below is greater than the listed Water Quality Standard, the Water Quality Standard will be presumed to be met when analytical results demonstrate compliance with the Detection Limit.

Where background concentrations exceed the Water Quality Standard, the limit at the edge of the mixing zone is 30% over background, with the exception of TSS which shall be 100 mg/l above ambient..

Contaminant	Water Quality Standard (ppb)	Detection Limit * (ppb)
Total Mercury	0.0007 – H(FC)	0.050
Dissolved nickel	8.2 – A(C)	
Dissolved copper	3.4 – A(C)	
Dissolved lead	8.0 – A(C)	
Dissolved zinc	66 – A(C)	
PCB	1.0x10 ⁻⁶	
Aroclor 1242		0.2
Aroclor 1248		0.2
Aroclor 1254		0.2
Aroclor 1260		0.2
Naphthalene	16	
Benzo(a)pyrene	0.0006	0.1
TSS	None from sewage, industrial waste or other wastes that will cause deposition or impair the waters for their best usages.	100 mg/l above ambient ¹
* Using EPA analytical method with the lowest possible detection limit as promulgated under 40CFR Part 136.		

62. All analytical results must be sent to DEC by fax or email within 48 hours of receipt of data results, followed by a mailed hard copy. Exceedances should be highlighted.

63. In the event of exceedance of a water quality standard, the Department will be notified and the Permittee and the Department will determine if there is a need for procedural changes.

64. Water quality monitoring must be conducted daily at the start of each activity identified in condition 59, above. If there are no water quality exceedances during the first two weeks of an in-



river Authorized Activity water quality monitoring for contaminants for that activity may be reduced. Daily TSS and turbidity monitoring must continue through the duration of the in-river operation. If during the reduced sampling, there is an exceedance of 100 ppm above ambient TSS value, monitoring shall return to daily for all parameters until such time as TSS concentrations are less than 100 ppm above ambient values.

65. Three copies of a monitoring report, summarizing the results of the monitoring and analyses, shall be submitted to the Department within 30 days of completion of the in-river Authorized Activity in any calendar year.
66. All laboratory analyses required by this permit must be conducted by a laboratory certified by the New York State Department of Health.
67. Nothing contained in this Permit shall be construed as authorizing a violation of Water Quality Standards.

ROCK DRILLING DEWATERING CONDITIONS

68. All decant water-holding scows must be water tight and of solid hull construction.
69. Decant water must be discharged within the confines of the silt curtain containment area surrounding the rock drilling operation.
70. All decant water must be held in the decant-holding scow for a minimum of 24 hours.
71. During pumping of the decant water from the holding scow, care shall be taken to avoid re-suspending or pumping sediment which has previously settled in the scow.
72. Discharge of decant water into the silt curtain containment area shall not cause turbidity that results in a substantial visible contrast to the Hudson River as set forth in the Water Quality Monitoring section above. In the event this requirement is exceeded, the Department will be notified and an evaluation of the adequacy of the holding time and/or the need to add a flocculent to aid in settling of solids in the scow shall be undertaken by the Permittee. Addition of a flocculent requires Department approval and the completion of the form "Water Treatment Chemical (WTC) Usage Notification Requirements for SPDES Permittee".

GENERAL CONDITIONS -- APPLICABLE TO ALL PERMITS
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73. FACILITY INSPECTION BY THE DEPARTMENT

The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department to determine Permittee's



compliance with this permit and the Environmental Conservation Law. Such representative may order work suspended pursuant to ECL 71-0301 and SAPA 401(3).

When requested, a Permittee representative must accompany the Department's representative during project inspection.

A copy of this permit, including all referenced maps, plans, and drawings must be available for inspection by the Department at all times at the project site. Failure to provide a copy of the permit at the request of a Department representative is a violation of this permit.

74. RELATIONSHIP OF PERMIT TO DEPARTMENT ORDERS AND DETERMINATIONS

Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

75. APPLICATIONS FOR PERMIT RENEWALS OR MODIFICATIONS

The Permittee must submit a written application to the Department for renewal or modification of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing. Requests for permit renewal or modification must be submitted to:

REGIONAL PERMIT ADMINISTRATOR
NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL PERMITS
21 SOUTH PUTT CORNERS ROAD
NEW PALTZ, NY 12561

76. APPROVED PLANS BECOME ENFORCABLE PERMIT CONDITIONS

Upon Department approval of plans required pursuant to this Permit, the terms; conditions; schedule and other requirements in final approved plan shall become an enforceable condition of this Permit.

77. RENEWAL APPLICATION DEADLINES

A renewal application must be submitted no less than 30 calendar days before the permit expiration date for all the permit types.

78. PERMIT MODIFICATIONS, SUSPENSIONS AND REVOCATIONS

The Department reserves the right to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

- a. Materially false or inaccurate statements in the permit application or supporting documentation.
- b. Failure by the Permittee to comply with any terms or conditions of the permit.
- c. Exceeding the scope of the project as described in the permit application.



- d. Newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the permit.
- e. Noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

ITEM A: PERMITTEE ACCEPTS LEGAL RESPONSIBILITY AND AGREES TO INDEMNIFICATION

The Permittee, excepting state or federal agencies, expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the Permittee's acts or omissions in connection with the Permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under Article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

ITEM B: PERMITTEE'S CONTRACTORS MUST COMPLY WITH PERMIT

The Permittee is responsible for informing its contractors, employees, agents and assigns of their responsibility to comply with this permit, including all conditions, while acting as the Permittee's agent with respect to permitted activities. Said parties are subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the Permittee.

ITEM C: PERMITTEE RESPONSIBLE FOR OBTAINING OTHER REQUIRED PERMITS

The Permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way necessary to carry out the activities authorized by this permit.

ITEM D: NO RIGHT TO TRESPASS OR INTERFERE WITH RIPARIAN RIGHTS

This permit conveys no right to the Permittee to trespass upon the lands of, or interfere with the riparian rights of others. It authorizes no impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

