

Bench Mark: B.M. 4701-1 Chiseled square on NW corner wingwall SN 070-0035, 23' Lt. Sta. 258+56.14, Elev. 675.21

Existing Structure: The existing structure, SN 070-0035, is a single span precast prestressed deck beam bridge on closed abutments. Out-to-out bridge width is 41'-0" and back-to-back abutment length is 34'-0". It was originally constructed in 1977 as FA RTE 175, Sec. 119BR at Sta. 258+73.50. The existing superstructure is to be removed and replaced as noted.

Traffic is to be detoured.

No salvage

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 749	119(BR-2 & BR-3)	MOULTRIE	37	16
FED. ROAD DIST. NO. 5		ILLINOIS PROJECT		

Sheet 1 of 8 CONTRACT #70347

GENERAL NOTES

Reinforcement bars shall conform to the requirements of AASHTO M31 or M322 Grade 60. Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field 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 the scope of work. However, the Contractor will be paid for the quantity actually furnished at the unit price for the work. All construction joints shall be bonded. The minimum thickness of the Concrete overlay shall be 5" and varies as required to adjust for the new profile grade and beam camber. The cut strands at each beam end shall be given two coats of zinc dust spray or paint meeting the requirements of ASTM A 780. 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. No instream work will be allowed on this project. 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.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructures No. 1	Each	1		1
Concrete Removal	Cu. Yd.		1.0	1.0
Concrete Structures	Cu. Yd.		1.0	1.0
Bridge Deck Grooving	Sq. Yd.	150		150
Protective Coat	Sq. Yd.	157		157
Concrete Wearing Surface, 5"	Sq. Yd.	157		157
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	1415		1415
Reinforcement Bars, Epoxy Coated	Pound	2000	260	2260
Steel Bridge Rail, Type SM	Foot	69		69
Name Plates	Each	1		1

DESIGN STRESSES (NEW)

FIELD UNITS

$f_c = 5,000$ p.s.i. (Concrete Wearing Surface)

$f_c = 3,500$ p.s.i.

$f_y = 60,000$ p.s.i. (Reinf. Bars)

PRECAST PRESTRESSED UNITS

$f'_c = 5,000$ p.s.i.

$f_{ci} = 4,000$ p.s.i.

$f_s = 270,000$ p.s.i. ($1/2"$ ϕ low relax strands)

$f_{si} = 201,960$ p.s.i. ($1/2"$ ϕ low relax strands)

STATION 258+73.50
REBUILT 200 BY
STATE OF ILLINOIS
F.A.P. RT. 749
SEC. 119(BR-2 & BR-3)
LOADING HS20
STR. NO. 070-0035

NAME PLATE

See Std. 515001

Existing Name Plate shall be cleaned and relocated adjacent to new Name Plate. Cost included with Name Plates.

DESIGN SPECIFICATIONS

2002 AASHTO

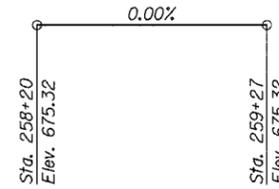
LOADING HS20-44

No future wearing surface is allowed.

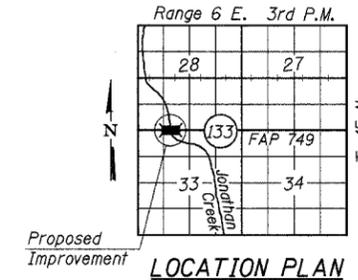


GENERAL PLAN & ELEVATION
ILLINOIS ROUTE 133 OVER
JONATHAN CREEK
F.A.P. ROUTE 749 - SEC. 119(BR-2 & BR-3)
MOULTRIE COUNTY
STATION 258+73.50
STRUCTURE NO. 070-0035

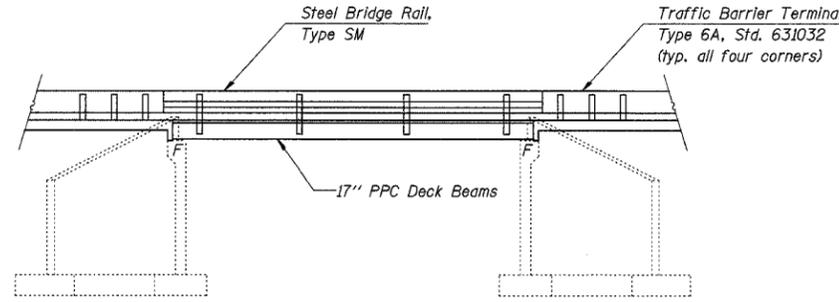
CUMMINS ENGINEERING CORPORATION
JOB #: 2114.4
FILE: 21144GPE
DATE: 10/12/05



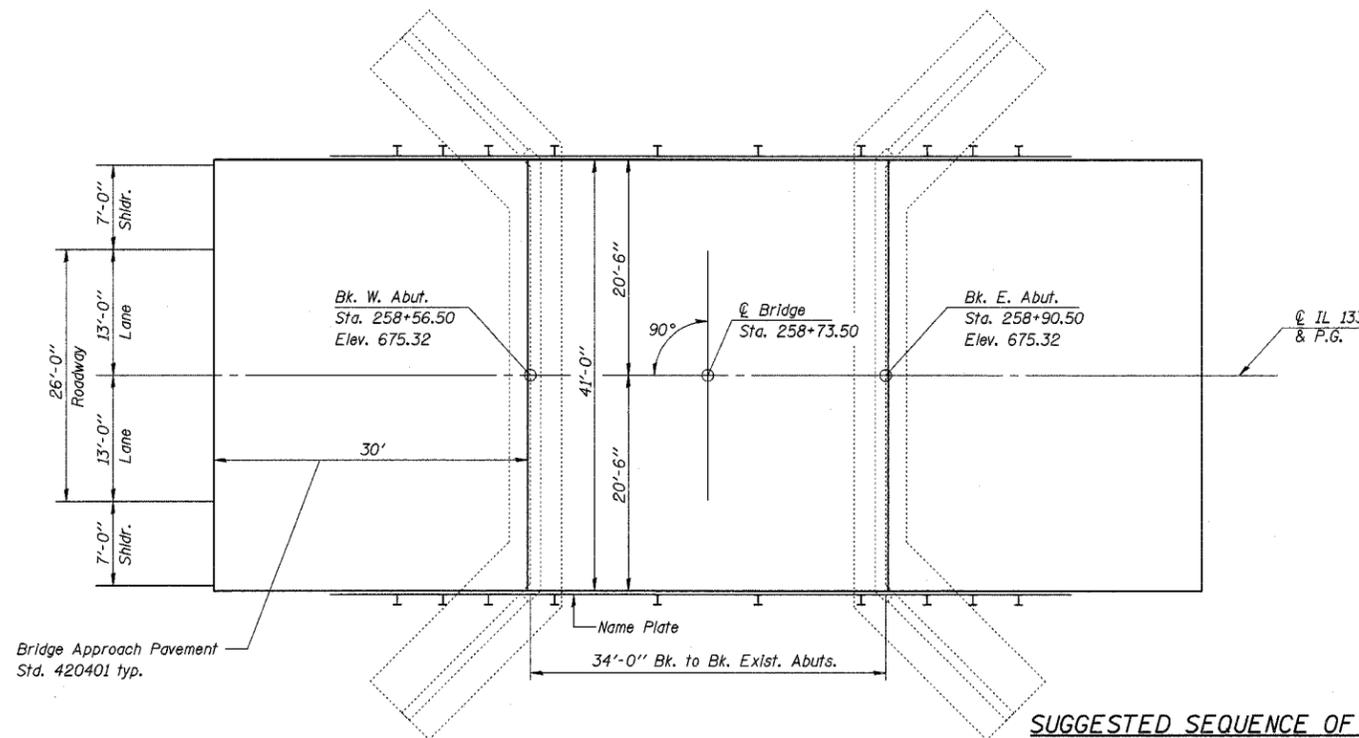
PROFILE GRADE



LOCATION PLAN



ELEVATION



PLAN

SUGGESTED SEQUENCE OF CONSTRUCTION

The existing closed abutments are braced by the superstructure. To ensure stability of the abutments, the Contractor shall remove and replace the existing superstructure as follows:

Existing Beam Removal and Proposed Beam Erection Sequence:

- Starting at either edge of deck, remove three (3) adjacent beams.
- Install two (2) new beams and dowel into position.
- Continue alternating removal and replacement of two (2) beams at a time until all existing beams have been removed and all new beams have been installed.

In lieu of the noted beam removal and replacement sequence, the Contractor has the option of providing external bracing to the abutments or completely removing the soil behind the abutments prior to removal of the superstructure. If either option is used, a design submittal including plan details and calculations sealed by an Illinois Licensed Structural Engineer will be required for review and acceptance by the Engineer.

EXISTING WATERWAY INFORMATION

Drainage Area	4590 acres
Design Discharge (50 year)	1170 c.f.s.
Required Opening (below 50 year H.W.E.)	260 sq. ft.
Existing Opening (below 50 year H.W.E.)	260 sq. ft.
Created Head for Design Flood	0.28'
100 year Discharge	1460 c.f.s.
Created Head for 100 year Flood	0.35'
100 year H.W. Elevation	672.8

Note: Information per original 1977 construction plans.

DESIGNED	T.S.H.
CHECKED	R.V.B.
DRAWN	T.S.H.
CHECKED	M.D.C.