

THE STATE OF DELAWARE



DEPARTMENT OF TRANSPORTATION
TRANSPORTATION SOLUTIONS, BRIDGE MANAGEMENT
QUANTITY ESTIMATIONS AND SPECIFICATIONS FOR

AMTRAK Bridge Painting, New Castle County, FY20

CONTRACT NUMBER - T201807703

PRIMAVERA ID – 18-07703

FEDERAL AID NUMBER – EBHN-2018(18)

COUNTY: New Castle

PLANS PREPARED BY: Tom Little, EIT
DeIDOT – CE III/ DESIGNER

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Handwritten signature of Stephen Dirck in black ink.

DELDOT –PM I/PROJECT MANAGER
TRANSPORTATION SOLUTIONS

10/1/19
DATE



THIS SEAL APPLIES TO ALL SHEETS WITHIN THIS REPORT

APPROVED FOR ADVERTISEMENT

Handwritten signature in blue ink of the Director of Transportation Solutions.

DIRECTOR OF TRANSPORTATION SOLUTIONS

10/10/19
DATE

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1	Title Sheet
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GENERAL NOTES

1. This project is to be constructed in accordance with Delaware Department of Transportation “Standard Specifications”, dated August 2016 and the Delaware Department of Transportation “Standard Construction Details”, dated 2001, including all revisions up to the date of advertisement.
2. The contractor shall give two (2) weeks notice to the property owner when any fixture, shrub, or other object must be removed from the right of way or easement area. If the owner has not attempted to salvage this property, the contractor shall remove it without obligation. Compensation shall be incidental to the contract.
3. The ends of all curbs shall be depressed flush with the pavement at a ratio of twelve to one (12:1) unless otherwise directed by the Engineer.
4. The contractor shall provide and install PVC sleeves (4 inch inside diameter minimum, 6 inch inside diameter maximum) in proposed concrete sidewalks, islands and medians for future traffic sign posts as directed by the Engineer. The lower end of the sleeve shall sit on the top of the sub base material. The cost shall be incidental to the contract.
5. Site reviewer. An erosion control site reviewer shall be a person from the contractor’s staff assigned to Erosion and Sediment Control Implementation and Maintenance and shall be required on specific projects. The name and DNREC certification number of each site reviewer so required shall be submitted to the Department at the time of bid. The name of the Delaware registered professional engineer providing direction and supervision of the site reviewer, as required in Section 12.3 of the Delaware Sediment and Stormwater Regulations, shall also be submitted to the Department at the time of bid. The site reviewer requirements in effect on this project shall be as marked with an (x) below:

Erosion potential for this project	Site reviewer requirement
(X) Insignificant	None
() Minor	Contractor certification course training only. See 1 below.
() Medium	At the time of award of the contract, either the superintendent or a separate individual from the contractor’s staff shall be a certified construction reviewer (CCR). See 2 below.
() Major	Superintendent and individual from the contractor’s staff shall be CCR. See 3 below.

1. As defined in section 13 of the Delaware Sediment and Stormwater Regulations.
 2. As defined in section 12 of the Delaware Sediment and Stormwater Regulations.
 3. One individual from the contractor’s staff must be a CCR at the time of award of the contract. The superintendent must become a CCR within one year after the award of contract.
6. Staging areas - Proper erosion and sediment control measures as determined by the Engineer shall be installed in the staging areas. All areas used by the contractor for staging operations shall be fully restored by the contractor upon completion of the project. If the staging area is paved, it shall be restored to its original condition. If the staging area is unpaved, it shall be re-graded, top soiled, seeded and mulched in accordance with Delaware Standard Specifications 908, for topsoil, seed and mulch, to the satisfaction of the Engineer. The seed shall adhere to the specifications of Section 908 for Permanent Grass Seeding – Dry Ground. All costs associated with the restoration of the staging area shall be at the contractor’s expense. If the Engineer determines that a satisfactory stand of grass does not exist at the time of final inspection, all costs associated with re-establishing a satisfactory stand of grass shall be at the contractor’s expense. Staging and/or stockpiling shall not take place in wetland or archaeological sensitive upland areas.
 7. Disturbed area: 0 acres
 8. Electronic project files that will be made available to the contractor include: None.

PROJECT NOTES

1. The purpose of this contract is to clean, paint and repair the items listed on this contract. The paint system used for all steel shall be applied in a three (3) coat system application in all stripped and cleaned areas unless directed otherwise by Engineer in Specific Notes. **All crevices ½” or less and perimeter of all faying surfaces shall be sealed with a paintable caulk where pack rust is not present. Areas that exhibit pack rust, as directed by the Engineer, shall be treated with a 100% solids penetrating sealer and sealed using a paintable caulk as directed by manufacturer’s recommendations and requirements; payment incidental to Item # 616000 – Cleaning and Painting Existing Steel.**
2. **All steel previously coated with a protective coating (including but not limited to railings, attachments, window frames, etc.) shall be cleaned, repaired and painted unless directed by Engineer.**
3. Trash, rubbish, debris, or brush, which hampers contract operations (determined by the Engineer), shall be removed within the project limits and shall be incidental to Item no. 616000 – Cleaning and Painting Existing Steel. The Contractor, just prior to the start of the Contractor’s cleaning operation, shall remove all non-traffic signs attached to the steel. The signs shall be reinstalled upon completion of the painting of the bridge as directed by the Engineer. Payment shall be incidental to Item no. 616000.
4. For all bridges in this contract, any cleaning requiring pressure washing shall be incidental to Item no. 616000. The Contractor shall be responsible to check and monitor the structure during the paint removal process to ensure that damage is not occurring to any part of the structure.
5. During the cleaning operation, the Contractor shall report to the Engineer any defects in the steel. These defects include, but are not limited to, loss of section, cracking, buckling, loose bolts, and loose rivets.
6. All work shall be performed in a manner that will reasonably provide the least practicable obstruction to all road users, including vehicular, pedestrian, and bicycle traffic, and shall conform to the requirements of the most recent, at time of bid including all revisions, Delaware Manual on Uniform Traffic Control Devices, Part 6, herein referred to as the Traffic Control Manual. There is NO TRAFFIC INVOLVEMENT for this contract, this pertains to signals and signing – not temporary traffic control
7. The contractor shall be responsible for preparing traffic control plans for approval by DelDOT Traffic Safety section as described in the Structure Specific Notes. All maintenance of traffic plans and traffic control devices required shall be included in the lump sum bid price for Item No. 801500 – Maintenance of Traffic – All Inclusive.
8. Maintenance of traffic shall be as per the detour plans or traffic control application as provided for each bridge. All traffic control devices required shall be included in the lump sum bid price for Item No. 801500 – Maintenance of Traffic, All Inclusive.
9. American Traffic Safety Association (ATSSA) Certified Traffic Control Supervisor Requirement for the project:

()	THE CONTRACTOR SHALL NOT BE REQUIRED TO HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT.
(X)	THE CONTRACTOR SHALL HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT. THE CONTRACTOR'S GENERAL SUPERINTENDENT FOR THIS PROJECT OR ANOTHER ATSSA CERTIFIED MEMBER OF THE CONTRACTOR'S PROJECT STAFF MAY BE THE ATSSA SUPERVISOR IS INCIDENTAL TO ITEM 801500.
()	THE CONTRACTOR SHALL HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT. THE ATSSA SUPERVISOR'S SOLE JOB SHALL BE SUPERVISION OF THE INSTALLATION, OPERATION AND MAINTENANCE OF TRAFFIC CONTROL DEVICES FOR THIS PROJECT. THE CONTRACTOR'S GENERAL SUPERINTENDENT FOR THIS PROJECT SHALL NOT BE THE ATSSA SUPERVISOR. PAYMENT FOR ATSSA SUPERVISOR SHALL BE PAID FOR UNDER ITEM 801500.

10. All traffic control devices shall be in new or refurbished condition, shall be in compliance with the Traffic Control Manual and with the NCHRP Report 350 and/or MASH as defined in Section ‘A’ of the Traffic Control Manual, and shall be approved by the Engineer before installation. Traffic control devices shall be maintained in good condition for duration of use.
11. During non-construction hours, all construction equipment shall be removed from all shoulders and lanes. All equipment shall be stored in accordance with the Traffic Control Manual. All traffic control devices required for equipment storage shall be included in the lump sum bid price for Item No. 801500 – Maintenance of Traffic, All Inclusive.

12. All work shall be performed within the attached existing right-of-way unless otherwise noted. Right-of-way information and existing plans shall be available upon request at the DelDOT Administration Office.
13. No equipment is allowed in any waterway or wetland.
14. There are no environmental permits (including but not limited to COE, DNREC Subaqueous Lands and Wetlands, Coast Guard, New Castle, Kent, and Sussex County Floodplain), or environmental construction restrictions. As such, no Environmental Compliance sheet was prepared.
15. The Contractor may store the equipment needed for this project at a pre-approved area or in the nearest State of Delaware maintenance yard. The Contractor must remove equipment when the district deems it necessary. The contractor is to stay within the confines of the state right-of-way as indicated in the attached Right-of-Way maps. Areas within the state right-of-way limits in which the soil and vegetation have been damaged from equipment during this contract, shall be repaired with topsoil, seed and mulch in accordance with the requirements for Section 908 at the Contractor's own expense.
16. Containment systems are required for all abrasive blasting. The design of the containment system must be submitted and approved by the Department prior to any work being performed. The containment system and work plan shall be submitted to the railroad in accordance with items 801501 Amtrak and 801501 Norfolk Southern. The minimum temporary vertical clearance over the railroad measured from the bottom of the work platform or containment system shall not be less than 22'-0". The contractor shall ensure to take into account the sag of longitudinal cables supporting the containment.
17. All downspouts shall be vacuum power tool cleaned or abrasive blast cleaned, and where necessary, galvanized downspouts shall be painted with a moisture cure aluminum paint system. If the downspouts are non-galvanized, then they shall be painted with the regular urethane paint system used to paint the bridge as indicated in Item no. 616000. All galvanized utility or lighting conduits shall be brush painted with moisture cure aluminum paint after receiving an S.S.P.C. SP-7 (Brush off blast cleaning) finish. All non-galvanized utility or lighting conduits shall be brush painted with the regular urethane paint system after receiving an S.S.P.C. SP-6 (Commercial blast cleaning) finish. All steel weep hole pipes that protrude from the abutments and wingwalls shall be cleaned and painted with the regular urethane paint system (Payment under Item no. 616000). Lights and conduit that are attached to the bridge should be painted as noted above. The fences attached to the parapet of any of the bridges should not be painted.

If there are any dry standpipes, natural gas line conduits, or any plastic pipe conduits on the bridges, then they shall be left as is. Any natural gas lines found on Bridges shall be shielded during blasting operations. Payment for shielding shall be under Item no. 616000.
18. All bearings for these bridges shall be abrasive blast cleaned to an S.S.P.C. SP-10 finish. Care shall be taken when cleaning "frozen" bearings, because the abrasive blasting operation sometimes causes the bearings to "unfreeze". All pitted areas of the structural steel shall be brush painted along with spraying when applying every coat of paint of the three-coat system. Cleaning of bearing areas shall be included under Item no. 616000. After all the bearings have been painted, and after the paint has cured, and after all concrete has been sealed, the contractor shall coat all the bearings with a NLGI grade 2 grease either Mobil Centaur Moly grease, Shell Rhodina SDX 2 grease, or an approved equal. Bearings shall be coated from the interface between the masonry and the masonry plate to the top of the sole plate or bottom of the beam. Grease shall be black or clear in color. Payment shall be incidental to Item no. 616000.
19. Hazardous waste shall be removed immediately from the jobsite and disposed of at a licensed hazardous waste disposal facility. The waste shall be removed from the jobsite by a licensed hazardous waste hauling Contractor with the required permits and approvals by DNREC. All copies of hazardous waste manifests and tickets shall be submitted to the Department as per Item no. 616000.
20. The bidder will be required to provide a Warranty and Guarantee for all Paint Systems under this contract for a period of two (2) years as covered under Item no. 616000. The Warranty and Guarantee will not take effect until the date of final acceptance.
21. All concrete surfaces as directed in the Structure Specific Notes shall be prepared and sealed as indicated in Item no. 613001. All boundaries between sealed and unsealed concrete will be a straight horizontal or vertical line unless directed otherwise by the Engineer or Structure Specific Notes.
22. In regards to the air monitoring requirement in Item no. 616000-Cleaning and Painting Existing Steel; paint removal shall include all blasting and clean up activities.
23. Two Portable Changeable Message Signs shall be placed at each bridge location ten days prior to the start of construction to notify drivers of the lane/shoulder closure and impending construction activity. The message and location shall include the dates and

times of the lane closures and how long the closures will be necessary, message shall be approved by the Safety Officer. For locations that have parallel structures, a total of two Portable Changeable Message Signs shall be used for both bridges. Payment under Item no. 803001.

24. Unless otherwise noted on the plans, the Contractor shall, as part of his Project Schedule, submit to the Engineer an estimate of the monthly payments expected to be received on the contract. This will be referenced as the "Monthly Payment Chart".

A chart in Microsoft Excel, Microsoft Word, or hand written format will be acceptable for this purpose. The chart should include, as a minimum, columns for the month, year, and estimated monthly payments. The total of all estimated monthly payments should equal the awarded contract total bid price.

The Engineer may request an updated "Monthly Payment Chart" at his discretion, depending on the accuracy of the initial estimates and according to the overall needs of the Department.

The "Monthly Payment Chart" will not be considered a binding document by either the Contractor or the Department and is considered solely informational.

On projects requiring CPM Schedules, the Contractor may, but is not required to, "Cost Load" the CPM Schedule in order to generate the monthly payment estimates.

Costs to prepare and/or update the "Monthly Payment Chart" are addressed as follows:

- a. On Contracts requiring CPM Schedules and Updates, preparation of the initial chart shall be incidental to Item 763508. Updates shall be incidental to Item 763509
- b. On contracts not requiring CPM Schedules, the cost to prepare and update the "Monthly Payment Chart" shall be included in Item 763000, Initial Expense.

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STRUCTURE SPECIFIC NOTES

1-245

1. Bridge 1-245 carries Harmony Rd. (Road #355) over Amtrak near Newark. Its location is 39°41'24.75"N latitude, 75°41'13.33"W longitude.
2. The structural steel paint color shall be forest green (#24172) as per federal standard 595C. The color shall be submitted for approval.
3. Abutment seats and bearing pedestals, 6" down abutment breast walls, and 6" up abutment back walls shall be prepared and sealed with Epoxy Coating Sealer, Item no. 613000.
4. Remainder of Abutment back walls and breast walls and bridge railings shall be prepared and sealed with Silicone-Based Acrylic Concrete Sealer, Item no. 613001.
5. The concrete sealer color shall be white (#37722) as per federal standard 595C. The color shall be submitted for approval.
6. Lane and/or shoulder closures of Harmony Rd. shall be permitted using Typical Application 6 of the Traffic Control Manual as directed by the Engineer and/or the Safety Officer. The contractor must maintain one through lane in each direction at all times. Shoulder closures shall be permitted between the hours of 8:00pm and 6:00am on Harmony Rd.
7. Lane closures at Bridge 1-245 on Harmony Rd shall only occur during the periods shown in the table below. The Contractor shall strictly adhere to these time restrictions for lane closures. Any lane closures outside of the allowable hours shall require approval from DelDOT's Traffic Safety Section.

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ALLOWABLE LANE CLOSURES TIMES - Harmony Road (BR 1-245)

	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM
SUNDAY																								
MONDAY																								
TUESDAY																								
WEDNESDAY																								
THURSDAY																								
FRIDAY																								
SATURDAY																								

ONE THROUGH LANE AND/OR TURN LANE PERMITTED TO BE CLOSED
 NO TRAVEL OR TURN LANE CLOSURES PERMITTED

8. If sidewalk is closed, the contractor shall assign someone the responsibility to assist pedestrians through the project limits for safe passage as per Traffic Control Manual. Payment is included in Item # 801500 – Maintenance of Traffic, All Inclusive.
9. The contractor shall be responsible for coordinating all work and required clearances with AMTRAK Railroad in accordance with 801501– Maintenance of Railroad Traffic (AMTRAK). The contractor shall design, install, and maintain their scaffolding/containment in accordance with 801501– Maintenance of Railroad Traffic (AMTRAK).

1-567

1. Bridge 1-567 carries Edgemoor Rd. (Road #220) over Amtrak and Norfolk Southern near Edgemoor. Its location is 39°45'10.16"N latitude, 75°30'15.06"W longitude.
2. The structural steel paint color shall be reddish-brown (#10059) as per federal standard 595C. The color shall be submitted for approval.
3. All structural steel at the abutments, from beam end extending 10' into the span, shall be painted.
4. The abutment seats and bearing pedestals, 6" down abutment breast wall, and 6" up abutment back wall shall be prepared and sealed with Epoxy Protective Coating for Concrete as indicated in Item no. 613000.
5. The remainder of the abutment breast walls, back walls, interior face of outer concrete bridge parapets, and all surfaces of the north concrete traffic barrier shall be prepared and sealed as indicated in Item no. 613001. The limits for sealing the concrete parapets and traffic barrier is from the west (Gov. Printz Blvd) end to the end of the east approach slab or parapet/barrier end if within 15'.
6. The concrete sealer color shall be white (#37722) as per federal standard 595C. The color shall be submitted for approval.
7. Lane and/or shoulder closures of Edgemoor Rd. shall be permitted using Typical Applications 3A & Modified TA-23 of the Traffic Control Manual as directed by the Engineer and/or the Safety Officer. The contractor must maintain one through lane in each direction at all times.
8. Lane closures at Bridge 1-567 on Edgemoor Rd shall only occur during the periods shown in the table below. The Contractor shall strictly adhere to these time restrictions for lane closures. Any lane closures outside of the allowable hours shall require approval from DelDOT's Traffic Safety Section.

ALLOWABLE LANE CLOSURES TIMES - Edgemoor Road (BR 1-567)

	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM
SUNDAY																								
MONDAY																								
TUESDAY																								
WEDNESDAY																								
THURSDAY																								
FRIDAY																								
SATURDAY																								

 ONE THROUGH LANE AND/OR TURN LANE PERMITTED TO BE CLOSED
 NO TRAVEL OR TURN LANE CLOSURES PERMITTED

9. If sidewalk is closed, the contractor shall assign someone the responsibility to assist pedestrians through the project limits for safe passage as per Traffic Control Manual. Payment is included in Item # 801500 – Maintenance of Traffic, All Inclusive.
10. The contractor shall be responsible for coordinating all work and required clearances with Norfolk Southern Railroad in accordance with 801501– Maintenance of Railroad Traffic (Norfolk Southern). The contractor shall design, install, and maintain their scaffolding/containment in accordance with 801501– Maintenance of Railroad Traffic (Norfolk Southern).
11. The contractor shall be responsible for coordinating all work and required clearances with AMTRAK Railroad in accordance with 801501– Maintenance of Railroad Traffic (AMTRAK). The contractor shall design, install, and maintain their scaffolding/containment in accordance with 801501– Maintenance of Railroad Traffic (AMTRAK).

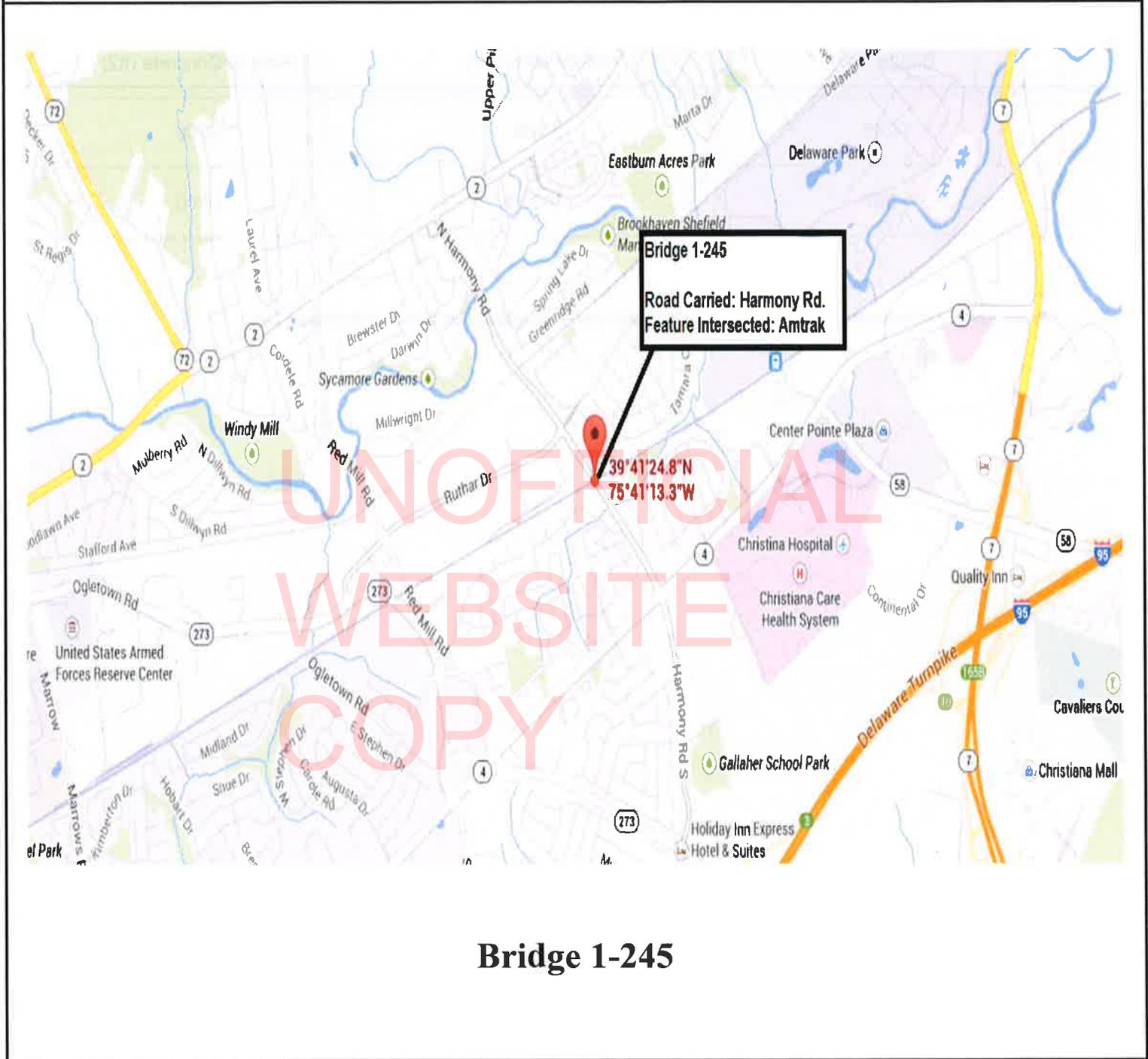
QUANTITY SHEET

Bridge No.	Area of Steel (ft2)	Area of Concrete (ft2)
1-245	15,000	5200
1-567	2400	5100

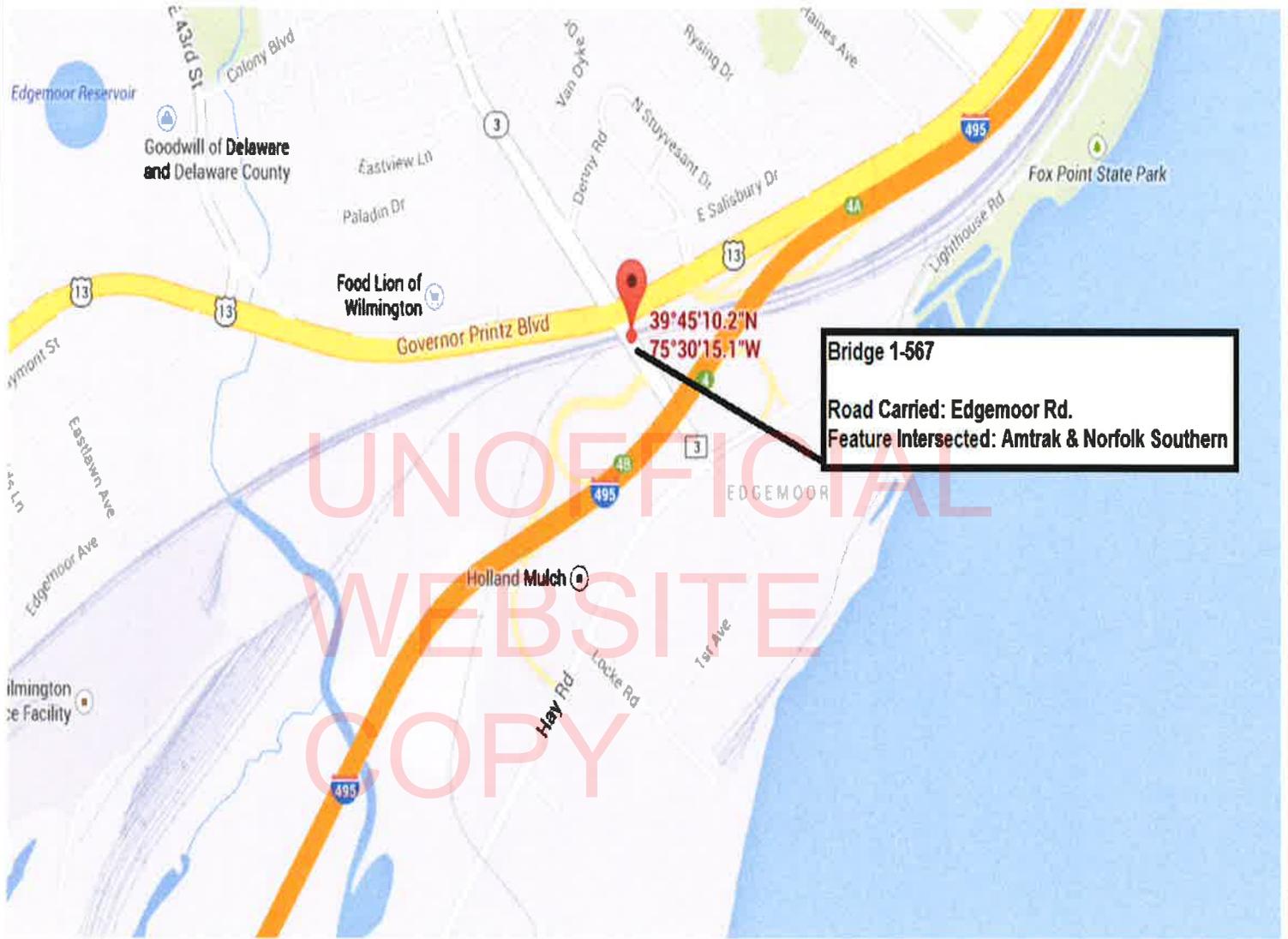
Areas given are estimates only; the contractor shall verify all quantities before submitting bids.

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Location Map



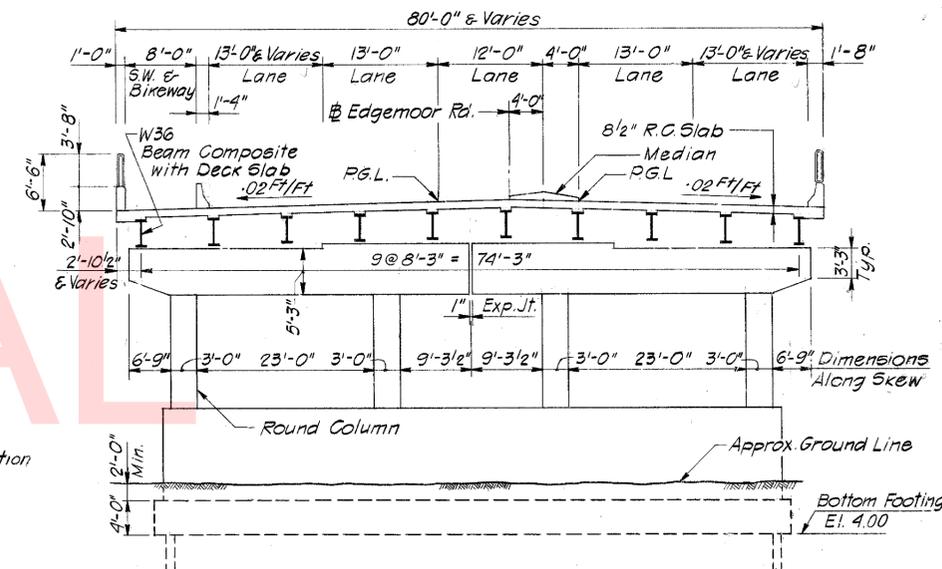
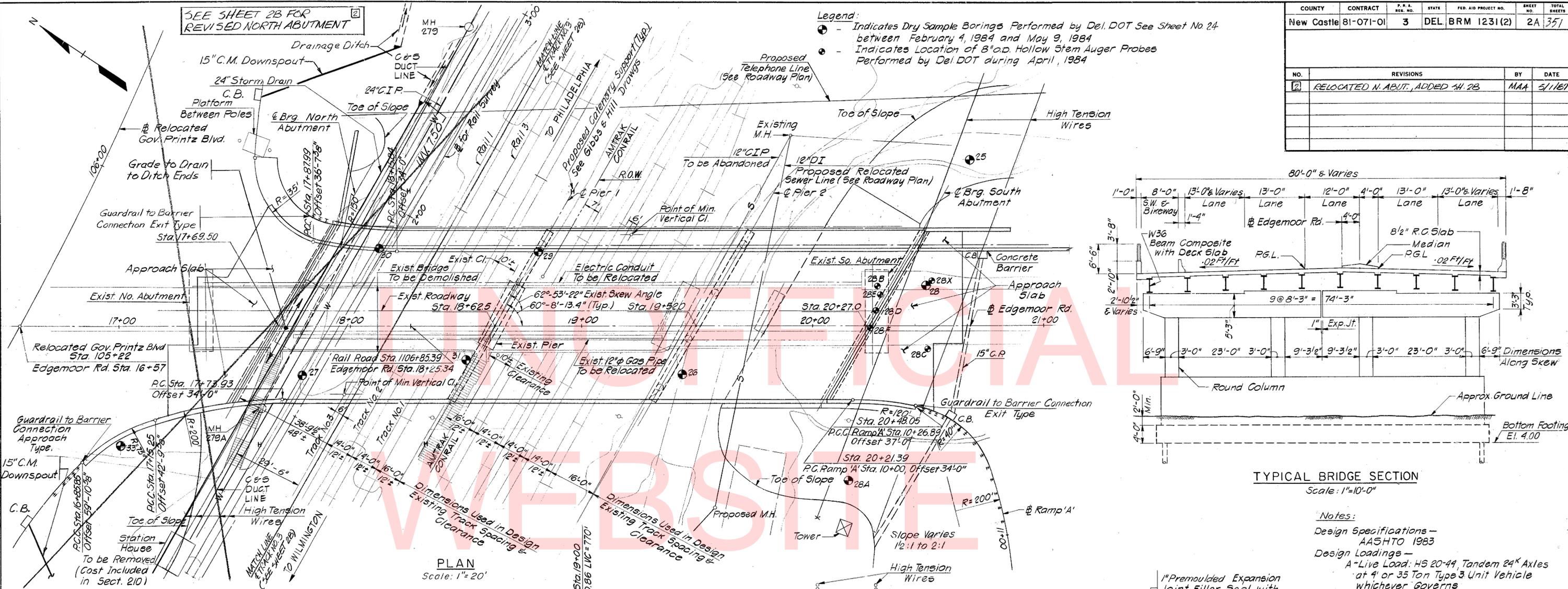
LOCATION MAP



Bridge 1-567

COUNTY	CONTRACT	P. R. A. REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
New Castle	81-071-01	3	DEL	BRM 1231(2)	2A	351

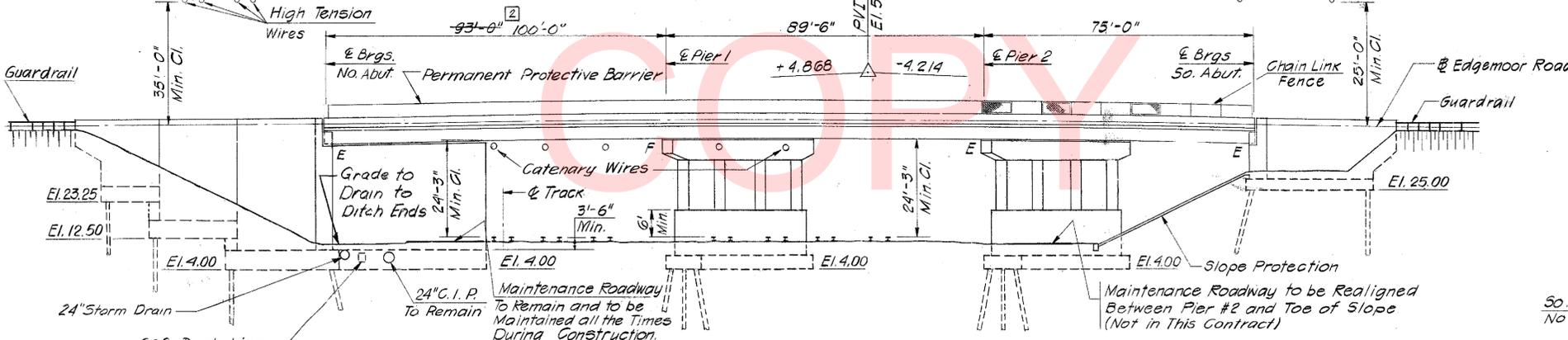
NO.	REVISIONS	BY	DATE
2	RELOCATED N. ABUT., ADDED 2/23	MAA	5/1/87



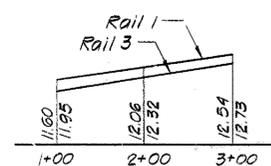
TYPICAL BRIDGE SECTION
Scale: 1"=10'-0"

Notes:
 Design Specifications - AASHTO 1983
 Design Loadings -
 A-Live Load: HS 20-44, Tandem 24' Axles at 4' or 35 Ton Type 3 Unit Vehicle whichever governs
 B-Dead Load: 25 psf. Provision for 2" Wearing Surface
 C-Live Load Deflection: Max 1/1000 of Span Length
 For General Notes See Sheet No. 1.

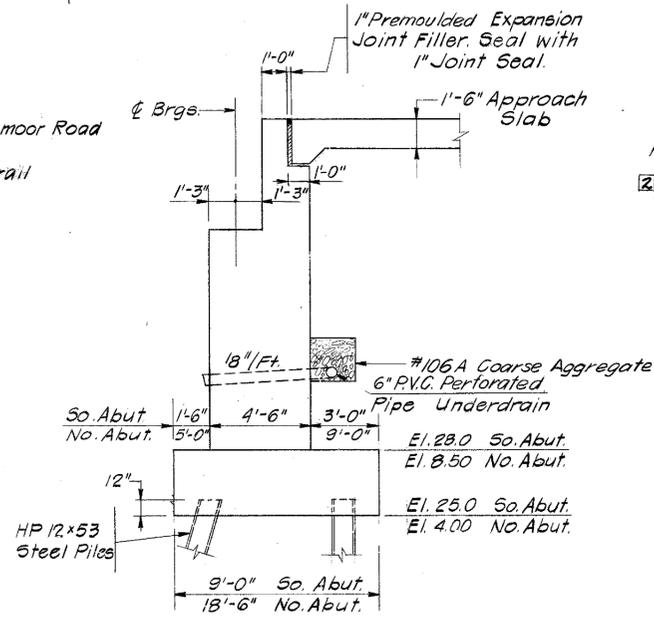
2 DESIGN LOADINGS -
 D-LIVE LOAD: 85 psf PEDESTRIAN LOADING, CANTILEVER SLAB @ SIDEWALK AND BIKEWAY.



ELEVATION
Scale: 1"=20'



RAIL PROFILES
Scale: Horiz. 1"=100'
Vert. 3/8"=1'



TYPICAL ABUTMENT SECTION
N.T.S.

DELAWARE
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**EDGEMOOR ROAD BRIDGE OVER
AMTRAK - CONRAIL**

GENERAL PLAN

D. R. P.	SCALE	APPROVED BY:
T. N. P.	As Shown	
C. R. P.		BRIDGE ENGINEER

STEINMAN BOYNTON
GRONQUIST & BIRDSALL
CONSULTING ENGINEERS
89 HUDSON STREET
HOBOKEN, N.J. 07030

Note: The Contractor Shall Arrange for a Representative of Amtrak to be Present during Excavation Adjacent of Amtrak C&S Line. (See Special Provision)