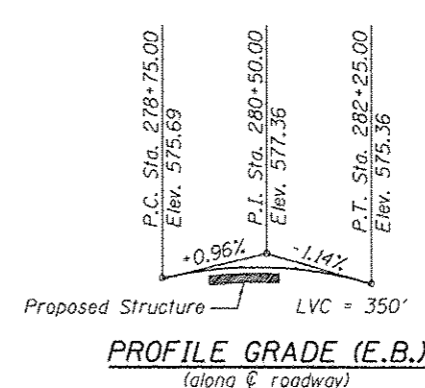
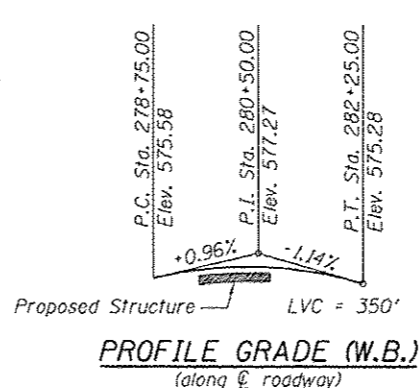
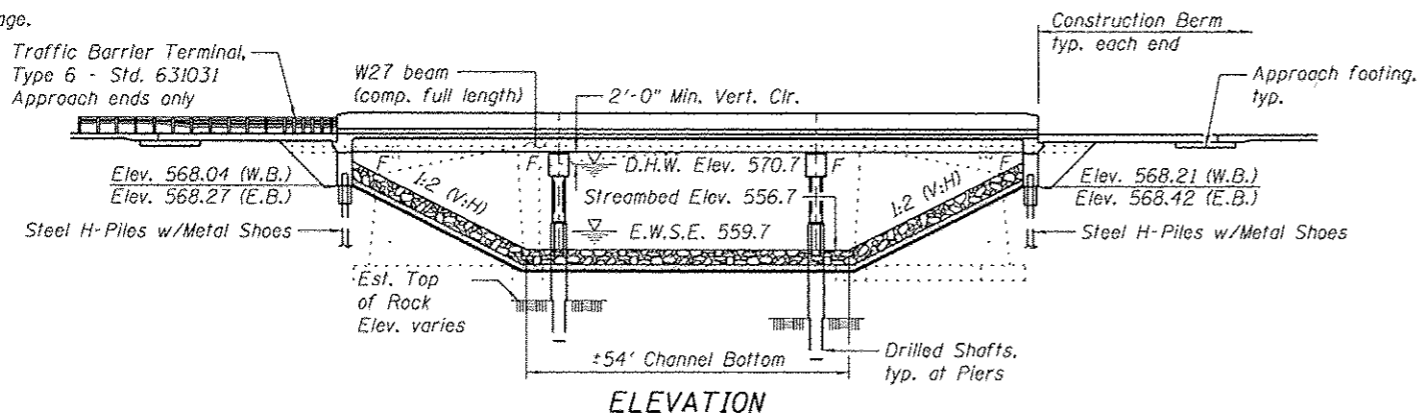


Bench Mark: Chiseled square in handrail of the S.E. corner of existing E.B. bridge, S.N. 081-0005 Elev: 577.55

Existing Structure: S.N. 081-0005 (E.B.) & S.N. 081-0006 (W.B.), originally built in 1961, as F.A.I. 6, Section 81-3B, are one span reinforced concrete rigid frame structures. The bridge rails were retrofitted in 1985, and there were deck repairs completed in 1994. The structures are supported on closed abutments founded on steel H-piles and spread footings that bear on rock. The back to back abutment length is 57'-0" and the out to out bridge width is 43'-6" for each structure. One lane of traffic on each structure is to be maintained using staged construction.

No Salvage.



**APPROVED**  
For Structural Adequacy Only

*D. Carl Pappas, P.E.*  
Engineer of Bridges & Structures

**LOADING HL-93**  
Allow 50#/sq. ft. for future wearing surface.

**DESIGN SPECIFICATIONS**  
AASHTO LRFD Bridge Design Specifications,  
5th Edition with 2010 Interim Revisions

**DESIGN STRESSES**

**FIELD UNITS**  
f'c = 3,500 psi  
fy = 60,000 psi (Reinforcement)  
fy = 50,000 psi (M270 Grade 50)

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec. (S<sub>D1</sub>) = 0.060g  
Design Spectral Acceleration at 0.2 sec. (S<sub>D5</sub>) = 0.096g  
Soil Site Class = C



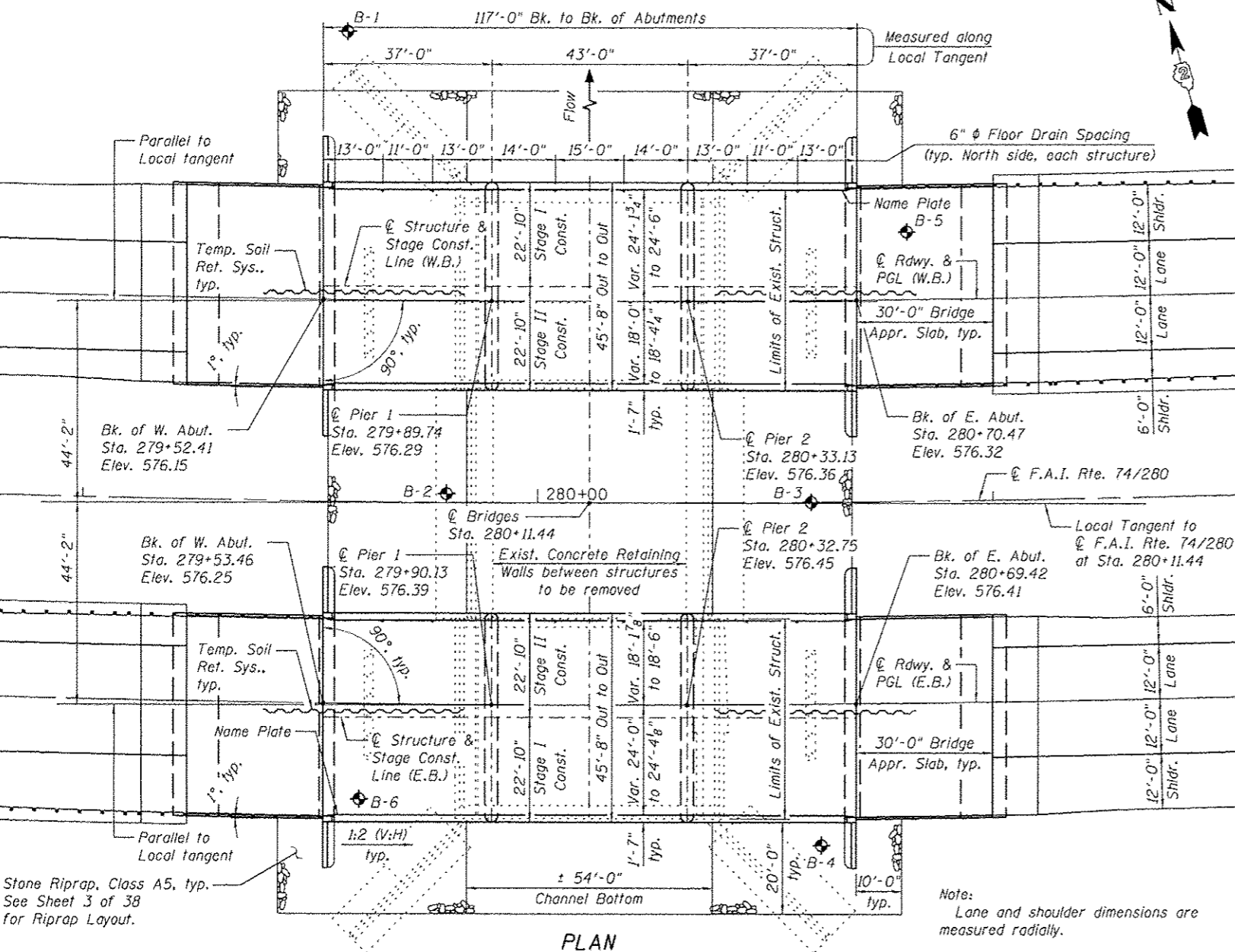
*Brian J. Malone* 3-20-2013  
Date  
Licensed Structural Engineer  
State of Illinois No. 081-006002  
Expires 11/30/2014



*Michael T. Haley* 3-21-13  
Date  
Licensed Structural Engineer  
State of Illinois No. 81-5991  
Expires 11/30/2014

Total Sheets:  
Structure Sheets: 1-27 and 32-38

Total Sheets:  
Structure Sheets: 28-31

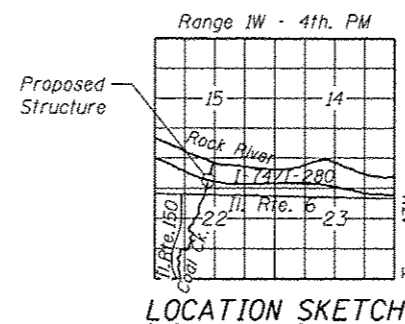


**CURVE DATA**  
Δ = 26° 18' 09"  
D = 1° 09' 47"  
T = 1150.94'  
L = 2261.31'  
E = 132.67'  
R = 4925.91'  
S.E. = 2.0%  
P.C. = Sta. 271+68.53  
P.T. = Sta. 294+29.84  
P.I. = Sta. 282+99.19

**WATERWAY INFORMATION**

Flood	Freq. Yr.	Opening C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	10	3480	622	852	570.6	0.5	0.5	571.1	571.1
Base	50	5450	626	862	570.7	1.2	0.9	571.9	571.6
Overtopping	100	6360	626	862	570.7	2.3	1.2	573.0	571.9
Max. Calc.	500	8550	630	872	570.8	3.5	2.7	574.3	573.5

10 year velocity through Exist. Bridge = 5.6 fps  
10 year velocity through Prop. Bridge = 4.1 fps



**GENERAL PLAN AND ELEVATION**

**I-74/I-280 OVER COAL CREEK**

**PUBLIC WATER**

**F.A.I. RTE. 74/280 - SEC. 81-3BR**

**ROCK ISLAND COUNTY**

**STATION 280+11.44**

**STRUCTURE NO. 081-0194 (E.B.)**

**STRUCTURE NO. 081-0195 (W.B.)**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION  
STRUCTURE NO. 081-0194 (E.B.) & NO. 081-0195 (W.B.)

SHEET NO. 1 OF 38 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74/280	81-3BR	ROCK ISLAND	290	164

CONTRACT NO. 64D23  
ILLINOIS FED. AID PROJECT

**Wight**

DESIGNED	REVISIONS
MAS	REVISIONS
BJM	REVISIONS
MWS	REVISIONS
BJM	REVISIONS

DESIGNED - MAS  
CHECKED - BJM  
DRAWN - MWS  
CHECKED - BJM

PLOT DATE = 3/19/2013

2/19/2013 2:41:52 PM 0810194\_64D23\_2801\_GPE.dgn