

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
FAP 687		MC DONOUGH	20	17
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

Contract Number: 68744

GENERAL NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.

The contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the contractor's responsibility to account for the condition of the beams when developing construction procedures.

See Section 584 of the Standard Specifications for Epoxy Grouting of Threaded Rods; Minimum embedment 9".

The cost of epoxy grouting threaded rods on the pier cap and beams shall be included with Furnishing and Erecting Structural Steel.

If the contractor's procedure for existing beam removal or placement of new beams involves placement of cranes or other heavy equipment on the bridge, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the new or existing beams. To distribute load to multiple beams and protect the existing surface, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams. If heavy equipment will be placed on new PPC deck beams, the following shall be done prior to placement of the timber mats: placement and tightening of transverse tie assemblies, grouting and curing the dowel rods 24 hours minimum and grouting and curing the shear keys.

The cost of any excavation required shall be included with Furnishing and Erecting Structural Steel.

The Contractor has the option of using used steel. See Special Provisions. Any damage done to the bridge during beam removal shall be repaired by the Contractor. Cost to be included in the cost of Removal of Existing PPC Deck Beams.

The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.

Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

Temporary concrete barrier shall only be anchored into the overlay and not into the PPC Deck Beams.

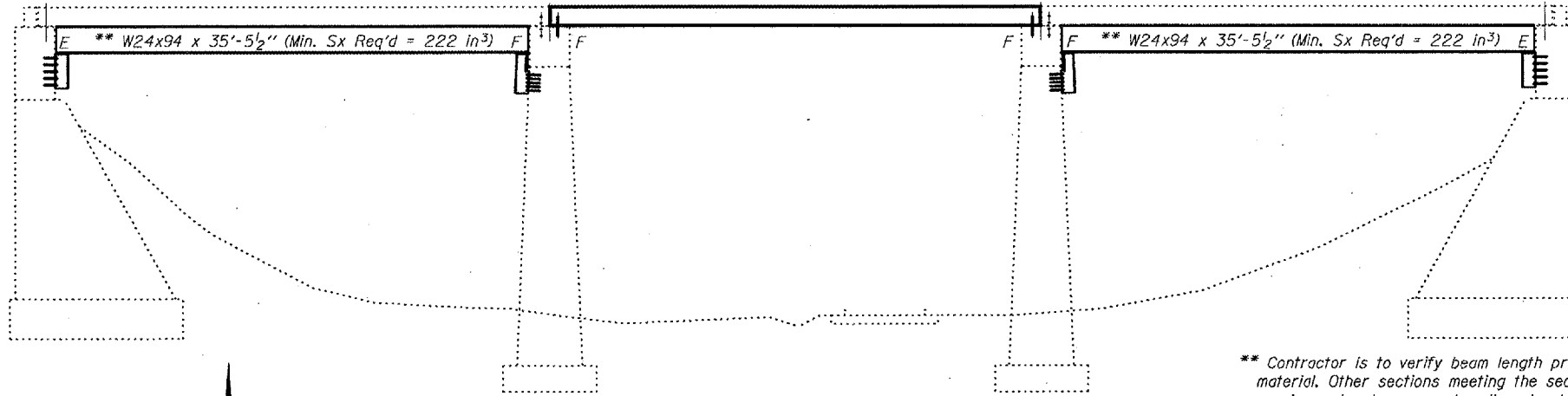
TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Removal of Existing PPC Deck Beams	Sq. Ft.	627
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	621
Hot-Mix Asphalt Surface Removal	Sq. Yd.	22.7
HMA Surface Course Mix "D" N50	Tons	8.6
Concrete Superstructure	Cu. Yd.	2.5
Reinforcement Bars Epoxy Coated	Pound	50
Protective Coat	Sq. Yd.	23
Furnishing and Erecting Structural Steel	Pound	26970
PC Mortar Fairing Course	Foot	258
Removing and Re-erecting Existing Railing	Foot	74
Asbestos Bearing Pad Removal	Each	18
Waterproofing Membrane System	Sq. Yd.	84

DESIGN STRESSES

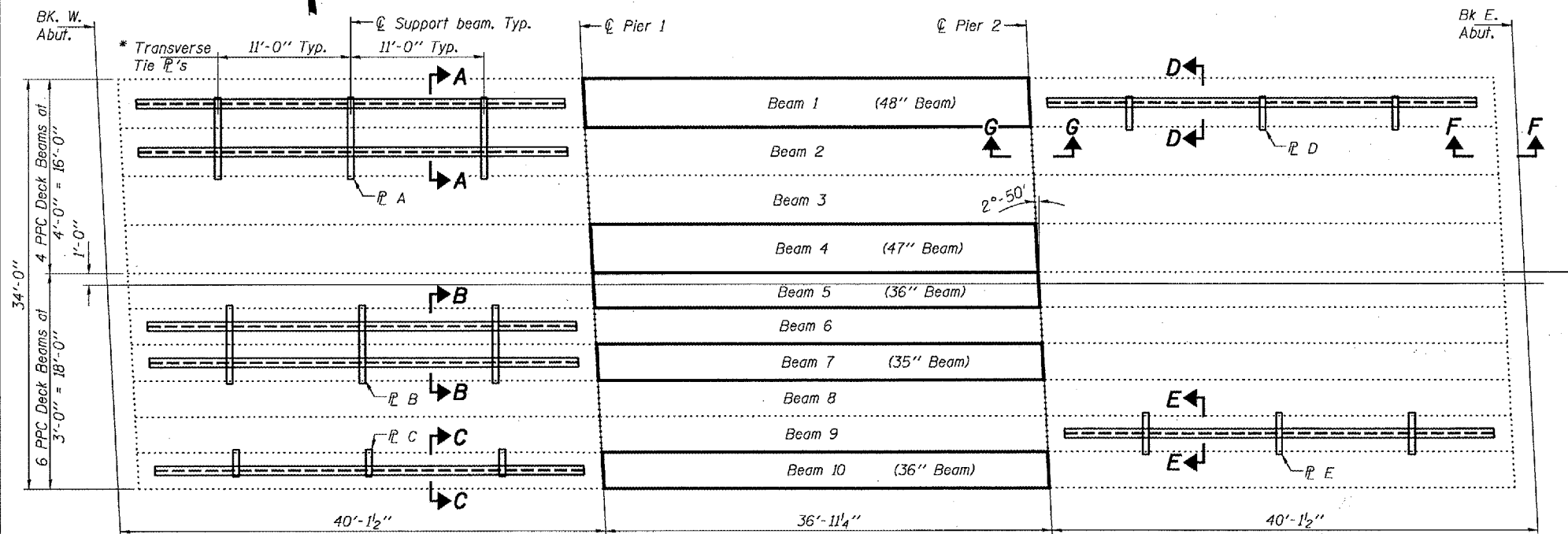
FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)

PRECAST PRESTRESSED UNITS
 $f'_c = 5,000$ psi
 $f'_{ci} = 4,000$ psi
 $f'_s = 270,000$ psi ($\frac{1}{2}$ " ϕ low lax strands)
 $f'_{si} = 201,960$ psi ($\frac{1}{2}$ " ϕ low lax strands)



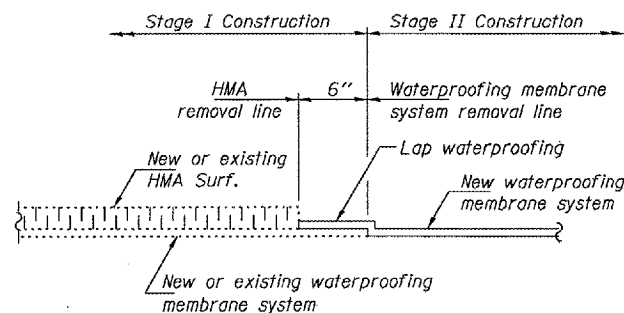
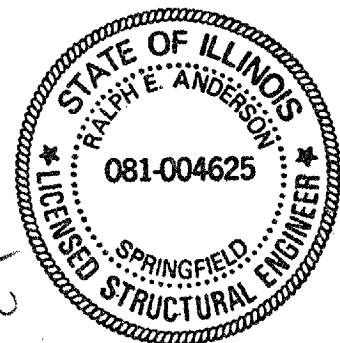
ELEVATION

** Contractor is to verify beam length prior to ordering material. Other sections meeting the section modulus requirements shown may be allowed subject to approval by the Bureau of Bridges and Structures, however, no additional payment will be allowed if the contractor chooses a heavier steel section than the one specified in the plans. Maximum girder depth = 27".

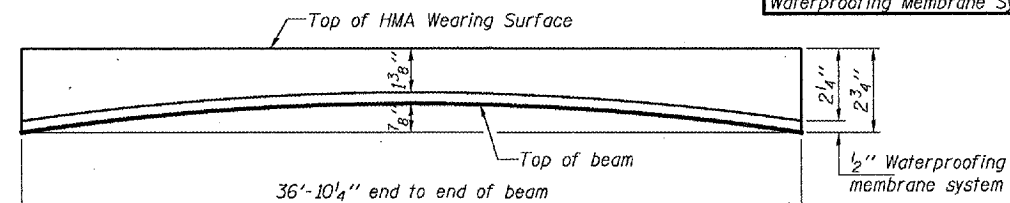


PLAN

* ϕ Transverse tie R's (3 per span). Place additional shims at midpoints between tie R's. Securely weld shims to top flange of support beam. Min. shim size is 6" x flange width.



WATERPROOFING TREATMENT



ANTICIPATED INITIAL CAMBER DIAGRAM

DESIGNED	Adrian Hallway
CHECKED	By [Signature]
DRAWN	balva
CHECKED	AH AJB

NOVEMBER 7, 2007
 EXAMINED [Signature]
 PASSED [Signature]
 ENGINEER OF STRUCTURAL SERVICES
 ENGINEER OF BRIDGES AND STRUCTURES

Expires: November 30, 2008

PLAN AND ELEVATION
FAP 687
MC DONOUGH COUNTY
SN 055-0017