

Bench Mark: Chiseled "□" NW Wingwall of IL 8 Bridge over Kickapoo Creek. Elevation 512.50

Existing Structure: S.N. 072-0047 was built in 1931 under FAS 384, Section Z-ID at Station 101+16. In 1974 the east span of the original three span truss bridge was replaced with 2 simple span PPC deck beams and 1 new pier was added under FAS 384, Section Z-ID-BR. In 1979 the two spans reconstructed in 1974 were widened and the remaining two truss spans were replaced with 4 simple span PPC deck beams and 2 new piers were added under FAS 384, Section Z-ID-BR-1. The existing structure consists of a 6 span PPC deck beam superstructure with bituminous overlay on closed abutments, three solid wall enclosed pile bent piers supported by steel H-piles, and two concrete piers, 27'-4" back-to-back abutments, 33'-0" out-to-out deck. Structure to be removed and replaced using stage construction.

Traffic is to be maintained using staged construction.

Salvage: Temporary support beams and clamps. Deliver to IDOT Bridge Maintenance Yard, 604 Camp St. East Peoria, IL Contact Brian Ruder, 309-699-3822

* Remove Existing Bent 1 and Existing Pier 1 to match the elevation of existing slope mattress. Existing reinforcement shall be cut off flush with the surface to which the old concrete has been removed.

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	Pier 1	Pier 2	Pier 3	Pier 4	E. Abut.
	506.61	467.3	467.1	468.9	468.7	506.61

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

DESIGN SPECIFICATIONS
2010 AASHTO LRFD Bridge Design Specifications with 2010 Interims

DESIGN STRESSES

FIELD UNITS
 $f_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)
 $f_y = 50,000$ psi (M270 Grade 50)

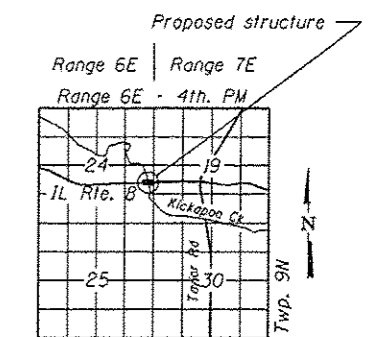
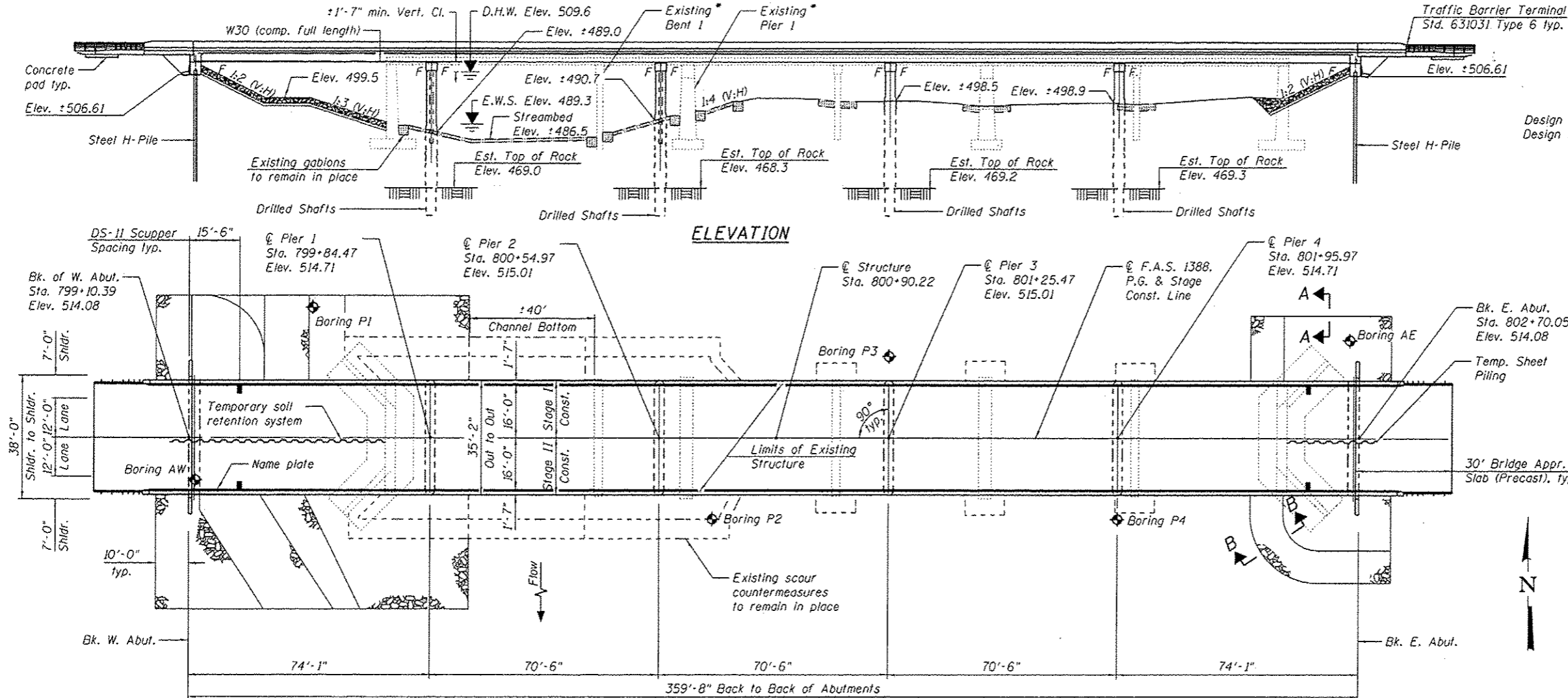
SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.110g
 Design Spectral Acceleration at 0.2 sec. ($S_{D0.2}$) = 0.171g
 Soil Site Class = D

STATION 800+90.22
 BUILT BY
 STATE OF ILLINOIS
 F.A.S. RT. 1388 SEC. (Z-10-BR-1)BR
 LOADING HL-93
 STRUCTURE NO. 072-0229

NAME PLATE
See Std. 515001

Note: For Sections A-A & B-B see sheet 2 of 34.



WATERWAY INFORMATION

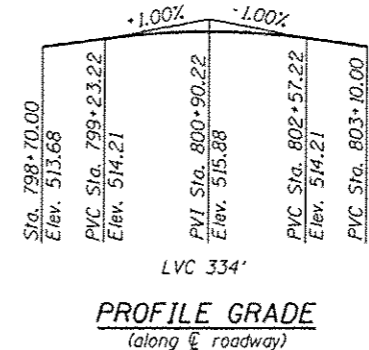
		Existing Overtopping Elev. 511.0 @ Sta. 799+50		Proposed Overtopping Elev. 511.0 @ Sta. 799+50		
Flood	Freq. Yr.	Q	Opening Sq. Ft.	Nat. H.W.E.	Head - Ft.	Headwater El.
		C.F.S.	Exist. Prop.	H.W.E.	Exist. Prop.	Exist. Prop.
Design	10	13900	2201 2592	506.6 509.6	1.3 1.6	507.9 511.2
Base	50	23000	2587 3530	509.6 511.2	1.6 1.8	511.2 511.2
Scour Design Check	100	27700	2587 3856	511.2 514.2	0.9 0.5	512.1 514.7
Overtop (Exist.)	200	37500	2587 3856	514.2 514.2	0.5 0.5	514.7 514.7
Overtop (Prop.)	25	18800	2488 -	508.2 -	3.0 -	511.2 -
Max. Calc.	50	23000	- 3530	509.6 -	1.4 -	511.0 -
	500	40400	2587 3856	514.9 514.9	0.5 0.5	515.4 515.4

10 Year Velocity Through Exist. Bridge = 6.3 ft/s 10 Year Velocity Through Prop. Bridge = 5.4 ft/s

APPROVED
For Structural Adequacy Only
De Carl Ruder
Engineer of Bridges & Structures



Brandon W. Porter 3-18-14
EXP. 11-30-14



GENERAL PLAN & ELEVATION
ILLINOIS ROUTE 8 OVER
KICKAPOO CREEK
F.A.S. RT. 1388 - SEC. (Z-10-BR-1)BR
PEORIA COUNTY
STATION 800+90.22
STRUCTURE NO. 072-0229

FILE NAME : 0720229-68697-001-CPE.dgn	USER NAME :	DESIGNED - BWP	REVISED -
BACON FARMER WORKMAN ENGINEERING & TESTING, INC.		CHECKED - RSB	REVISED -
		DRAWN - BWP	REVISED -
		CHECKED - RSB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 34 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1388	(Z-10-BR-1)BR	PEORIA	89	43
				CONTRACT NO. 68697
ILLINOIS FED. AID PROJECT				