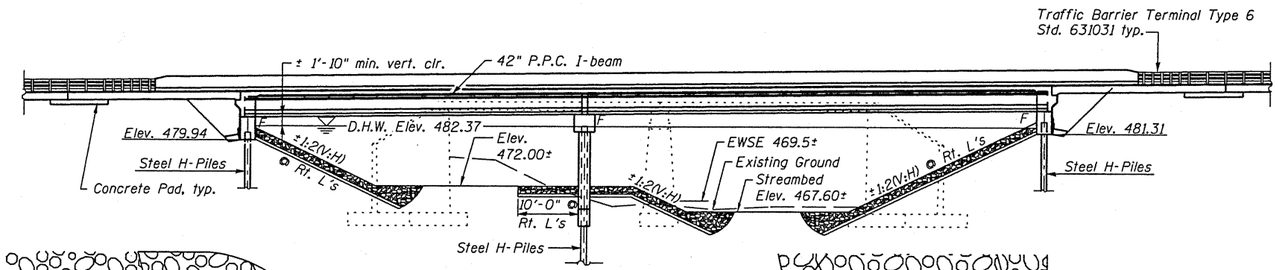
Bench Mark: #501 Square Cut in NW Abutment S.N. 086-0012 Station 131+02.5, 16.8' Rt., Elevation 484.00

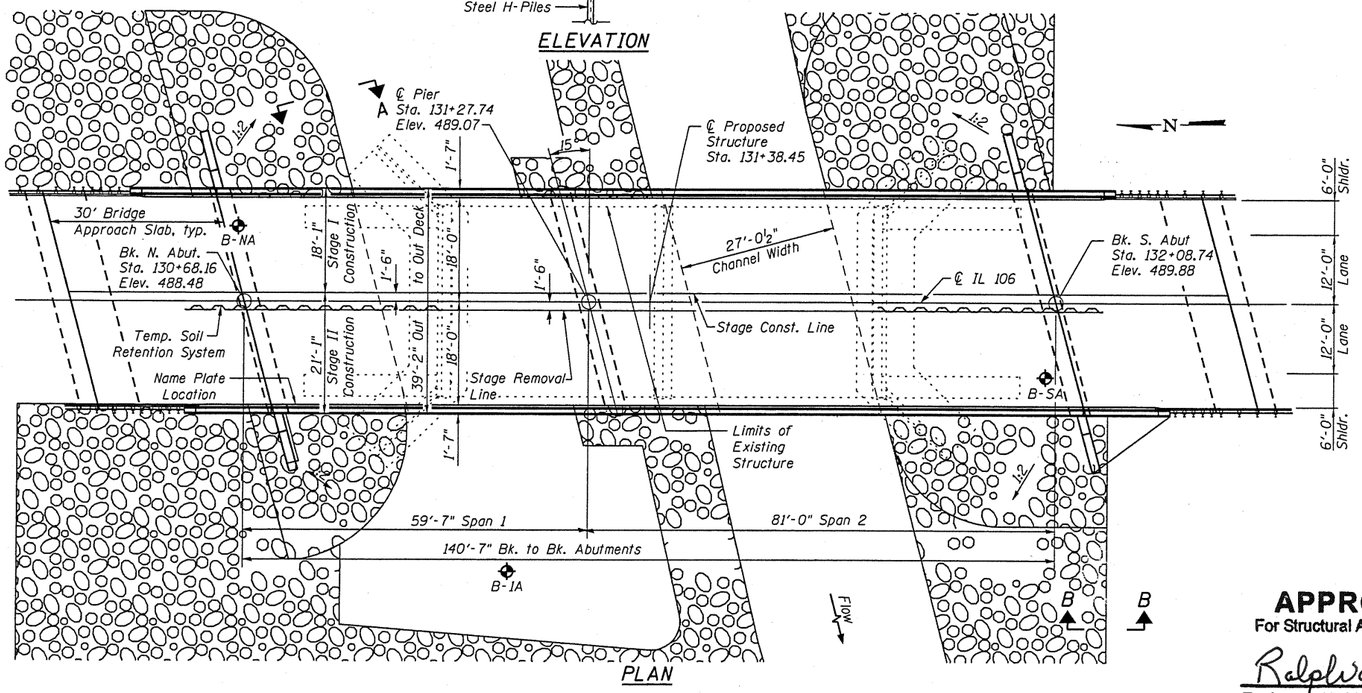
Existing Structure: S.N. 086-0012 built in 1934 as FA-566 Section 1-BR-1 at Sta. 131+42. 2 RCDG spans at 38'-1" each with a 24'-0" roadway, closed abutments, and a solid pier. In 1979 the bridge was widened with 2 simple span PPC deck beams with pier and abutment cap modifications. The substructure consists of closed abutments on spread footings and a solid pier on a spread footing. The Bk. To Bk. dimension measures 76'-1 5/8" while the O.-O. width measures 33'-0". The deck has a 5" concrete overlay that was placed in 2001. The structure is to be replaced using stage construction.

Salvage existing Temporary Steel Support System.

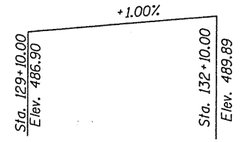
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION

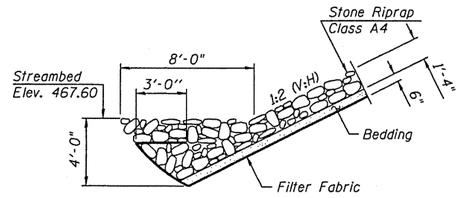


PLAN

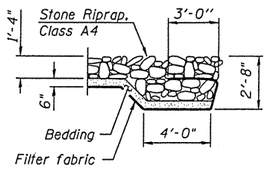


PROFILE GRADE

(Along ℄ Roadway)



SECTION A-A



SECTION B-B

21-Aug-2010

Expires 30-Nov-2010

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications
with 2008 and 2009 Interims

LOADING HL-93

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

PRECAST PRESTRESSED UNITS

f'c = 7,000 psi
f'ci = 6,000 psi
fs = 270,000 psi (½" ϕ low lax strands)
fsi = 201,960 psi (½" ϕ low lax strands)

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

SEISMIC DATA

Seismic Performance Zone (SPZ) =1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) =0.150g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) =0.263g
Soil Site Class =D

APPROVED
For Structural Adequacy Only

Ralph W Anderson (RWD)
Engineer of Bridges & Structures

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	N. Abut.	Pier 1	S. Abut.
	479.94	454.9	481.31

WATERWAY INFORMATION

Drainage Area = 24 Sq. Mi. Low Grade Elev. 486.80 ℄ Sta. 130+00

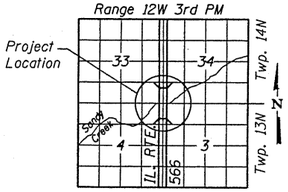
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	3652	690	1123	481.1	1.2	0.4	482.3	481.6
Design	50	5858	775	1278	482.4	3.2	1.0	485.5	483.4
Base	100	6859	802	1328	482.8	3.2	1.3	486.0	484.0
Overtopping	-	-	-	-	-	-	-	-	-
Max. Calc.	500	9386	869	1450	483.7	3.1	1.5	486.8	485.3

10 Yr. Velocity through Existing Bridge = 6.53 fps
10 Yr. Velocity through Proposed Bridge = 2.99 fps

STATION 131+38.45
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. RT. 566
SEC. 1(B-2)
LOADING HL93
STRUCTURE NO. 086-0505

NAME PLATE

See Std. 515001



LOCATION SKETCH

GENERAL PLAN & ELEVATION
F.A.P. 566 (IL 106) OVER
SANDY CREEK
SECTION 1 (B-2)
SCOTT COUNTY
STRUCTURE NO. 086-0505
STATION 131+38.45

DESIGNED	C.M.W.				
CHECKED	J.S.A.				
DRAWN	T.J.W.				
CHECKED	C.M.W.				

HOELSCHER ENGINEERING
Fairview Heights, IL
Springfield, IL
Champaign, IL

SHEET NO. 1 OF 26 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	566	1(B-2)	SCOTT	77	28
			CONTRACT NO. 72B91		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

HE Project Number 2008-074-02 File Name: 0860505-72B91.dgn