



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-2016-01166-WCA**
Issue Date: **July 7, 2017**
Expiration Date: **August 21, 2017**

To Whom It May Concern:

The New York District, 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: Amtrak
30th Street Station
2955 Market Street - 4S-059
Philadelphia, Pennsylvania 19104

CO-APPLICANT: New Jersey Transit Corporation
One Penn Plaza East
Newark, New Jersey 07105

ACTIVITY: Discharge fill into, and construct over and beneath, waters of the United States to facilitate the construction and installation of a single new railroad tunnel with two new single track railroad tubes with associated railroad infrastructure connecting the new railroad tunnel with the existing Northeast Corridor.

WATERWAY: Penhorn Creek (Hackensack River Watershed) and the Hudson River

LOCATION: Secaucus, North Bergen, Union City, and Hoboken, Hudson County, New Jersey and Manhattan, New York County, New York.

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

As part of three (3) public hearings for the Hudson Tunnel Project's Draft Environmental Impact Statement (DEIS), being prepared by the Federal Railroad Administration (FRA) and the New Jersey Transit Corporation, the New York District Corps of Engineers will conduct joint **PUBLIC HEARINGS** with the FRA and the New Jersey Transit Corporation to gather information on this proposal to assist in the review of the permit application. The public hearings will be held on August 1, 2017, August 3, 2017 and August 10, 2017. The details of the hearings are as follows:

AUGUST 1, 2017

LOCATION: Hotel Pennsylvania, Skytop Ballroom, 18th floor, 401 Seventh Ave.
West 33rd St, New York, New York 10001

TIME: Afternoon Session – 3:00 PM to 5:00 PM
Evening Session – 6:00 PM to 8:00 PM

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AUGUST 3, 2017

LOCATION: Secaucus Junction Rail Station, Upper Level Long Hallway, County Road and County Avenue, Secaucus, New Jersey 07097

TIME: Afternoon Session – 3:00 PM to 5:00 PM
Evening Session – 6:00 PM to 8:00 PM

AUGUST 10, 2017

LOCATION: Union City High School, 2500 Kennedy Boulevard, Union City, New Jersey 07087

TIME: Afternoon Session – 3:00 PM to 5:00 PM
Evening Session – 6:00 PM to 8:00 PM

PUBLIC HEARING

DETAILS: The following website provides details and directions to the public hearing locations: <http://www.hudsonunnelproject.com/events.html>

At each hearing, there will be a brief presentation about the project (at 3:15 PM for the afternoon session and at 6:15 PM for the evening session).

The United States Corps of Engineers neither favors nor opposes the proposed construction work. The purpose of this public notice and the public hearing is to afford the Corps of Engineers the opportunity to efficiently hear from the general public on the application which is before this agency, in order to acquire information which will be considered in evaluating whether to issue or deny the requested permit. 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 determination, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed below. Comments are used in the preparation of an Environmental Impact Statement pursuant to the National Environmental Policy Act (42 U.S.C 4321 et seq.). The Corps of Engineers will also consider information in the Draft Environmental Impact Statement prepared by the Federal Railroad Administration and the New Jersey Transit Corporation.

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 public hearings are open to everyone. All interested individuals, groups, and agencies are invited to be present or be represented at the hearings. Everyone will be given an opportunity to express his

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or her views and to furnish specific data on aspects of the proposed activity. At the public hearing, any person may appear on his or her behalf, or may be represented by counsel, or by other representatives.

Should commenters choose to write, all comment letters received in regard to this public notice shall be made part of the permit application record, and will also be considered in the permit decision-making process. INFORMATION SUBMITTED BY MAIL IS CONSIDERED JUST AS CAREFULLY IN THE PERMIT DECISION-MAKING PROCESS AND BEARS THE SAME WEIGHT AS THAT FURNISHED AT THE PUBLIC HEARINGS. ALL WRITTEN COMMENTS REGARDING THIS PUBLIC NOTICE MUST BE MAILED TO REACH THE CORPS OF ENGINEERS NEW YORK CITY OFFICE BEFORE THE EXPIRATION DATE OF THIS COMMENT PERIOD OF 5:00 PM August 21, 2017, otherwise, it will be presumed that there are no objections to the activity.

All speakers will be requested to limit oral presentations. Lengthier written presentations may be submitted, but the speaker will be requested to summarize the presentation. Cross-examination of speakers will not be permitted.

The public hearings will be reported verbatim. Copies of the hearing transcripts will be available for public inspection at the Corps of Engineers New York District office after the close of the comment period, and will be posted on the Corps of Engineers website at <http://www.nan.usace.army.mil>.

All written statements, charts, tabulations, and similar data offered in evidence at the hearings shall, subject to exclusion for reasons of redundancy, be received in evidence and will constitute a part of the hearing file which will become part of the administrative record for this permit action. For filing purposes it is requested that the material not exceed 8 1/2" x 14", if possible.

The hearing record and comment period will remain open until 5:00 PM EST on August 21, 2017, for the receipt of written comments. Comments should be sent to the following address so as to be received prior to the close of the hearing record and comment period:

New York District Corps of Engineers
Regulatory Branch
Jacob K. Javits Federal Building
26 Federal Plaza, Room 1937
New York, New York 10278-0090

Pursuant to Section 7 of the Endangered Species Act (16 U.S.C. 1531), the FRA, Lead Federal Agency is consulting with the appropriate Federal resource agencies to determine the presence of and potential impacts to federally listed species in the project area or their critical habitat, and is addressed in the Draft Environmental Impact Statement (DEIS) for the project.

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 National Marine Fisheries Service (NOAA/NMFS) 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 life stages of some EFH-designated species as a result of the proposed project. Further consultation with NOAA/NMFS regarding EFH impacts and

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conservation recommendations is being conducted by the Lead Federal Agency (FRA) to determine the presence of and potential impacts to listed species in the project area or their critical habitat and will be concluded prior to the final decision as addressed in the DES for the project.

Based upon a review of the latest published version of the National Register of Historic Places, there are several known sites eligible for, or included in, the Register within the permit area. In New Jersey these sites include: the North River Tunnel, Pennsylvania Railroad New York To Philadelphia Historic District, New Jersey Midland Railway/New York Susquehanna and Western Railroad Historic District, the Erie Railroad Main Line Historic District, the Jersey City Waterworks Historic District, Substation No. 3/Pennsylvania Railroad, Hudson River Bulkhead, and the High Line. The FRA is currently in the process of coordinating and developing a Programmatic Agreement to govern the implementation of the proposed Hudson Tunnel Project and satisfy Federal Railroad Administration's compliance with Section 106 of the National Historic Preservation Act, as discussed in the Draft Environmental Impact Statement for the project. Presently unknown archeological, scientific, prehistorical, or historical data may be lost by work accomplished under the required permit. During the comment period and the public hearings, the FRA will be accepting comments on the Draft Programmatic Agreement.

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 will obtain a water quality certificate or waiver from the appropriate state agencies in accordance with Section 401 of the Clean Water Act prior to a permit decision.

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. By this public notice, we are requesting the state's concurrence with, objection to, or waiver of the applicants' certification. No permit decision will be made until one of these actions occur. For activities within the coastal zone of New York State, the applicants' certification and accompanying information is available from the Consistency Coordinator, New York State Department of State, Division of Coastal Resources and Waterfront Revitalization, Coastal Zone Management Program, One Commerce Plaza, 99 Washington Avenue, Albany, New York 12231, Telephone (518) 474-6000. For activities within the coastal zone of New Jersey State, the applicants' certification and accompanying information is available from the New Jersey Department of Environmental Protection, Coastal Management Program, P.O. Box 418, 401 E. State Street, Trenton, NJ, 08625, Telephone (609) 633-2201. Comments regarding the applicants' certification, and copies of any letters to this office commenting upon this proposal, should be so addressed.

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:

- New Jersey Department of Environmental Protection Freshwater Wetlands Permit
- New Jersey Department of Environmental Protection Waterfront Development Permit
- New Jersey Department of Environmental Protection Flood Hazard Area Permit
- New York State Department of Environmental Conservation Tidal Wetlands Permit
- New York State Department of Environmental Conservation Protection of Waters Permit
- New York State Department of Environmental Conservation Article 15 and 25 Permit

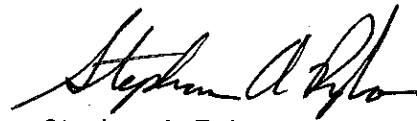
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- New York City Department of City Planning Revitalization Program Consistency

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) 790-8412 and ask for Jim Cannon.

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>.



Stephan A. Ryba
Chief, Regulatory Branch

Enclosures

WORK DESCRIPTION

The applicant, Amtrak, and the co-applicant, the New Jersey Transit Corporation, have requested Department of the Army authorization to perform U.S. Army Corps of Engineers regulated work within waters of the United States to facilitate the construction and installation of the federally funded proposed project known as the "Hudson Tunnel Project". The proposed new 4.28 mile Hudson Tunnel Project would be located within the Hackensack River and Hudson River watersheds, in the Town of Secaucus, Township of North Bergen, City of Union City, and City of Hoboken, Hudson County, New Jersey and Manhattan, New York County, New York.

The applicants have stated that the purpose of the project is to preserve the current functionality of Amtrak's Northeast Corridor (NEC) rail service between New Jersey and Penn Station, New York by repairing the existing deteriorated North River Tunnel, while maintaining uninterrupted reliable commuter service between New Jersey and Penn Station, New York.

To facilitate uninterrupted commuter service during the repair of the existing deteriorated North River Tunnel, the applicants' proposed new Hudson Tunnel Project would extend from County Road (just east of Secaucus Junction Station) in the Town of Secaucus, New Jersey, and extend east along the southern side of the existing NEC rail line. The project alignment would then extend to Tonnelle Avenue, in North Bergen (New Jersey) through a new Palisades tunnel portal to Union City (New Jersey) where it would descend gradually beneath Hoboken (New Jersey), the Hudson River, and terminate at Penn Station, in Manhattan. The construction and installation of the proposed new 4.28 mile Hudson Tunnel Project would require the discharge of approximately 109,700 cubic yards of fill material into 9.22 acres of waters of the United States, including wetlands. Of the 9.22 acres, 5.07 acres would consist of emergent wetlands, and 4.15 acres would consist of open water. In addition to the 9.22 acres, approximately 0.47 acres of the existing federally approved and established New York Susquehanna and Western Railroad compensatory mitigation site would be permanently impacted. The total permanent impacts to waters of the United States associated with the proposed project would be 9.69 acres.

The U.S. Army Corps of Engineers' regulated work activities associated with the Hudson Tunnel Project would consist of two major elements.

First Regulated Construction Element

The first regulated construction element would consist of the permanent discharge of approximately 26,500 cubic yards of fill material into a total of 8.18 acres of waters of the United States to facilitate the construction and installation of two new rail tracks and an associated 3,200-foot long by 20-foot wide service road. Of the 8.18 acres of impacts, 5.07 acres would consist of emergent wetlands, 2.64 acres would consist of open water, and 0.47 acres would impact the existing and established New York Susquehanna and Western Railroad wetland mitigation site. This includes a proposed 800-foot long by 24-foot wide service road that would be constructed adjacent to the Hudson-Bergen Light Rail (HBLR) Right-Of-Way in the City of Hoboken (east side of the Palisades), to allow construction equipment to access the proposed staging area during the tunnel boring activities beneath the Hudson River. Approximately 0.44 acres of waters of the United States would be permanently impacted to facilitate the construction of this access road.

The two proposed new rail tracks and the 3,200 linear foot service road would extend along the southern side of the existing NEC between County Road in the Town of Secaucus, and Tonnelle Avenue in North Bergen, New Jersey. From County Road, the new rail tracks would be supported by an approximately 6,149-foot long expanded earthen embankment supported by a 4,268-foot long retaining wall that would include the expansion of an existing 80-inch by 60-inch culvert. A

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70-foot long by 52-foot wide new rail bridge would extend over Secaucus Road. East of Secaucus Road, an existing twin 48-inch diameter culvert would be extended beneath the proposed embankment. A 300-foot long portion of the existing open water drainage ditch located along the south side of the existing embankment would be relocated into a new 300-foot long 8-foot by 4-foot box culvert. At the east end of the newly proposed box culvert, the new rail tracks would be supported by a 3,195-foot raised viaduct which would extend over Penhorn Creek and would continue to extend to a point east of the existing commercial properties located adjacent to the south side of the NEC. The viaduct would be a solid structure positioned between 18 and 19 feet above the surface of 0.07 acres of emergent wetlands and 0.22 acres of open water. The applicants have stated that the elevation of the viaduct above the emergent wetlands combined with the southern exposure would allow sufficient sunlight to reach the wetlands during periods of the day to support the existing plant community. From this point the new rail tracks and associated 3,200 linear foot service road would be supported by an approximately 1,920 foot long by 20-30 foot high earthen embankment that would range in width from 95 to 210 feet. This earthen embankment (with a 2:1 slope) would extend to the New York Susquehanna and Western Rail line where a new 150-foot long rail bridge would extend over the existing and active New York Susquehanna and Western Rail line. At this point, the new rail tracks would enter the new Palisades tunnel portal. The proposed associated 3,200 linear foot long service road, situated adjacent to the new rail tracks, would provide access for equipment during construction activities and serve as a permanent and vital fire/safety road during the operational phase of the new rail line. As indicated above, and in addition to the 9.22 acres of proposed unavoidable impacts to waters of the United States, approximately 0.47 acres of the existing and established federally approved New York Susquehanna and Western Railroad compensatory mitigation site, currently situated along the existing and active New York Susquehanna and Western Rail line, in North Bergen, Hudson County, New Jersey, would be permanently impacted.

Additional regulated activities would include the installation of three new 24-inch diameter culverts; the installation of two new 18-inch diameter pipes; the relocation of an outlet control structure; and the installation of one new 8-foot long by 4-foot wide box culvert. Approximately 4.31 acres of waters of the United States, including wetlands, would be temporarily disturbed as part of the proposed project.

Second Regulated Construction Element

The second regulated construction element would consist of the construction and installation of two new 5,569-linear foot single-track rail tubes within the new tunnel beneath the Hudson River between Hoboken, New Jersey and Manhattan, New York. A construction equipment staging area would be constructed on the east side of the Palisades, in the City of Hoboken, to accommodate the Tunnel Boring Machine and associated construction equipment. As indicated above, a permanent 800-foot long by 24-foot wide access road would be constructed adjacent to the Hudson Bergen Light Rail Right-Of-Way to allow construction equipment to access the staging area. A total of 0.44 acres of waters of the United States would be permanently impacted as part of the access road construction activities. The two new 28-foot outside diameter tubes would be installed by a Tunnel Boring Machine, drilling through the existing sediment beneath the Hudson River and the river's existing authorized, built, and maintained 45-foot-deep Federal Navigation Channel, and the existing authorized, built, and maintained 40-foot-deep Reach C (or Wing) Federal Navigation Channel, as measured from the Datum of Mean Low Water.

To provide for a required 2.1 percent alignment grade to the existing Penn Station, and address the proposed river bottom cover over the tunnel beneath a 550-foot portion of both the 45-foot depth and 40-foot depth Federal Navigation Channels on the eastern side of the Hudson River, ground improvement activities would be performed through the injection of approximately 83,118

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cubic yards of jet grouting material (mix of cement grout, water, and river bottom sediment) into the river bottom, establishing an 11-foot minimum cover over the tunnel. The depth of the proposed new Hudson Tunnel would be lower than the depth of the existing North Tunnel (measured from the top of the tunnel). This jet grouting would occur within the protected temporary 550-foot long by 120-foot wide (1.51 acres) steel sheet cofferdam. The cofferdam would consist of steel sheets that are approximately 100-foot long by 2.5-foot wide by 5/8-inch thick. The cofferdam and jet grouting activities would occur in three stages (two occurring within a 200-foot long by 120-foot wide portion of the cofferdam and another occurring within a 150-foot long by 120-foot wide portion of the cofferdam), permanently disturbing approximately 1.51 acres of the Hudson River. The ground improvement activities would be performed using barge-mounted construction equipment moored adjacent to the cofferdam. An additional work zone of approximately 100 feet around the cofferdams would be required for the barges and access to equipment.

The applicants have indicated that jet grouting is a partial soil replacement method whereby cement grout, water, and compressed air are injected at high pressures to mix with and partially replace the native soil. The amount of soil mixing and partial replacement is typically about 50 percent (native soil: cement grout). This results in columns of soils overlapping each other to form a mass with compressive strengths ranging from 200 to 400 psi. As the jet grouting is occurring, mounds of waste grout material and loosened native soil would build up at the surface, and this excess material would be contained within the cofferdam and subsequently removed by excavators and barges, and disposed of as needed at a state approved upland site. The applicants predict that the ground improvement activities within the Hudson River cofferdam will take approximately 15 months to complete.

Compensatory Mitigation

The Hudson Tunnel Project would consist of 9.69 acres of proposed unavoidable permanent impacts to waters of the United States, including wetlands. Of the 9.69 acres of unavoidable permanent impacts, 1.51 acres would be associated with the ground improvement activities in the Hudson River (jet grouting), and 8.18 acres (within New Jersey) would be associated with the proposed construction and installation of the two new single-track rail tubes, the new tracks, service roads, culverts and culvert expansions, retaining wall and earthen embankments, and the 0.47 acres of impacts to the established New York Susquehanna and Western Railroad compensatory mitigation site.

To compensate for 8.18 acres of permanent impacts to waters of the United States associated with the proposed project, the applicants propose to purchase 8.18 mitigation credits from a federally-approved wetland mitigation bank within the Hackensack Meadowlands District. Of the 8.18 mitigation credits to be purchased, 0.47 mitigation credits would compensate for the permanent impacts to the New York Susquehanna and Western Railroad existing compensatory mitigation site.

The applicants have stated that the proposed ground improvements (jet-grouting activities) within the New York portion of the Hudson River would permanently impact approximately 1.51 acres of river bottom, of which 0.74 acres would be above the existing river bottom. The proposed impact to this portion of the river bottom would consist of a change in the nature and increased elevation of the bottom sediment. The remaining 0.77 acres of existing river bottom to be impacted by the jet-grouting activities would not result in a change in the elevation of the bottom sediment, but would result in a change in its nature. Therefore, to compensate for the change in the nature and elevation of river bottom habitat within the 0.74 acres as described above, the applicants propose to monitor this 0.74 acre area, in coordination with the New York District Corps of Engineers, the

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National Marine Fisheries Service, and the New York State Department of Environmental Conservation to assess its recovery as fish foraging habitat. The applicants additionally propose to monitor the recovery of the remaining 0.77 acres (impacted by jet-grouting) as fish foraging habitat. The proposed monitoring would occur for a period of five years post-construction and would include the submittal of annual monitoring reports.

The applicants have stated that unavoidable impacts to waters of the United States, including wetlands, have been minimized and avoided through the use of low-ground-pressure vehicles and construction mats; the implementation of sediment control measures; restoration of temporarily disturbed waters of the United States; the use of Best Management Practices; the limited use of construction activities for surface tracks within the primary breeding period for most bird species (April through July), the limited use of cofferdam sheet pile driving activities within the Hudson River between November 1 and April 30, and sequencing of the cofferdam installation activities so that it commences in May in the portion of the Hudson River closest to the shore and moves waterward to minimize impacts to the migrating Atlantic sturgeon.

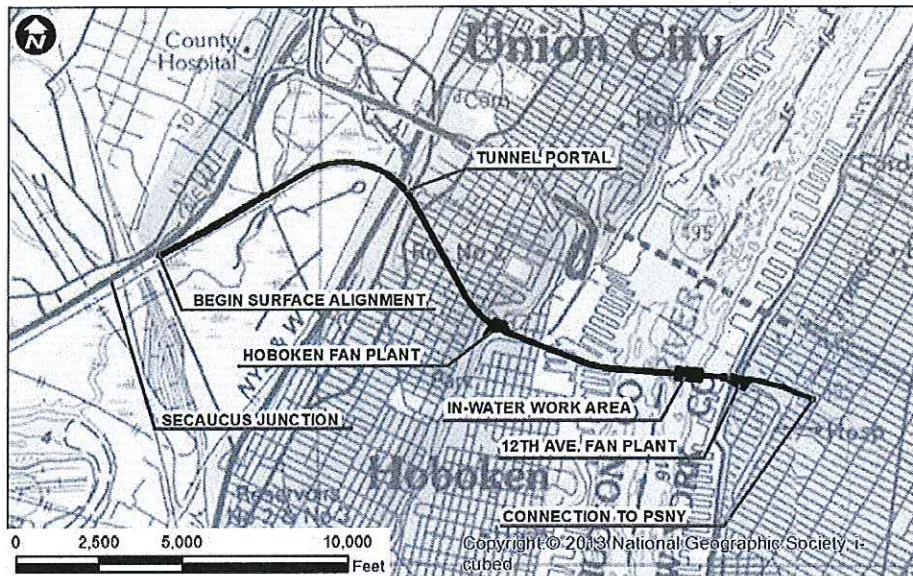
The FRA is in the process of completing its National Environmental Policy Act (NEPA) review process pursuant to Title 23 of the Code of Federal Regulations (CFR) Part 771 and Title 40 of the CFR Part 1500-1508. The FRA will prepare a Record of Decision (ROD) that officially documents the selection of an Alternative and, as appropriate, the measures to be incorporated into the Hudson Tunnel Project that will avoid, minimize, or mitigate adverse impacts.



HUDSON TUNNEL PROJECT

U.S. Army Corps of Engineers Section 404/10 Permit Plans

Contract # 9500001023 | June 23, 2017



Submitted To:



**US Army Corps
of Engineers**

Submitted By:

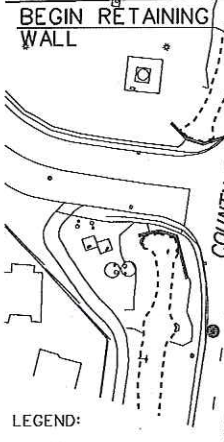
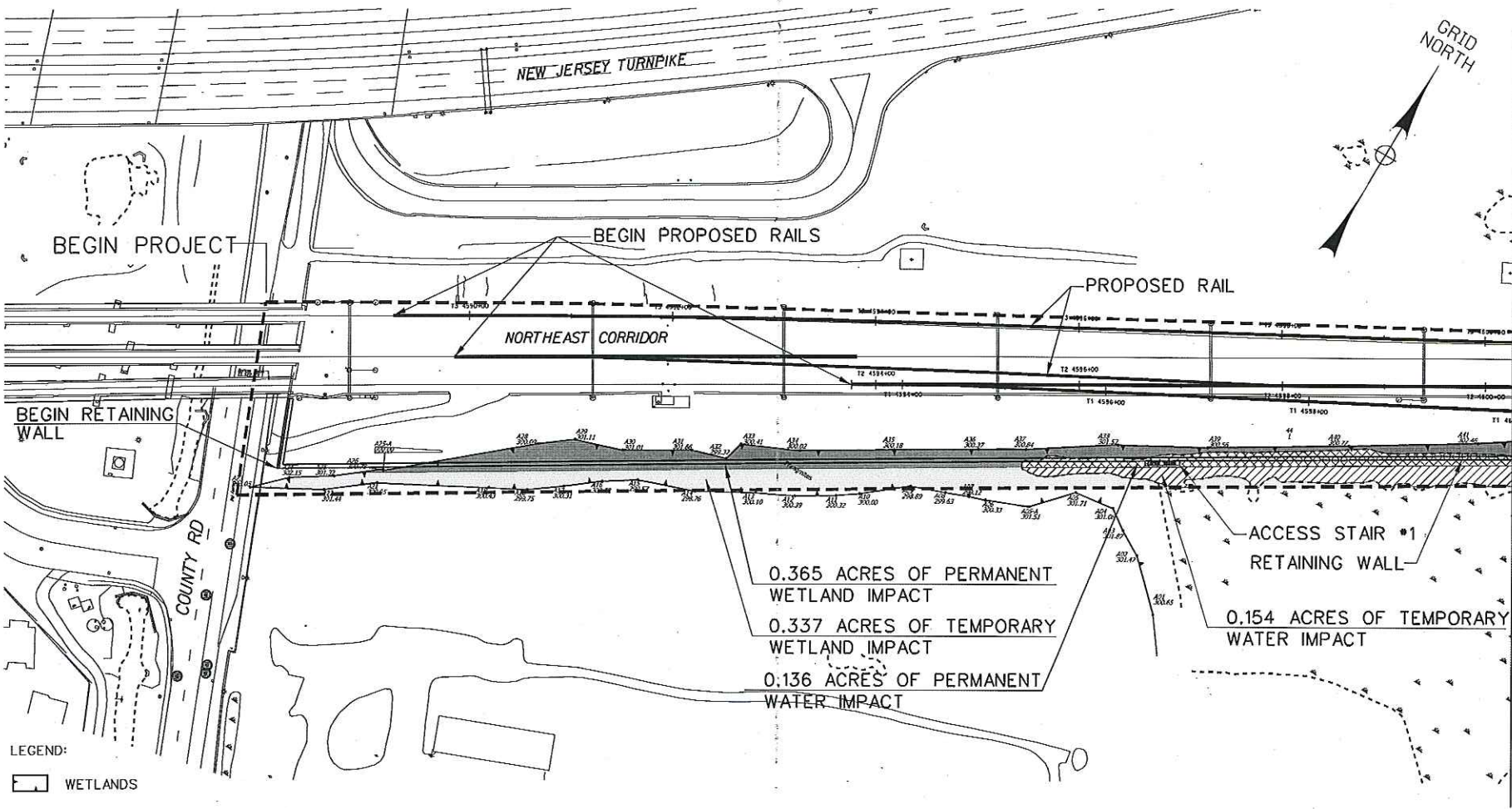
The Gateway
Trans-Hudson
Partnership

AECOM WSP PARSONS BRINCKERHOFF STV INC

NEWARK

NEW YORK

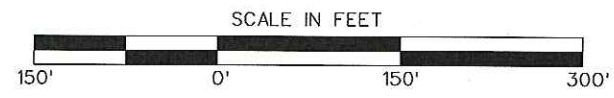
GRID NORTH



0.365 ACRES OF PERMANENT WETLAND IMPACT
 0.337 ACRES OF TEMPORARY WETLAND IMPACT
 0.136 ACRES OF PERMANENT WATER IMPACT
 0.154 ACRES OF TEMPORARY WATER IMPACT

- LEGEND:
- WETLANDS
 - PROPOSED EARTHEN EMBANKMENT
 - TEMPORARY WETLAND IMPACT
 - PERMANENT WETLAND IMPACT
 - TEMPORARY WATER IMPACT
 - PERMANENT WATER IMPACT
 - STREAM BANK
 - LIMIT OF PROJECT

IMPACT SUMMARY (ACRES)		
	WETLANDS	WATERS
PERMANENT	0.365	0.136
TEMPORARY	0.337	0.154



MATCH LINE - SEE DWG USACE-2

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THE HUDSON TUNNEL PROJECT
USACE SECTION 404/10 PERMIT PLAN

DWG#
USACE-1

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AECOM | WSP | BRUNNEN | STV

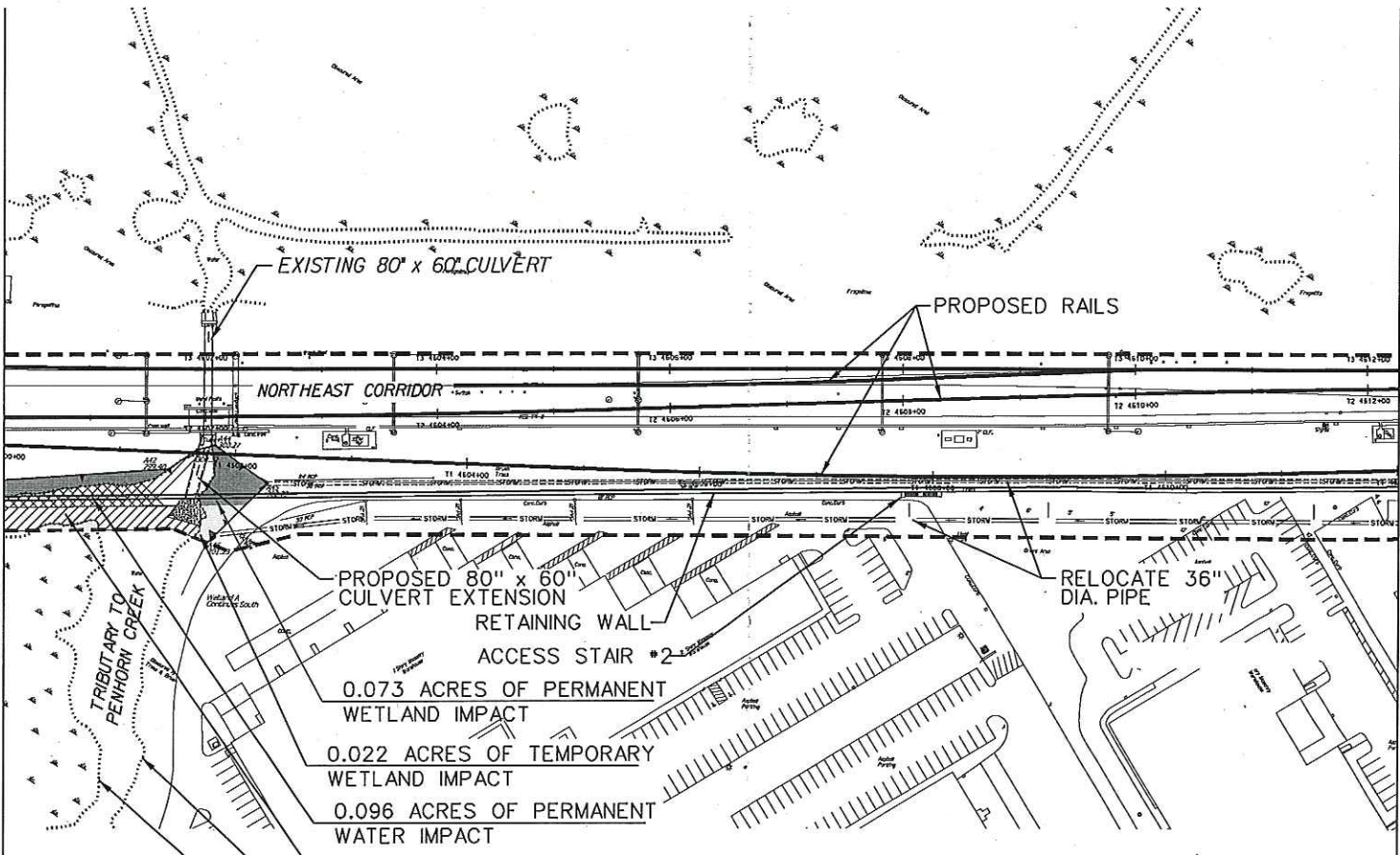
NEWARK

NEW YORK

GRID NORTH

MATCH LINE - SEE DWG USACE-1

MATCH LINE - SEE DWG USACE-3

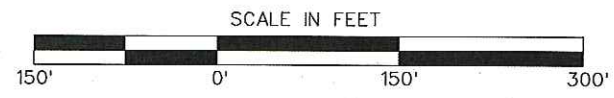


LEGEND:

- WETLANDS
- PROPOSED EARTHEN EMBANKMENT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- TEMPORARY WATER IMPACT
- PERMANENT WATER IMPACT
- STREAM BANK
- LIMIT OF PROJECT

- PROPOSED 80" x 60" CULVERT EXTENSION
- RETAINING WALL
- ACCESS STAIR #2
- 0.073 ACRES OF PERMANENT WETLAND IMPACT
- 0.022 ACRES OF TEMPORARY WETLAND IMPACT
- 0.096 ACRES OF PERMANENT WATER IMPACT
- 0.065 ACRES OF TEMPORARY WATER IMPACT
- MEAN HIGH WATER 2.38 FEET
- SPRING HIGH WATER 2.70 FEET

IMPACT SUMMARY (ACRES)		
	WETLANDS	WATERS
PERMANENT	0.073	0.096
TEMPORARY	0.022	0.065



PREPARED BY: J. M. WATSON, P.E. DATE: 4/27/2007
 CHECKED BY: J. M. WATSON, P.E. DATE: 4/27/2007
 DRAWN BY: J. M. WATSON, P.E. DATE: 4/27/2007
 PROJECT: THE HUDSON TUNNEL PROJECT, USACE SECTION 404/10 PERMIT PLAN



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NEWARK

NEW YORK

GRID NORTH

MATCH LINE - SEE DWG USACE-2

MATCH LINE - SEE DWG USACE-4

NORTHEAST CORRIDOR

PROPOSED RAILS

RELOCATE 36" DIA. PIPE

RETAINING WALL
ACCESS STAIR #3

PENHORN AVE

LEGEND:

- WETLANDS
- PROPOSED EARTHEN EMBANKMENT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- TEMPORARY WATER IMPACT
- PERMANENT WATER IMPACT
- STREAM BANK
- LIMIT OF PROJECT

IMPACT SUMMARY (ACRES)		
	WETLANDS	WATERS
PERMANENT	0.000	0.000
TEMPORARY	0.000	0.000



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Partnership
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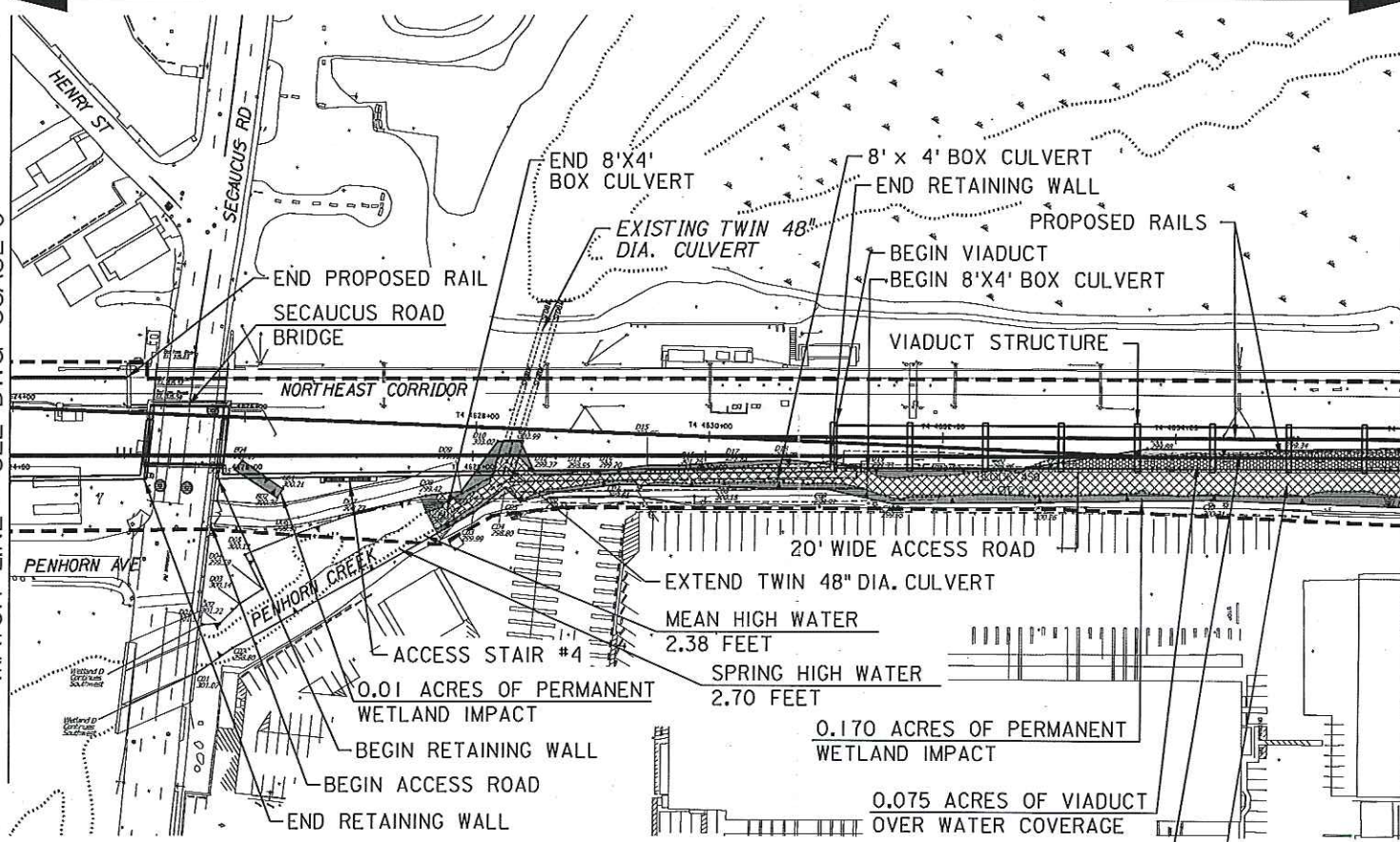
NEWARK

NEW YORK

GRID NORTH

MATCH LINE - SEE DWG USACE-3

MATCH LINE - SEE DWG USACE-5



LEGEND:

- WETLANDS
- PROPOSED EARTHEN EMBANKMENT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- VIADUCT OVER WATER COVERAGE
- VIADUCT OVER WETLAND COVERAGE
- TEMPORARY WATER IMPACT
- PERMANENT WATER IMPACT
- STREAM BANK
- LIMIT OF PROJECT

VIADUCT COVERAGE (ACRES)	
OVER WETLAND	0.025
OVER WATER	0.075

IMPACT SUMMARY (ACRES)		
	WETLANDS	WATERS
PERMANENT	0.180	0.360
TEMPORARY	0.000	0.000

- 0.01 ACRES OF PERMANENT WETLAND IMPACT
- 0.170 ACRES OF PERMANENT WETLAND IMPACT
- 0.075 ACRES OF VIADUCT OVER WATER COVERAGE
- 0.025 ACRES OF VIADUCT OVER WETLAND COVERAGE
- 0.360 ACRES OF PERMANENT WATER IMPACT

SCALE IN FEET



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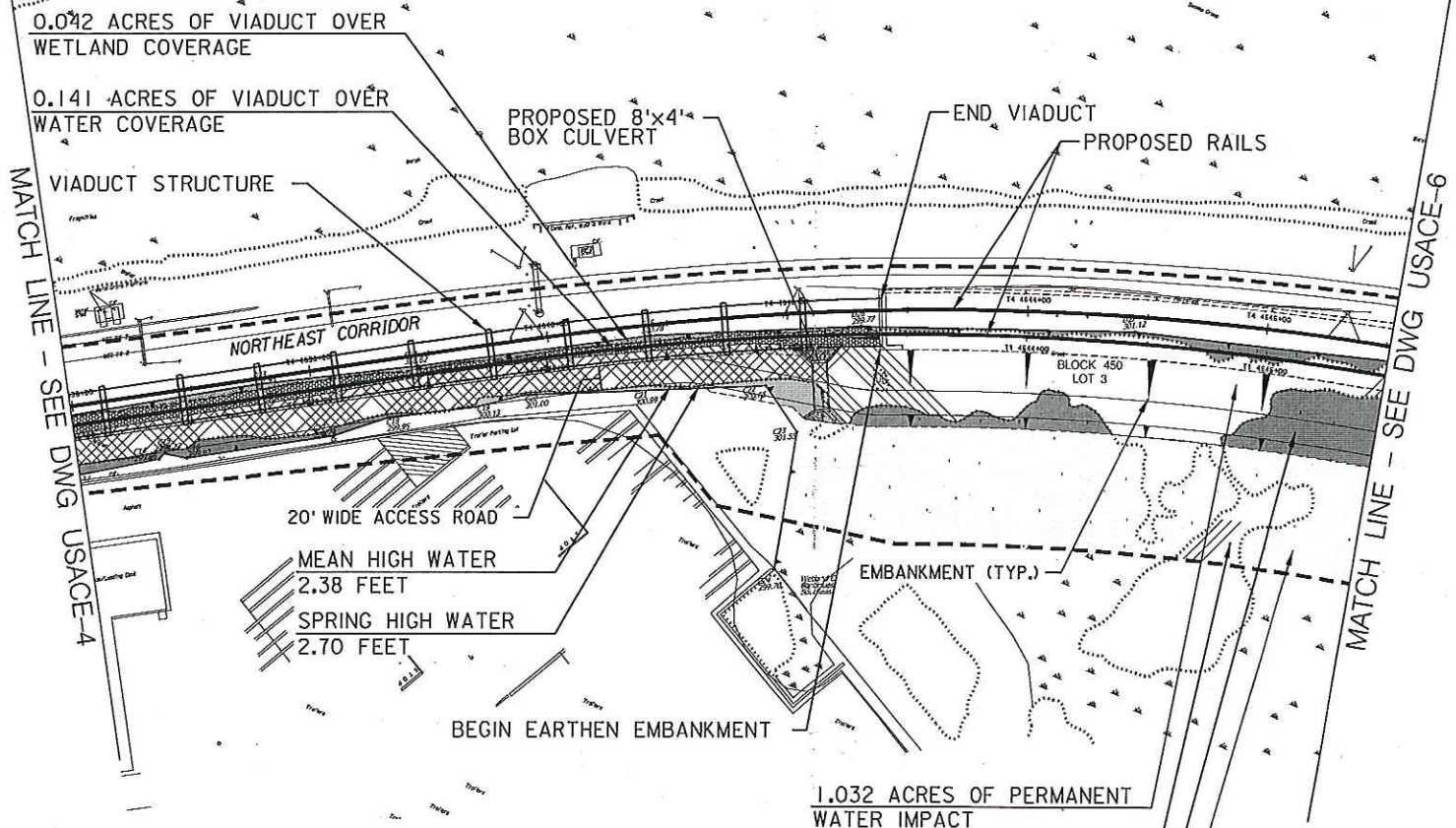
THE HUDSON TUNNEL PROJECT
USACE SECTION 404/10 PERMIT PLAN

DWG#
USACE-4

The Gateway
Trans-Hudson
Partnership

AECOM WSP | PARSONS BRINCKERHOFF | STV

NEWARK ← NEW YORK → GRID NORTH



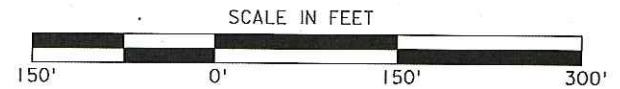
LEGEND:

- WETLANDS
- PROPOSED EARTHEN EMBANKMENT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- VIADUCT OVER WATER COVERAGE
- VIADUCT OVER WETLAND COVERAGE
- TEMPORARY WATER IMPACT
- PERMANENT WATER IMPACT
- STREAM BANK
- LIMIT OF PROJECT

VIADUCT COVERAGE (ACRES)	
OVER WETLAND	0.042
OVER WATER	0.141

IMPACT SUMMARY (ACRES)		
	WETLANDS	WATERS
PERMANENT	0.350	1.032
TEMPORARY	0.901	0.144

1.032 ACRES OF PERMANENT WATER IMPACT
 0.144 ACRES OF TEMPORARY WATER IMPACT
 0.350 ACRES OF PERMANENT WETLAND IMPACT
 0.901 ACRES OF TEMPORARY WETLAND IMPACT



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THE HUDSON TUNNEL PROJECT
 USACE SECTION 404/10 PERMIT PLAN

DWG#
 USACE-5

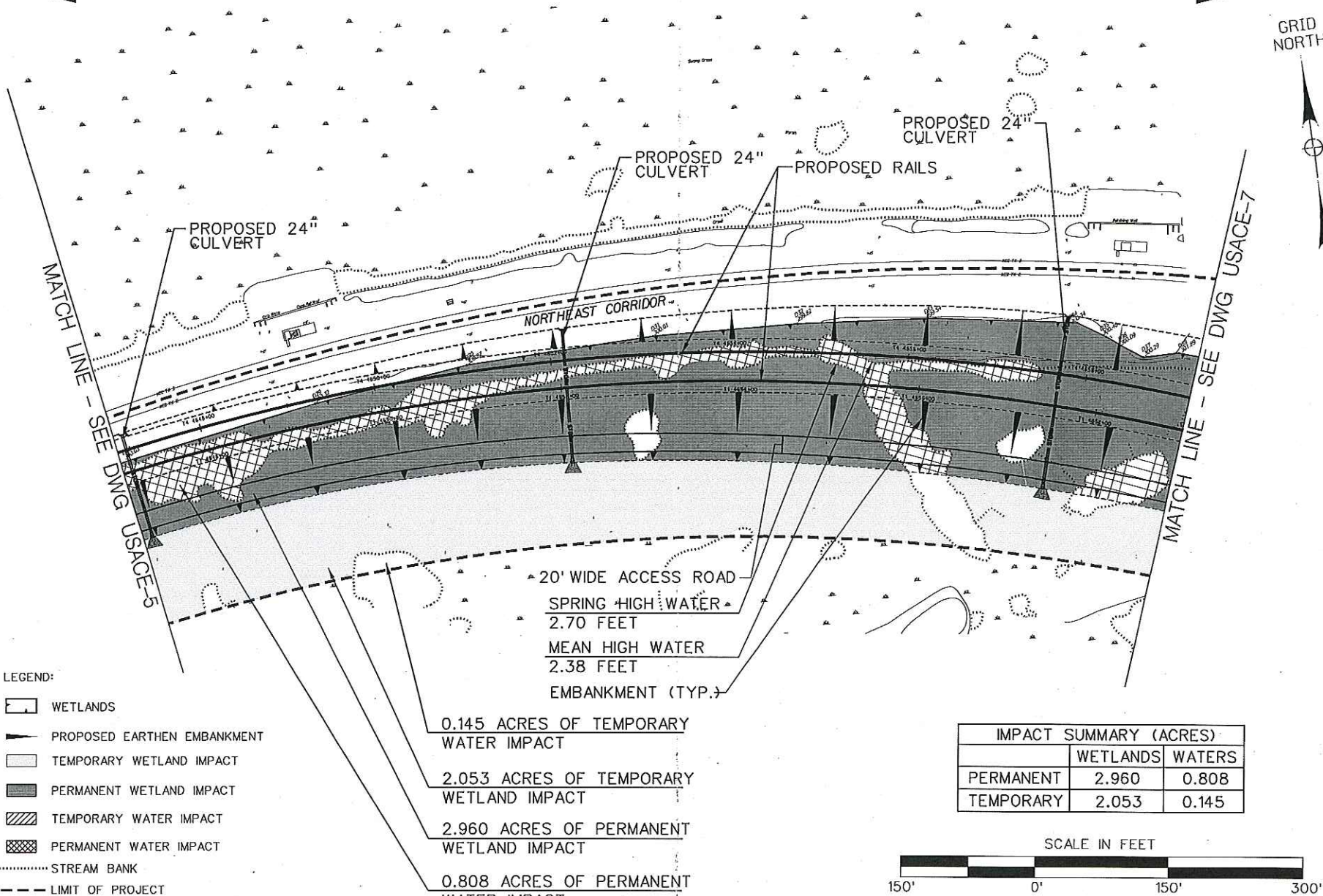
The Gateway
 Trans-Hudson
 Partnership
AECOM WSP | PARSONS BRINCKERHOFF | STV

NEWARK









NEW YORK

GRID NORTH

P:\Amtrak - Hudson Tunnel\Project\Permits for Tunnel\USACE\Plan\CAD - E\Plan\AUTOSKIP_USACE-6.dwg 4/27/2017 10:54:59 PM



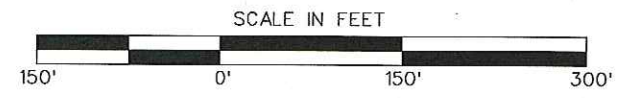
LEGEND:

-  WETLANDS
-  PROPOSED EARTHEN EMBANKMENT
-  TEMPORARY WETLAND IMPACT
-  PERMANENT WETLAND IMPACT
-  TEMPORARY WATER IMPACT
-  PERMANENT WATER IMPACT
-  STREAM BANK
-  LIMIT OF PROJECT

- 0.145 ACRES OF TEMPORARY WATER IMPACT
- 2.053 ACRES OF TEMPORARY WETLAND IMPACT
- 2.960 ACRES OF PERMANENT WETLAND IMPACT
- 0.808 ACRES OF PERMANENT WATER IMPACT

20' WIDE ACCESS ROAD
 SPRING HIGH WATER
 2.70 FEET
 MEAN HIGH WATER
 2.38 FEET
 EMBANKMENT (TYP.)

IMPACT SUMMARY (ACRES)		
	WETLANDS	WATERS
PERMANENT	2.960	0.808
TEMPORARY	2.053	0.145



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 USACE SECTION 404/10 PERMIT PLAN

DWG#
 USACE-6

The Gateway
 Trans-Hudson
 Partnership

AECOM WSP | BURNS & MCDONNELL | STV

NEWARK

NEW YORK

GRID NORTH

PROPOSED 18" RCP PIPE
 0.082 ACRES OF PERMANENT WATER IMPACT
 MEAN HIGH WATER
 2.38 FEET
 SPRING HIGH WATER
 2.70 FEET

LIMIT OF NYSW WETLAND MITIGATION SITE
 0.820 ACRES OF PERMANENT WETLAND IMPACT

EMBANKMENT (TYP.)
 0.235 ACRES OF TEMPORARY WETLAND IMPACT

0.004 ACRES OF PERMANENT WETLAND IMPACT TO NYSW WETLAND MITIGATION SITE

IMPACT SUMMARY (ACRES)		
	WETLANDS	WATERS
PERMANENT	1.124	0.082
TEMPORARY	0.486	0.000

LEGEND:

- WETLANDS
- PROPOSED EARTHEN EMBANKMENT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- TEMPORARY WATER IMPACT
- PERMANENT WATER IMPACT
- TEMPORARY IMPACTS TO NYSW WETLAND MITIGATION SITE
- PERMANENT IMPACTS TO NYSW WETLAND MITIGATION SITE
- STREAM BANK
- LIMIT OF PROJECT

PROPOSED 18" RCP PIPE
 RELOCATED OUTLET CONTROL STRUCTURE
 20' WIDE ACCESS ROAD
 0.300 ACRES OF PERMANENT WETLAND IMPACT TO NYSW WETLAND MITIGATION SITE
 0.251 ACRES OF TEMPORARY WETLAND IMPACT TO NYSW WETLAND MITIGATION SITE
 0.17 ACRES PERMANENT IMPACTS TO NYSW WETLAND MITIGATION SITE

HACKENSACK MEADOWLANDS DISTRICT (WEST OF THIS LINE)
 0.027 ACRES TEMPORARY IMPACTS TO NYSW WETLAND MITIGATION SITE

MATCH LINE - SEE DWG USACE-6

MATCH LINE - SEE DWG USACE-8

DATE: 01/15/03

SCALE

NORTHEAST CORRIDOR

NYSW RAILROAD

BEGIN RETAINING WALLS
 BEGIN BRIDGE
 END BRIDGE

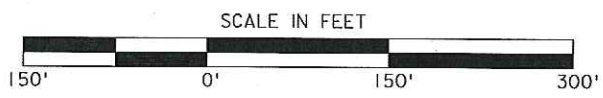
AMTRAK SUBSTATION

PROPOSED RAILS

PROPOSED 24" CULVERT

TONNELLE AVE (ROUTE 189)

BEGIN TONNELLE AVE UNDERPASS
 20' WIDE ACCESS ROAD
 BRIDGE OVER CONRAIL/NYSW
 END ACCESS ROAD



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 USACE SECTION 404/10 PERMIT PLAN

DWG# USACE-7

The Gateway
 Trans-Hudson
 Partnership

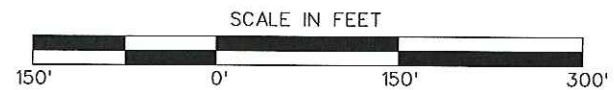
AECOM WSP PARSONS BRINCKERHOFF STV



LEGEND:

- WETLANDS
- PROPOSED EARTHEN EMBANKMENT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- TEMPORARY WATER IMPACT
- PERMANENT WATER IMPACT
- STREAM BANK
- LIMIT OF PROJECT

IMPACT SUMMARY (ACRES)		
	WETLANDS	WATERS
PERMANENT	0.000	0.000
TEMPORARY	0.000	0.000



4/27/2007 16:50:01 PM SITE NAME: REFERENCES:



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USACE SECTION 404/10 PERMIT PLAN

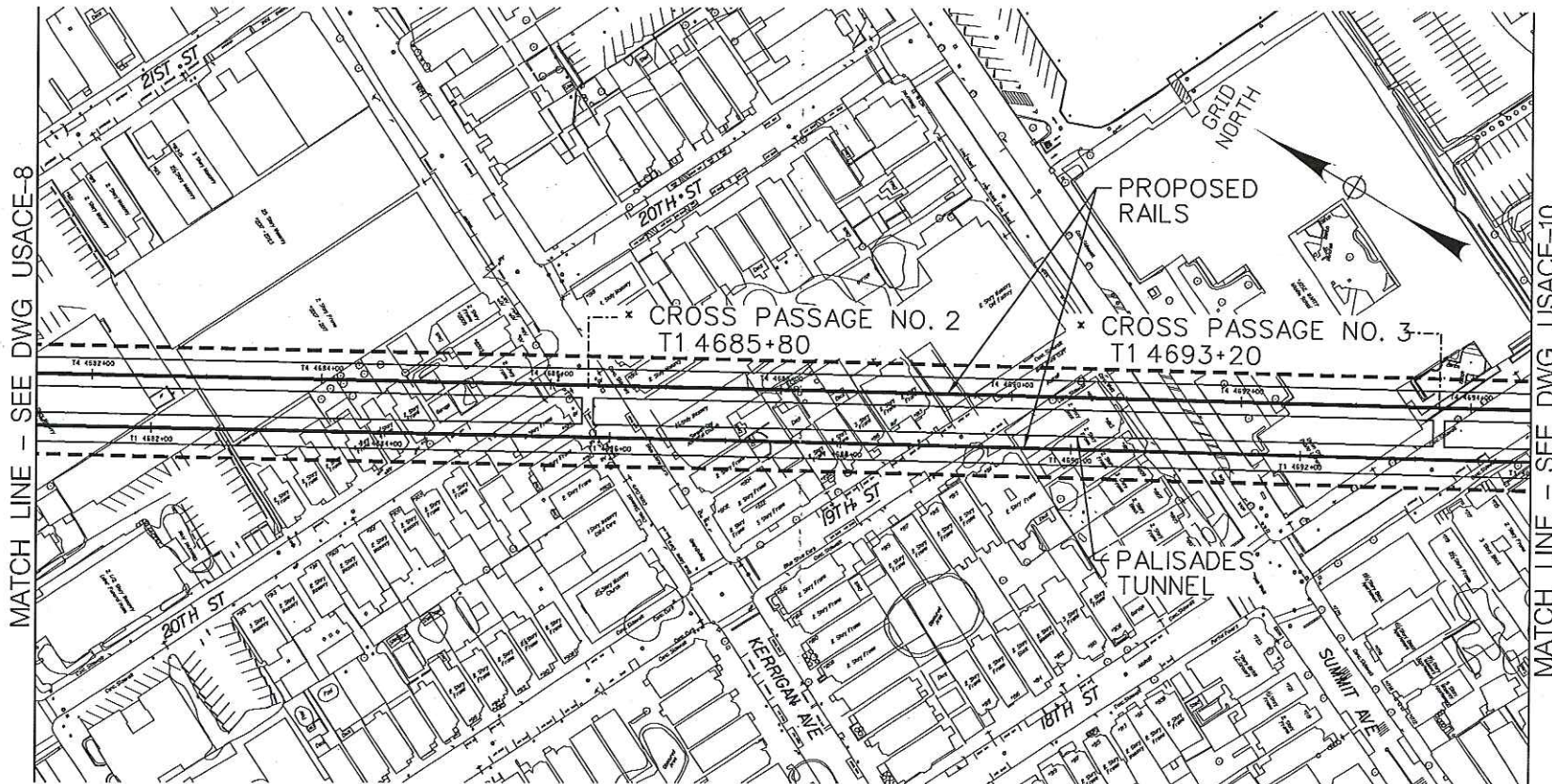
DWG#
USACE-8

The Gateway
Trans-Hudson
Partnership

AECOM WSP | GARDNER | STV

NEWARK

NEW YORK



MATCH LINE - SEE DWG USACE-8

MATCH LINE - SEE DWG USACE-10

LEGEND:

- WETLANDS
- PROPOSED EARTHEN EMBANKMENT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- TEMPORARY WATER IMPACT
- PERMANENT WATER IMPACT
- STREAM BANK
- LIMIT OF PROJECT

IMPACT SUMMARY (ACRES)		
	WETLANDS	WATERS
PERMANENT	0.000	0.000
TEMPORARY	0.000	0.000



DATE: 4/27/2007 15:52:02 PM SITE: BATHING PERFORMANCES



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USACE SECTION 404/10 PERMIT PLAN

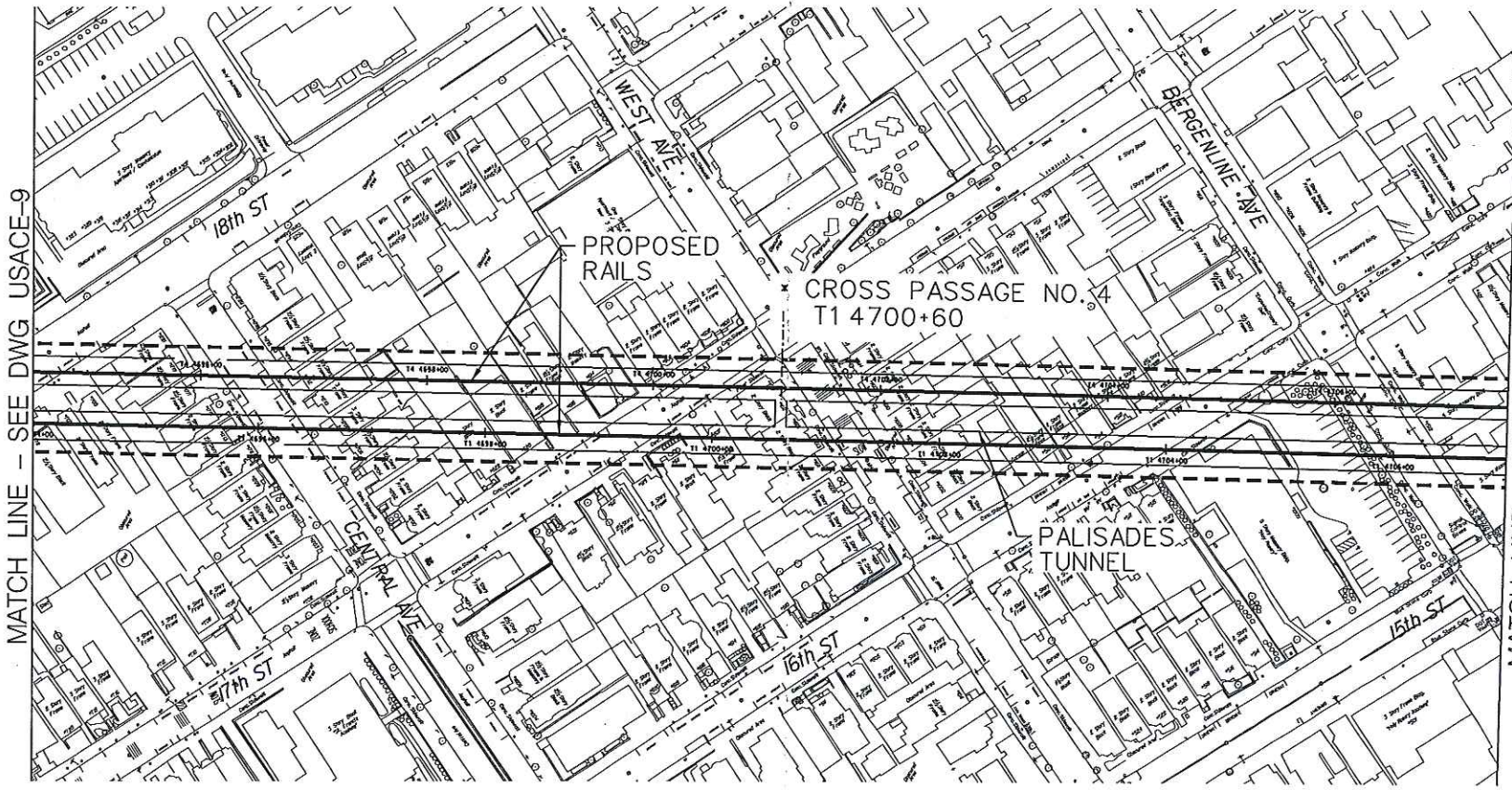
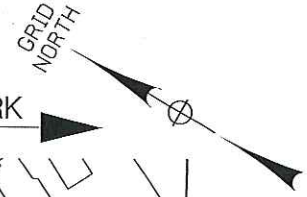
DWG#
USACE-9

The Gateway
Trans-Hudson
Partnership

AECOM WSP | BRANSON | HERRICK | STV | ADP

NEWARK

NEW YORK



MATCH LINE - SEE DWG USACE-9

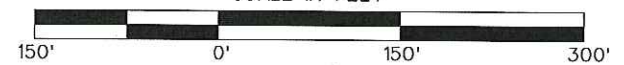
MATCH LINE - SEE DWG USACE-11

LEGEND:

- WETLANDS
- PROPOSED EARTHEN EMBANKMENT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- TEMPORARY WATER IMPACT
- PERMANENT WATER IMPACT
- STREAM BANK
- LIMIT OF PROJECT

IMPACT SUMMARY (ACRES)		
	WETLANDS	WATERS
PERMANENT	0.000	0.000
TEMPORARY	0.000	0.000

SCALE IN FEET



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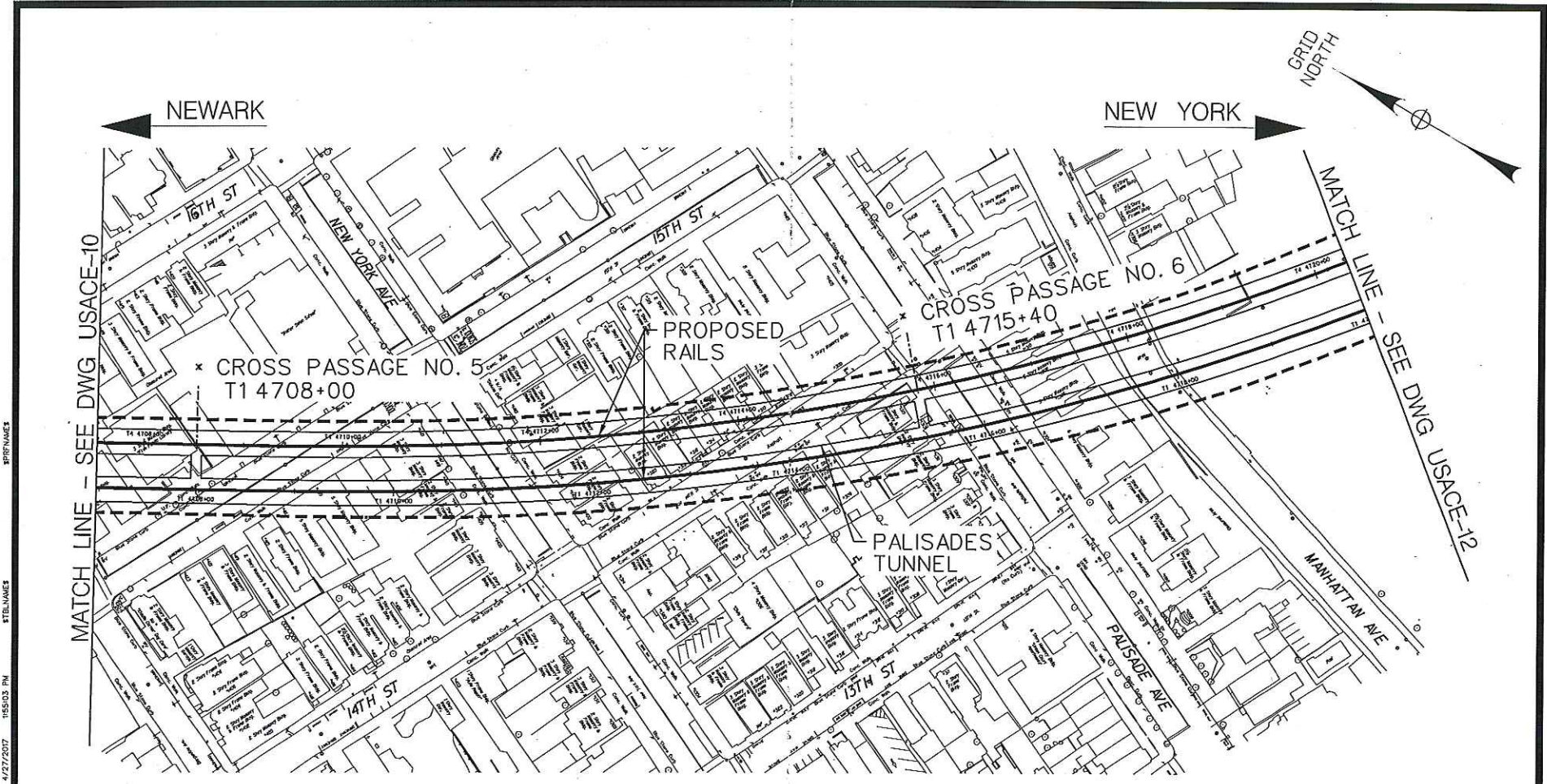
THE HUDSON TUNNEL PROJECT
USACE SECTION 404/10 PERMIT PLAN

DWG#
USACE-10

The Gateway
Trans-Hudson
Partnership

AECOM WSP | BARBER | STV

P:\Amtrak - Hudson Tunnel\Project\Drawings\Permit\404\10\USACE\DWG\USACE-10.dwg 4/27/2007 10:55:02 PM STE:JAMES

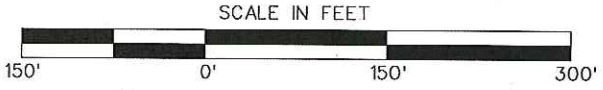


4/27/2007 155:03 PM SITE PLAN SHEET 1 OF 10

LEGEND:

- WETLANDS
- PROPOSED EARTHEN EMBANKMENT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- TEMPORARY WATER IMPACT
- PERMANENT WATER IMPACT
- STREAM BANK
- LIMIT OF PROJECT

IMPACT SUMMARY (ACRES)		
	WETLANDS	WATERS
PERMANENT	0.000	0.000
TEMPORARY	0.000	0.000



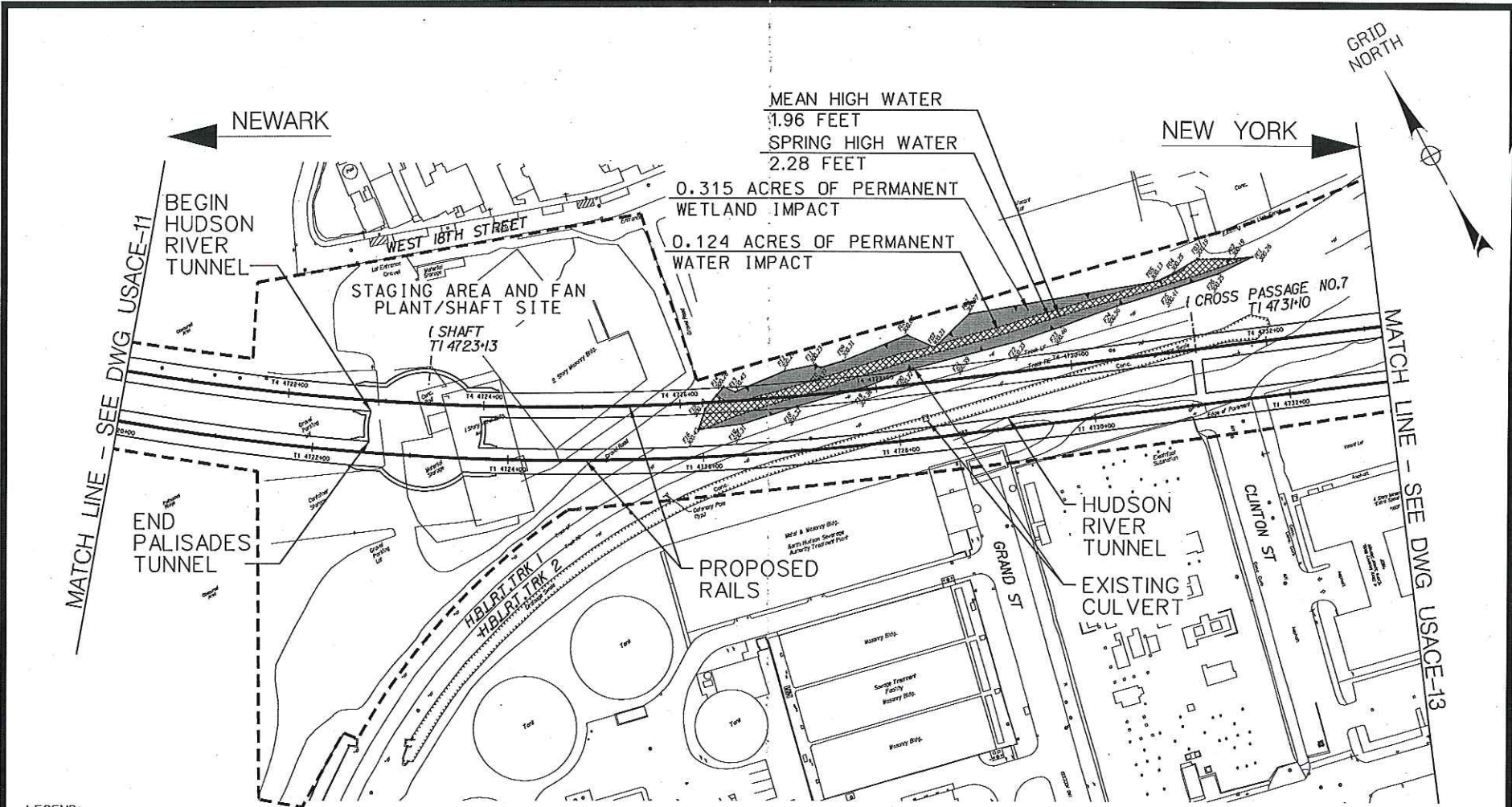
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USACE SECTION 404/10 PERMIT PLAN

DWG#
USACE-11

**The Gateway
Trans-Hudson
Partnership**

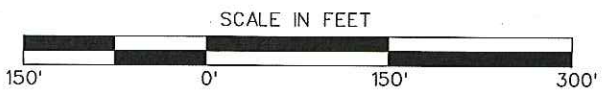
DATE: 11/10/04
 DRAWN: J. BARNETT
 CHECKED: J. BARNETT
 PROJECT: THE HUDSON TUNNEL PROJECT
 SHEET: USACE-12
 SCALE: AS SHOWN
 DATE: 11/10/04



LEGEND:

- WETLANDS
- PROPOSED EARTHEN EMBANKMENT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- TEMPORARY WATER IMPACT
- PERMANENT WATER IMPACT
- STREAM BANK
- LIMIT OF PROJECT

IMPACT SUMMARY (ACRES)		
	WETLANDS	WATERS
PERMANENT	0.315	0.124
TEMPORARY	0.000	0.000



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USACE SECTION 404/10 PERMIT PLAN

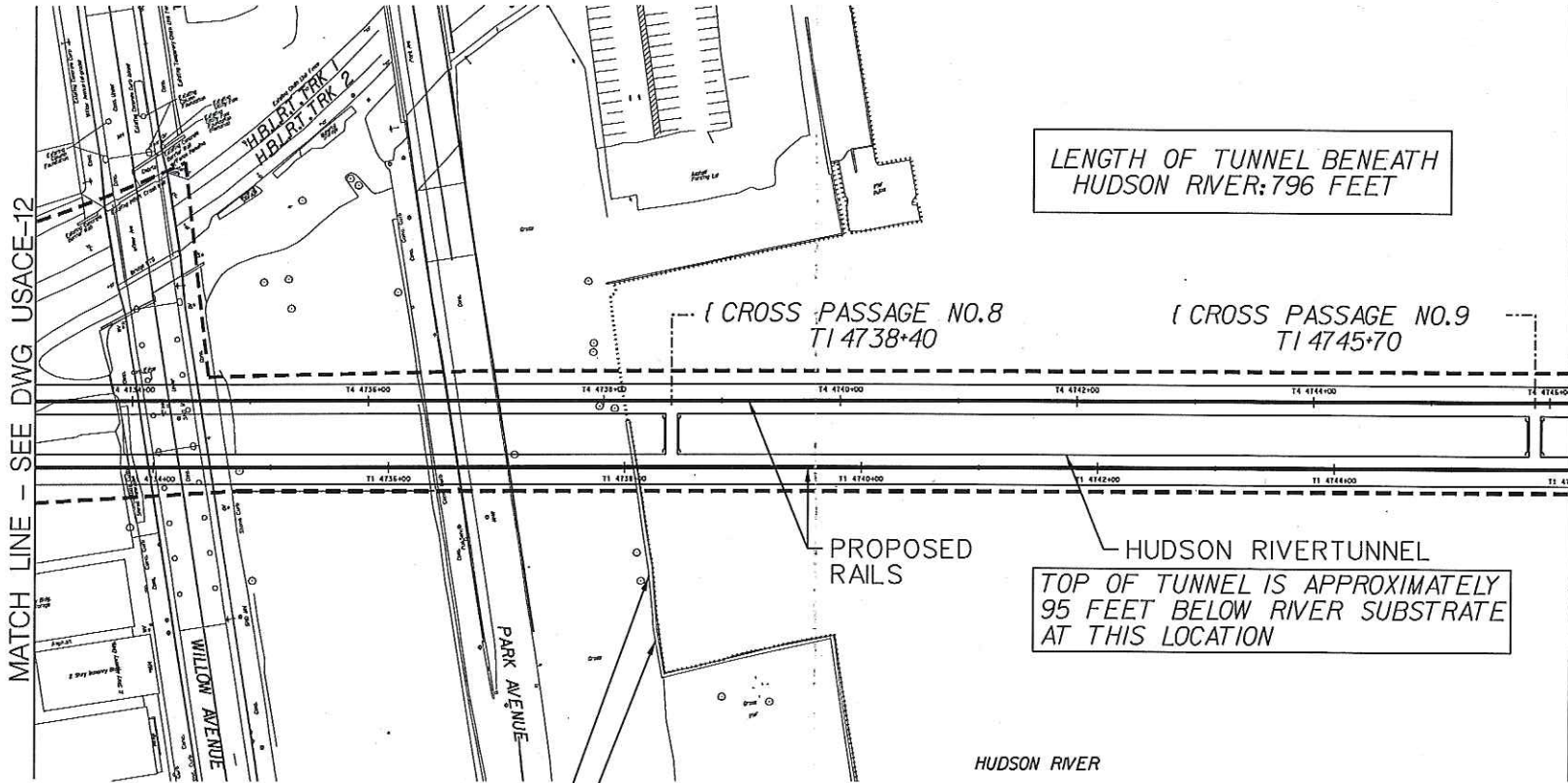
DWG#
USACE-12

The Gateway
Trans-Hudson
Partnership
AECOM **WSP** **PARSONS** **HOFF** **STV**

GRID NORTH

NEWARK

NEW YORK



LENGTH OF TUNNEL BENEATH HUDSON RIVER: 796 FEET

TOP OF TUNNEL IS APPROXIMATELY 95 FEET BELOW RIVER SUBSTRATE AT THIS LOCATION

LEGEND:

- WETLANDS
- PROPOSED EARTHEN EMBANKMENT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- TEMPORARY WATER IMPACT
- PERMANENT WATER IMPACT
- STREAM BANK
- LIMIT OF PROJECT

MEAN HIGH WATER
1.96 FEET

SPRING HIGH WATER
2.28 FEET

IMPACT SUMMARY (ACRES)		
	WETLANDS	WATERS
PERMANENT	0.000	0.000
TEMPORARY	0.000	0.000



4/27/2007 10:55:05 PM 578LMAUC3 578LMAUC3



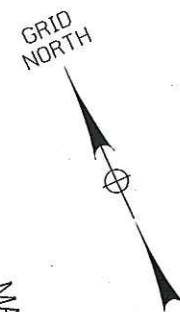
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USACE SECTION 404/10 PERMIT PLAN

DWG#
USACE-13

The Gateway
Trans-Hudson
Partnership

AECOM WSP BRONKHORFF STV 100



NEWARK ←

NEW YORK →

LENGTH OF TUNNEL BENEATH HUDSON RIVER: 1,288 FEET

MATCH LINE - SEE DWG USACE-13

MATCH LINE - SEE DWG USACE-15

CROSS PASSAGE NO.10
TI 4753+00

HUDSON RIVER TUNNEL
TOP OF TUNNEL IS APPROXIMATELY
110 FEET BELOW RIVER SUBSTRATE
AT THIS LOCATION

PROPOSED RAILS

HUDSON RIVER

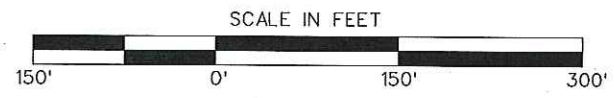
REMAINS OF EXISTING PIERS

REMAINS OF EXISTING PIERS

LEGEND:

- WETLANDS
- PROPOSED EARTHEN EMBANKMENT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- TEMPORARY WATER IMPACT
- PERMANENT WATER IMPACT
- STREAM BANK
- LIMIT OF PROJECT

IMPACT SUMMARY (ACRES)		
	WETLANDS	WATERS
PERMANENT	0.000	0.000
TEMPORARY	0.000	0.000



4/27/2007 10:55:05 PM
 SITE NAME:
 BIRTH NAME:
 P:\Amtrak\Hudson Tunnel\Project\Drawings for Tunnel\USACE\HudsonTunnel\404 USACE-14.dwg



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USACE SECTION 404/10 PERMIT PLAN

DWG#
USACE-14

The Gateway
Trans-Hudson
Partnership



GRID NORTH



NEWARK

NEW YORK

LENGTH OF TUNNEL BENEATH HUDSON RIVER: 1,196 FEET

MATCH LINE - SEE DWG USACE-14

MATCH LINE - SEE DWG USACE-16

BLOCK 264 LOT 2

* CROSS PASSAGE NO.11
TI 4760+30

* CROSS PASSAGE NO.12
TI 4767+60

U.S. PERHEAD LINE AND
LIMIT OF 40' DEEP
NAVIGABLE CHANNEL

LIMIT OF 45' DEEP
NAVIGABLE CHANNEL

HUDSON RIVER TUNNEL
TOP OF TUNNEL IS APPROXIMATELY
50 FEET BELOW RIVER SUBSTRATE
AT THIS LOCATION

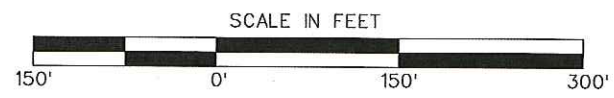
PROPOSED
RAILS

HUDSON RIVER

LEGEND:

- WETLANDS
- PROPOSED EARTHEN EMBANKMENT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- TEMPORARY WATER IMPACT
- PERMANENT WATER IMPACT
- STREAM BANK
- LIMIT OF PROJECT

IMPACT SUMMARY (ACRES)		
	WETLANDS	WATERS
PERMANENT	0.000	0.000
TEMPORARY	0.000	0.000



DATE: 11/14/03
 DRAWN: J. HARRISON
 CHECKED: J. HARRISON
 PROJECT: Hudson Tunnel Project/USACE-15
 SHEET: USACE-15.dwg
 4/27/2007 1:55:00 PM STB:NAME\$
 PPT:NAME\$



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USACE SECTION 404/10 PERMIT PLAN

DWG#
USACE-15

The Gateway
Trans-Hudson
Partnership

AECOM WSP | HARRISON | STV

GRID NORTH

NEWARK

NEW YORK

LENGTH OF TUNNEL BENEATH HUDSON RIVER: 1,300 FEET

☉ CROSS PASSAGE NO. 13
T1 4774+90

☉ CROSS PASSAGE NO. 14
T1 4782+20

MATCH LINE - SEE DWG USACE-15

MATCH LINE - SEE DWG USACE-17

NEW JERSEY
NEW YORK

HUDSON RIVER TUNNEL

PROPOSED RAILS

LIMIT OF 45' DEEP
NAVIGABLE CHANNEL

HUDSON RIVER

LEGEND:

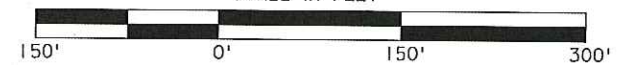
- WETLANDS
- PROPOSED EARTHEN EMBANKMENT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- WATER SHADING
- WETLAND SHADING
- TEMPORARY WATER IMPACT
- PERMANENT WATER IMPACT
- STREAM BANK
- LIMIT OF PROJECT

IMPACT SUMMARY (ACRES)		
	WETLANDS	WATERS
PERMANENT	0.000	0.777
TEMPORARY	0.000	0.000

NOTE:

1. IMPACT LOCATIONS PURPOSELY NOT SHOWN.

SCALE IN FEET



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USACE SECTION 404/10 PERMIT PLAN

DWG#
USACE-16

The Gateway
Trans-Hudson
Partnership

AECOM WSP | PARSONS BRINCKERHOFF | STV

GRID NORTH



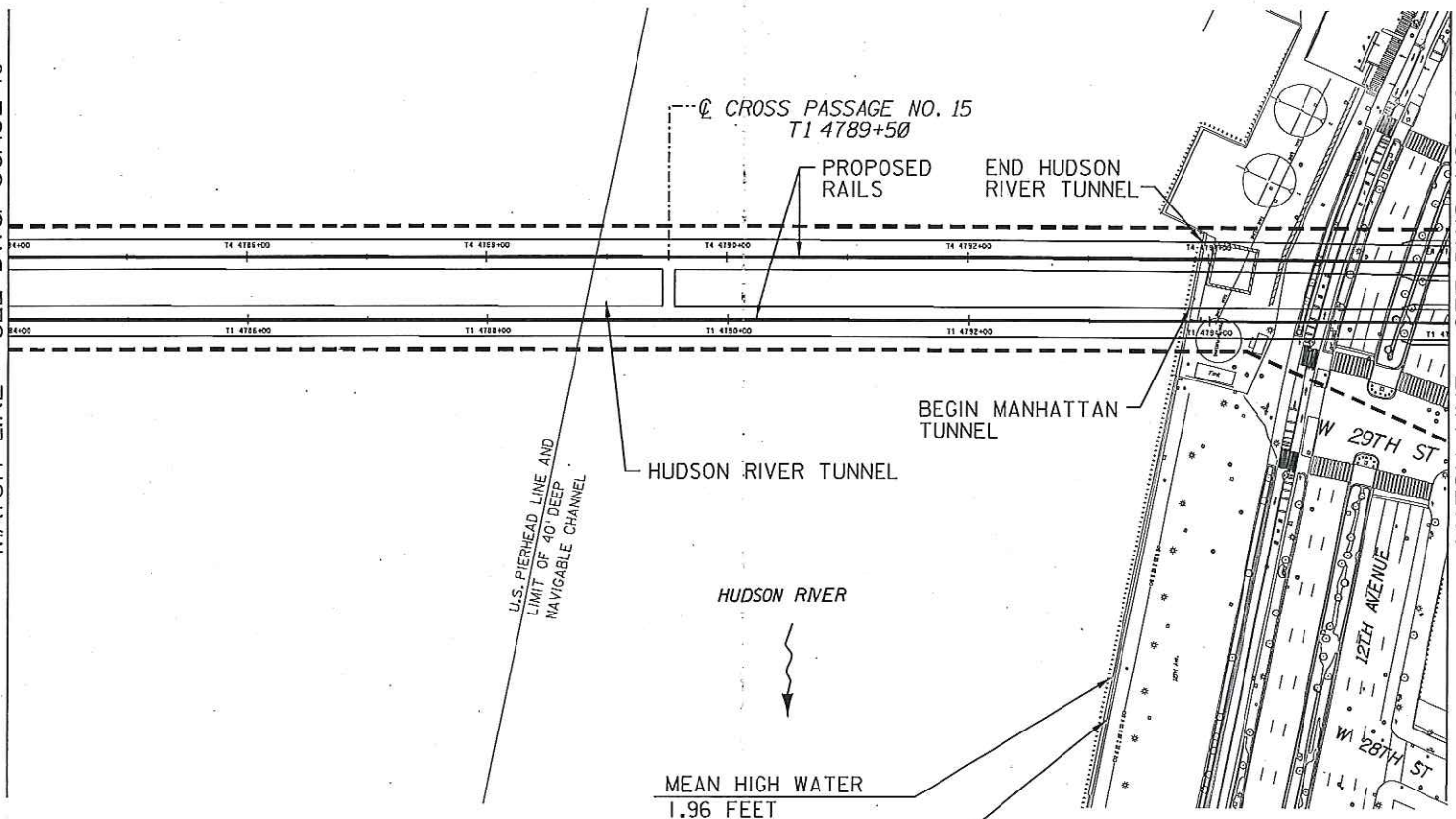
LENGTH OF TUNNEL BENEATH HUDSON RIVER: 989 FEET

NEWARK

NEW YORK

MATCH LINE - SEE DWG USACE-16

MATCH LINE - SEE DWG USACE-18



LEGEND:

- WETLANDS
- PROPOSED EARTHEN EMBANKMENT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- WATER SHADING
- WETLAND SHADING
- TEMPORARY WATER IMPACT
- PERMANENT WATER IMPACT
- STREAM BANK
- LIMIT OF PROJECT

IMPACT SUMMARY (ACRES)		
	WETLANDS	WATERS
PERMANENT	0.000	0.742
TEMPORARY	0.000	0.000

NOTE:

1. IMPACT LOCATIONS PURPOSELY NOT SHOWN.

MEAN HIGH WATER
1.96 FEET

SPRING HIGH WATER
2.28 FEET

SCALE IN FEET



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THE HUDSON TUNNEL PROJECT
USACE SECTION 404/10 PERMIT PLAN

DWG#
USACE-17

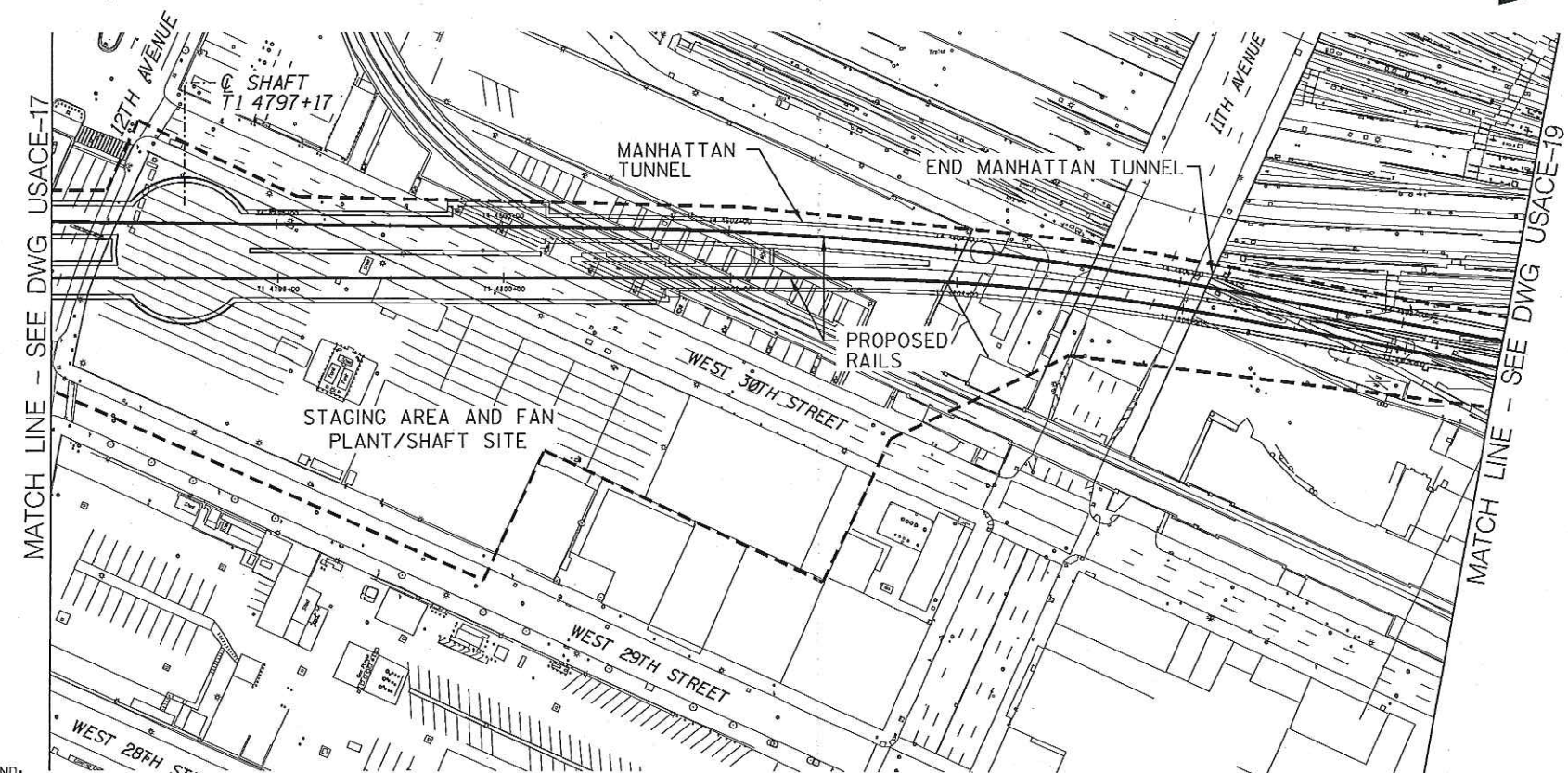
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GRID NORTH

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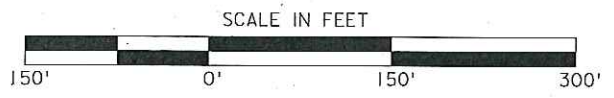
NEW YORK



LEGEND:

- WETLANDS
- PROPOSED EARTHEN EMBANKMENT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- WATER SHADING
- WETLAND SHADING
- TEMPORARY WATER IMPACT
- PERMANENT WATER IMPACT
- STREAM BANK
- LIMIT OF PROJECT

IMPACT SUMMARY (ACRES)		
	WETLANDS	WATERS
PERMANENT	0.000	0.000
TEMPORARY	0.000	0.000



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USACE SECTION 404/10 PERMIT PLAN

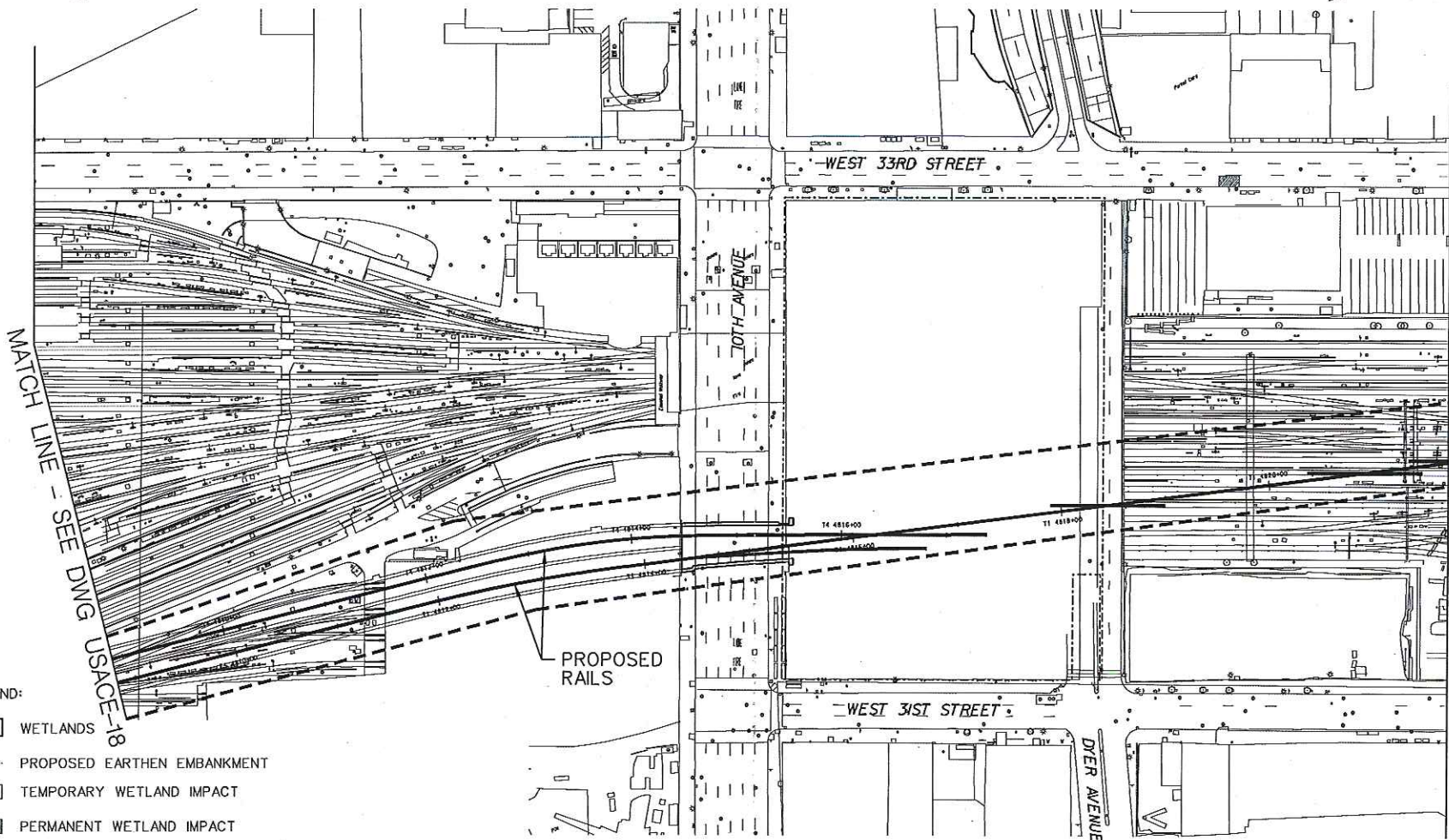
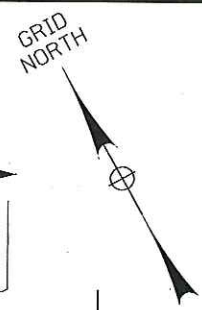
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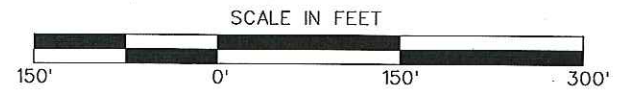
NEW YORK →



LEGEND:

- WETLANDS
- PROPOSED EARTHEN EMBANKMENT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- TEMPORARY WATER IMPACT
- PERMANENT WATER IMPACT
- STREAM BANK
- LIMIT OF PROJECT

IMPACT SUMMARY (ACRES)		
	WETLANDS	WATERS
PERMANENT	0.000	0.000
TEMPORARY	0.000	0.000



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 USACE SECTION 404/10 PERMIT PLAN

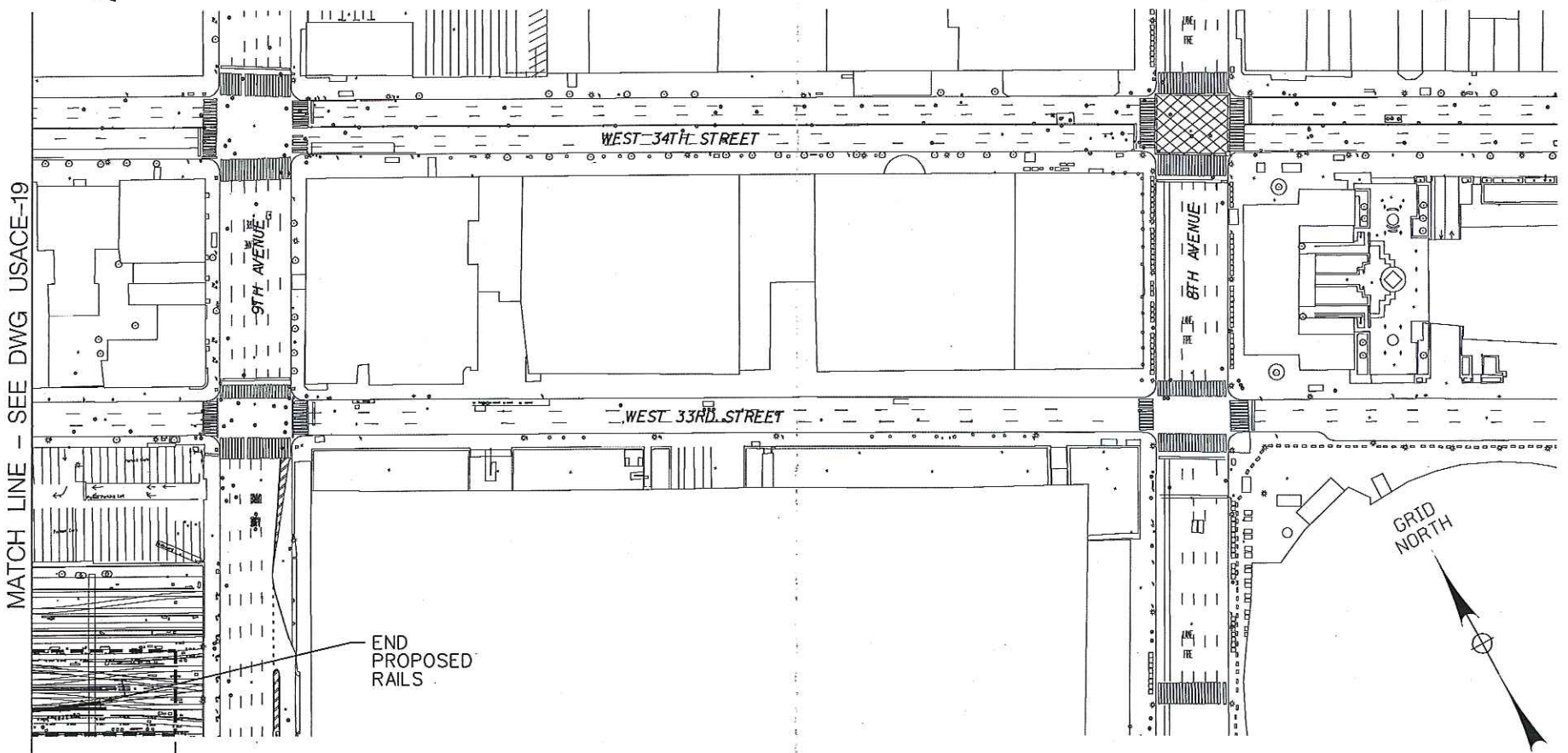
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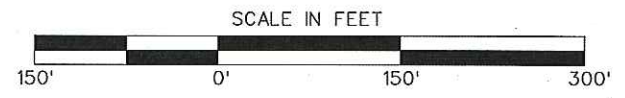
NEW YORK



LEGEND:

- WETLANDS
- PROPOSED EARTHEN EMBANKMENT
- TEMPORARY WETLAND IMPACT
- PERMANENT WETLAND IMPACT
- TEMPORARY WATER IMPACT
- PERMANENT WATER IMPACT
- STREAM BANK
- LIMIT OF PROJECT

IMPACT SUMMARY (ACRES)		
	WETLANDS	WATERS
PERMANENT	0.000	0.000
TEMPORARY	0.000	0.000



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