

RICHLAND CREEK
 STA. 18+50.00
 BUILT 20 BY
 SHELBY COUNTY
 SECTION 10-03114-00-BR
 STR. NO. 087-3576 LOADING HL-93
NAME PLATE
 (Standard 515001)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			3237
Stone Dumped Riprap, Class A4	Ton			850
Filter Fabric	Sq. Yd.			1180
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		82	82
Cofferdam Excavation	Cu. Yd.		86	86
Cofferdam (Type 2), Location 1	Each		1	1
Cofferdam (Type 2), Location 2	Each		1	1
Concrete Structures	Cu. Yd.		97.7	97.7
Concrete Encasement	Cu. Yd.		18.3	18.3
Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	4188		4188
Reinforcement Bars	Pound		11085	11085
Steel Railing, Type S-1	Foot	352		352
Furnishing Steel Piles HP 10x42	Foot		160	160
Furnishing Steel Piles HP 12x53	Foot		300	300
Name Plates	Each		1	1
Setting Piles in Rock	Each		20	20

LOADING HL-93

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

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications, 5th Edition

DESIGN STRESSES

FIELD UNITS

$f'_c = 3500$ psi
 $f_y = 60000$ psi (Reinforcement)

PRECAST PRESTRESSED UNITS

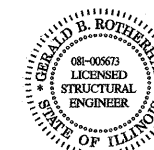
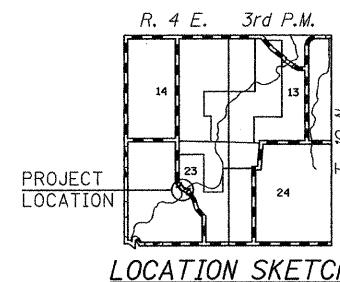
$f'_c = 6000$ psi
 $f'_{ci} = 5000$ psi
 $f_{pu} = 270000$ psi ($\frac{1}{2}$ " low lax strands)
 $f_{pbi} = 201960$ psi ($\frac{1}{2}$ " low lax strands)

GENERAL NOTES

See Proposal for Boring Data.
 Reinforcement bars shall conform to the requirements of ASTM A706, Grade 60.
 The layout of the riprap slope wall may be varied to suit ground conditions in the field as determined by the Engineer.

WATERWAY INFORMATION

Drainage Area = 39.05 Sq. Mi.		Pr. Low Grade Elev. 90.06		Sta. 16+00					
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Head - ft.		Headwater El.		
			Exlst.	Prop.	Exlst.	Prop.	Exlst.	Prop.	
Design	15	4912	612	1735	87.3	0.2	0.3	87.5	87.6
Base	100	8265	612	1906	89.5	0.5	0.5	90.0	90.0
Exist. Overtop.	9.4	4350							
Prop. Overtop.	180	9150							
Max. Calc.	500	11157	612	1906	91.1	0.4	0.7	91.5	91.8



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. LRFD Bridge Design Specifications.

Gerald B. Rothert
 Expiration Date 11/30/2012
 Dated: 4/5/2012

FILE NAME	USER NAME	DESIGNED	REVISD	Allen Henderson & Associates, Inc.	GENERAL DATA	I.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED	REVISD	Civil and Structural Engineers Springfield, IL. 62703 Phone: (217)544-8033 IL Design Firm No. 184-001907	SHEET NO. 2 OF 10 SHEETS	272	10-03114-00-BR	SHELBY	27	8
		DRAWN	REVISD							
		CHECKED	REVISD							

ILLINOIS FED. AID PROJECT