

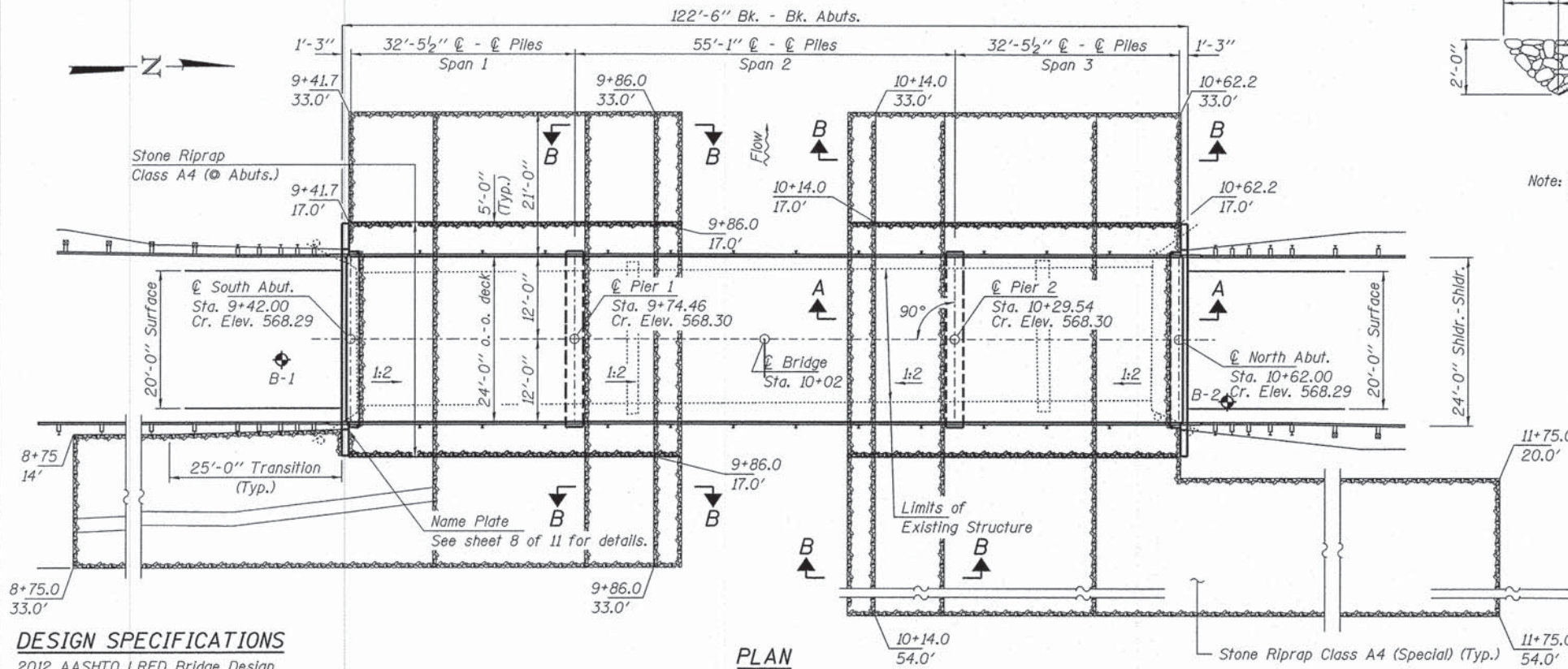
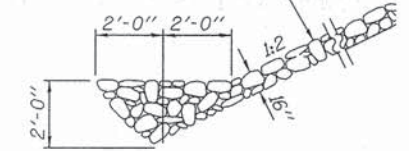
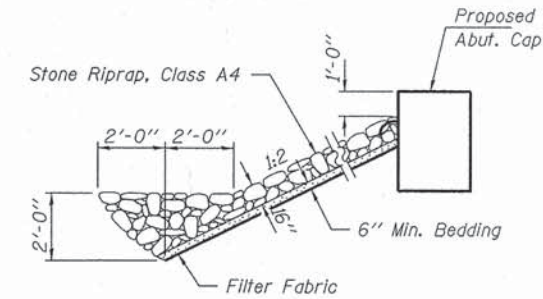
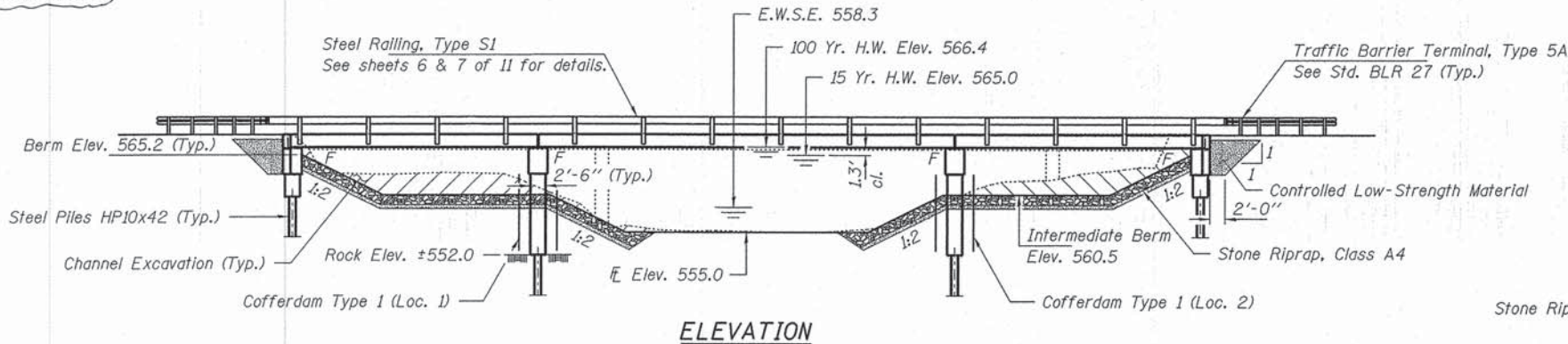
BENCHMARK: Painted "□" on steel beam, 10' Rt., Sta. 9+43, Elev. 567.94.

EXISTING STRUCTURE: SN 087-3035 - Three span I-beam girder bridge with timber deck on closed timber abutments and wingwalls with timber bent piers. 112.6' fc.-fc. abuts.; 19.3' o.-o. deck

Salvage: See Page 2 of the Special Provisions.

GENERAL NOTES

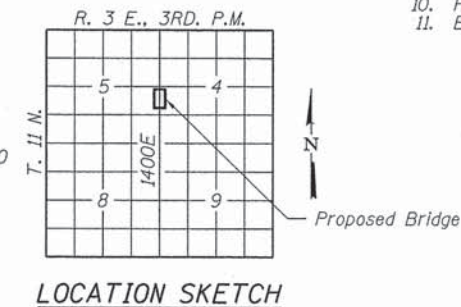
Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer. The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at the South abutment or approved by the Engineer before ordering the remainder of piles. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions. Excavation required to construct the Abutments & Piers shall be included in the cost of Concrete Structures. No additional compensation will be allowed for Structure Excavation. 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. The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions.



SECTION A-A
Note: See Special Provisions for Stone Riprap, Class A4.

INDEX OF STRUCTURE SHEETS

1. General Plan & Elevation
2. 21" x 48" PPC Deck Beam - Spans 1 & 3
3. 21" x 48" PPC Deck Beam Details - Spans 1 & 3
4. 21" x 48" PPC Deck Beam - Span 2
5. 21" x 48" PPC Deck Beam Details - Span 2
6. Superstructure Details
7. Steel Ralling, Type S1
8. Abutments
9. Piers
10. HP Pile Details
11. Borings



ROBINSON CREEK
BUILT 2011 BY
SHELBY COUNTY
SEC. 09-00268-00-BR
C.H. 30
STR. NO. 087-3573
LOADING HL-93

NAME PLATE
See Std. 515001

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition with all applicable interims.

LOADING HL-93

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

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinf.)

PRECAST PRESTRESSED UNITS

$f'_c = 6,000$ psi
 $f'_{cl} = 5,000$ psi
 $f_{pu} = 270,000$ psi ($\frac{1}{2}$ " low lax. strands)
 $f_{pbt} = 201,960$ psi ($\frac{1}{2}$ " low lax. strands)
 $f_y = 60,000$ psi (Reinf.)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.130g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.284g
Soil Site Class = C

WATERWAY INFORMATION

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Natural Head - Ft.		Headwater El.		
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	
Design	10	4130	600	630	564.76	0.47	0.59	565.23	565.35
Base	100	7490	730	800	566.41	0.52	0.57	566.93	566.98
Max. Calc.	500	9980	730	800	567.31	0.34	0.42	567.65	567.73
Overtop	10	4130	600	630	564.76	0.47	0.59	565.23	565.35

Q100	Design Scour Elevations (ft.)			
	S. Abut.	Pier 1	Pier 2	N. Abut.
Q100	565.2	547.4	547.4	565.2

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 "AASHTO LRFD Specifications."

Steven W. Megginson 08/29/2013
ILLINOIS STRUCTURAL ENGINEER NO. 081-6064



Expires 11-30-2014

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			135
Stone Riprap, Class A4	Ton			290
Filter Fabric	Sq. Yd.			370
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		88.0	88.0
Concrete Encasement	Cu. Yd.		2.8	2.8
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	2,904		2,904
Reinforcement Bars	Pound		6,990	6,990
Steel Ralling, Type S1	Foot	253		253
Furnishing Steel Piles HP10x42	Foot		390	390
Driving Piles	Foot		140	140
Test Pile Steel HP10x42	Each		1	1
Name Plates	Each		1	1
Controlled Low-Strength Material	Cu. Yd.			45
Cofferdam (Type 1) (Location-1)	Each		1	1
Cofferdam (Type 1) (Location-2)	Each		1	1
Stone Riprap, Class A4 (Special)	Ton			850
Setting Piles in Rock	Each		10	10

FILE NAME = 090149-ah-bridge.dgn	USER NAME =	DESIGNED - A.S.L.	REVISED - 11/1/2013
HAMPTON, LENZINI AND RENWICK, INC. 3065 STEVENSON DRIVE, SUITE 301 SPRINGFIELD, ILLINOIS 62783	PLOT SCALE =	CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM 15 / P.E. / REG. CORP. 184.000559	PLOT DATE = 8/29/2013	DRAWN - D.A.B.	REVISED -
		CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
SHELBY COUNTY HIGHWAY DEPARTMENT

GENERAL PLAN & ELEVATION
STRUCTURE NO. 087-3573

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
30	09-00268-00-BR	SHELBY	27	17
				CONTRACT NO. 95722
ILLINOIS FED. AID PROJECT				

SHEET NO. 1 OF 11 SHEETS