ESCA CONSULTANTS, INC.
CIVIL & STRUCTURAL ENGINEERS
GENERAL, TRANSPORTATION

CONTRACT NO. 78031

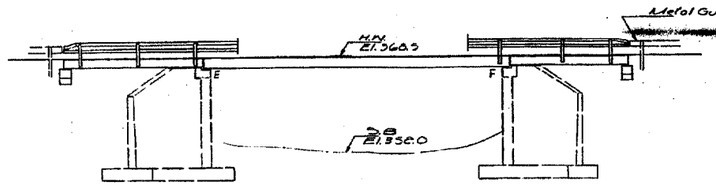
FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	105BR-1	SALINE	118	41
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Dia. Spike & Washer in Prod. 28" Twin Oak @ 7.01, 30 @ 1542+88 El. 379.10
Exist. Structure - Built in 1938 as 30° Dia. 143, Sec. 1050 30 @ 1542+20
Superstructure - 12 Deck Girder - Substructure - 12 Closed Abuts.
Superstructure to be removed, abuts. widened and new abuts constructed utilizing Stage Construction. No Salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

*105(B-DR, B-DR-1, B-DR-2, B-DR-3, B-DR-4)

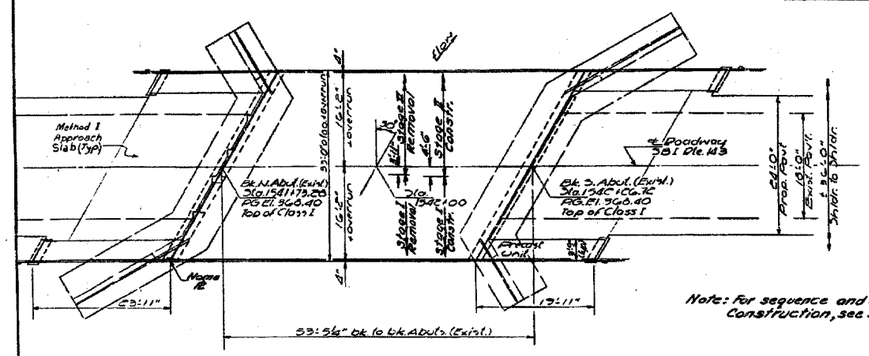
DISTRICT NO.	COUNTY	SECTION	SHEET NO.	TOTAL SHEETS
9	SALINE	65	10	SHEET NO. 1 OF 9 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



ELEVATION

STATION 1542+00
REBUILT IN BY
STATE OF ILLINOIS
FA RTE 126 SPUR SEC. 105B-DR
FA PROJ. BR-373(10)
LOADING HS20

NAME PLATE
See Std. 2113



PLAN

Note: For sequence and details of Stage Construction, see sheet # 4

GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.
It shall be the responsibility of the Contractor to [illegible] conditions prior to construction and ordering of materials.
All structural steel shall be shop painted with two coats of basic lead silico chromate paint.
Expansion bolts shall consist of self drilling expansion anchors and ¾"ø x 12" hooked bolts.
Shoulder transition to wingwall shall be shaped with broken concrete, cost incidental.
Hooked bolts shall extend a minimum of 12" into new concrete except as otherwise shown.
The top surface of the beams shall be finished in accordance with Article 503.06 of the Standard Specifications except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners.
Expansion guards which are not cast in the precast unit shall be fabricated and erected in accordance with Article 503.07(f) in the Standard Specifications and are included in the quantity of structural steel.

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Concrete Removal	Cu.Yds.		10	10
Expansion Bolts (¾" ø)	Ea.		40	40
Class X Concrete	Cu.Yds.	21	20.1	23.8
Precast Concrete Bridge Slab	Sq.Ft.	330		330
Precast Prestr. Conc. Deck Bm. (21")	Sq.Ft.	1738		1738
Reinforcement Bars	Lbs.	120	2810	2930
Structural Steel	Lbs.	2670		2670
Removal of Existing Superstructure	Ea.	1		1
Steel Railing Type N	Lin.Ft.	195		195
* Waterproofing Membrane System	Sq.Yds.	204		204
* Bit. Concrete Surface Course Cl. 1	Tons	28		28
* Temporary Guardrail	Lin.Ft.	675		675
Name Plates	Ea.	1		1
Portland Mort. Sealer (1¼")	Lin.Ft.	38		38
* Portland Cement Patching Course	Lin.Ft.	527		527

* See Special Provisions

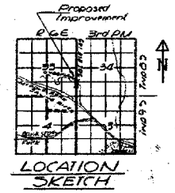
DESIGN STRESSES

FIELD UNITS	PRECAST UNITS
f'c = 1000 psi	f'c = 4500 psi
fs = 20000 psi; Reinf	fc = 1800 psi
n = 10	fs = 20,000 psi
	n = 8

PRECAST PRESTRESSED UNITS
f'c = 5000 psi
f'ci = 4000 psi
fs = 270,000 psi - ½" Strands
fsi = 188,700 ½" Strands
All on 25 Sq. Ft. for future W.S.

WATERWAY INFORMATION
Drainage Area ---------- 103 Sq. Miles
Character -- Rolling, clay, wooded, cultivated
Present Opening ---------- 2220 Sq. Ft.
Required Opening ---------- 2220 Sq. Ft.
Proposed Opening -
Overflow Structure @ Sta. 1542+00 -- 1773 Sq. Ft.
Saline River @ Sta. 1542+70 -- 1483 Sq. Ft.
Part of overflow Structure @ Sta. 1542+00 -- 362 Sq. Ft.
12'-11" x 11'-0" Box Culvert ---------- 198 Sq. Ft.
Q(50) = 8550 cfs

LOADING HS20-44



LOCATION SKETCH

GENERAL PLAN & ELEVATION
FA Route 126 Spur OVER
MIDDLE FORK SALINE RIVER
OVERFLOW
FA ROUTE 126 SPUR
SECTION 105BDR
SALINE COUNTY
STATION 1542+00

DESIGNED	John A. Morris	
CHECKED	Pankuk S. Lee	
DRAWN	JAM	JOS
CHECKED	PSL	JAM

EXAMINED
PASSED
APPROVED
DIRECTOR OF HIGHWAYS

Rev. 2-20-71 STD ¢ E.H.

Revised 7-19-78

16.30

ESCA CONSULTANTS, INC.

DESIGNED BY:	DAJ	02/08
DRAWN BY:	JPC	02/08
CHECKED BY:	MTD	02/08
APPROVED BY:	RDP	04/08

FOR INFORMATION ONLY

EXISTING STRUCTURE PLANS
FAP RTE 869 (IL 34)
SECTION 105BR-1
SALINE COUNTY