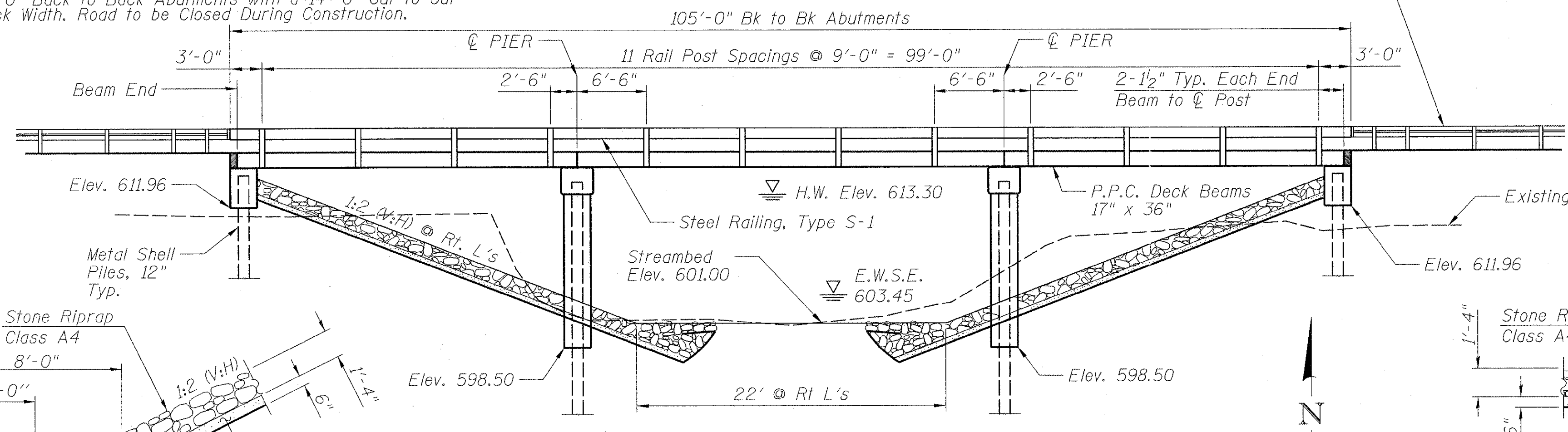
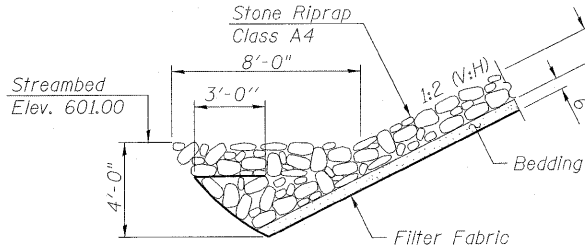
Benchmark: Sta. 15+34, 7.5' Lt., Top of H-Pile Elev. 612.26

Existing Structure: S.N. 011-3247, Single Span Steel Pony Truss Bridge With a Timber Deck on Timber Closed Abutments. 61'-0" Back to Back Abutments with a 14'-0" Out to Out Deck Width. Road to be Closed During Construction.

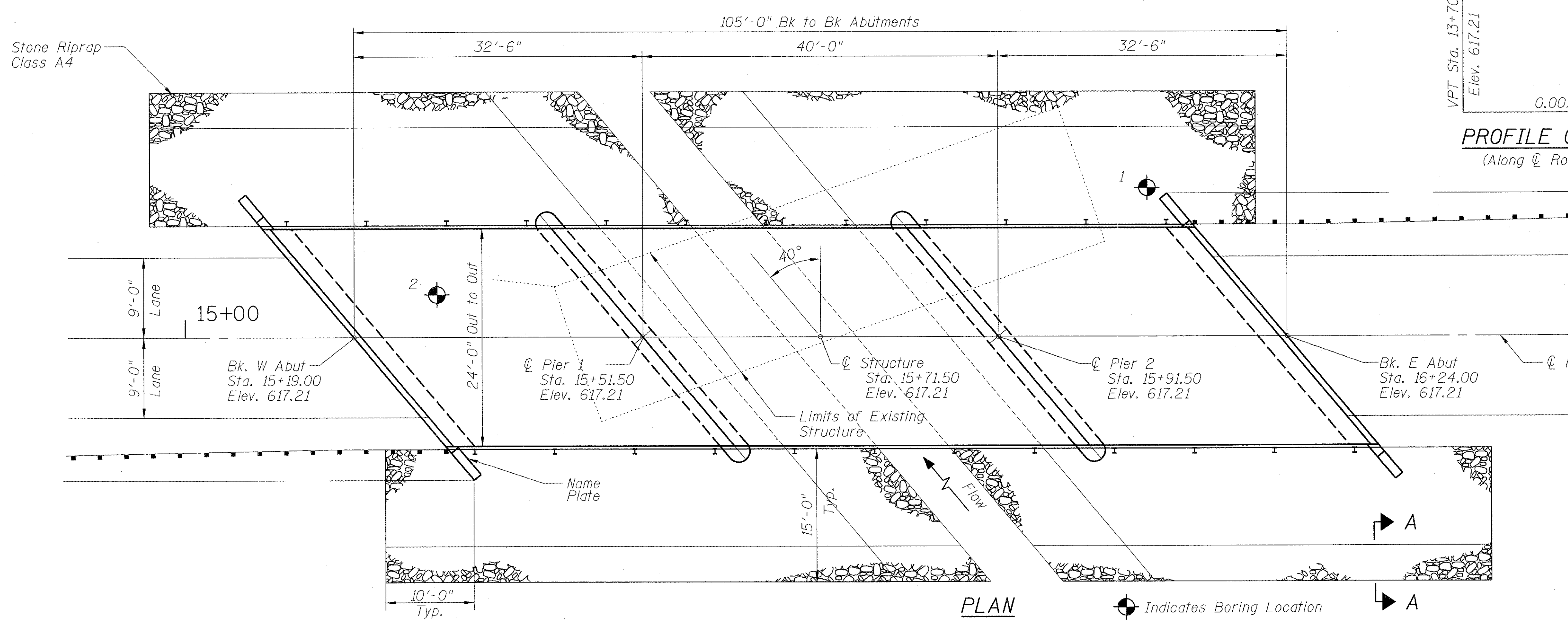
No Salvage



ELEVATION



STONE RIPRAP ANCHOR DETAIL



PLAN

Indicates Boring Location

WATERWAY INFORMATION

Drainage Area = 41.35 sq. mi.

Existing Low Grade Elevation 611.05 ft. @ Sta. 21+50.00

Proposed Low Grade Elevation 612.54 ft. @ Sta. 21+69.01

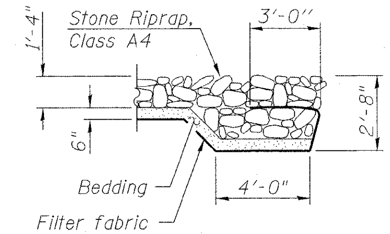
	Freq.	Discharge (cfs)		Opening (sq ft)		Natural	Head - (ft.)		Headwater Elevation	
	Year	Exist.	Prop.	Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.
Overtopping	5	2320	2320	306	488	612.6	0.1	0.5	612.7	613.1
Design	10	3070	3070	306	535	613.3	0.1	0.5	613.4	613.8
Base	100	5620	5620	306	676	615.3	0.1	0.4	615.4	615.7
Max. Calc.	500	7480	7480	306	684	616.4	0.1	0.4	616.5	616.8

10 Year Velocity through Existing Bridge = 7.6 fps   10 Year Velocity through Proposed Bridge = 4.8 fps

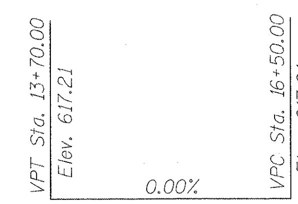
DESIGN SCOUR ELEVATION	N & S Abut.	N & S Pier
	611.96	587.85

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Ton		448	448
Filter Fabric	Sq. Yd.		673	673
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		28.0	28.0
Cofferdam Excavation	Cu. Yd.		81.0	81.0
Cofferdam (Type 1) (Location-1)	Each		1	1
Cofferdam (Type 1) (Location-2)	Each		1	1
Concrete Structures	Cu. Yd.		119.2	119.2
Precast Prestressed Concrete Deck Beams (17" depth)	Sq. Ft.	2,473		2,473
Reinforcement Bars, Epoxy Coated	Pound		10,280	10,280
Steel Railing, Type S1	Foot	210		210
Furnishing Metal Shell Piles, 12" x 0.25"	Foot		762	762
Driving Piles	Foot		762	762
Test Pile, Metal Shells	Each		2	2
Name Plates	Each	1		1



SECTION A-A



PROFILE GRADE

(Along ℄ Roadway)

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.

Reinforcement bars designated (E) shall be epoxy coated.

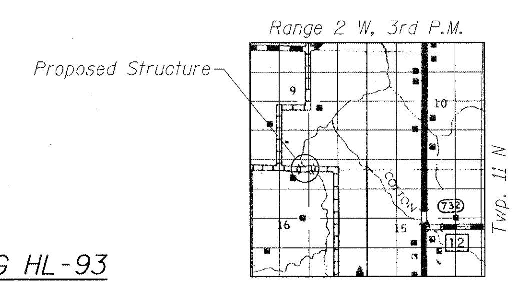
Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at substructures specified or approved by the Engineer before ordering the remainder of piles.

The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under section 404 of the Clean Water Act.

CONSTRUCTION PERMITS: The requirements of the IDNR - Office of Water Resources have been fulfilled in accordance with Statewide Permit No. 2.



LOCATION SKETCH

SOUTH FORK SANGAMON RIVER
BUILT 20 BY
CHRISTIAN COUNTY
GREENWOOD ROAD DISTRICT
SECTION 08-04118-00-BR
TR 307A STATION 15+71.50
S.N. 011-3417 LOADING HL-93

NAME PLATE

See Std. 515001 & Abut. Detail for Location

LOADING HL-93

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

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.071
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.210
Soil Site Class = D

DESIGN STRESSES

FIELD UNITS

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

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (½" ϕ Low Lax. Strands)
fpbt = 201,960 psi (½" ϕ Low Lax. Strands)
fy = 60,000 psi (Reinforcement)

I certify that to the best of my 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 A.A.S.H.T.O. L.R.F.D. Bridge Design Specifications.

Exp. 11-30-2012

Signed   12-16-11 Dated

GREENE & BRADFORD, INC. OF SPRINGFIELD

GENERAL PLAN AND ELEVATION
SECTION 08-04118-00-BR
CHRISTIAN COUNTY
STRUCTURE NO. 011-3417

FILE NAME = J:\09029\CADD\CADsheets\SN 011-3417\0804118-09029-Sht-GPE.dgn	USER NAME = amandah	DESIGNED - NIEWINSKI	REVISED - AH 4/20/11
		CHECKED - TRELLO	REVISED - AH 9/09/11
	PLOT SCALE = 8.0252 ' / in.	DRAWN - VERENSKI	REVISED -
	PLOT DATE = 12/15/2011	CHECKED - TRELLO	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 011-3417
SHEET NO. 1 OF 10 SHEETS

T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
307A	08-04118-00-BR	CHRISTIAN	26	9
		CONTRACT NO. 93567		
		ILLINOIS FED. AID PROJECT: BROS-0021 (178)		

PLOT DRIVER = V8i_PDF.pltcfg