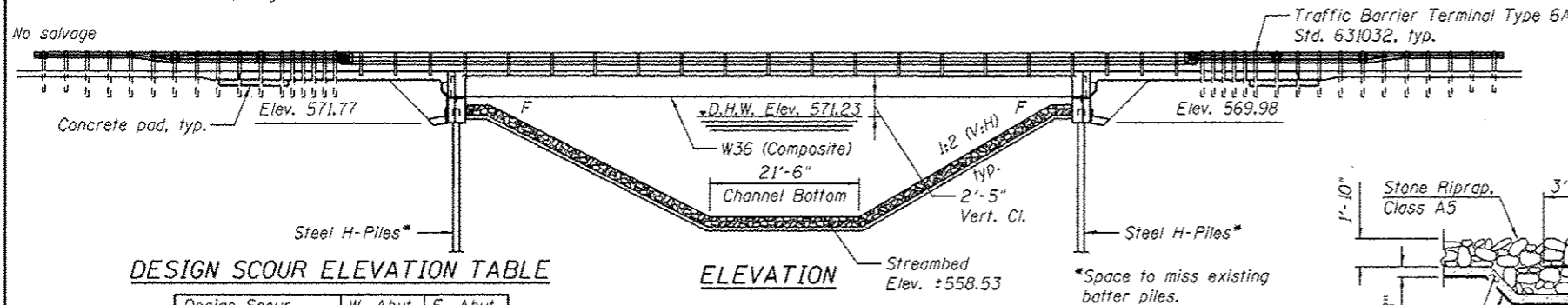


Bench Mark: 2"x2" square cut in southeast corner of south head wall for box culvert under Smithville West Road, 44.36 feet south of Smithville West Road centerline at Station 194+58.99. Elevation = 590.85.

Existing Structure: S.N. 072-3047 built in 1964 as F.A.S. 1381, Section 5-2RG at Station 200+11.00. The existing structure consists of a 3 span continuous cast-in-place concrete deck slab supported on pile bent abutments and 5 column concrete encased pile bent piers. Length = 99'-6" back to back abutments. Width = 28'-4" out to out deck. Traffic is to be rerouted during construction.

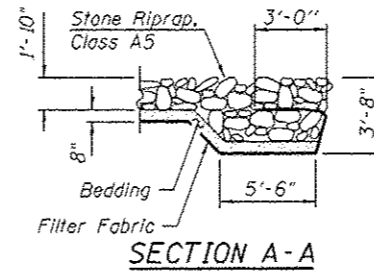
No salvage



DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut. 571.77	E. Abut. 569.98
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ELEVATION



I certify that to the best of knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO Standard Specifications for Highway Bridges.



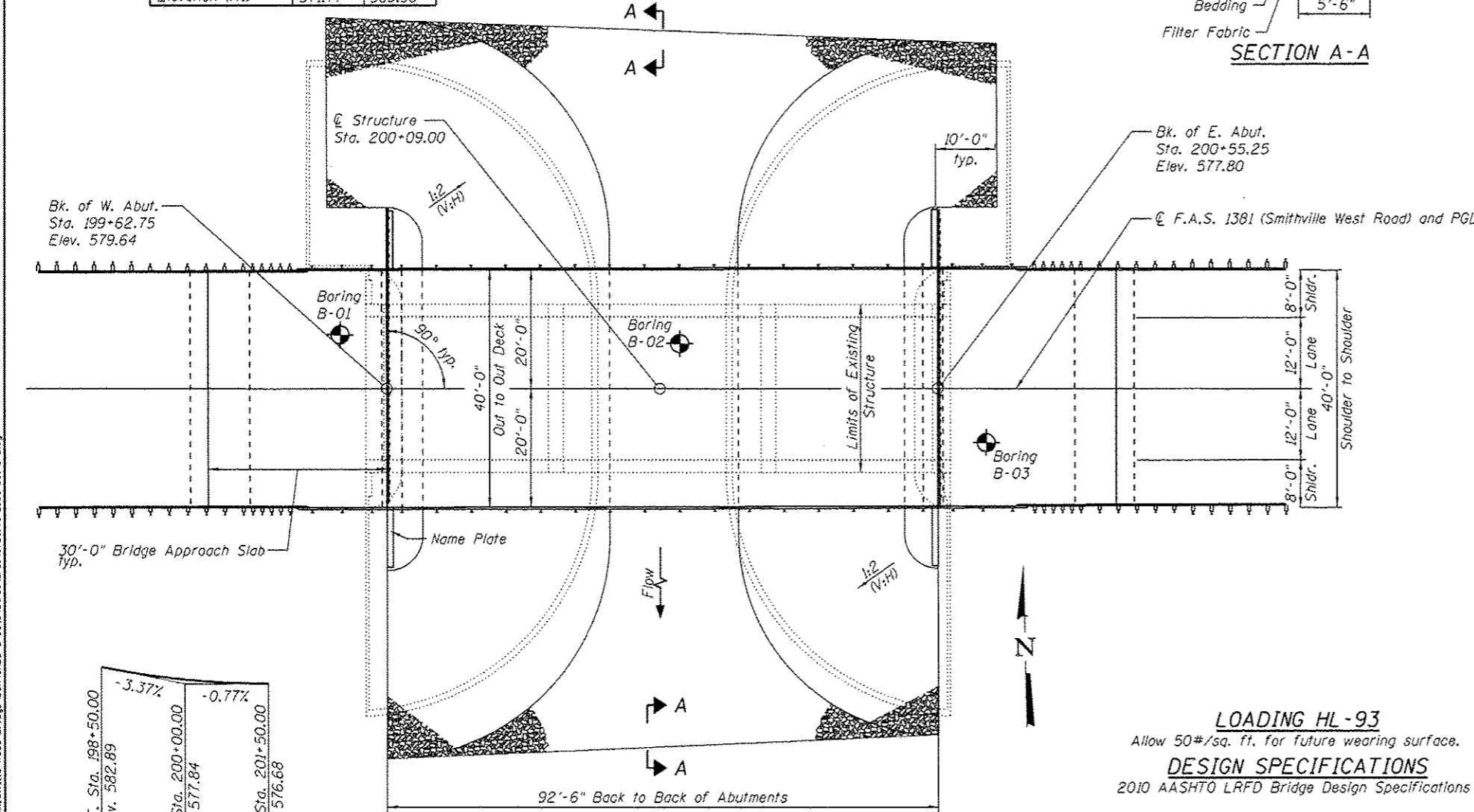
Steven P. Karlowksi
EXP. 11/30/2012
DATE: 09/24/2012

INDEX OF SHEETS

- 1 General Plan and Elevation
- 2 General Notes and Abutment Drainage Details
- 3 Top of Slab Elevations
- 4 Top of West Approach Slab Elevations
- 5 Top of East Approach Slab Elevations
- 6 Deck Plan & Cross Section
- 7 Superstructure Details
- 8 Bridge Approach Slab Details (1 of 2)
- 9 Bridge Approach Slab Details (2 of 2)
- 10 Steel Railing, Type SM
- 11 Framing Plan & Structural Steel Details
- 12 West Abutment
- 13 East Abutment
- 14 HP Pile Details
- 15 Bar Splicer Assembly and Mechanical Splicer Details
- 16 Soil Boring Logs

EAST BRANCH OF COPPERAS CREEK
BUILT 2013 BY
PEORIA COUNTY
SEC. 10-00005-03-BR
F.A.S. RT. 1381 STA. 200+09.00
STR. NO. 072-3148 LOADING HL-93

NAME PLATE
See Std. 515001



PLAN WATERWAY INFORMATION

Drainage Area = 11.72 Sq. Mi. Low Grade Elev. 576.39 @ Sta. 202+18.52

Flood	Freq. Yr.	Q C.F.S.	Opening Exist.	Opening Prop.	Head - Ft. H.W.E. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	20	3452	505	596	571.23	0.22	0.11	571.45
Base	100	5150	647	755	573.32	0.34	0.18	573.66
Overtopping								
Max. Calc.	500	7100	794	781	575.25	0.48	0.43	575.73

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A5	Sq. Yd.		1,383	1,383
Filter Fabric	Sq. Yd.		1,383	1,383
Removal Of Existing Structures	Each	0.5	0.5	1
Structure Excavation	Cu. Yd.		77	77
Concrete Structures	Cu. Yd.		60.9	60.9
Concrete Superstructure	Cu. Yd.	280.5		280.5
Bridge Deck Grooving	Sq. Yd.	677		677
Concrete Encasement	Cu. Yd.		6.6	6.6
Protective Coat	Sq. Yd.	708		708
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	1,212		1,212
Reinforcement Bars, Epoxy Coated	Pound	61,590	11,470	73,060
Bar Splicers	Each	86		86
Steel Railing, Type SM	Foot	245		245
Furnishing Steel Piles HP14x73	Foot		366.5	366.5
Driving Piles	Foot		366.5	366.5
Test Pile Steel HP14x73	Each		2	2
Name Plates	Each	1		1
Anchor Bolts, 1"	Each	24		24
Geocomposite Wall Drain	Sq. Yd.		76	76
Granular Backfill for Structures	Cu. Yd.		115	115
Asbestos Bearing Pad Removal	Each	10		10
Pipe Underdrain for Structures, 4"	Foot		128	128

**Quantity is for Top of Deck, Outside Edges of Deck and Top of Approach Slabs.

LOADING HL-93

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

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications

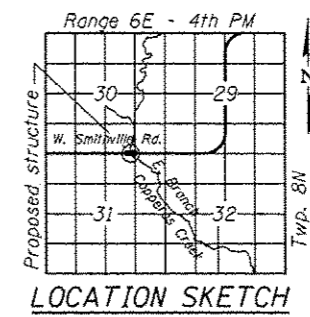
DESIGN STRESSES

FIELD UNITS

f_c = 3,500 psi
f_y = 60,000 psi (Reinforcement)
f_y = 50,000 psi (AASHTO M270 Grade 50W)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S₀₁) = 0.072g
Design Spectral Acceleration at 0.2 sec. (S₀₅) = 0.112g
Soil Site Class = D



GENERAL PLAN & ELEVATION
SMITHVILLE WEST ROAD OVER
E. BRANCH OF COPPERAS CREEK
F.A.S. 1381 SEC. 10-00005-03-BR
PEORIA COUNTY
STATION 200+09.00
STRUCTURE NO. 072-3148

10/29/2012 5:01:46 PM P:\P-102356 - Smithville Road Bridge\03N\000 Sheets\Structural\0723148-2356-01-0PE.dgn

INFRASTRUCTURE ENGINEERING
456 Fulton Street | Suite 104 | Peoria, IL 61601
P: 309.696.1141 | F: 309.696.1142 | www.infrastructure-engineering.com

USER NAME =	DESIGNED - LAN	REVISED -
PLOT SCALE =	CHECKED - SPK	REVISED -
PLOT DATE =	DRAWN - LAN	REVISED -
	CHECKED - SPK	REVISED -

PEORIA COUNTY
HIGHWAY DEPARTMENT

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 072-3148
SHEET NO. 1 OF 18 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1381	10-00005-03-BR	PEORIA	55	23
				CONTRACT NO. 89464
ILLINOIS FED. AID PROJECT				