B.M.: Chiseled "□" on top of SE Wingwall
Str. No. 001-0031 Sta. 132+83, Elev. 581.89

EXISTING STRUCTURE: SN 001-0031 Built in 1929, Re-Built in 1974. A single span 17" deep prestressed concrete deck beam superstructure, 28'-8 3/8" back to back abutments and 33'-0" clear roadway width with steel barrier rails.

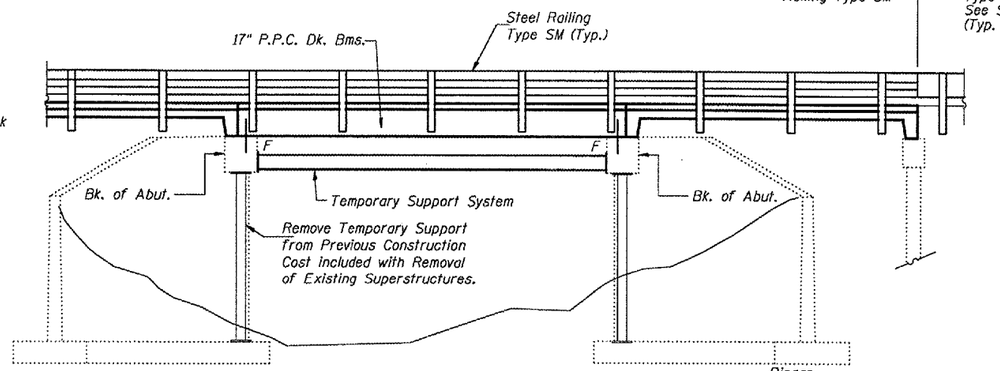
The existing superstructure is to be replaced with PPC Deck Beams and 5"(min.) Concrete Wearing Surface.

Traffic shall be maintained by utilizing Stage Construction.

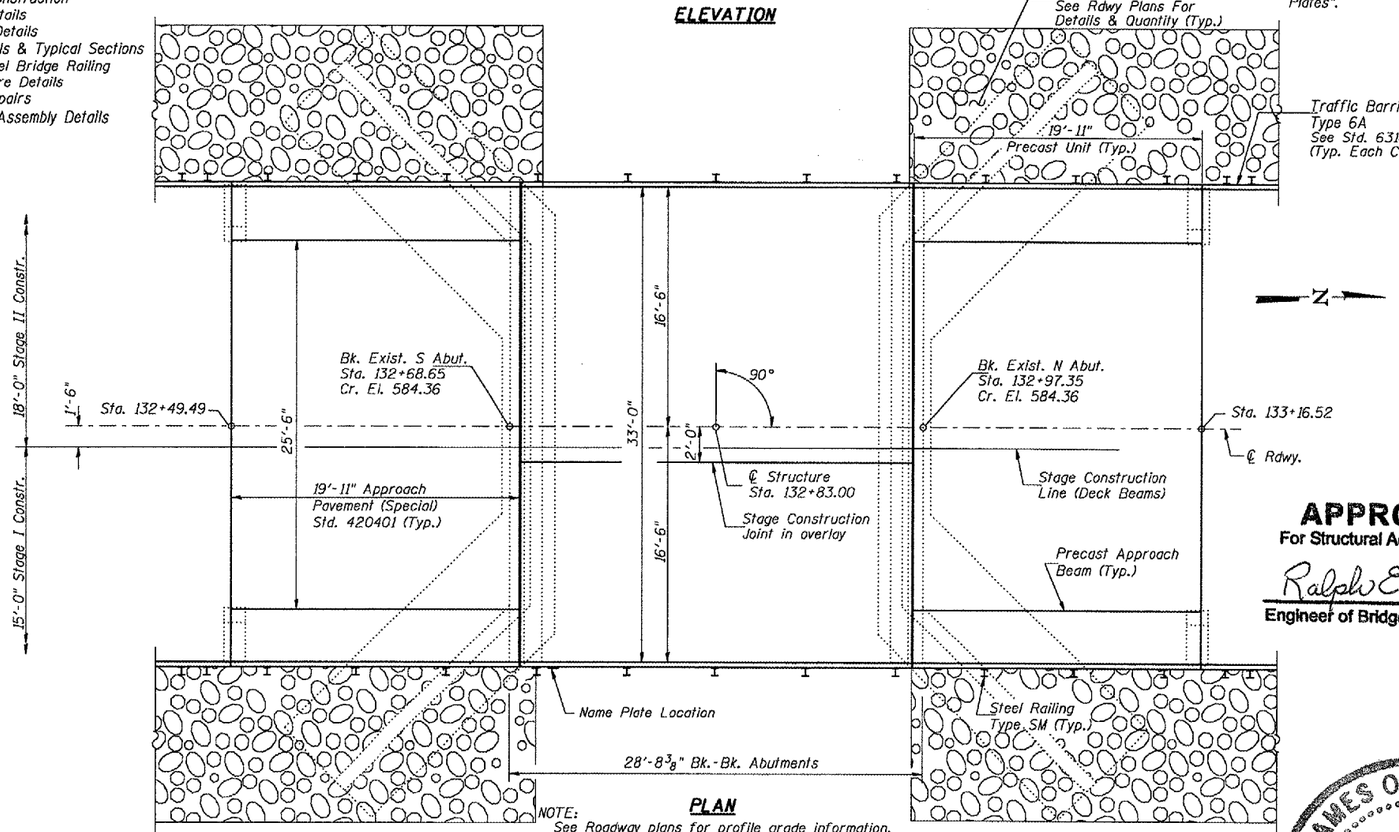
No Salvage

## INDEX TO SHEETS






ELEVATION




PLAN

NOTE: See Roadway plans for profile grade information.

STATION 132+83.00
REBUILT 200 BY
STATE OF ILLINOIS
FAU RT 7825
SEC (K-15D)BR
LOADING HS20
STRUCTURE NO. 001-0031

## NAME PLATE

See Std. 515001

Attach new name plate to back side of 8" rail element. Clean and re-locate existing name plate adjacent to new name plate. Cost included in the cost of "Name Plates".

## DESIGN STRESSES

### FIELD UNITS

f'c = 3,500 p.s.i.
f'c = 5,000 p.s.i. (Concrete Wearing Surface)
fy = 60,000 p.s.i. (Reinforcement)

### PRECAST PRESTRESSED UNITS

f'c = 5,000 p.s.i.
f'ci = 4,000 p.s.i.
f's = 270,000 p.s.i. (½" ϕ low relaxation strands)
f'si = 201,960 p.s.i. (½" ϕ low relaxation strands)

### PRECAST NON-PRESTRESSED UNITS

f'c = 4,500 p.s.i.

## LOADING HS20-44

Allow 50#/sq. ft. future wearing surface.

## DESIGN SPECIFICATIONS

2002 AASHTO

| | |
|---|---|
| DESIGNED | BAN |
| CHECKED | JDH |
| DRAWN | TC |
| CHECKED | BAN |

2447-16001

APPROVED
For Structural Adequacy Only
Ralph E Anderson
Engineer of Bridges & Structures

JAMES O. HAMILTON
081-003688
LICENSED STRUCTURAL ENGINEER OF JACKSONVILLE
ILLINOIS
James O. Hamilton
6/26/2007
Lic. Expires 11/30/2008

| ROUTE NO. | SEC | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| FAU 7825 | * | ADAMS | 31 | 16 |
| FED. ROAD DIST. NO. 8 | ILLINOIS | PROJECT | | |

SHEET NO. 1 OF 10 SHEETS

* (K-15D)BR

CONTRACT NO. 72A36

## GENERAL NOTES

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

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.

1 All construction joints shall be bonded.
~~No in-stream work will be allowed on this project.~~

The cut strands at each beam end shall be given two coats of zinc dust spray or paint meeting the requirements of ASTM A780. The zinc dust spray or paint shall be applied before corrosion appears and allowed to dry according to the manufacturer's specifications prior to another coat of zinc. A concrete sealer meeting the requirements of Section 587 of the standard Specifications shall be applied to the exterior face and 9" in on the underside of the fascia beams. The sealer shall be applied after visible crack growth has subsided. This work shall be performed by the producer and included with the cost of the beam.

The minimum thickness of the Concrete overlay shall be 5" and varies as required to adjust for new profile grade and beam camber.

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 for removal and replacement of the superstructure.

Repair of the abutments shall be completed prior to placement of the new deck beams.

Temporary supports under east end of caps shall be removed after Stage I Superstructure Removal.

If the Contractor's procedure for existing beam removal or placement of the new beams involves placement of cranes or other heavy equipment on the new beams, 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 beams. To distribute load to multiple beams and protect the concrete, 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. Prior to placement of the timber mats, the following shall be done: placement and tightening of transverse tie assemblies, grouting and curing the dowel rods 24 hours minimum and grouting and curing the shear keys.

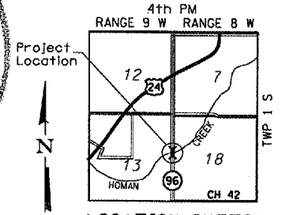
Reinforcement bars designated (E) shall be epoxy coated.

Temporary support system shall be in place prior to superstructure removal.

Protective Coat shall be applied to the top and edges of the concrete wearing surface.

## TOTAL BILL OF MATERIAL

| Item | Unit | Super | Sub. | Total |
|---|---|---|---|---|
| Removal of Existing Superstructures | Each | - | - | 1 |
| Precast Prestressed Concrete Deck Beams (17" Depth) | Sq. Ft. | 895 | - | 895 |
| Removal of Existing Precast Concrete Units | Sq. Ft. | 299 | - | 299 |
| Precast Concrete Bridge Slab | Sq. Ft. | 299 | - | 299 |
| Protective Coat | Sq. Yd. | 135 | - | 135 |
| Reinforcement Bars, Epoxy Coated | Pound | 1,690 | 180 | 1,870 |
| Steel Railing, Type SM | Foot | 134 | - | 134 |
| Concrete Wearing Surface, 5" | Sq. Yd. | 133 | - | 133 |
| Bridge Deck Grooving | Sq. Yd. | 93 | - | 93 |
| Structural Repair of Concrete (Depth equal to or less than 5") | Sq. Ft. | - | 209 | 209 |
| Name Plates | Each | - | - | 1 |
| Bar Splicers | Each | 112 | - | 112 |
| Temporary Support System | L. Sum | - | 1 | 1 |




LOCATION SKETCH

# GENERAL PLAN
# ILLINOIS ROUTE 96 OVER HOMAN CREEK
# F.A.U. RT. 7825 SEC. (K-15D)BR
# ADAMS COUNTY
# STATION 132+83.00
# STR. NO. 001-0031

HUTCHISON ENGINEERING, INC.
JACKSONVILLE, ILLINOIS
Rev: Date:

Rev. 9-4-07