DEPARTMENT OF THE ARMY PERMIT

Permittee National Railroad Passenger Corporation (AMTRAK), 30TH Street Station, 4th Floor South, 30th & Market Street, Philadelphia, PA 19104

Permit No. NAE-2006-325

Issuing Office New England 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:

- Place fill below high tide line (HTL) and perform dredging below mean high water (MHW) in the Niantic River in association with the off-line (to south of existing bridge) replacement of the existing Niantic River Railroad Bridge over the Niantic River, including reconstruction of approach rails, in East Lyme and Waterford, Connecticut
- Place fill below HTL along the Niantic Bay shoreline in East Lyme in association with construction of approximately 2,500 LF of concrete walkway/retaining wall incorporated into the railroad embankment
- Place fill below HTL in association with creation/replenishment of 2,500 LF of beach along the Niantic Bay shoreline in East Lyme
- Place fill below HTL in association with construction of a stone groin extending approximately 200 LF beyond mean high water into Niantic Bay in East Lyme

PROJECT DESCRIPTION CONTINUED ON PAGE 4

Project Location:

Niantic River in vicinity of Niantic River Railroad Bridge in East Lyme and Waterford, CT and along the Niantic Bay shoreline west of the bridge crossing in East Lyme, CT

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2014 **. 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 one month 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 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 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. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. The permittee shall ensure that a copy of this permit is at the work site whenever work is being performed and that all personnel performing work at the site of the work authorized by this permit are fully aware of the terms and conditions of the permit. This permit, including its drawings and any appendices and other attachments, shall be made a part of any and all contracts and sub-contracts for work which affects areas of Corps of Engineers jurisdiction at the site of the work authorized by this permit. This shall be done by including the entire permit in the specifications for work.

(Special Conditions continued on Page 5)

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.C. 403).

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

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

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 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.

(PERMITTEE) *(DATE)*

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

for JMcCarthy 12/16/09

(DISTRICT ENGINEER) *(DATE)*

Philip T. Feir
Colonel, Corps of Engineers

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.

(TRANSFEREE) *(DATE)*

☆U.S. GOVERNMENT PRINTING OFFICE: 1986 — 717-425

(Project Description continued from Page 1)

Specific activities occurring below HTL in the Niantic River and Niantic Bay, and dredging below MHW in the Niantic River are described as follows:

- Dredge below MHW approximately 26,400 SF (various areas) of the Niantic River to elevations ranging from 8.0 to 14.0 feet below mean lower low water (MLLW) for the widening of the federal navigation channel in the vicinity of the new bridge crossing and for submarine cable installation, and to elevations of approximately 36.0 feet below mean low water (MLW) for construction of new bridge piers. The proposed dredging for channel widening will result in increasing the existing 45.0-foot channel width to 100.0 feet at the new bridge crossing. Approximately 8,000 CY of dredged materials will be disposed of onsite for beach replenishment, for fill in the new rail embankment, or disposed of at an approved upland disposal site if unsuitable for beach or embankment fill.

- Place fill/backfill below HTL in the Niantic River in association with bridge construction and bridge demolition, and for installation of bridge submarine cables (signal and communications and power) to replace existing submarine cables. The existing submarine cables will be removed.

- Place fill (including dredged materials) below HTL along shoreline areas of Niantic Bay to the west and east of the new bridge for the reconstruction of approximately 5,520 LF of realigned track on the westerly approach to the new bridge and approximately 2,100 LF of realigned track on the eastern approach to the new bridge.

- Place fill (including dredged materials) below HTL in association with reconstruction of approximately 2,500 LF of concrete walkway extending along the Niantic Bay shoreline along the south side of the realigned westerly approach tracks; portions of the new concrete walkway will be incorporated into the south side railroad embankment/retaining wall of the realigned westerly approach rail line; this concrete walkway facility replaces the approximately 2500 LF of the existing Niantic Bay Overlook Park boardwalk and walkway facility which will be deconstructed/demolished to accommodate the new bridge alignment and associated westerly approach tracks.

- Place fill consisting of armor stone and riprap revetment fill below HTL to provide erosion/scour protection at the toe of the south side rail embankment/retaining wall along the westerly approach tracks.

- Place sand and dredged material fill below HTL in approximately 3.8 acres of Niantic Bay along 2,500 LF of shoreline of Niantic Bay for the purpose of beach creation/replenishment. Initial placement of approximately 75,500 CY of sand fill will create approximately 2,500 LF of 25-75 feet wide beach adjacent to the scour protection/retaining wall; the beach project recreates/replenishes the existing Niantic Bay shoreline beach area that will be displaced by the realigned westerly approach rail line.

- Place stone fill below HTL to construct and maintain a stone groin extending approximately 200 LF beyond MHW into Niantic Bay for the purpose of retaining the newly created and replenished beach. The groin will occupy approximately 10,500 SF of Niantic Bay waters.

The purpose of the bridge project is maintenance of an existing rail bridge which is part of AMTRAK's Northeast Railroad Corridor system. The purpose of the boardwalk and beach projects is to replace/enhance an existing public boardwalk/walkway and beach shoreline that will be displaced by the bridge project. The purpose of the groin is to retain the new beach.

The work is described and shown on the enclosed plans entitled "REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE East Lyme and Waterford, Connecticut" on forty-three (43) sheets, all sheets dated "5/15/09", sheet 29 dated "11/16/09", and "CONSTRUCTION LIMITS", SHEET 1 OF 1, dated "NOVEMBER 09"

(Special Conditions continued from Page 2)

Special condition 1 cont'd:
If the permit is issued after the construction specifications but before receipt of bids or quotes, the entire permit shall be included as an addendum to the specifications. If the permit is issued after receipt of bids or quotes, the entire permit shall be included in the contract or sub-contract as a change order. The term "entire permit" includes permit amendments. Although the permittee may assign various aspects of the work to different contractors or sub-contractors, all contractors and sub-contractors shall be obligated by contract to comply with all environmental protection provisions of the entire permit, and no contract or sub-contract shall require or allow unauthorized work in areas of Corps jurisdiction.

2. The permittee shall complete and return the enclosed Compliance Certification Form within one month following the completion of the authorized work.

3. All areas of wetlands and/or waters, which are disturbed during construction, **except those authorized herein for permanent impact,** shall be restored to their approximate original elevation (but not higher) and condition by careful protection, and/or removal and replacement, of existing soil and vegetation. In addition, if upland clearing, grubbing, or other construction activity results in, or may result in, soil erosion with transport and deposition into a wetland or waterway, devices such as geotextile silt fences, sediment trenches, etc., shall be installed and properly maintained to minimize such impacts during construction. These devices must removed upon completion of work and stabilization of disturbed areas. The sediment collected by these devices must also be removed and placed upland, in a manner that will prevent its later erosion and transport to a waterway or wetland.

4. No temporary fill (e.g. access roads, cofferdams) is allowed in any waters or wetlands except as authorized by this permit.

5. Work associated with this permit shall not affect the depth or width of the Niantic River Federal Navigation Project (FNP). Following construction, any material, machinery or equipment lost, dumped, thrown into, or otherwise entering the waterway shall be removed immediately or as soon as possible. If immediate removal is impractical and the object entering the waterway is or could become an obstruction or hazard to navigation, the object shall be marked immediately to protect navigation and the U.S. Coast Guard – Sector LIS shall be notified immediately at (203) 468-4596.

6. The submarine cables (utility) shall be installed at an appropriate depth so that it does not interfere with future FNP dredging operations and to comply with NEDER 1110-1-9 (view this at www.nae.usace.army.mil/reg under "Useful Links and Documents"). Within the limits of the FNP, the final elevation of the top of the utility shall be no less than 14.0 feet below the elevation of the horizontal plane of mean lower low water (MLLW). This elevation provides a 2.0 feet over depth allowance in the event of maintenance dredging of the FNP, and additionally includes the minimum 4.0 feet of cover over the utility in accordance with the requirements of NEDER 1110-1-9. Outside the FNP limits, the utility shall rise on a gradient no steeper than 2 feet below the channel's theoretical side slope of 1' vertical to 3' horizontal. This rise restriction shall extend horizontally outward from each side of the FNP, at a distance equal to 3x the FNP's authorized depth of 8.0 feet MLLW, in this case, 24.0 feet. You must use North American Vertical Datum of 1988 (NAVD 88). See special condition #8 below for more datum information.

Prior to the start of submarine cable installation, the permittee shall submit to the Corps of Engineers for review a contract description of the survey method and equipment to be used to accurately locate the as-built horizontal and vertical position of the installed submarine cables. Submarine cable installation work shall not start until the Corps of Engineers has reviewed and accepted the survey method to be employed for accurate location of the as-built cable alignment.

7. Pre- and Post-Construction Surveys. In order to ensure that the existing FNP is not compromised, pre and post-construction electronic sweep surveys and side scan sonar surveys of the FNP shall be performed. The upstream and downstream limits of survey coverage shall extend 200 feet beyond the limits depicted as 'MAXIMUM UPSTREAM EXTENT OF CONSTRUCTION ACTIVITIES WITHIN CHANNEL' and 'MAXIMUM DOWNSTREAM EXTENT OF CONSTRUCTION ACTIVITIES WITHIN CHANNEL' and shown on the attached sheet entitled "CONSTRUCTION LIMITS", SHEET 1 of 1, dated "NOVEMBER 09". Within the limits of the existing fender system, the limits of pre- and post-construction hydrographic sweep surveys and side scan sonar surveys shall cover the entire width of the existing FNP; beyond the upstream and downstream limits of the existing or proposed fender system, the limits of pre-construction sweep and pre-construction side scan sonar survey shall cover the entire width of the proposed FNP and out to 24.0 feet beyond the proposed east and west channel limits.

Pre- and post-construction side scan sonar surveys: Prior to the start of the pre-construction side scan sonar survey, the permittee shall submit to the Corps of Engineers (Attn: Susan Lee, Regulatory Division) a route plan showing the water route to be used by barges carrying bridge demolition debris for disposal. If the route plan shows that the water route extends beyond the 200-feet buffer length for pre- and post-construction side scan sonar surveys as required above, the pre- and post-construction side scan sonar surveys shall include the additional survey to cover the entire water route. This additional survey area shall cover the entire width of the FNP and out to 24.0 feet beyond the east and west limits of the FNP.

a. To ensure that the proposed method of surveying is acceptable, a detailed description of the method and the equipment to be employed shall be furnished to the Corps (see address below) at least 30 days prior to the start of each survey. A multi-beam swath method or multi-transducer sweep method is required. For hydrographic surveying techniques

and information, refer to the Corps of Engineers publication Engineering and Design – Hydrographic Surveying (EM 1110-2-1003). This publication can be viewed at www.nae.usace.army.mil/reg under "Useful Links and Documents".

b. Sweep surveys shall be done only during daylight hours.

c. Survey data shall be submitted to the Corps in a format that will allow verification of survey results.

d. The Corps may assign a government representative to accompany the survey party during performance of the sweep surveys. **The permittee shall notify the Corps, Survey Section, a minimum of ten (10) working days prior to the start of each survey. Notification shall be made to Stephen Johnston, Chief, Survey Section at (978) 318-8527 or in writing to Chief, Survey Section, U.S. Army Corps of Engineers, 696 Virginia Road, Concord, MA 01742-2751**.

e. Plans adequately showing the results of the pre and post-construction sweep surveys along with a written description of how they were performed, copies of all field books and notes shall be submitted to the Corps (see address below) for review and acceptance no later than 30 days after completion of the submarine cable installation work.

8. Post-Construction. No later than 30 days after completion of the authorized work, the permittee shall submit an as-built, full-sized drawing of the authorized work to the Corps. The as-built drawing shall include:

- At least one plan view showing the utility's horizontal alignment and a profile view showing the utility's vertical alignment: a) for the crossing's entire length from mean high water (MHW) on one side of the waterway to MHW on the other, b) relative to the FNP and the waterway, c) the FNP limits, d) bar (graphic) scale, e) the dates of the survey and drawings.
- The plan view shall show: north arrow, horizontal grid, and shoreline features, and MHW lines.
- The profile view shall show the theoretical side-slopes and the actual elevation of the top of the utility below MLLW, and in elevations NAVD 88.
- The utility's horizontal state plane coordinates and vertical elevation at: a) each horizontal and vertical turning point, b) the points of curvature and tangency, c) the radius of curvature for horizontal and vertical curves, and d) each location where the utility intersects the limits of the FNP. Show the utility's horizontal state plane coordinates in U.S. Survey feet based on the Lambert grid system for the State of Connecticut, Zone 0600, NAD 83. Show the elevation at the top of the utility in NAVD 88 and MLLW with the correction factor detailing how MLLW was derived using the latest National Tidal Datum Epoch (1983-2001).
- A stamp by a professional engineer or land surveyor registered in the state the work is being performed.

9. The permittee shall submit the as-built drawings and a copy of this permit to the Corps and the National Oceanic and Atmospheric Administration (NOAA), and must provide the Corps with a copy of the cover letter to NOAA. The Corps may note the location on future survey drawings and NOAA may use the information for charting purposes.

10. All submittals to the Corps and NOAA shall be marked with the words "**Permit No. NAE-2006-325**". The Corps address is "PATS Branch, Regulatory Division, U.S. Army Corps of Engineers, 696 Virginia Road, Concord, MA 01742-2751." The NOAA address is: "Nautical

Data Branch, N/CS26, Station 7349, 1315 East-West Highway, Silver Spring, MD 20910-3282." Documents which are not marked and addressed in this manner may not reach their intended destination and do not comply with the requirements of this permit.

11. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

12. The permittee shall not interfere with Corps of Engineers personnel or its contractors engaged in hydrographic surveys, maintenance or improvement of the existing FNP. If, in the opinion of the Corps, the permittee's structures or vessels attached to them must be moved to allow for the maintenance or improvement of the existing FNP, the permittee shall move the structures or vessels as directed by the Corps.

13. There shall be no in-water unconfined work between April 1st and June 30th of any year in order to minimize adverse effects to alewife migration. This restriction does not apply to the installation and removal of sheet pile cofferdams or the removal of the existing timber pile fender system.

14. There shall be no in-water unconfined work between February 1st and May 15th of any year in order to minimize adverse effects to winter flounder spawning habitats. This restriction does not apply to the installation and removal of sheet pile cofferdams or the removal of the existing timber pile fender system.

15. Prior to placement of fill for beach and groin construction, the permittee shall document (video or photo-document) the existing conditions of those areas below HTL to be impacted by the footprint of the sand beach and groin construction. Existing conditions documentation shall include GPS location and areal extent of existing cobble areas, cobble size/gradation and substrate elevation(s). Existing cobbles shall be stockpiled for use to re-establish cobble areas onto the new beach after beach construction. Re-establishment of cobble areas shall be performed only after the new beach condition is such that its profile is relatively stable (equilibrium condition), but no later than 1 year after completion of beach construction. Prior to placement of stockpiled cobble onto the new beach areas, the permittee shall notify the Corps of Engineers, the National Marine Fisheries Service, and the CT DEP-Marine Fisheries.

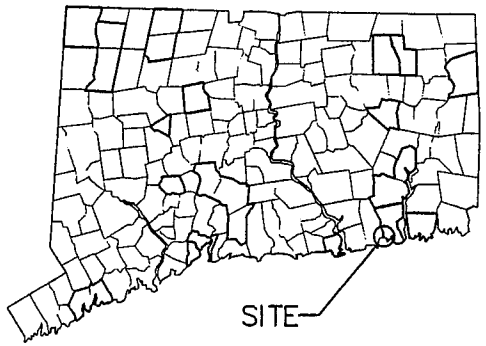
16. Prior to the start of stone groin construction, the permittee shall clearly mark the perimeter of the mapped eelgrass bed which has been identified in proximity to the terminus of the proposed groin to ensure that construction activities associated with groin construction avoid encroachment into the mapped eelgrass bed.

17. Prior to the start of construction and after completion of construction of the stone groin, the permittee shall perform photo-documentation of the existing mapped eelgrass bed described in condition #14 above. The purpose of the photo-documentation is to evaluate the condition of the existing eelgrass bed after groin construction to affirm that construction activities have not

adversely affected the eelgrass bed. Pre-construction and post-construction photo-documentation shall include at least the following information: GPS locations of the outer limits of the eelgrass bed, its areal extent, density, condition of the eelgrass bed; and identification of character of existing substrate and substrate elevation(s) within the eelgrass bed. If post-construction photo-documentation results show that the eelgrass bed has been reduced in size or its condition has visibly changed, and the Corps of Engineers and the National Marine Fisheries Service conclude that the post-construction condition is due to groin construction activities, a compensatory mitigation plan shall be provided. The mitigation plan shall be developed in coordination with the Corps of Engineers, the National Marine Fisheries Service, and the CT DEP-Marine Fisheries.

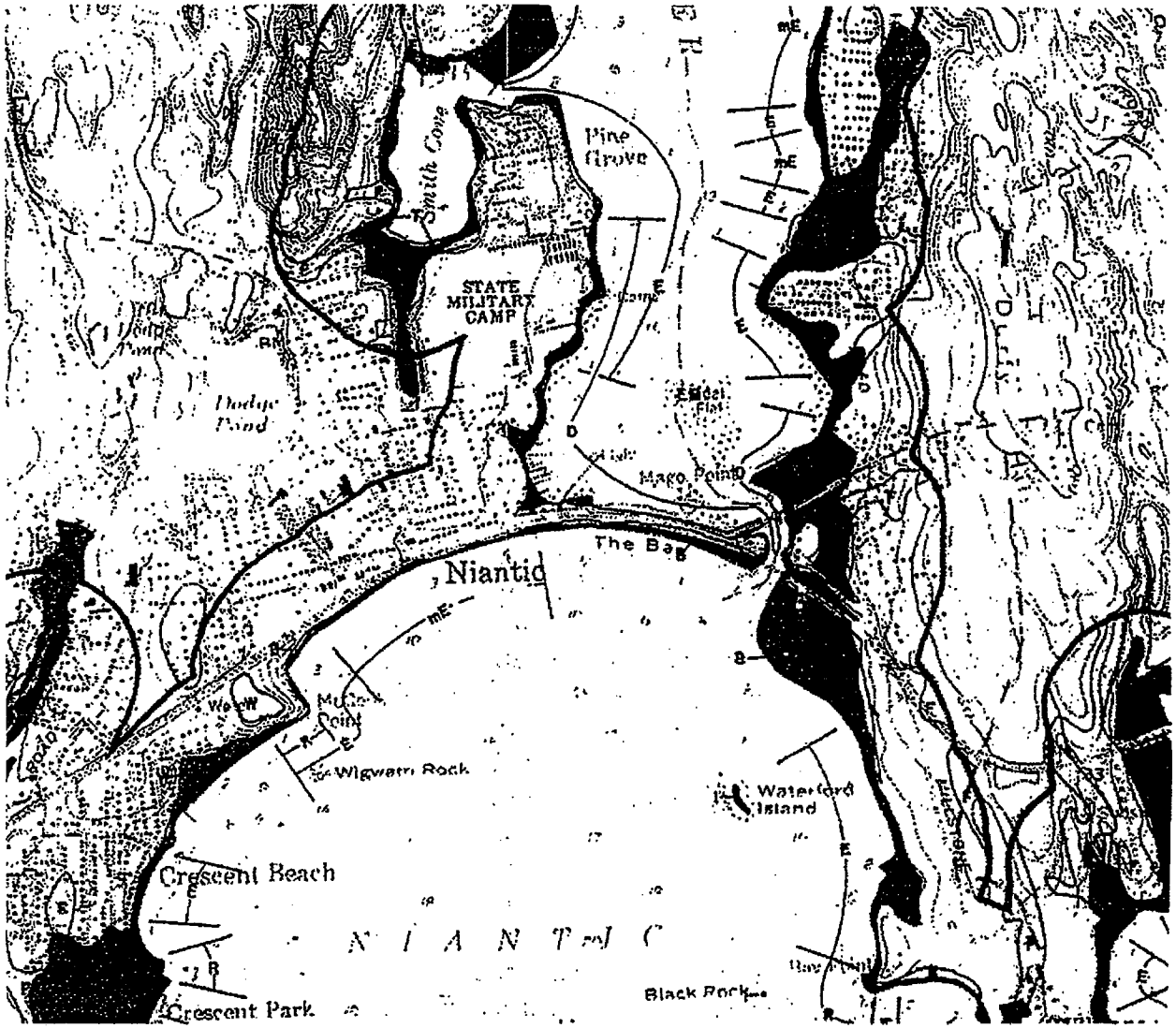
PROJECT VICINITY
SCALE 1"=2,000'

0 500' 1,000' 2,000'



PROJECT LOCATION
SCALE: N.T.S.

LOCATION AND VICINITY	
REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE East Lyme and Waterford, Connecticut	
National Railroad Passenger Corporation(AMTRAK) 30th Street Station, 4th Floor South 30th & Market Streets Philidelphia, PA 19104	
DATE: 5/15/09	SHEET 1



PLAN VIEW
SCALE 1"=2,000'
0 500' 1,000' 2,000'

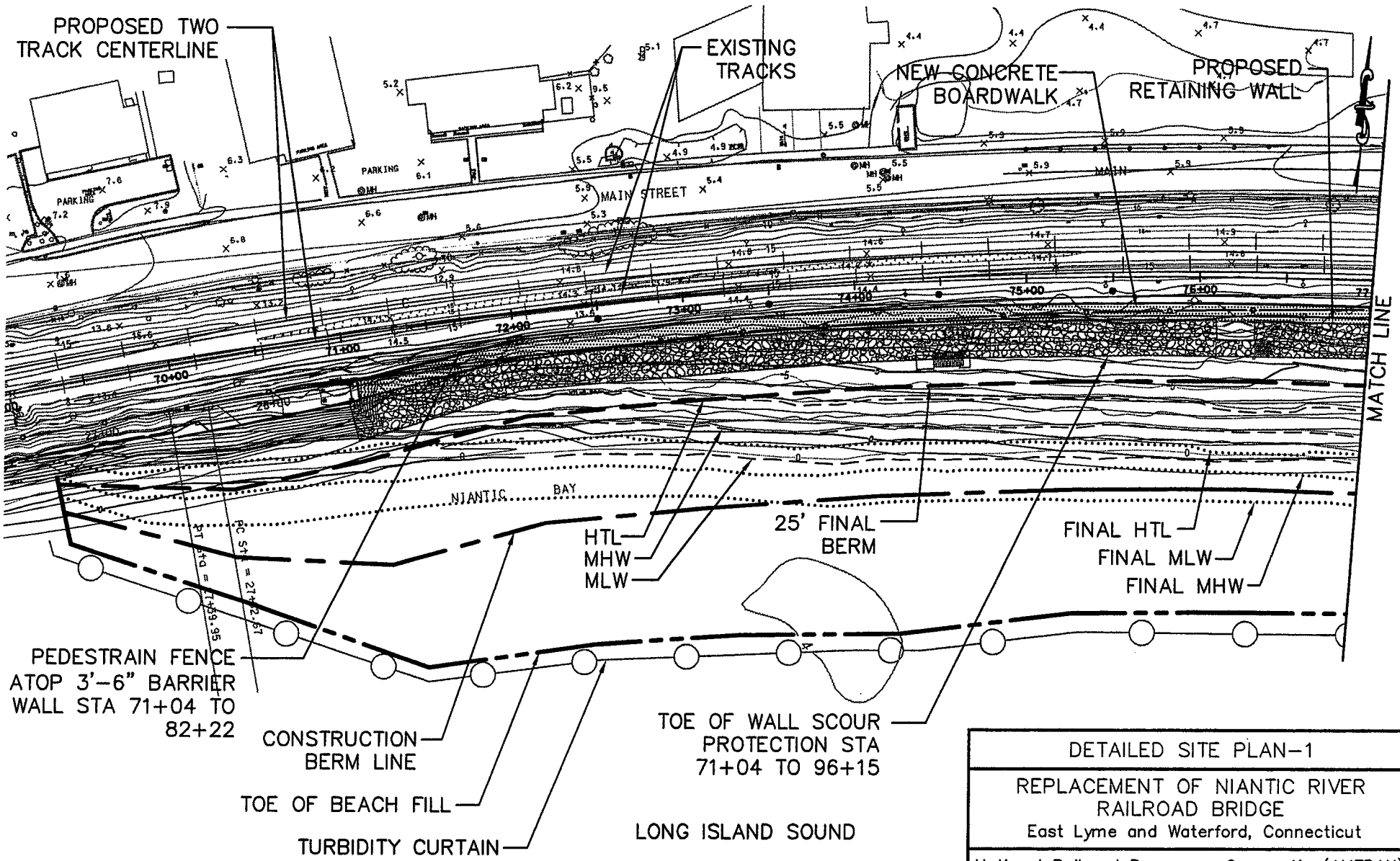
Key:
E=Coastal Bluffs and Escarpments
mE=Modified Bluffs and Escarpments
R=Rocky Shorefront
B=Beach and Dune
mB=Modified Beach and Dune
EM=Estuarine Embayments
Shading=Coastal Flood Hazard Area

CONNECTICUT COASTAL RESOURCES

REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09 | SHEET 2



PLAN VIEW
SCALE 1"=80'
0 20 40 80

EXCEPT AS NOTED
HTL, MHW, AND MLW ARE THE SAME IN EXISTING AND PROPOSED CONDITIONS

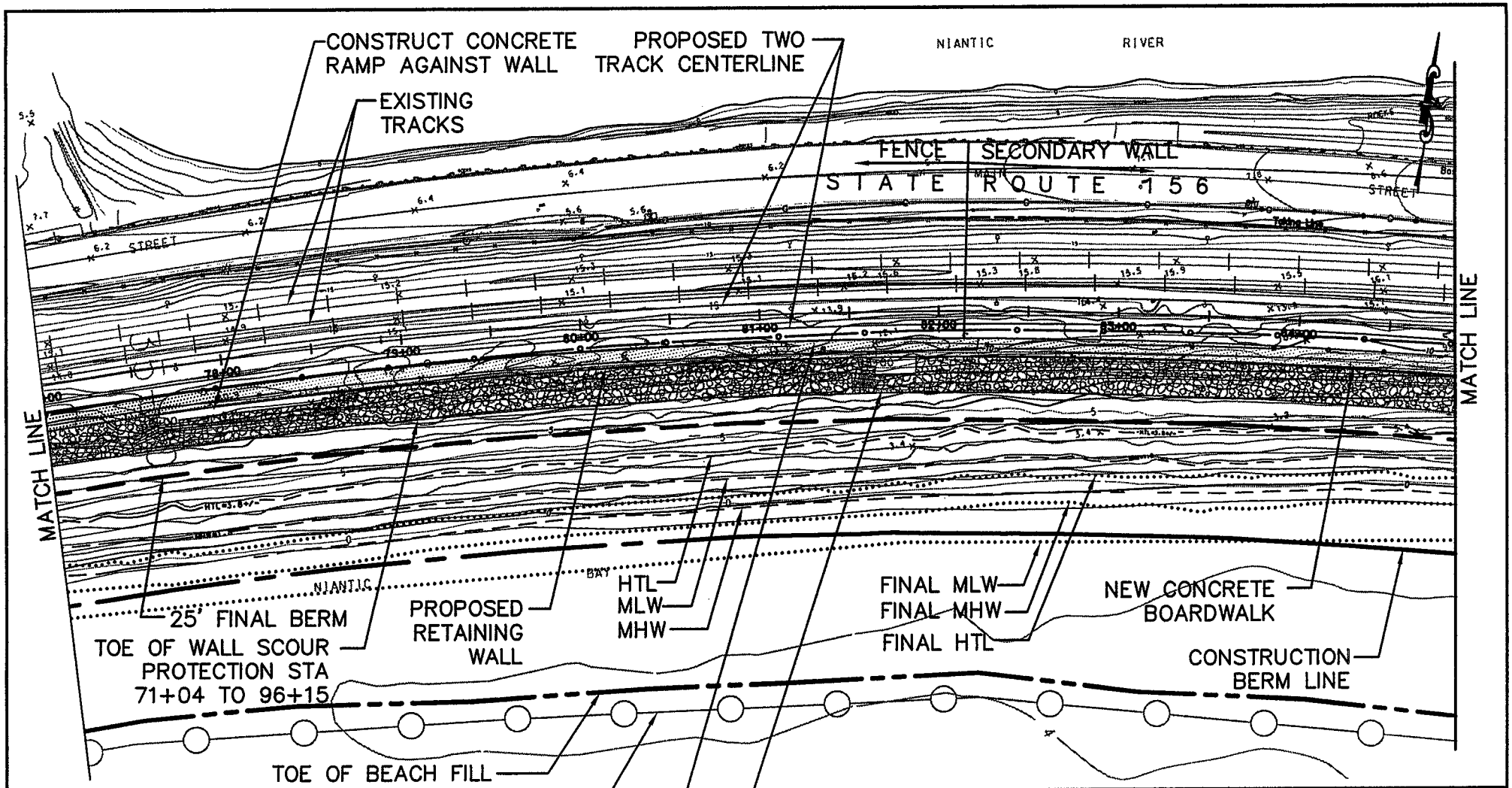
TIDAL DATUM (NGVD 1929)
H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. -0.61
100 YR FLOOD ELEV. = +11.0

DETAILED SITE PLAN-1

REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09 | SHEET 3



PLAN VIEW
SCALE 1"=80'
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EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
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TIDAL DATUM (NGVD 1929)
H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. -0.61
100 YR FLOOD ELEV. = +11.0

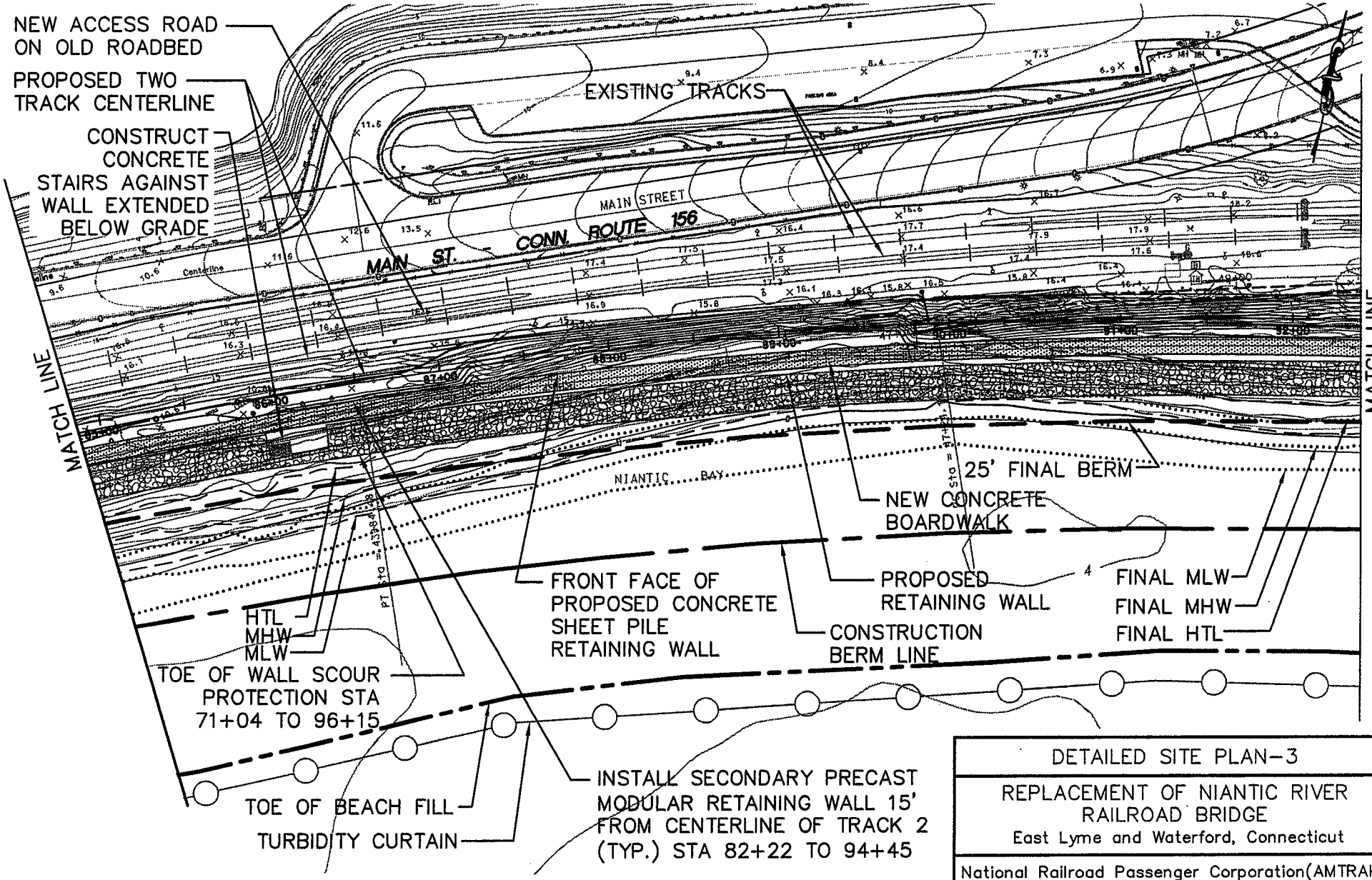
DETAILED SITE PLAN-2

REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 4



PLAN VIEW
SCALE 1"=80'
0 20 40 80

EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
THE SAME IN EXISTING AND
PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)
H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. −0.61
100 YR FLOOD ELEV. = +11.0

DETAILED SITE PLAN−3

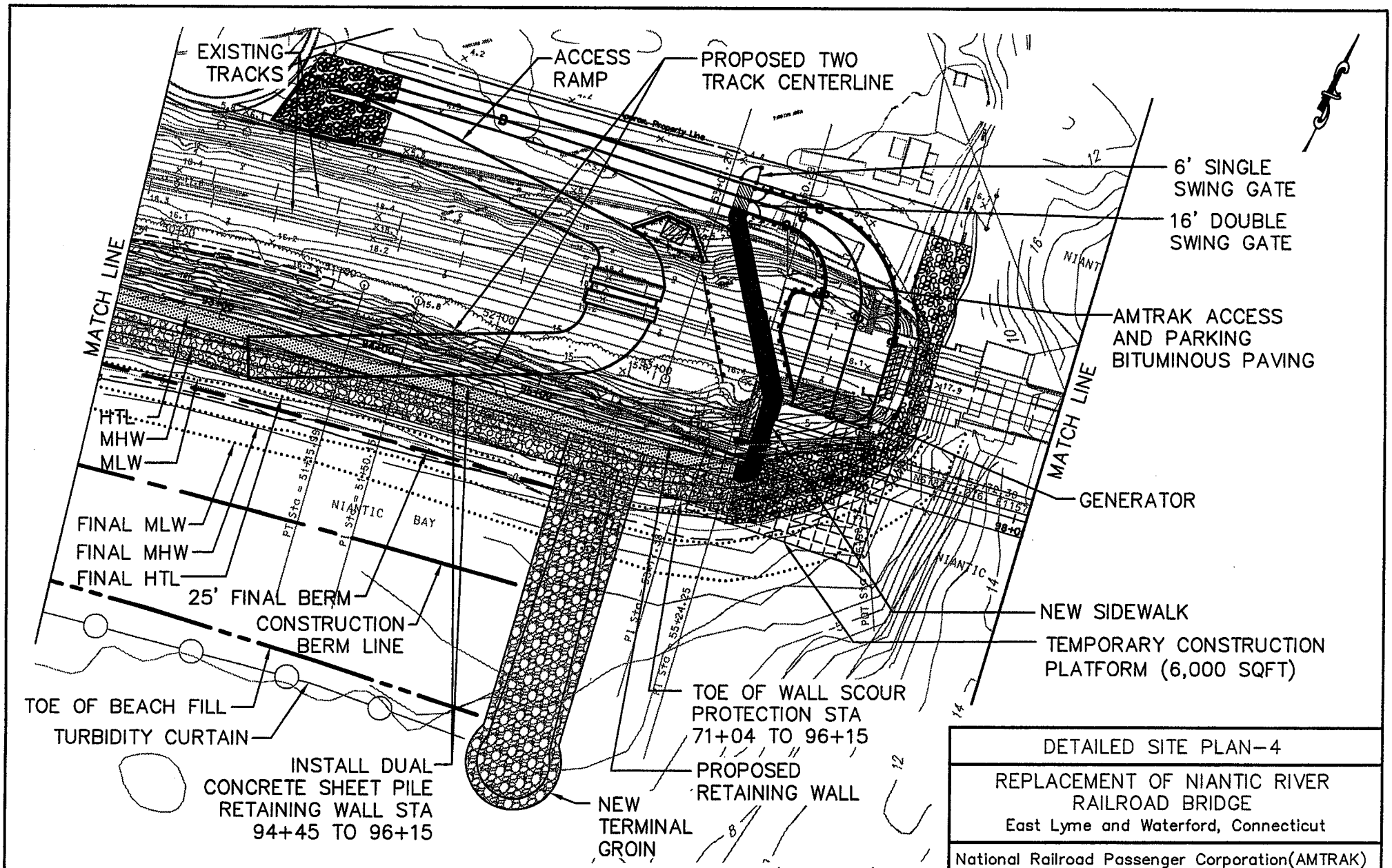
REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE

East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 5



PLAN VIEW
SCALE 1"=80'
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EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
THE SAME IN EXISTING AND
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TIDAL DATUM (NGVD 1929)
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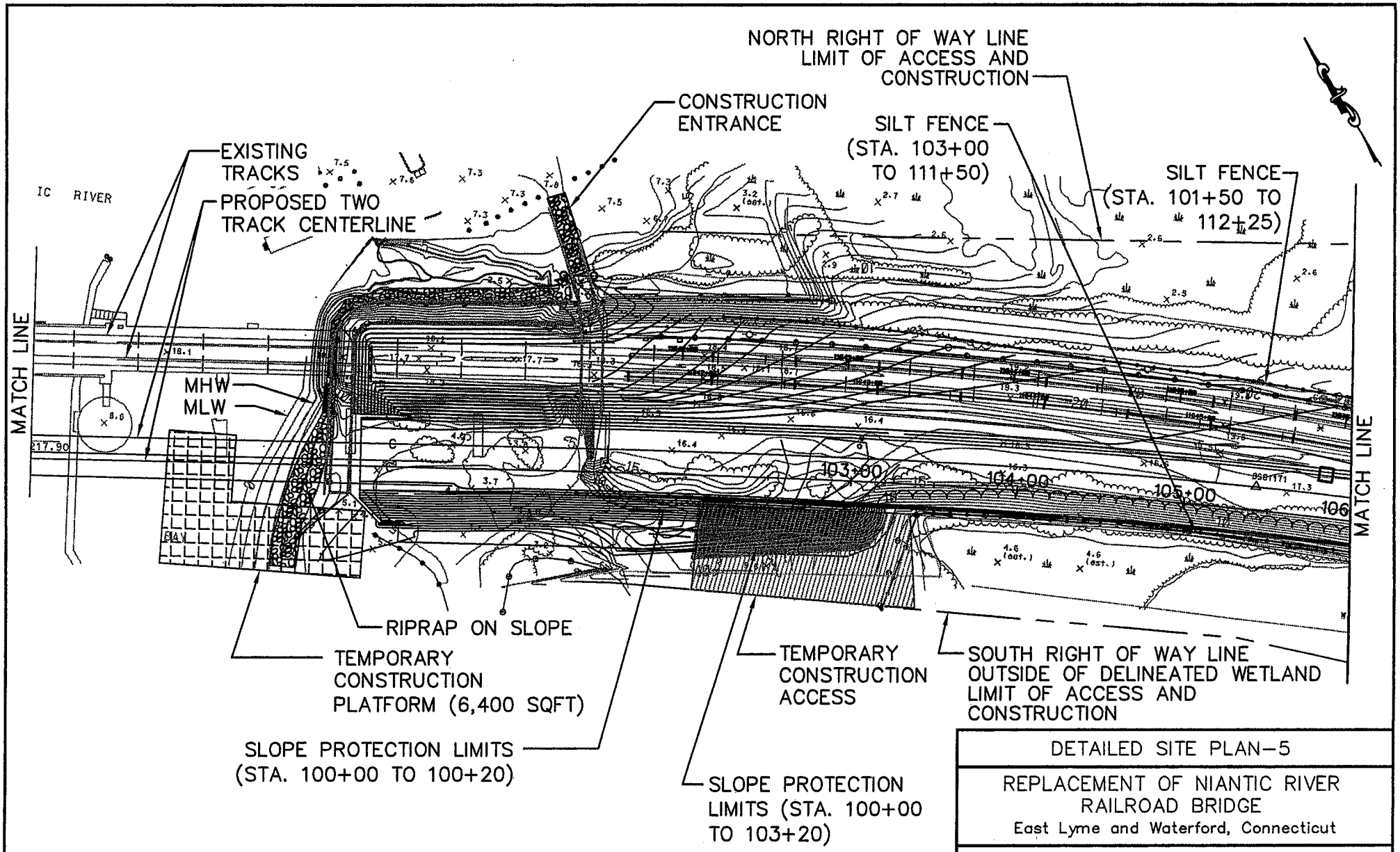
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. −0.61
100 YR FLOOD ELEV. = +11.0

DETAILED SITE PLAN−4

REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09 | SHEET 6



KEY

SLOPE PROTECTION

TEMPORARY ACCESS

PLAN VIEW
SCALE 1"=80'

0 20 40 80

EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
THE SAME IN EXISTING AND
PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. -0.61
100 YR FLOOD ELEV. = +11.0

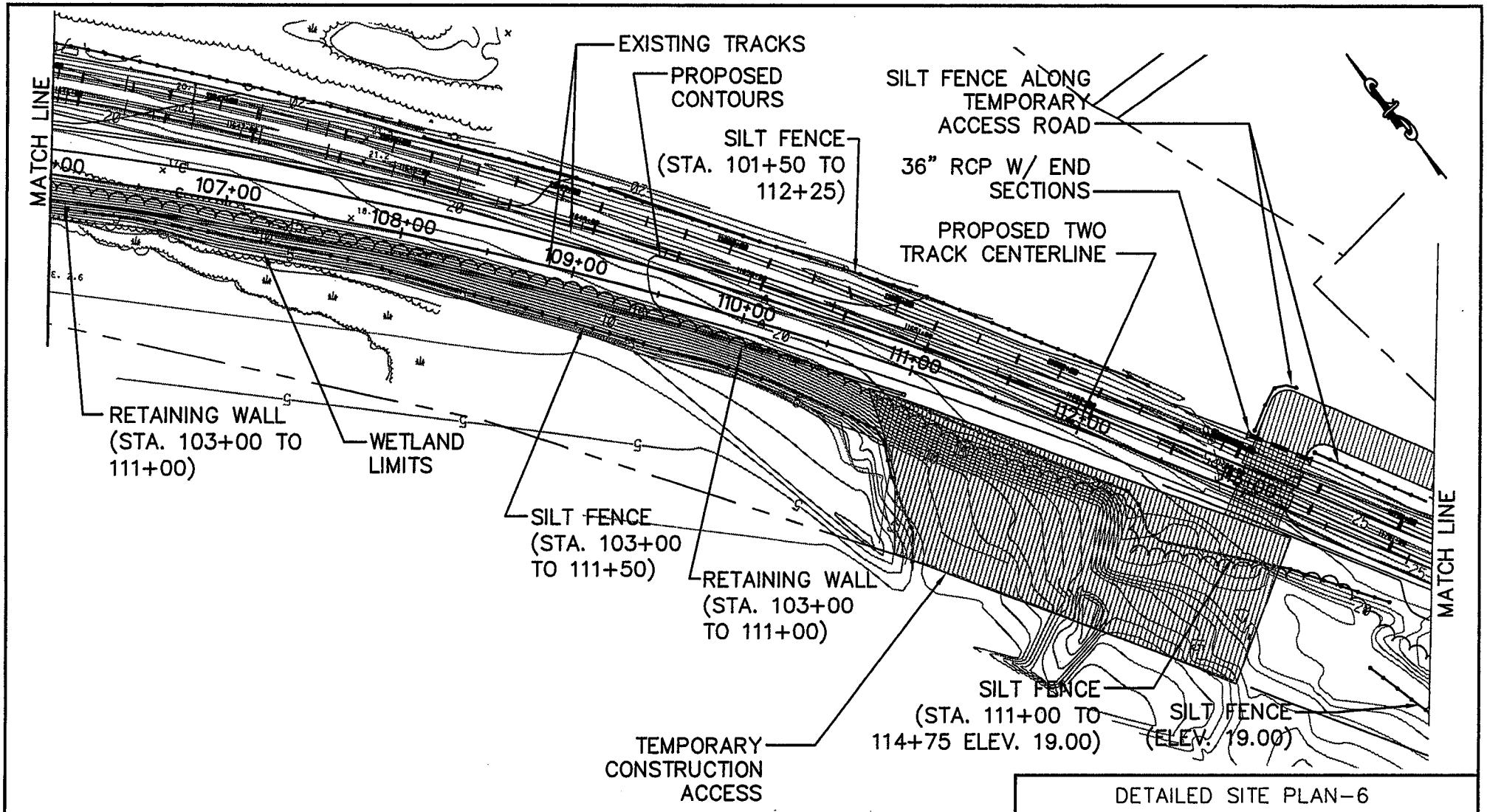
DETAILED SITE PLAN-5

REPLACEMENT OF NIANTIC RIVER
RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 7



KEY

TEMPORARY ACCESS

PLAN VIEW
SCALE 1"=80'
0 20 40 80

EXCEPT AS NOTED HTL, MHW, AND MLW ARE THE SAME IN EXISTING AND PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. −0.61
100 YR FLOOD ELEV. = +11.0

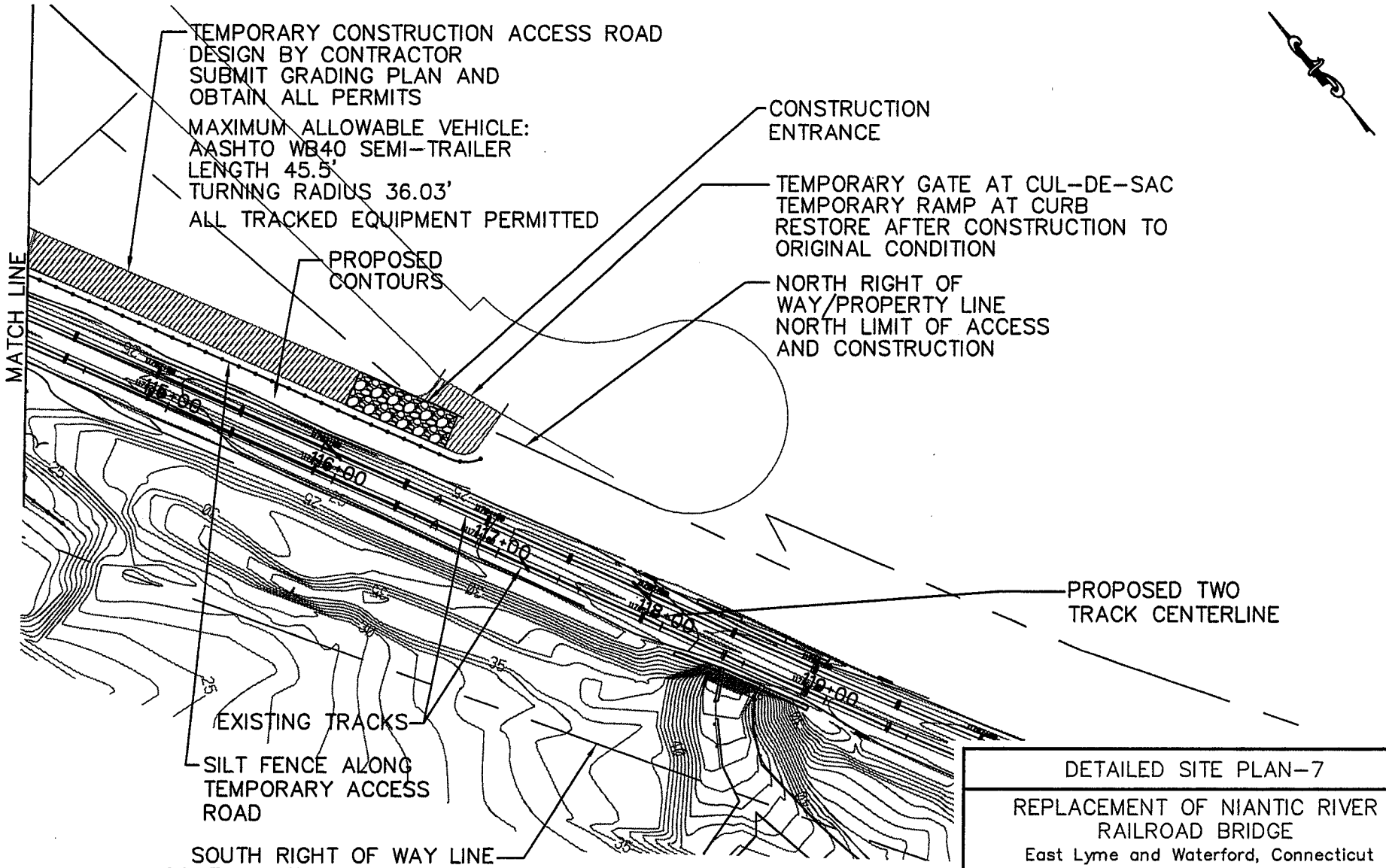
DETAILED SITE PLAN–6

REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 8



KEY

TEMPORARY ACCESS

PLAN VIEW
SCALE 1"=80'

0 20 40 80

EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
THE SAME IN EXISTING AND
PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. -0.61
100 YR FLOOD ELEV. = +11.0

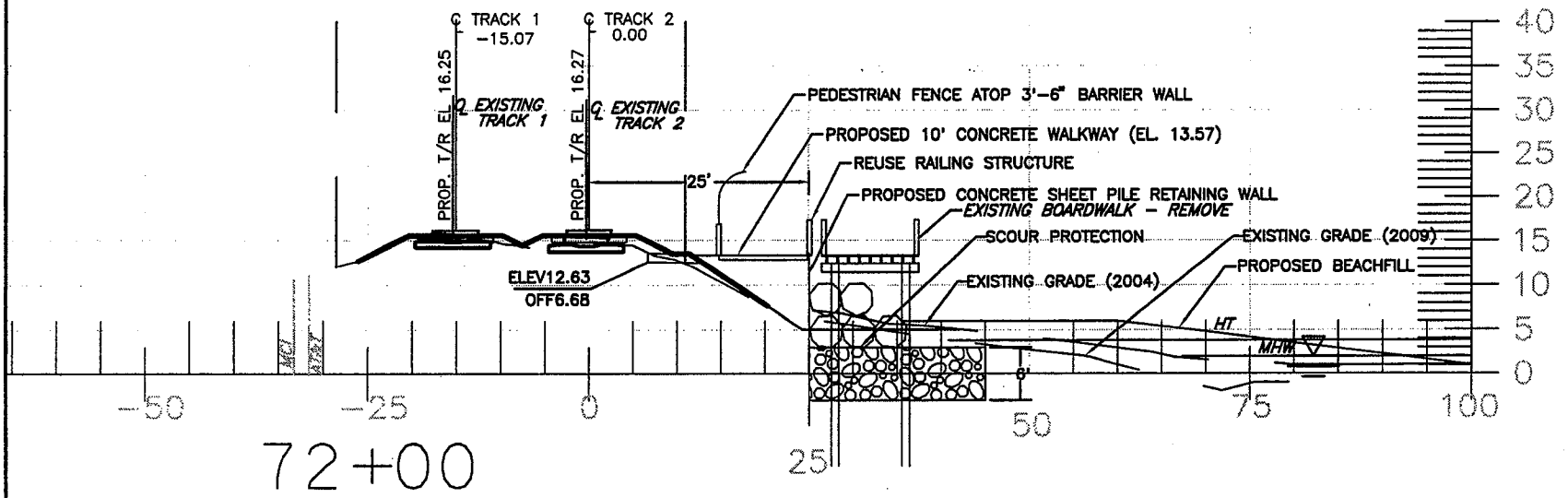
DETAILED SITE PLAN-7

REPLACEMENT OF NIANTIC RIVER
RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 9



SCALE 1"=20'

0 10 20

EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
THE SAME IN EXISTING AND
PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. −0.61
100 YR FLOOD ELEV. = +11.0

TRACK STATION 100+00 TO 103+20

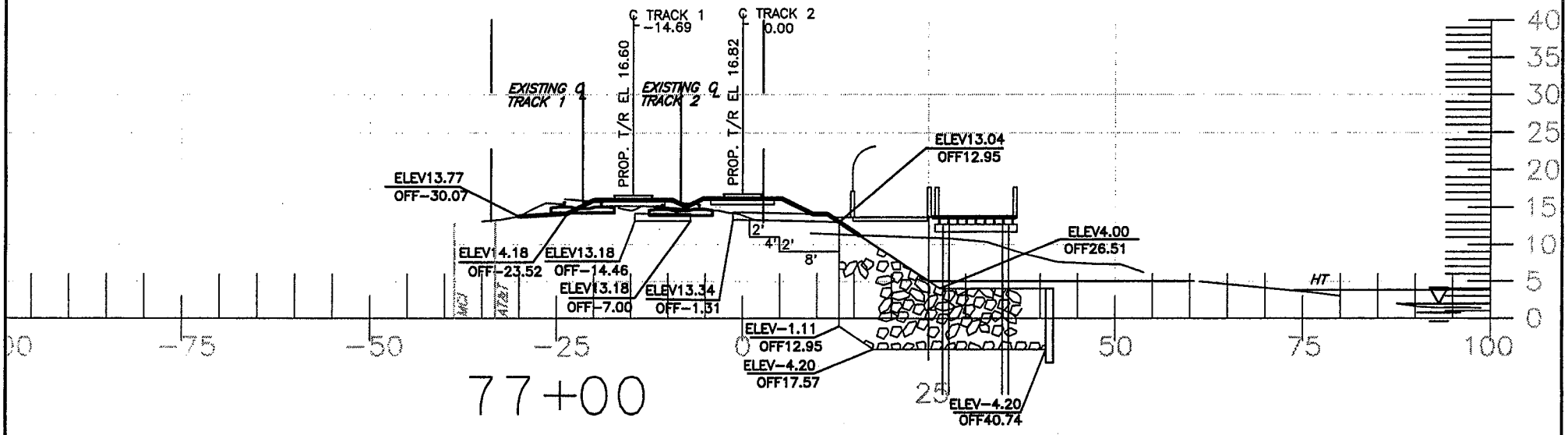
TYPICAL EMBANKMENT /W BOARDWALK

REPLACEMENT OF NIANTIC RIVER
RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 10



SCALE 1"=20'

0 10 20

EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
THE SAME IN EXISTING AND
PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. -0.61
100 YR FLOOD ELEV. = +11.0

TYPICAL EMBANKMENT /W BOARDWALK

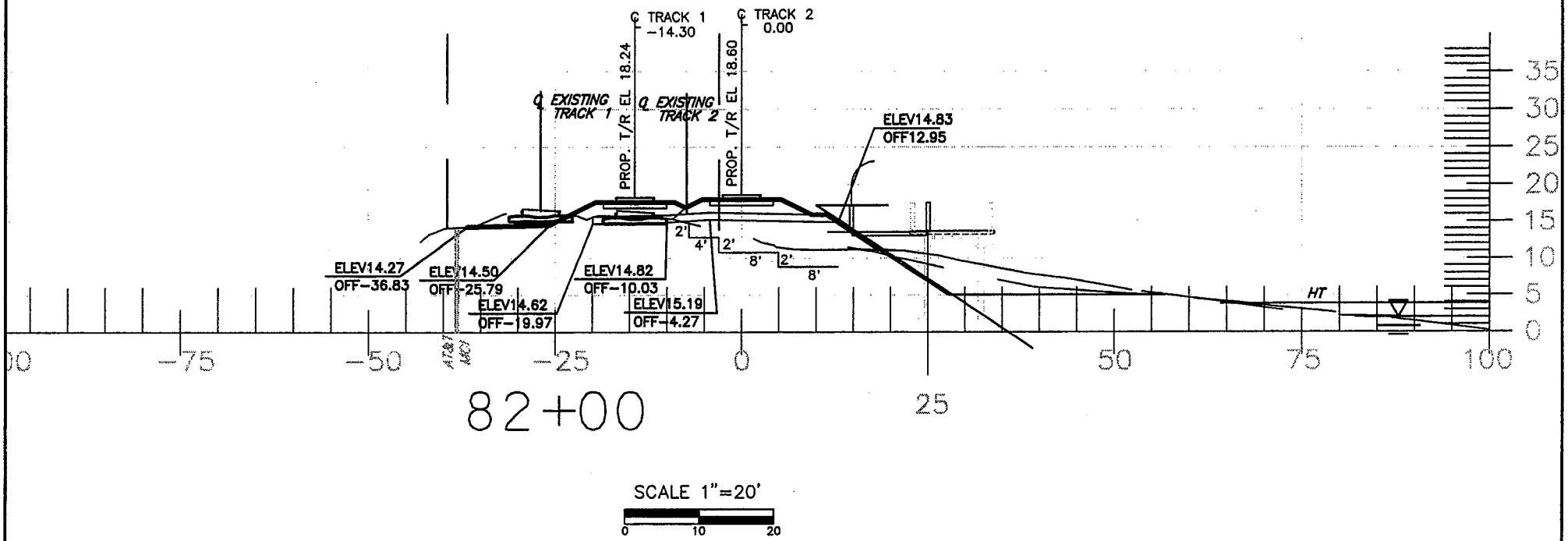
REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE

East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 11



SCALE 1"=20'

0 10 20

EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
THE SAME IN EXISTING AND
PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. -0.61
100 YR FLOOD ELEV. = +11.0

TYPICAL EMBANKMENT /W BOARDWALK

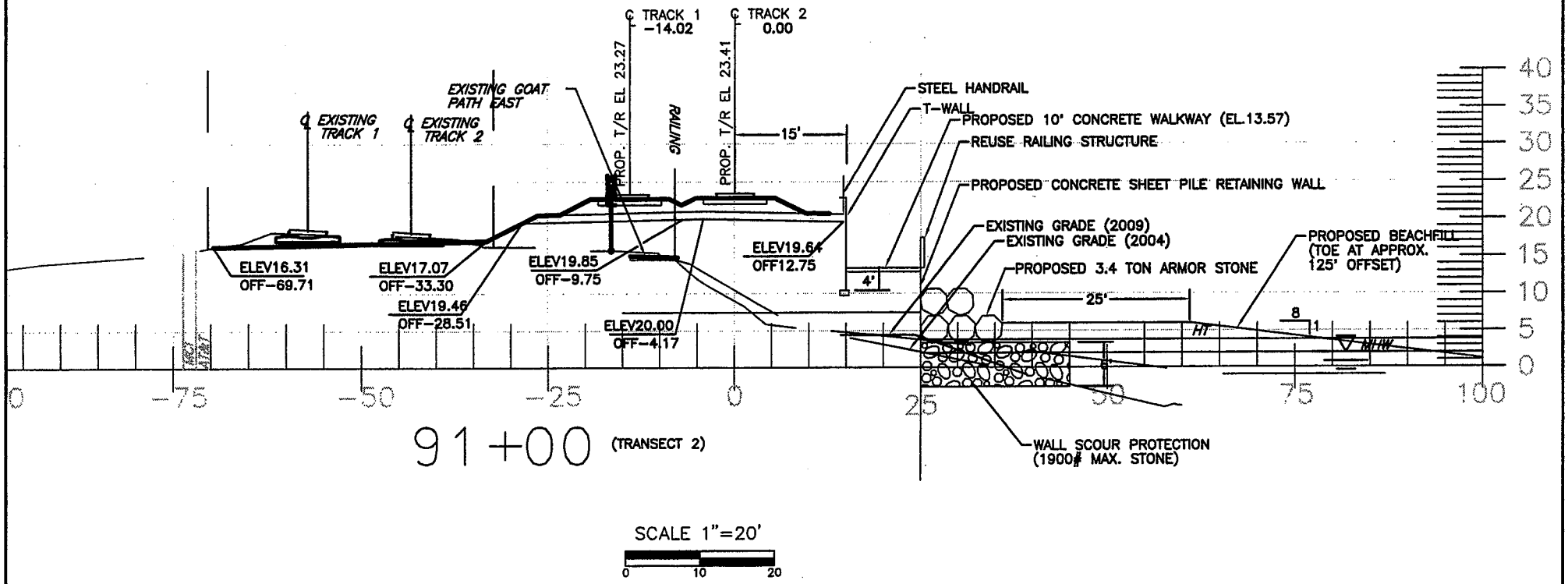
REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE

East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 12



SCALE 1"=20'

0 10 20

EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
THE SAME IN EXISTING AND
PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. -0.61
100 YR FLOOD ELEV. = +11.0

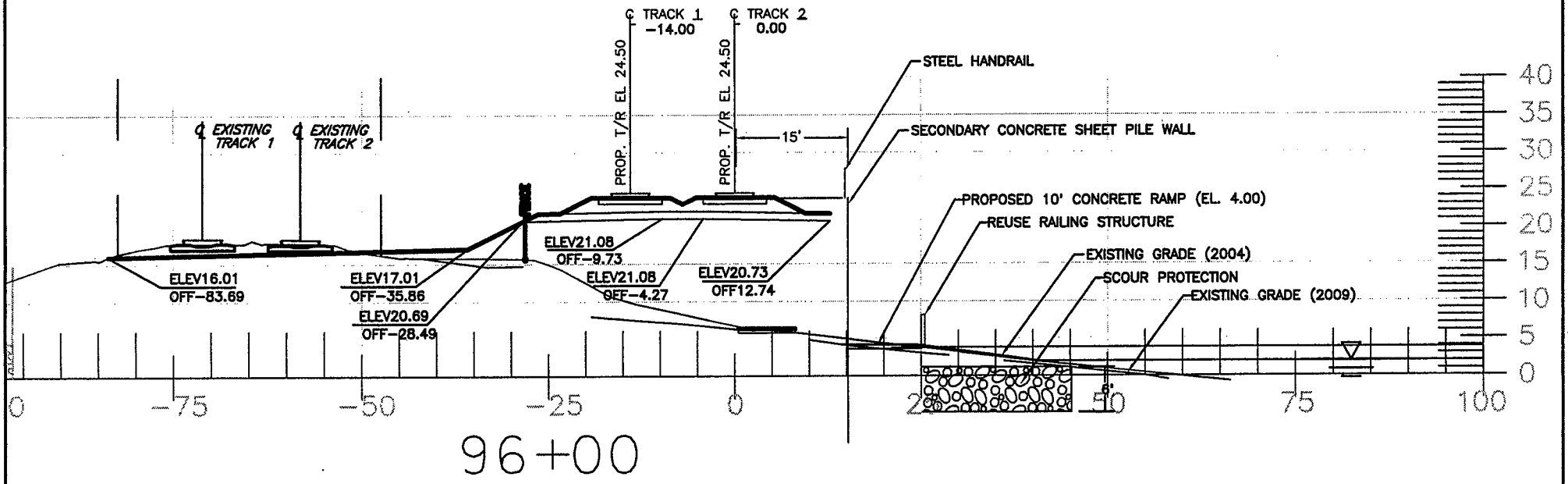
TYPICAL EMBANKMENT /W BOARDWALK

REPLACEMENT OF NIANTIC RIVER
RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 13



SCALE 1"=20'

0 10 20

TYPICAL EMBANKMENT /W BOARDWALK

REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

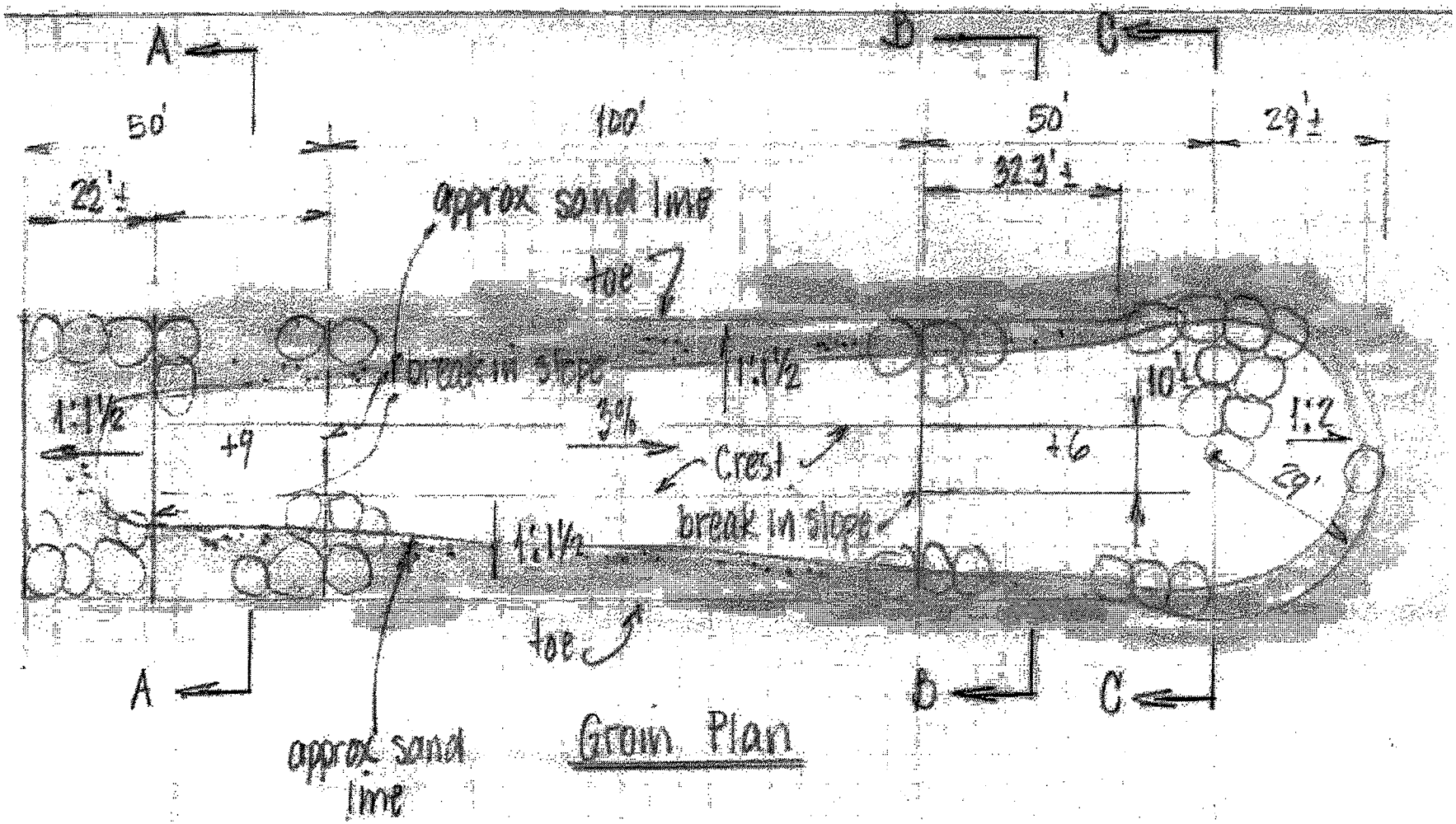
DATE: 5/15/09

SHEET 14

EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
THE SAME IN EXISTING AND
PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. -0.61
100 YR FLOOD ELEV. = +11.0



TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. −0.61
100 YR FLOOD ELEV. = +11.0

TERMINAL GROIN PLAN

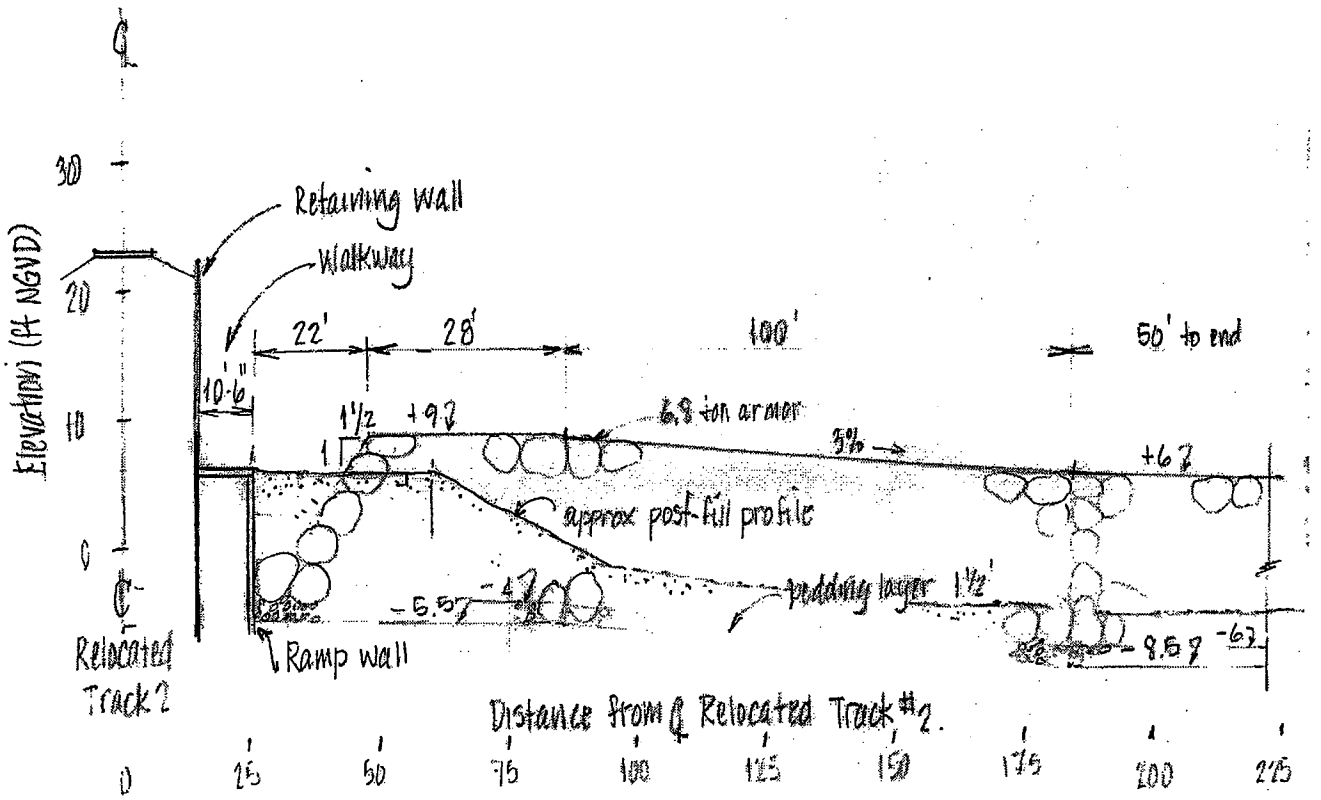
REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 15

Groin @ Sta 95+50



TIDAL DATUM (NGVD 1929)

H.T.L.	= ELEV. +3.8
M.H.W.	= ELEV. +1.96
M.L.W.	= ELEV. −0.61
100 YR FLOOD ELEV.	= +11.0

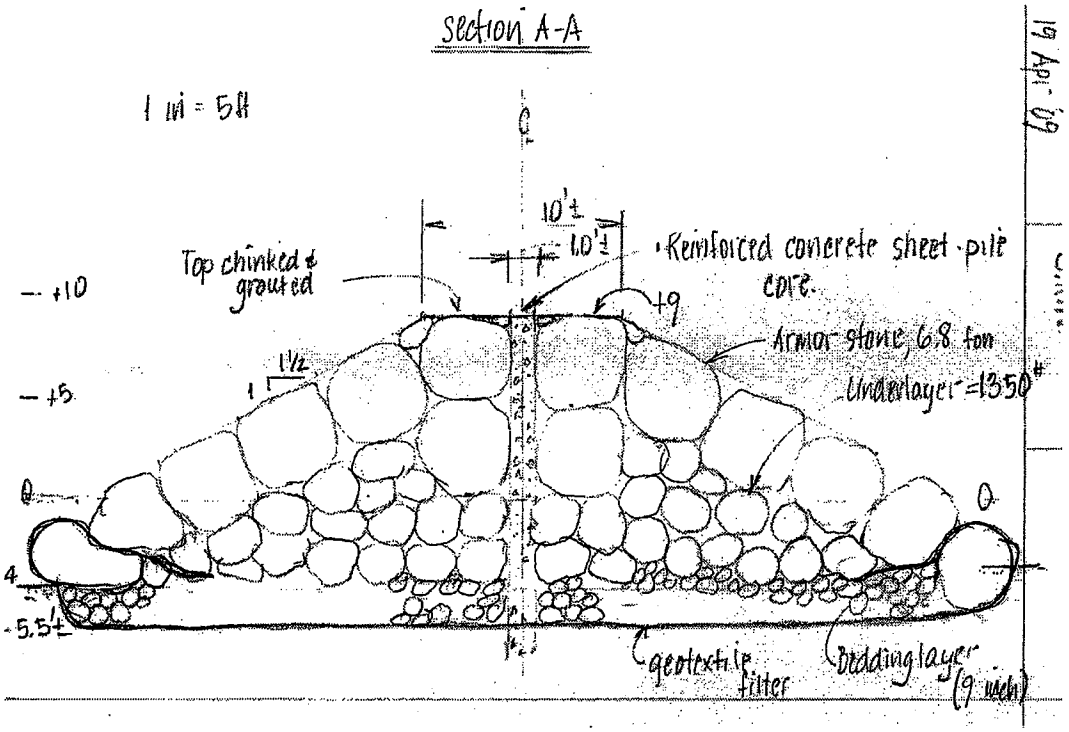
GROIN PROFILE

REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 16



TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. −0.61
100 YR FLOOD ELEV. = +11.0

SECTION A–A

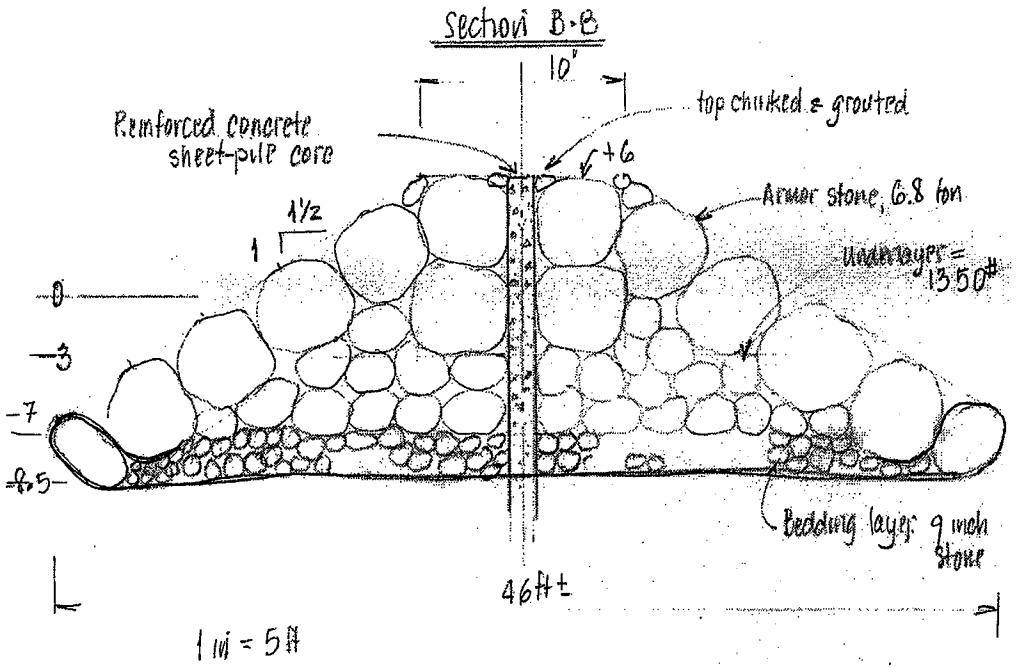
REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE

East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 17



TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. −0.61
100 YR FLOOD ELEV. = +11.0

SECTION B–B

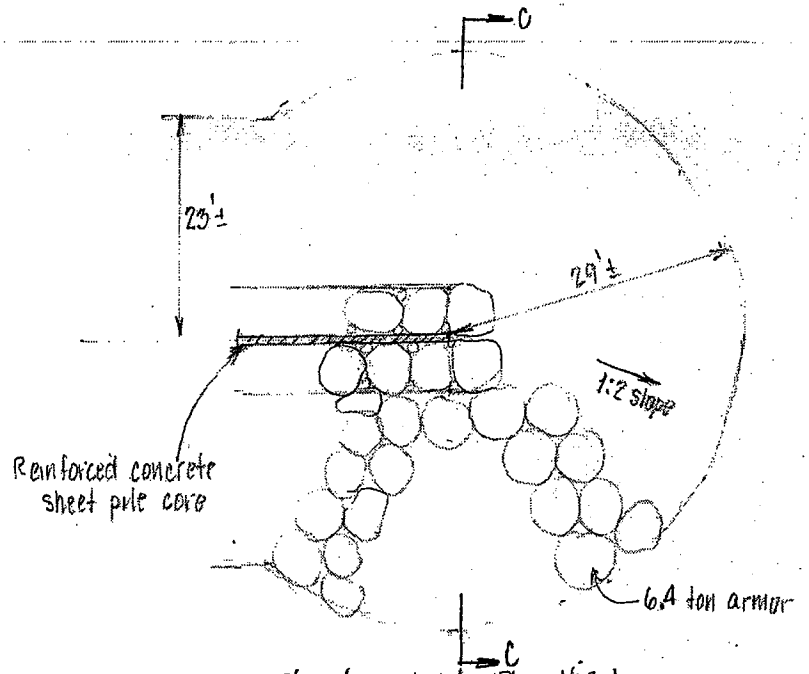
REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE

East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 18



Structure Head – Plan View

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. −0.61
100 YR FLOOD ELEV. = +11.0

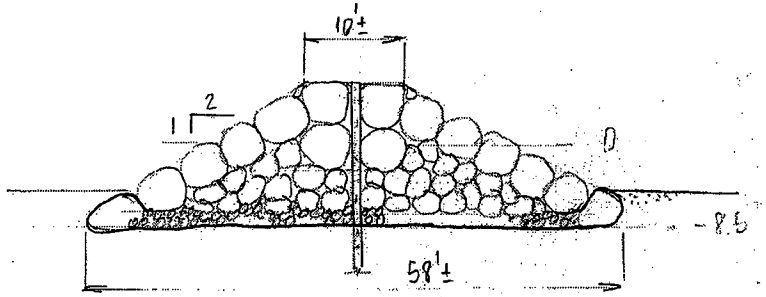
STRUCTURE HEAD PLAN

REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 19



Section C-C

Structure Head - Profile

1 in = 10 ft

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. −0.61
100 YR FLOOD ELEV. = +11.0

SECTION C–C

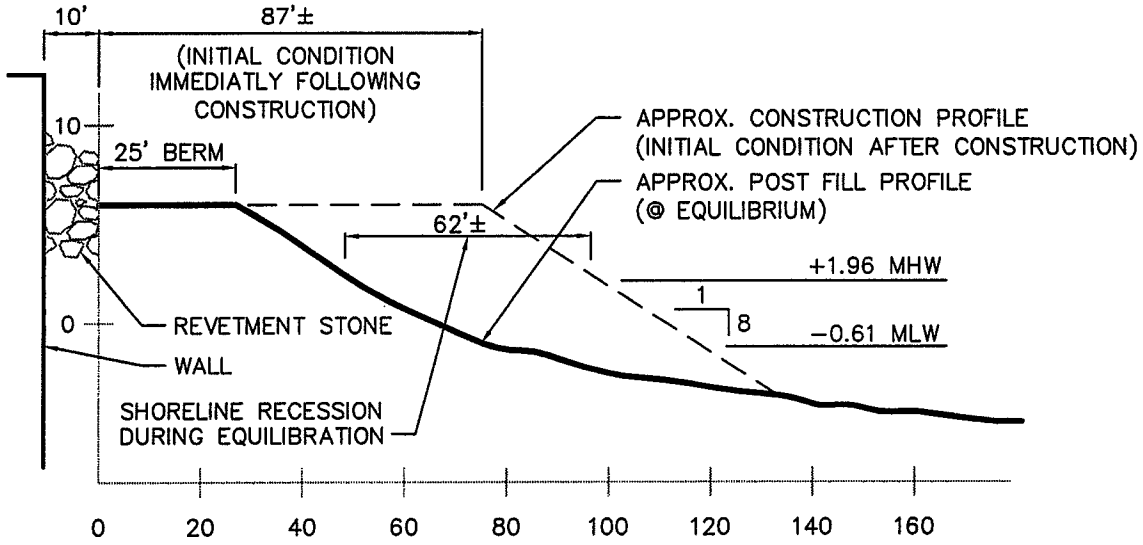
REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE

East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 20



BEACH FILL CONSTRUCTION PROFILE

SCALE: N.T.S.

EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
THE SAME IN EXISTING AND
PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. -0.61
100 YR FLOOD ELEV. = +11.0

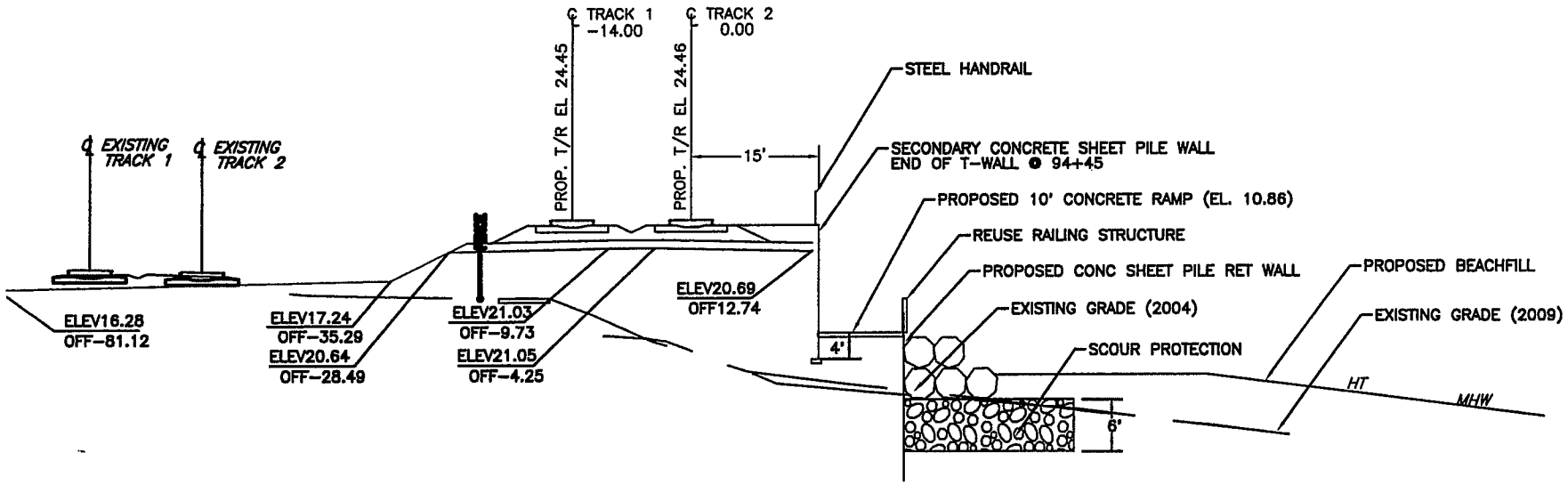
BEACH FILL CONSTRUCTION PROFILE

REPLACEMENT OF NIANTIC RIVER
RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 21



TRACK STATION 56+50 TO 62+50 AND 89+90 TO 96+15
(W/O ELEVATED BOARDWALK)
AND TRACK STATION 71+50 TO 89+80 (W/ ELEVATED BOARDWALK)

EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
THE SAME IN EXISTING AND
PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. -0.61
100 YR FLOOD ELEV. = +11.0

TYPICAL EMBANKMENT WITH BOARDWALK

REPLACEMENT OF NIANTIC RIVER
RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 22

EROSION AND SEDIMENTATION CONTROL PLAN NOTES

A. EROSION AND SEDIMENTATION CONTROLS MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE GENERAL SITE DISTURBANCE WITHIN THE TRIBUTARY AREAS OF THOSE CONTROLS.

B. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENTATION CONTROLS MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE CONTROLS MUST BE STABILIZED.

C. ROCK FILTER DAMS WILL BE REMOVED WHEN CLOGGED WITH SEDIMENT. MATERIALS MUST BE WASHED COMPLETELY FREE OF ALL FOREIGN MATERIALS OR NEW ROCK USED TO REBUILD THE FILTER OR TRAP.

D. EROSION AND SEDIMENTATION CONTROLS MUST BE PROTECTED FROM UNAUTHORIZED ACTS OF THIRD PARTIES.

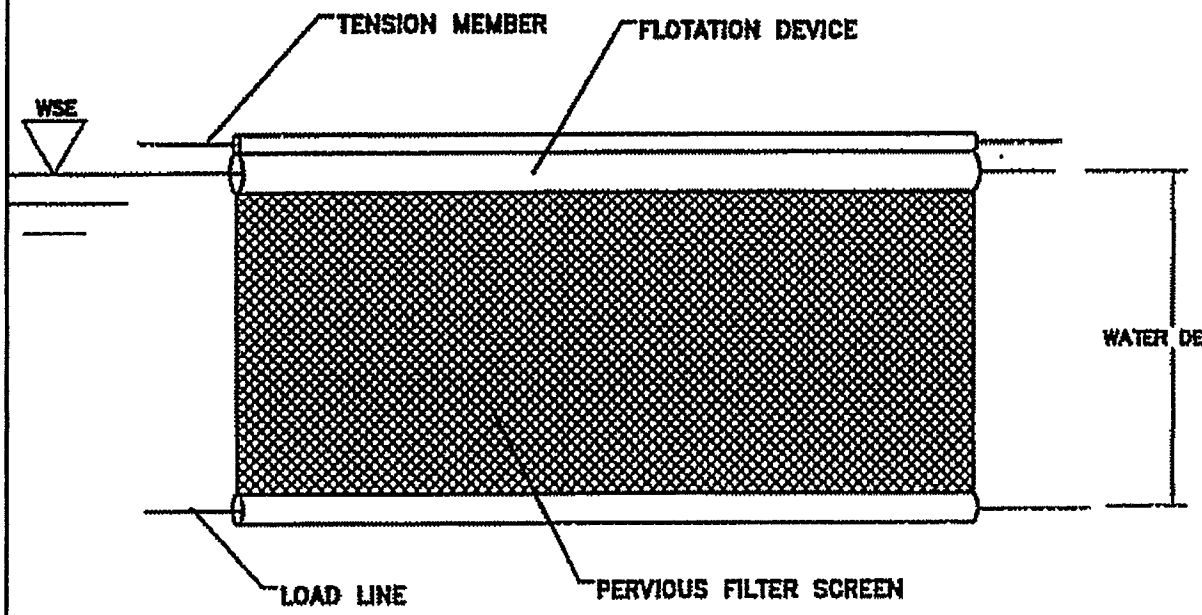
E. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE PROPER CONSTRUCTION, STABILIZATION, AND MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROLS AND RELATED ITEMS INCLUDED WITHIN THIS PLAN.

F. THE CONTRACTOR MUST DEVELOP, AND HAVE APPROVED BY THE BUREAU OF LAND AND WATER CONSERVATION, A SEPARATE EROSION AND SEDIMENTATION CONTROL PLAN FOR EACH SPOIL, BORROW, OR OTHER WORK AREA NOT DETAILED IN THE PERMITTED PLAN, WHETHER LOCATED WITHIN OR OUTSIDE OF THE CONSTRUCTION LIMITS.

G. SHOULD ANY MEASURES CONTAINED WITHIN THIS PLAN PROVE INCAPABLE OF ADEQUATELY REMOVING SEDIMENT FROM ON-SITE FLOWS PRIOR TO DISCHARGE OR OF STABILIZING THE SURFACES INVOLVED, ADDITIONAL MEASURES MUST BE IMMEDIATELY IMPLEMENTED BY THE CONTRACTOR TO ELIMINATE ALL SUCH PROBLEMS.

H. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION CONTROLS MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION CONTROLS AFTER EACH STORM EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING, AND RENETTING, MUST BE PERFORMED IMMEDIATELY.

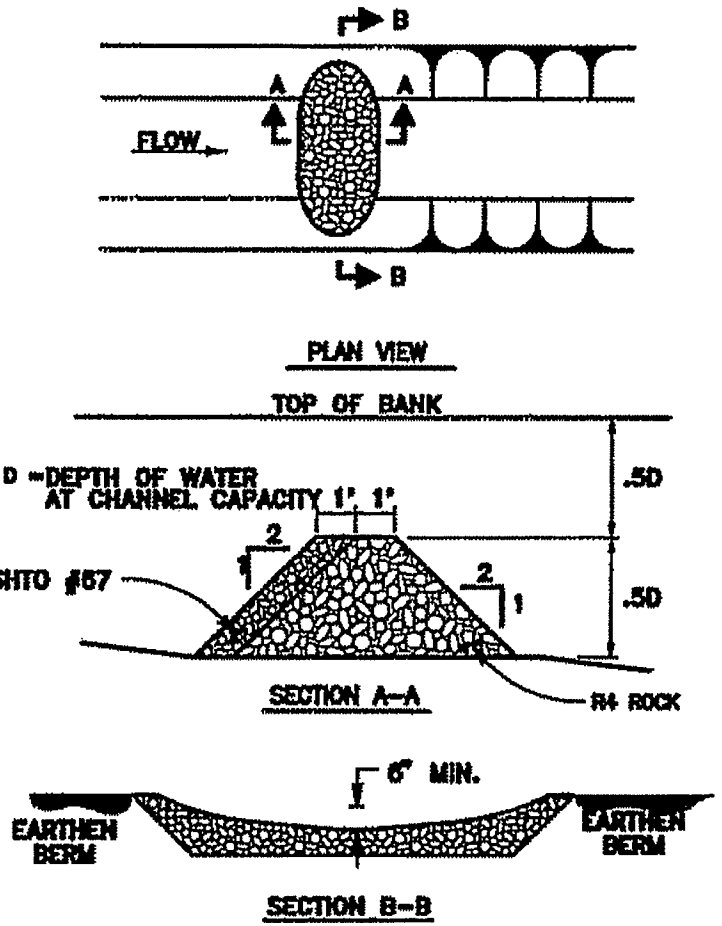
EROSION AND SEDIMENTATION CONTROL NOTES
REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE East Lyme and Waterford, Connecticut
National Railroad Passenger Corporation(AMTRAK) 30th Street Station, 4th Floor South 30th & Market Streets Philidelphia, PA 19104
DATE: 5/15/09 | SHEET 23



TURBIDITY CURTAIN (TYP.)

NO SCALE

TURBIDITY CURTAIN TO MEET CONNECTICUT DEP CLASS IV STANDARDS



ROCK FILTER DAM

N.T.S.

EROSION & SEDIMENT CONTROL DETAILS

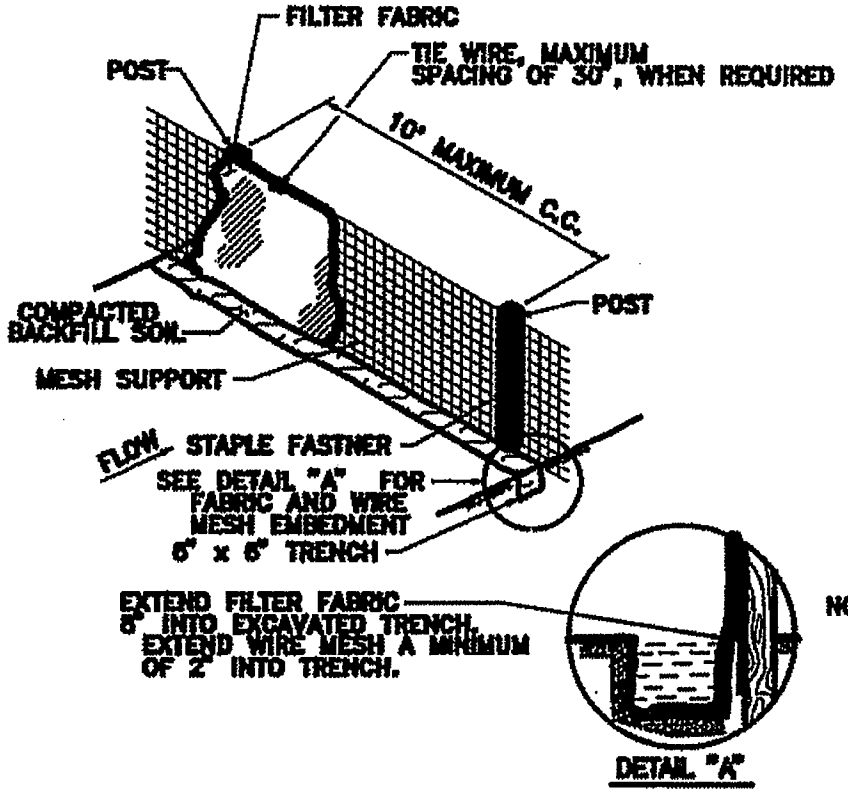
REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE

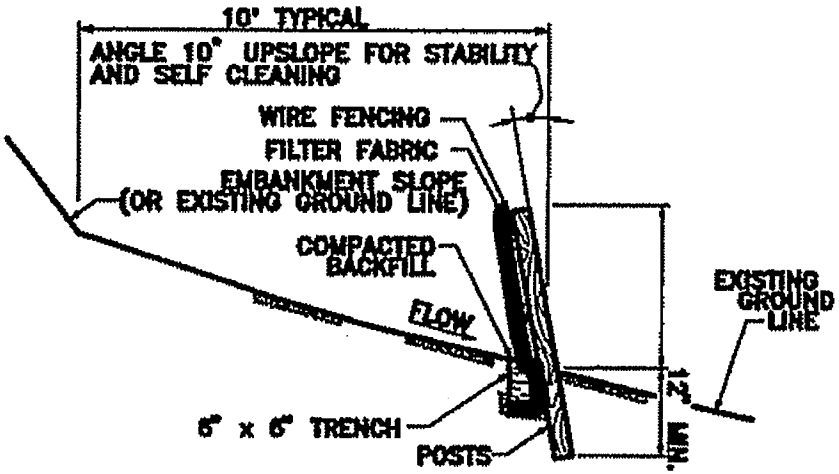
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 24





SEE CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL (2002) FOR ADDITIONAL FILTER FENCE REQUIREMENTS.

NOTES:

1. SYNTHETIC FILTER FABRIC SHALL BE A PERVIOUS SHEET OF PROPYLENE, NYLON, POLYESTER OR ETHYLENE FILAMENTS AND SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE FOLLOWING REQUIREMENTS:

PHYSICAL PROPERTY	REQUIREMENTS
FILTERING EFFICIENCY	75% (MIN.)
TENSILE STRENGTH AT 20% (MAX.) ELONGATION	EXTRA STRENGTH – 50 lbs./ lin. in. (MIN.) STANDARD STRENGTH – 30 lbs./ lin. in. (MIN.)
FLOW RATE	0.3 gal./ sq. ft./ (MIN.)

2. PROVIDE FILTER FABRIC ALONG ALL INTERFACE AREAS WITH GROUND CONTACT.

EROSION CONTROL FENCE DETAILS

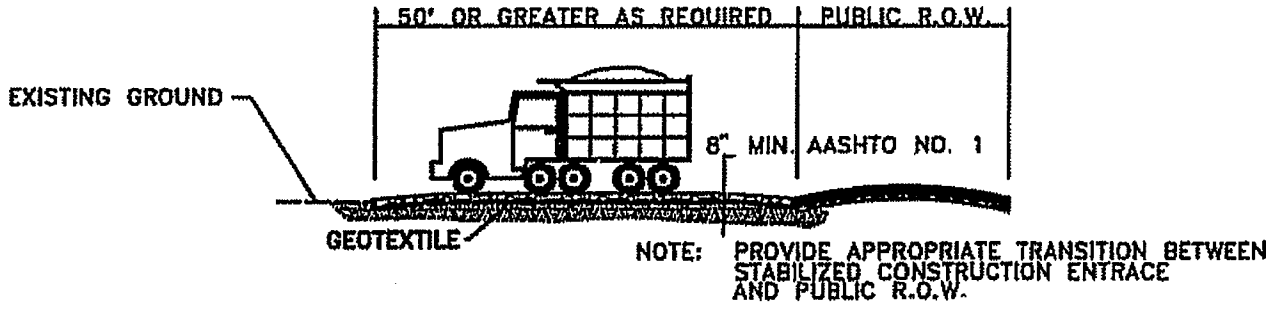
N.T.S.

EROSION CONTROL FENCE DETAILS

REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

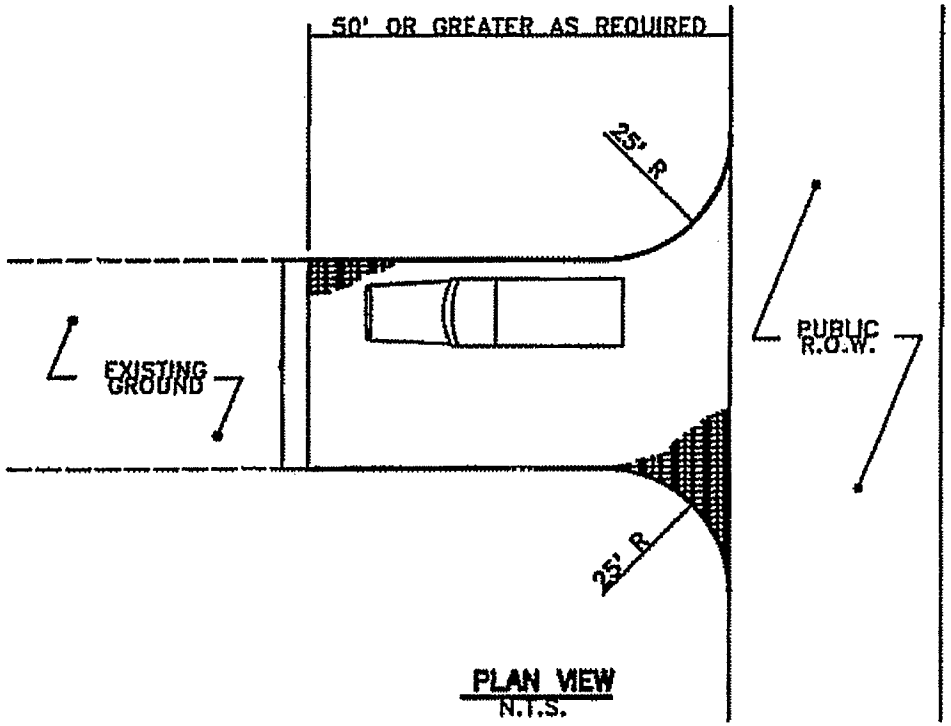
National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09 | SHEET 25



NOTE: PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRACE AND PUBLIC R.O.W.

PROFILE
N.T.S.



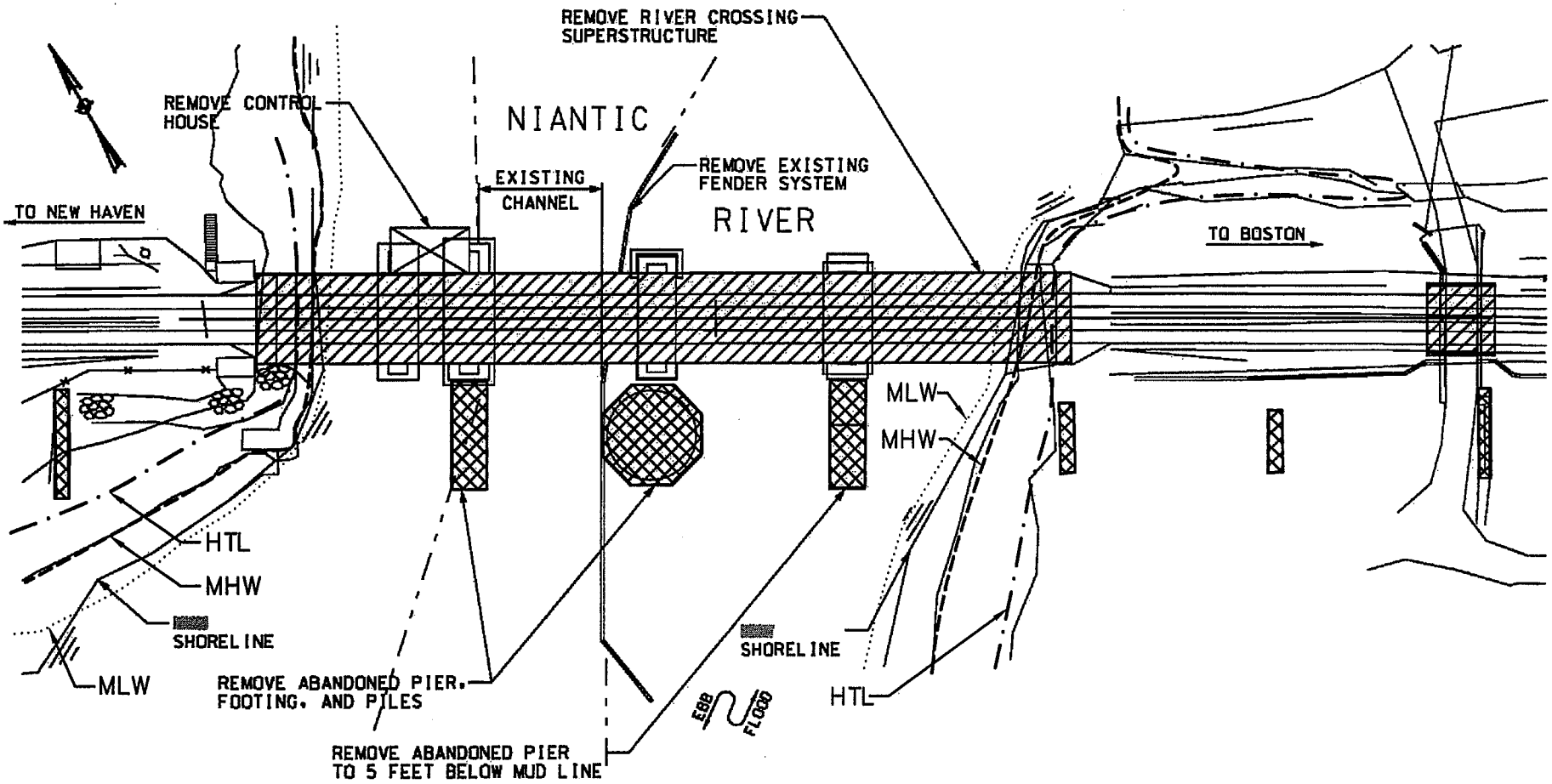
PLAN VIEW
N.T.S.

STABILIZED CONSTRUCTION ENTRANCE

N.T.S.

LOCATIONS:WEST APPROACH GRADE XING
NEW WEST APPROACH ACCESS ROAD
U.G. BRIDGE 116.79
MILLSTONE ROAD TEMP ACCESS

STABILIZED CONSTRUCTION ENTRANCE	
REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE East Lyme and Waterford, Connecticut	
National Railroad Passenger Corporation(AMTRAK) 30th Street Station, 4th Floor South 30th & Market Streets Philidelphia, PA 19104	
DATE: 5/15/09	SHEET 26



PLAN VIEW
SCALE 1"=60'
0 15 30 60

EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
THE SAME IN EXISTING AND
PROPOSED CONDITIONS

KEY

ABANDONED BRIDGE PIERS

EXISTING BRIDGE

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. −0.61
100 YR FLOOD ELEV. = +11.0

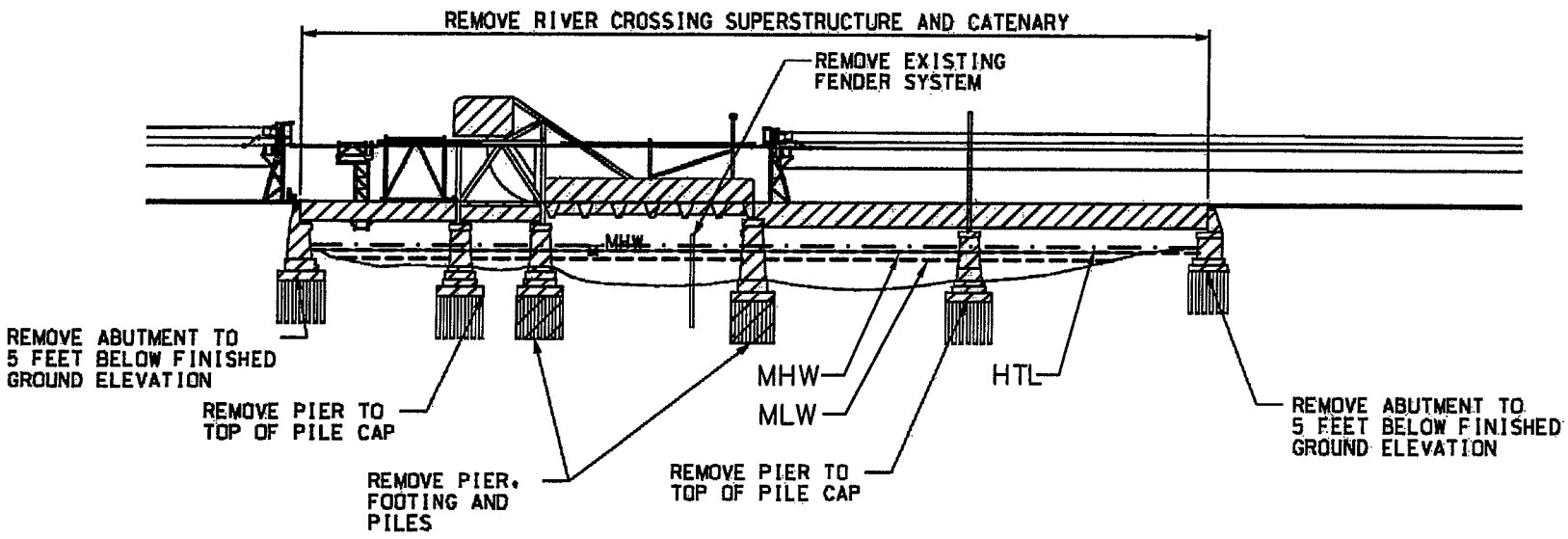
EXISTING BRIDGE DEMO PLAN

REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

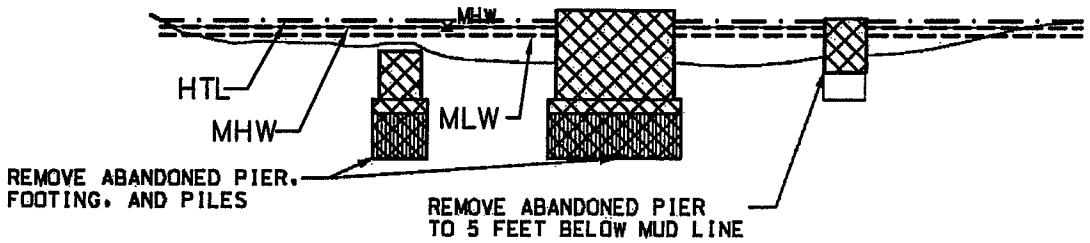
SHEET 27



EXISTING BRIDGE ELEVATION

SCALE 1"=60'

0 15 30 60



EXISTING ABANDONED PIER ELEVATION

SCALE 1"=60'

0 15 30 60

EXCEPT AS NOTED HTL, MHW, AND MLW ARE THE SAME IN EXISTING AND PROPOSED CONDITIONS

KEY

ABANDONED BRIDGE PIERS

EXISTING BRIDGE

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. −0.61
100 YR FLOOD ELEV. = +11.0

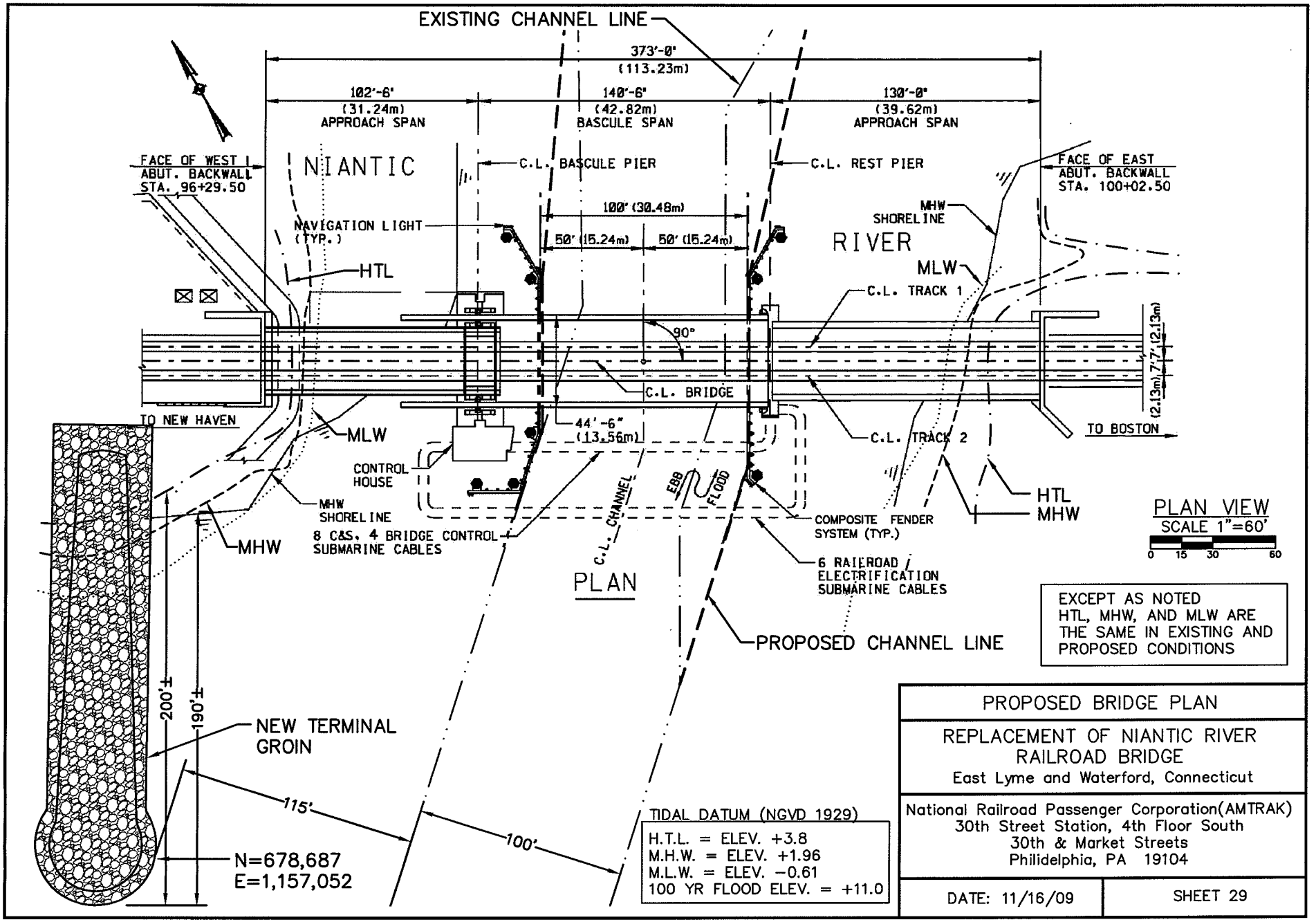
EXISTING BRIDGE DEMO ELEVATIONS

REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 28



PROPOSED BRIDGE PLAN

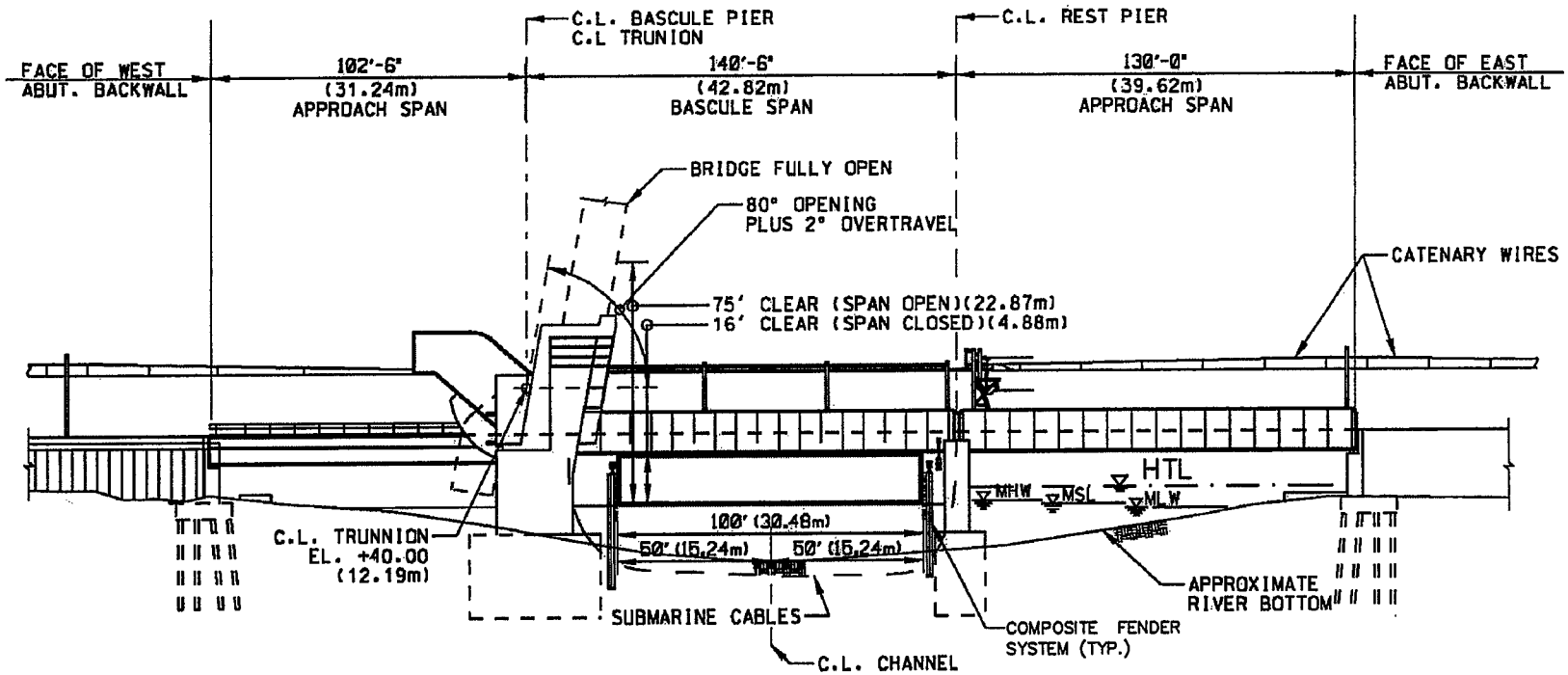
REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE

East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 11/16/09

SHEET 29



ELEVATION
SCALE 1"=60'
0 15 30 60

EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
THE SAME IN EXISTING AND
PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. -0.61
100 YR FLOOD ELEV. = +11.0

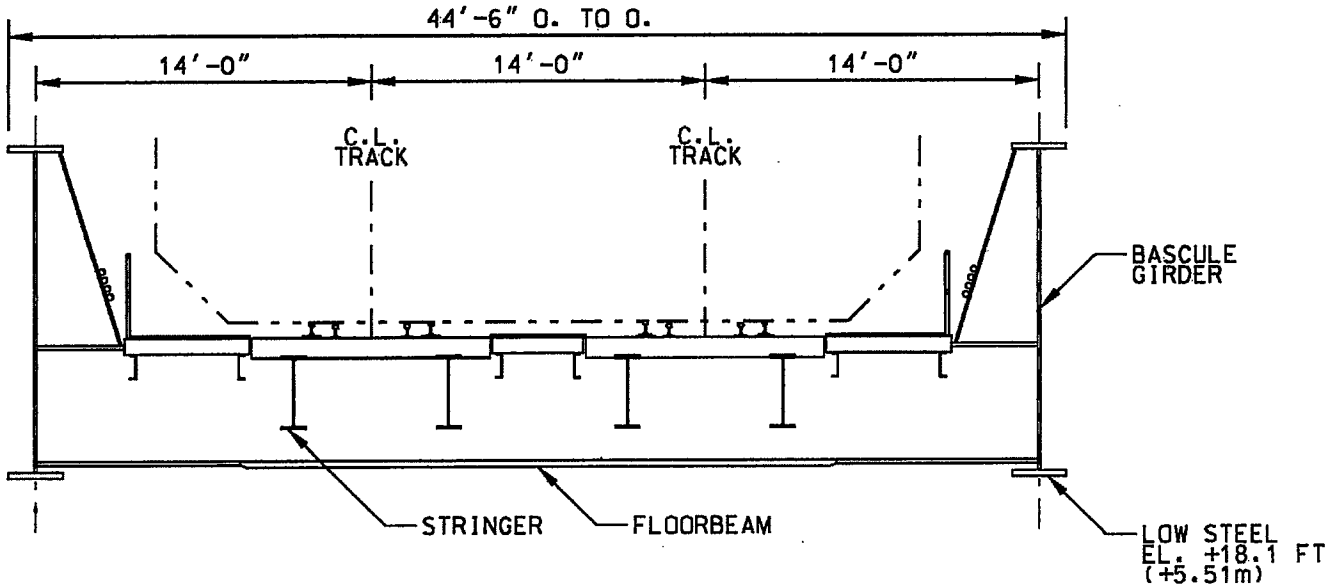
PROPOSED BRIDGE ELEVATIONS

REPLACEMENT OF NIANTIC RIVER
RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 30



BRIDGE CROSS SECTION
SCALE 1/8"=1'-0"

EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
THE SAME IN EXISTING AND
PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. −0.61
100 YR FLOOD ELEV. = +11.0

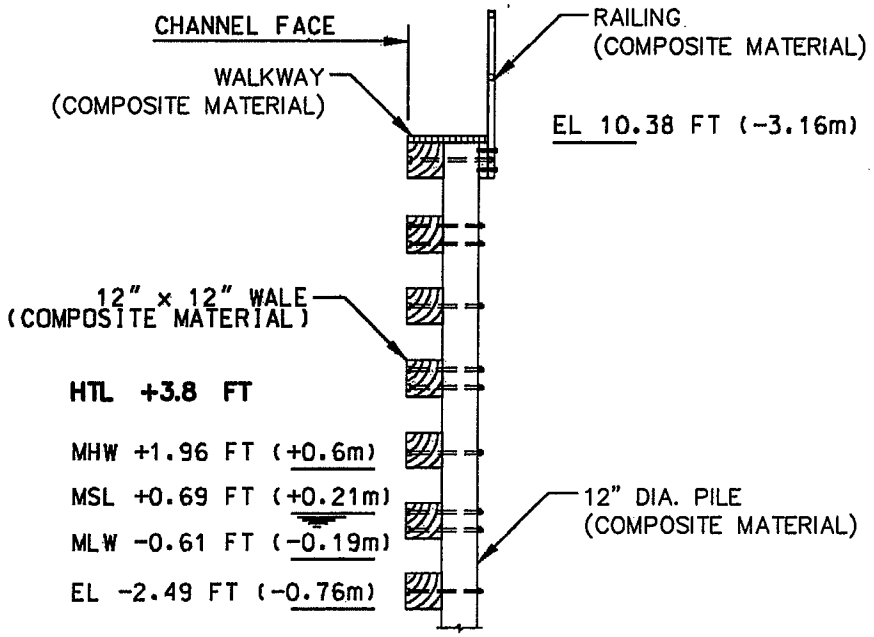
PROPOSED BRIDGE SECTION

REPLACEMENT OF NIANTIC RIVER
RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 31



FENDER SYSTEM
SCALE 1/8"=1'-0"

EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
THE SAME IN EXISTING AND
PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

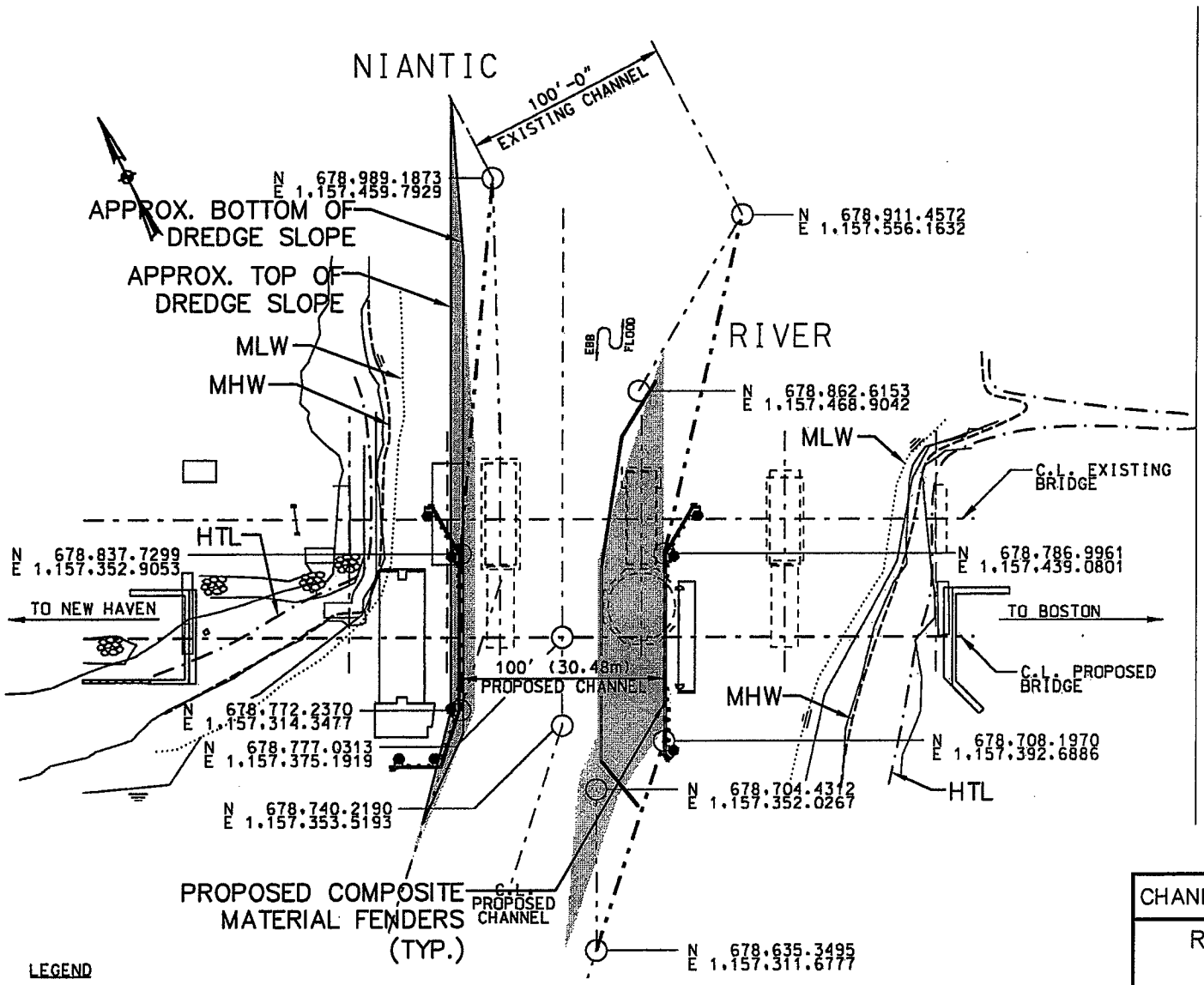
H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. -0.61
100 YR FLOOD ELEV. = +11.0

FENDER DETAIL

REPLACEMENT OF NIANTIC RIVER
RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09 | SHEET 32



EXCEPT AS NOTED HTL, MHW, AND MLW ARE THE SAME IN EXISTING AND PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. -0.61
100 YR FLOOD ELEV. = +11.0

CHANNEL REALIGNMENT, AND DREDGING PLAN

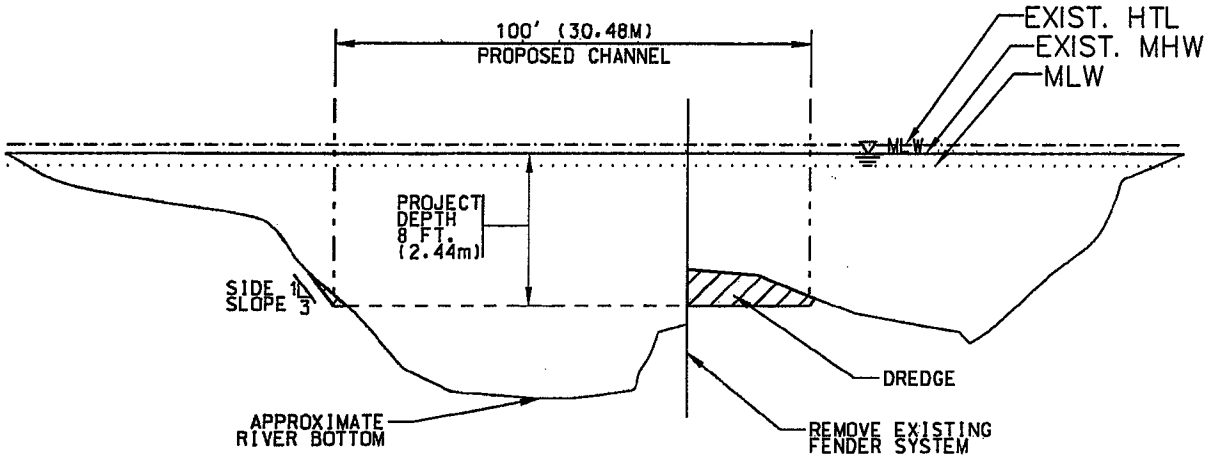
REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE

East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 33



CHANNEL DREDGING
TYPICAL SECTION

PLAN VIEW
SCALE 1"=40'

0 10 20 40

EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
THE SAME IN EXISTING AND
PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. −0.61
100 YR FLOOD ELEV. = +11.0

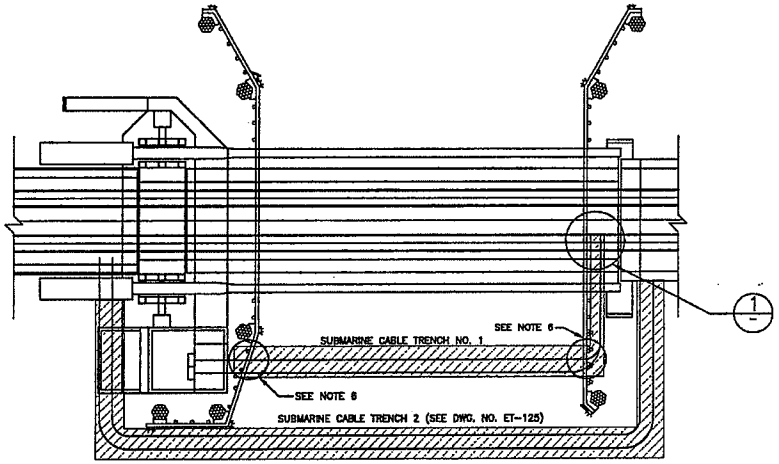
CHANNEL DREDGING SECTION

REPLACEMENT OF NIANTIC RIVER
RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

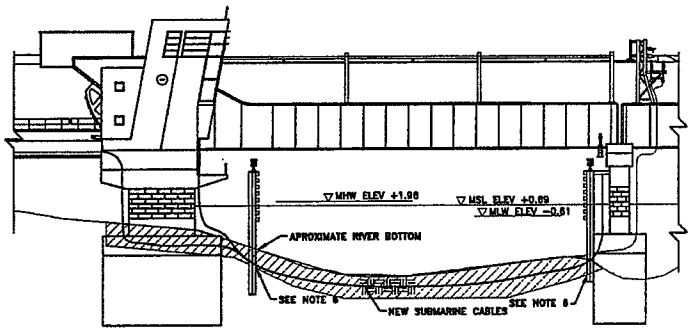
DATE: 5/15/09

SHEET 34



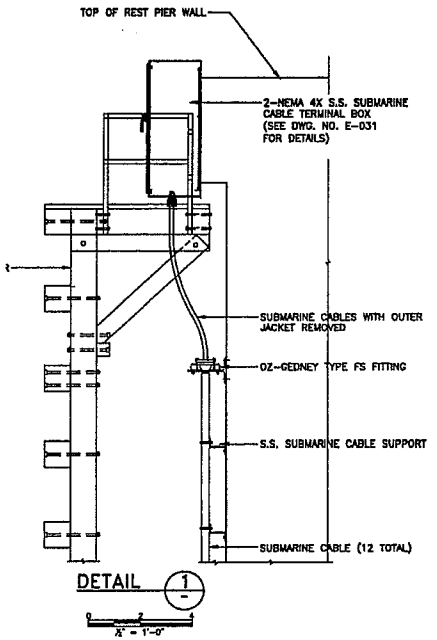
GENERAL PLAN

SIZE OF TRENCH NOT SHOWN TO SCALE



GENERAL ELEVATION

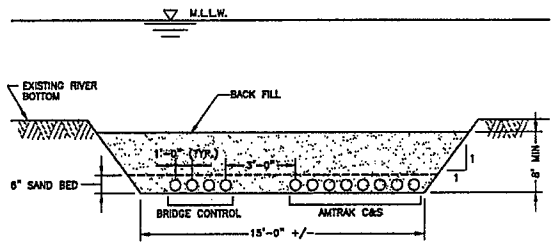
SIZE OF TRENCH NOT SHOWN TO SCALE



DETAIL 1

NOTES:

1. TO ENSURE PROPER CIRCUIT CONNECTIONS ACROSS THE CHANNEL, THE FOLLOWING ARMORED CABLES SHALL BE INSTALLED UNDER WATER:
   A) TWO CONTROL SUBMARINE CABLES
   B) TWO ELECTRICAL POWER UTILITY CABLES
   C) EIGHT AMTRAK C&S SUBMARINE CABLES
   D) TWO 500 MCM ELECTRIFICATION SUBMARINE CABLES — SPECIFIED ELSEWHERE
   E) FOUR 750 MCM ELECTRIFICATION SUBMARINE CABLES — SPECIFIED ELSEWHERE
2. EXCAVATE TRENCH TO DEPTH THAT ALLOWS SIDE OF THE TRENCH TO STAND AT ITS NATURAL SLOPE
3. THE CABLE TRENCH SHALL BE SLOPED UPWARD UNTIL IT MEETS THE EXISTING RIVER BOTTOM OUTSIDE OF THE CHANNEL BETWEEN THE FENDERS AND THE PIERS.
4. ACROSS THE NAVIGABLE CHANNEL THE SUBMARINE CABLES ARE TO BE BURIED NOT LESS THAN 10 FEET BELOW THE ARMY CORPS OF ENGINEERS MAXIMUM DREDGE LIMIT OR 8 FEET BELOW THE EXISTING RIVER BOTTOM WHICHEVER IS LOWER.
5. THE CONTRACTOR SHALL REFER TO THE ELECTRIFICATION DRAWINGS FOR DETAILS OF THE SUBMARINE CABLES, TRENCH REQUIREMENTS AND ROUTING REQUIRED FOR ELECTRIFICATION SUBMARINE CABLES.
6. THE INSTALLATION OF THE NEW SUBMARINE CABLES SHALL BE COORDINATED WITH THE INSTALLATION OF THE NEW FENDER SYSTEM.
7. ALL WORK SHOWN SHALL BE COORDINATED WITH THE LOCATION OF THE EXISTING AT&T SUBMARINE CABLE. THE CONTRACTOR IS REQUIRED TO PROTECT AT ALL TIMES DURING CONSTRUCTION.



SUBMARINE CABLE TRENCH NO. 1 SECTION

NOT TO SCALE

EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
THE SAME IN EXISTING AND
PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. −0.61
100 YR FLOOD ELEV. = +11.0

SUBMARINE CABLE PLAN & SECTIONS

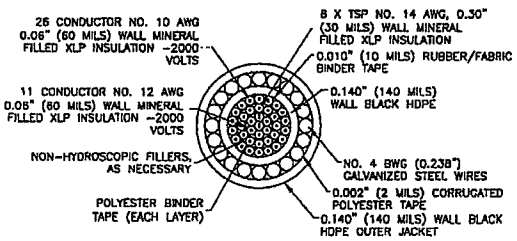
REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE

East Lyme and Waterford, Connecticut

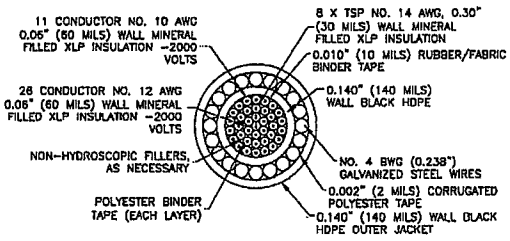
National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

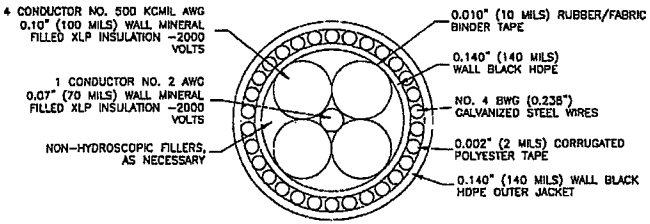
SHEET 35



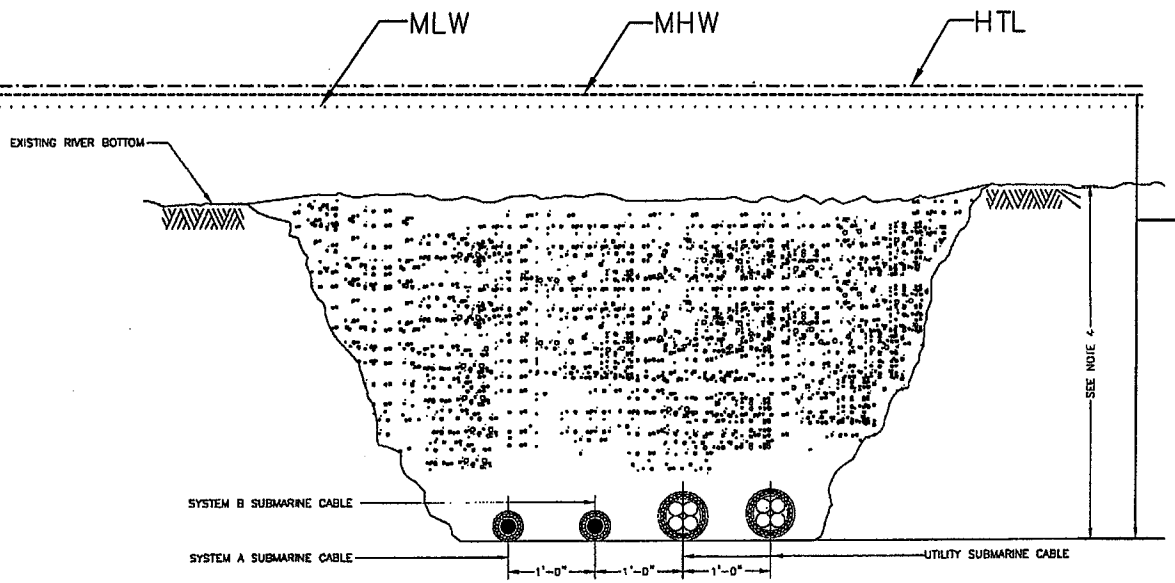
SYSTEM 1 SUBMARINE CABLE



SYSTEM 2 SUBMARINE CABLE



UTILITY SUBMARINE CABLE 1 & 2



NEW SUBMARINE CABLE TRENCH DETAIL

AMTRAK C&S AND ELETRICATION SUBMARINE CABLES NOT SHOWN

NOTES:

1. TO ENSURE PROPER CIRCUIT CONNECTIONS ACCROSS THE CHANNEL, THE FOLLWING ARMORED CABLES SHALL BE INSTALLED UNDER WATER:
   - A) TWO CONTROL SUBMARINE CABLES
   - B) ONE ELECTRICAL POWER UILITY CABLE
   - C) AMTRAK C&S SUBMARINE CABLES
   - D) TWO 500 MCM ELECTRIFICATION SUBMARINE CABLES
   - E) FOUR 750 MCM ELECTRICATION SUBMARINE CABLES
2. EXCAVATE TRENCH TO DEPTH THAT ALLOWS SIDE OF THE TRENCH TO STAND AT ITS NATURAL SLOPE
3. THE CABLE TRENCH SHALL BE SLOPED UPWARD UNTIL IT MEETS THE EXISTING RIVER BOTTOM OUTSIDE OF THE CHANNEL BETWEEN THE FENDERS AND THE PIERS.
4. ACROSS THE NAVIGABLE CHANNEL THE SUBMARINE CABLES ARE TO BE BURIED NOT LESS THAN 7 FEET BELOW THE ARMY CORPS OF ENGINEERS MAXIMUM DREDGE LIMIT(-10 FEET BELOW M.L.W.) OR 7 FEET BELOW THE EXISTING RIVER BOTTOM WHICHEVER IS LOWER.
5. SEE DWG ET-100 FOR ELECTRIFICATION SUBMARINE CABLE ROUTING.
6. C&S SUBMARINE CABLES SHALL BE ROUTED IN THE SAME TRENCH AS THE BRIDGE CONTROL SUBMARINE CABLES IN A SIMILAR ARRANGMENT AS SHOWN ON THIS DRAWING.

EXCEPT AS NOTED HTL, MHW, AND MLW ARE THE SAME IN EXISTING AND PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. -0.61
100 YR FLOOD ELEV. = +11.0

SUBMARINE CABLE TYPICAL SECTION

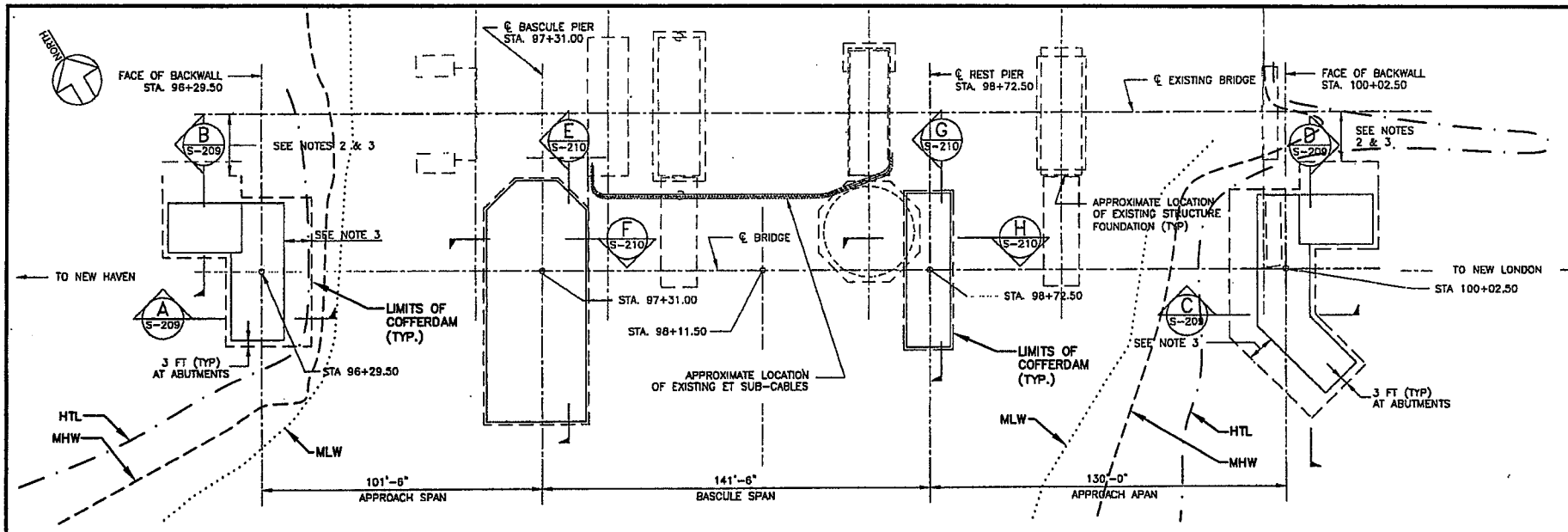
REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE

East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

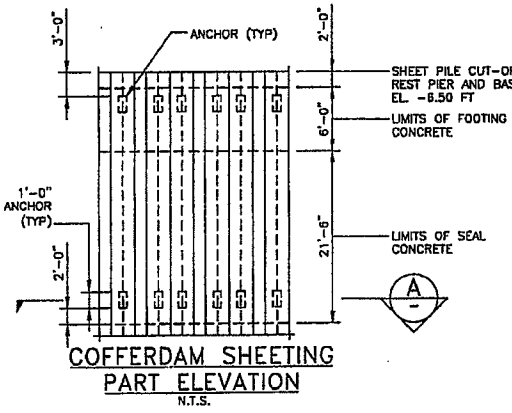
SHEET 36



FOUNDATION PLAN

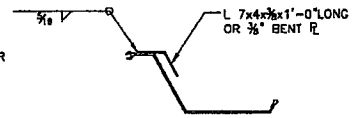
SCALE 1"=60'

0 15 30 60



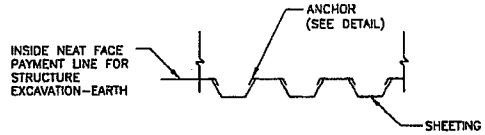
COFFERDAM SHEETING PART ELEVATION

N.T.S.



ANCHOR DETAIL

N.T.S.



SECTION A

N.T.S.

NOTES:

1. THE BASCULE AND REST PIERS SHALL BE CONSTRUCTED WITHIN COFFERDAMS. THE WEST AND EAST ABUTMENTS SHALL BE CONSTRUCTED IN THE DRY, AFTER THE PILES ARE DRIVEN AND ACCEPTED. COFFERDAMS AND PUMPING SHALL MEAN ANY TEMPORARY OR PERMANENT TYPE OF CONSTRUCTION THAT THE CONTRACTOR ELECTS TO BUILD TO SATISFY THIS CONDITION. ANY SHEET PILING OR OTHER, TEMPORARY EMBANKMENT RETAINING MEANS USED TO CONSTRUCT THE ABUTMENTS AND THE ADJACENT WINGWALLS SHALL BE INCLUDED IN THIS ITEM OF WORK. SEE SPECIFICATIONS FOR COFFERDAMS AND PUMPING REQUIREMENTS.
2. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE CONTRACT SPECIFICATIONS FOR TEMPORARY SHEETING AND SHORING REQUIREMENTS TO SUPPORT AMTRAK TRACKS. THE SHEET PILING ON THE NORTH SIDE OF BOTH PROPOSED ABUTMENTS EXTENDS BELOW THE THEORETICAL UNDERGROUND TRACK DISTURBANCE LINE. INTERLOCKING STEEL SHEETING ADEQUATELY BRACED AND DESIGNED TO CARRY COOPER E80 LIVE-LOAD PLUS 50 PERCENT IMPACT ALLOWANCE SHALL BE USED IN THESE AREAS. SHEETING IN THIS AREA SHALL NOT BE PULLED BUT SHALL BE LEFT IN PLACE AND CUT OFF AT LEAST 18 INCHES BELOW FINAL GROUND LINE AT THE SHEETING AND NO HIGHER THAN 24" BELOW THE ELEVATION OF THE BOTTOM OF THE NEAREST TIES.
3. THE FRONT ROW PILES OF ALL ABUTMENTS AND WINGWALLS ARE BATTERED AT 1 HORIZONTAL TO 3 VERTICAL. SHEET PILING DRIVEN IN THESE AREAS WILL REQUIRE ADDITIONAL SETBACK FROM ABUTMENTS/WINGWALLS TO AVOID INTERFERENCE WITH BATTERED PILES. THE CONTRACTOR IS ALERTED THAT SETBACK DISTANCE AT THE NORTH WINGWALLS IS LIMITED DUE TO EXISTING AMTRAK TRACKS WHICH WILL BE ACTIVE THROUGHOUT CONSTRUCTION. SEE CONTRACT SPECIFICATIONS FOR TEMPORARY SHEETING AND SHORING REQUIRED TO SUPPORT AMTRAK TRACKS.

EXCEPT AS NOTED HTL, MHW, AND MLW ARE THE SAME IN EXISTING AND PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. -0.61
100 YR FLOOD ELEV. = +11.0

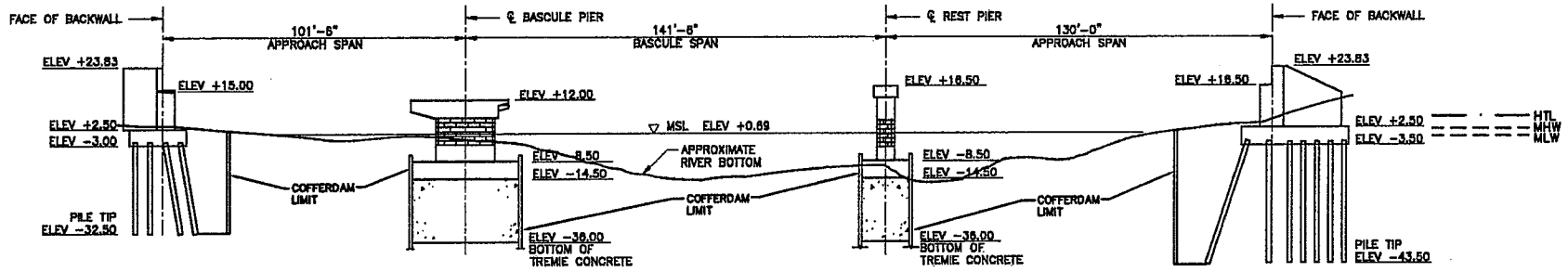
BRIDGE FOOTING PLAN

REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 37



FOUNDATION ELEVATION
(LOOKING NORTH)

SCALE 1"=60'

0 15 30 60

EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
THE SAME IN EXISTING AND
PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. -0.61
100 YR FLOOD ELEV. = +11.0

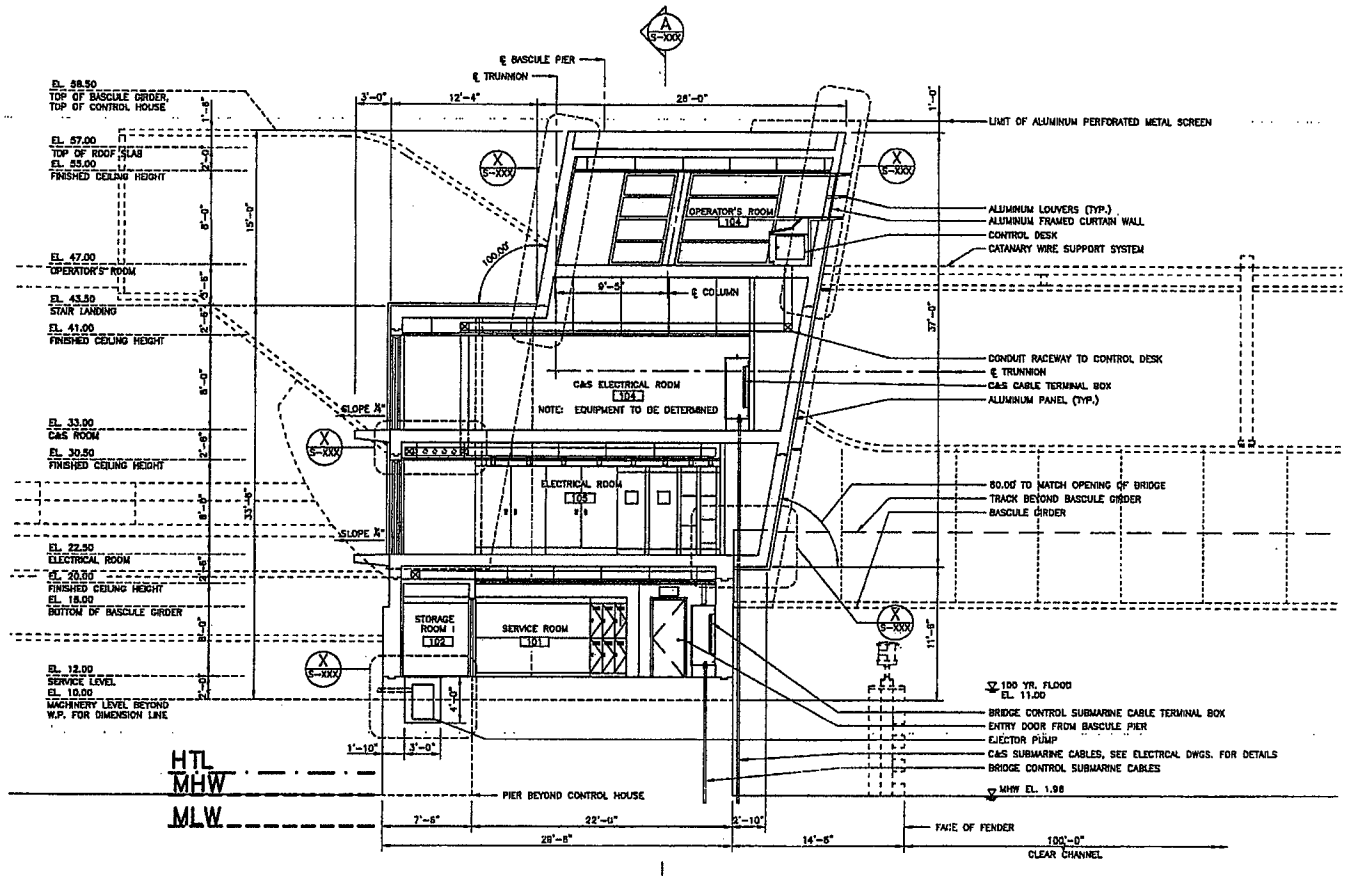
BRIDGE FOOTING ELEVATION

REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 38



SCALE 1/16"=1'-0"

EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
THE SAME IN EXISTING AND
PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. -0.61
100 YR FLOOD ELEV. = +11.0

CONTROL HOUSE SECTION 1

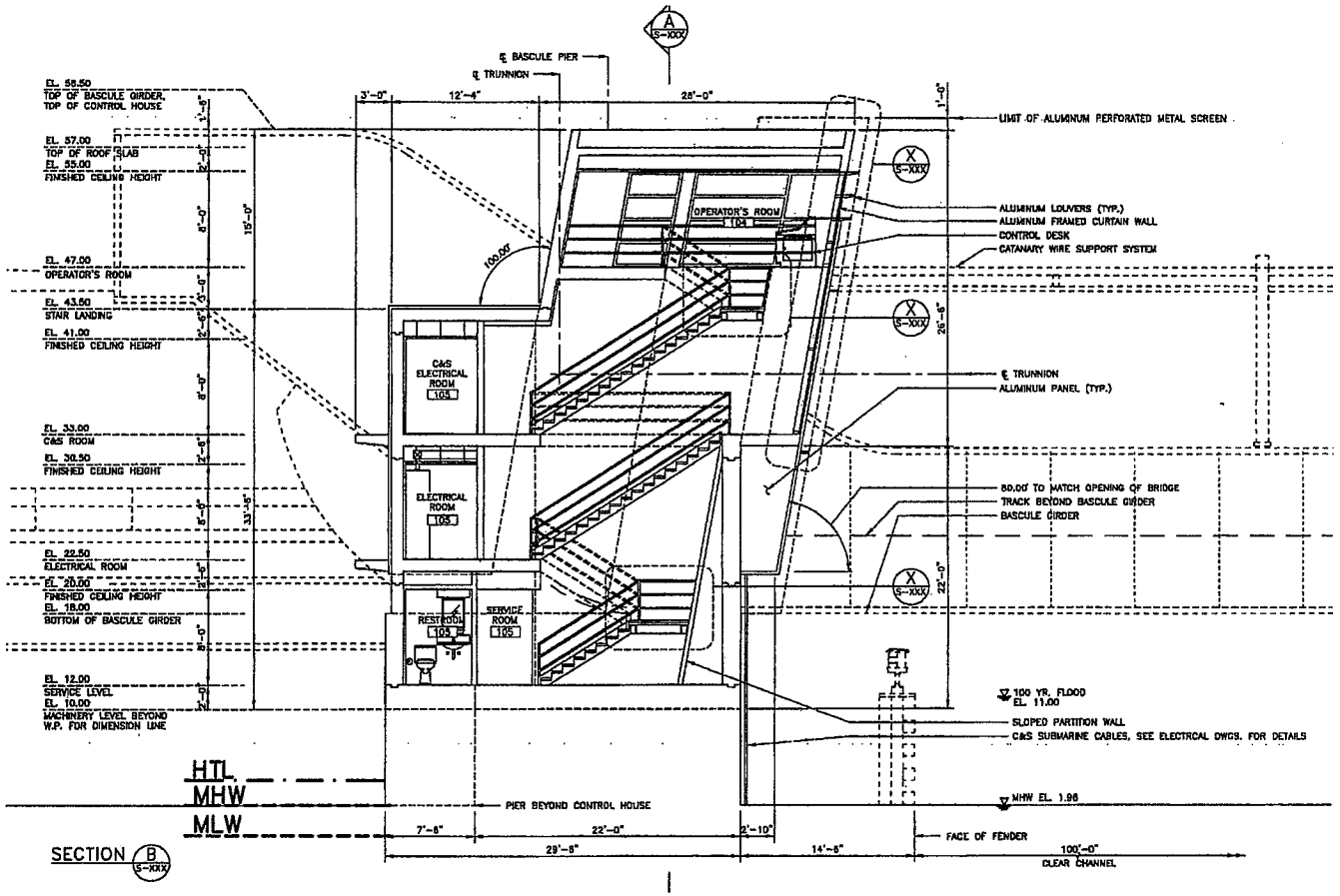
REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE

East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 39



SCALE 1/16"=1'-0"

EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
THE SAME IN EXISTING AND
PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. −0.61
100 YR FLOOD ELEV. = +11.0

CONTROL HOUSE SECTION 2

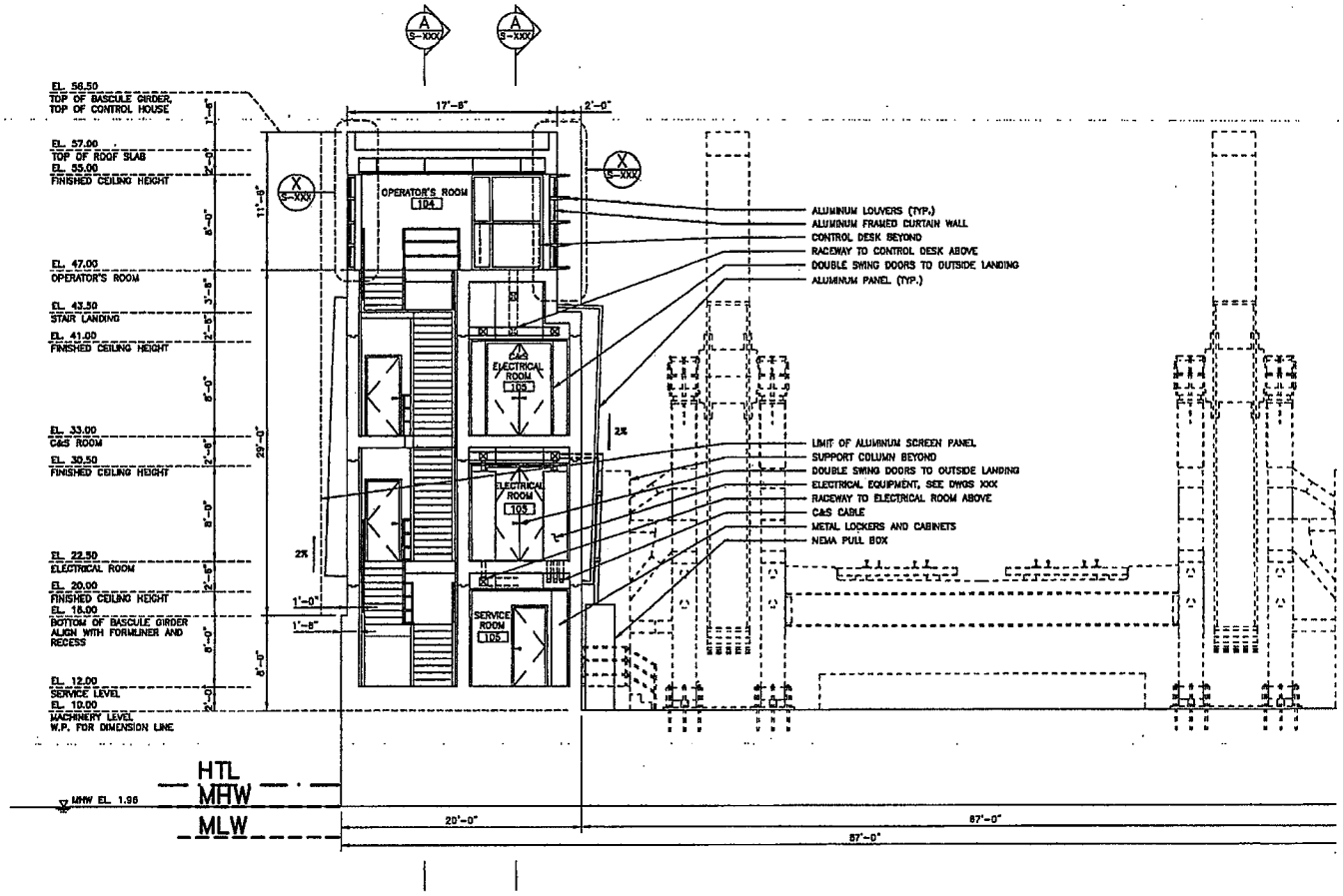
REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE

East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 40



SCALE 1/16"=1'-0"

EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
THE SAME IN EXISTING AND
PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. −0.61
100 YR FLOOD ELEV. = +11.0

CONTROL HOUSE SECTION 3

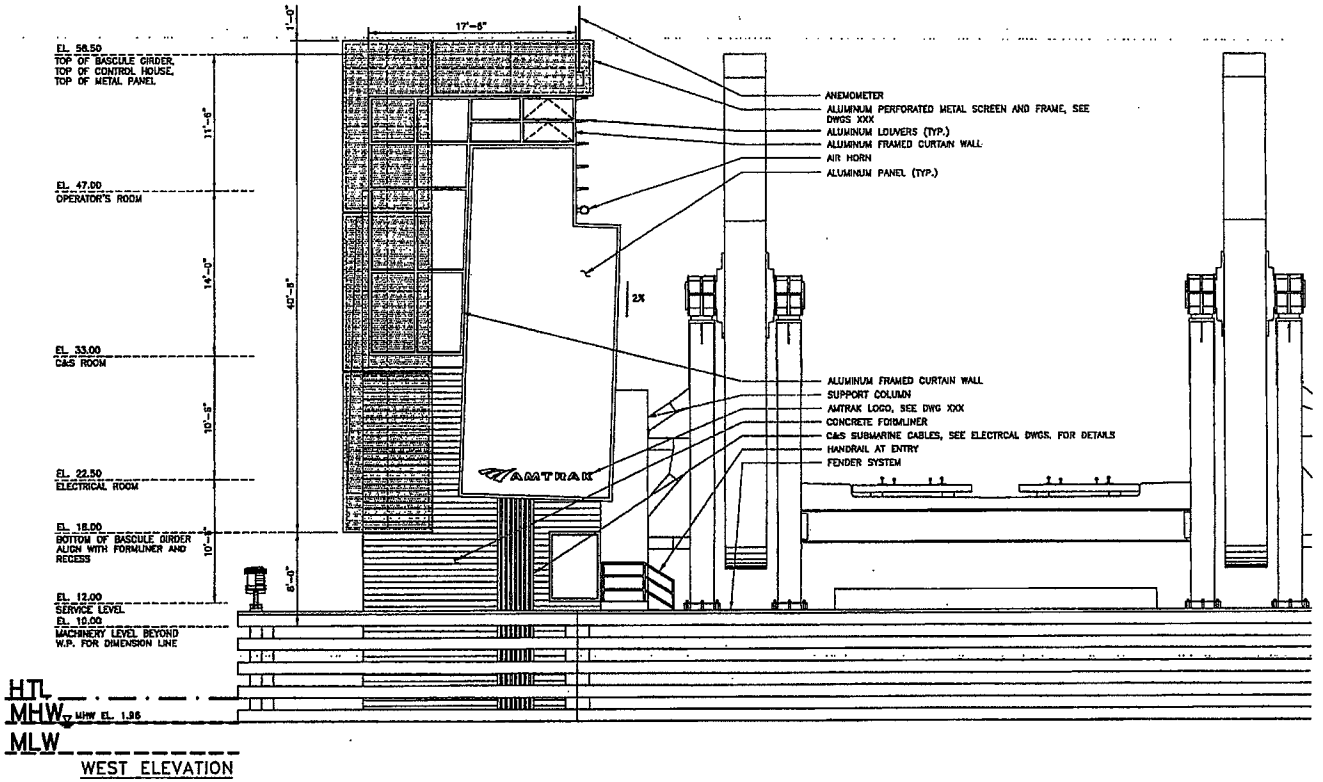
REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE

East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 41



WEST ELEVATION

SCALE 1/16"=1'-0"

EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
THE SAME IN EXISTING AND
PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. -0.61
100 YR FLOOD ELEV. = +11.0

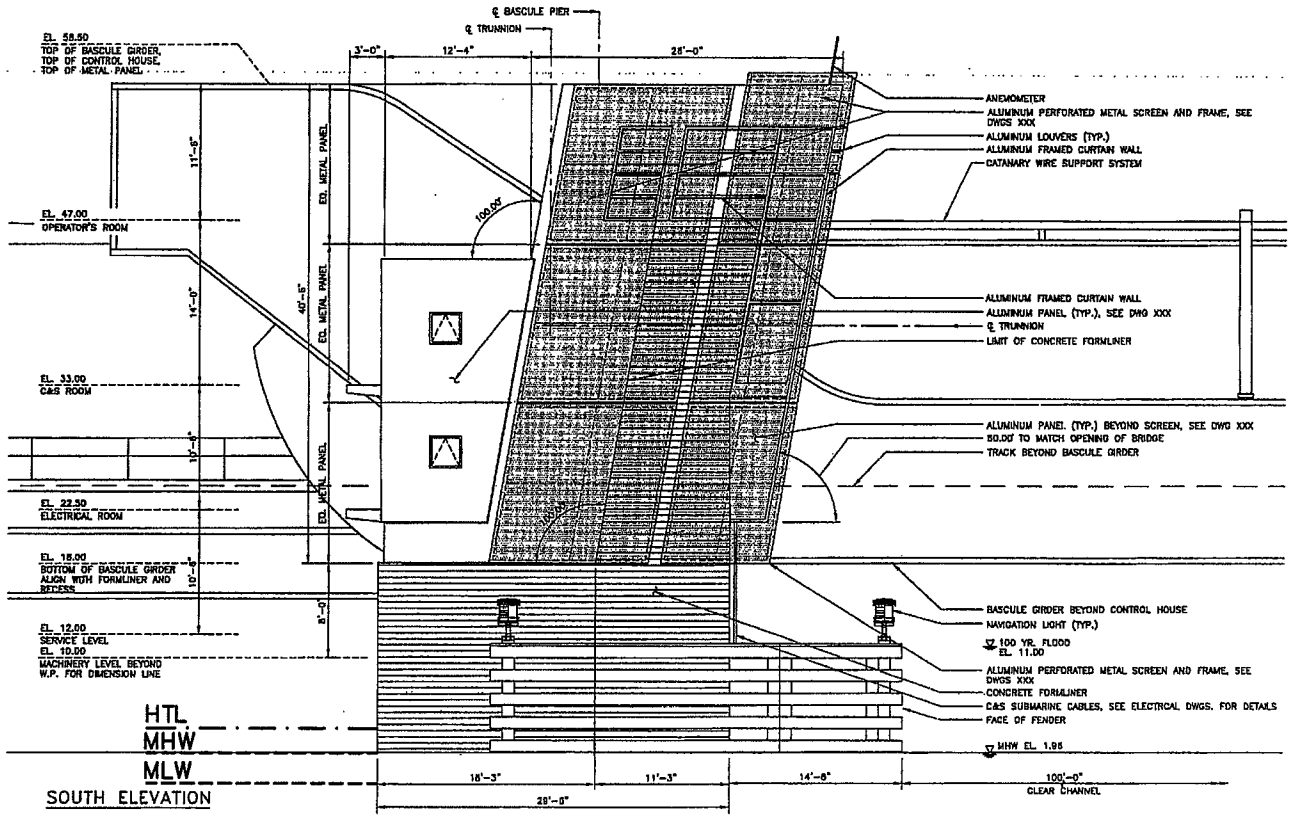
CONTROL HOUSE WEST ELEVATION

REPLACEMENT OF NIANTIC RIVER
RAILROAD BRIDGE
East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 42



SCALE 1/16"=1'-0"

EXCEPT AS NOTED
HTL, MHW, AND MLW ARE
THE SAME IN EXISTING AND
PROPOSED CONDITIONS

TIDAL DATUM (NGVD 1929)

H.T.L. = ELEV. +3.8
M.H.W. = ELEV. +1.96
M.L.W. = ELEV. −0.61
100 YR FLOOD ELEV. = +11.0

CONTROL HOUSE SOUTH ELEVATION

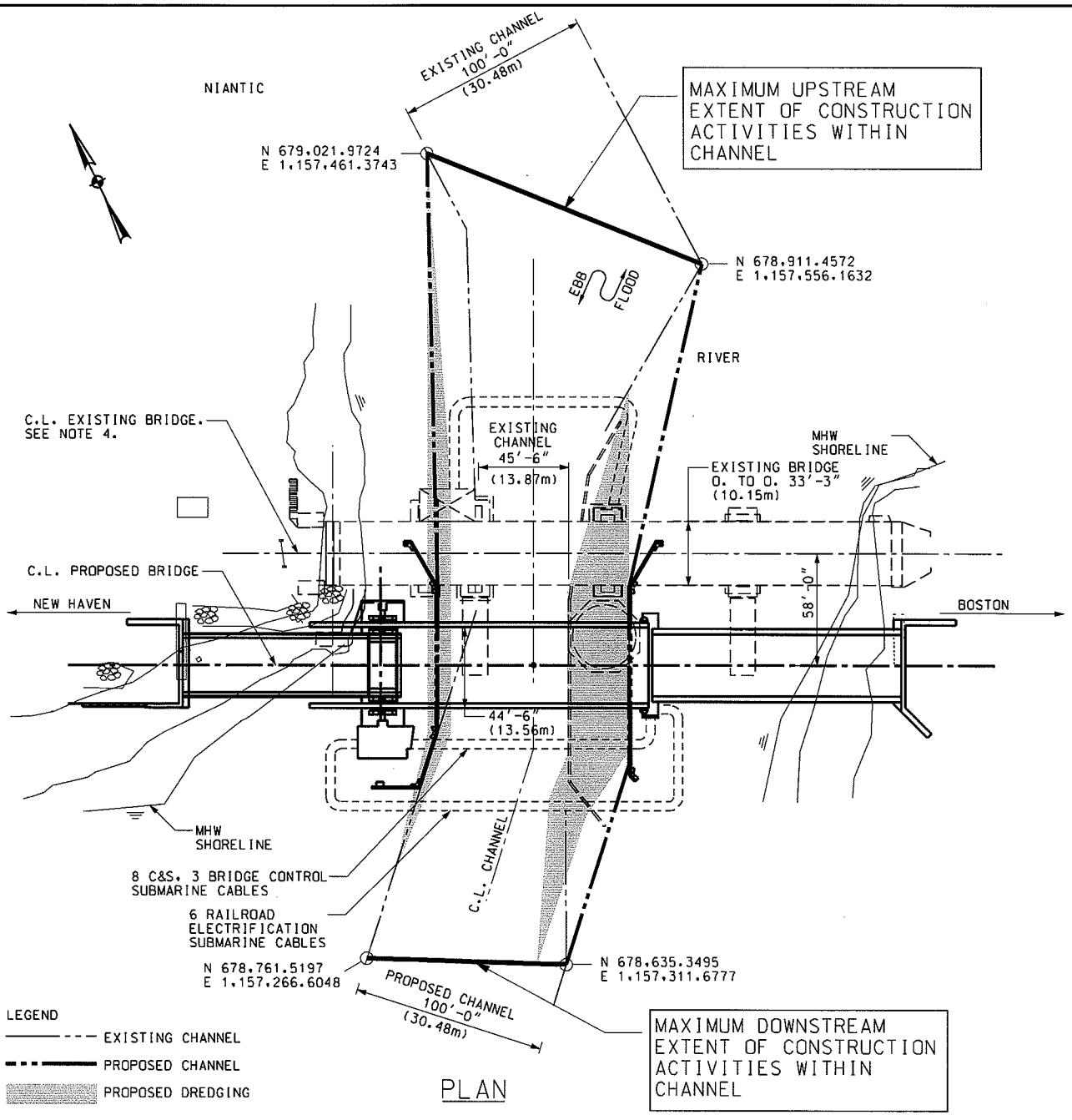
REPLACEMENT OF NIANTIC RIVER RAILROAD BRIDGE

East Lyme and Waterford, Connecticut

National Railroad Passenger Corporation(AMTRAK)
30th Street Station, 4th Floor South
30th & Market Streets
Philidelphia, PA 19104

DATE: 5/15/09

SHEET 43



PLAN

NOTES:

1. EXISTING CHANNEL INFORMATION TAKEN FROM US ARMY CORPS OF ENGINEERS "MAP OF NIANTIC BAY & HARBOR, CONNECTICUT: 6' AND 8' CHANNELS".
2. DREDGING TO BE APPROVED BY THE UNITED STATES ARMY CORPS OF ENGINEERS.

EXISTING & PROPOSED BRIDGE GENERAL PLAN

0' 50' 100'

CONSTRUCTION LIMITS

REPLACEMENT OF NIANTIC RIVER BRIDGE

IN: NIANTIC RIVER MP 0.0
AT: TOWNS OF EAST LYME & WATERFORD
COUNTY: NEW LONDON
STATE: CONNECTICUT
APPLICATION BY: NATIONAL RAILROAD PASSENGER CORPORATION (AMTRAK)

SHEET 1 OF 1 DATE: NOVEMBER 09