

TOE STONE RIPRAP TREATMENT

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.		1240	1240
STONE Riprap, Class A4	Ton		754	754
Filter Fabric	Sq. Yd.		1012	1012
Removal of Existing Structures	Each		1	1
Structure Excavation	Cu. Yd.		58	58
Concrete Structures	Cu. Yd.		105.7	105.7
Concrete Encasement	Cu. Yd.		2.8	2.8
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	2843		2843
Reinforcement Bars	Pound		10510	10510
Steel Railing, Type S-1	Foot	240		240
Furnishing Steel Pile HP 10x42	Foot		939	939
Driving Piles	Foot		939	939
Test Piles Steel HP 10x42	Each		4	4
Name Plates	Each		1	1
Underwater Structure Excavation Protection - Location 1	Each		1	1
Underwater Structure Excavation Protection - Location 2	Each		1	1

LOADING HL-93

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

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications, 4th Edition with 2008 Interims

DESIGN STRESSES

FIELD UNITS

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

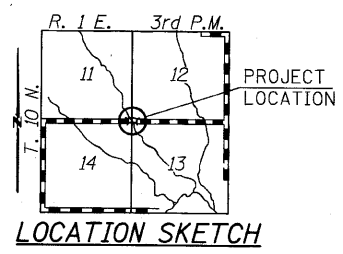
PRECAST PRESTRESSED UNITS

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

GENERAL NOTES

See Proposal for Boring Data.
 Reinforcement bars shall conform to the requirements of ASTM A706, Grade 60. See Special Provisions.
 The layout of the riprap slopewall may be varied to suit ground conditions in the field as determined by the Engineer.
 The contractor shall drive one test pile in a permanent location at both abutments and both piers as directed by the Engineer in the field prior to ordering the remainder of piles.

COAL CREEK
 STA. 9+20.00
 BUILT 20 BY
 SHELBY COUNTY
 SECTION 09-11118-00-BR
 STR. NO. 087-3569 LOADING HL-93
NAME PLATE
 (Standard 515001)

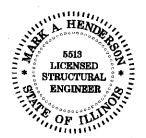


WATERWAY INFORMATION

Drainage Area = 10.71 Sq. Mi. Pr. Low Grade Elev. 96.26 @ Sta. 12+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Natural H.W.E.	Head - ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	15	2772	301	534	95.9	1.3	0.2	97.2	96.1
Base	100	4779	366	618	96.9	1.7	1.0	98.6	97.9
Exist. Overtop.	7.6	2380							
Prop. Overtop. Greater Than 500 Years									
Max. Calc.	500	6536	445	703	97.8	1.4	1.4	99.2	99.2

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 "A.A.S.H.T.O. LRFD Bridge Design Specifications.



Mark A. Henderson 7/22/2010
 Expiration Date 11/30/2010

FILE NAME =	USER NAME = #USER#	DESIGNED	REVISED	Allen Henderson & Associates, Inc. Civil and Structural Engineers Springfield, IL. 62703 Phone: (217)544-8033 IL Design Firm No. 184-001907	GENERAL PLAN & ELEVATION		T.R. RTE.	SECTION	COUNTY	TOTAL SHEET NO.	
	PLOT SCALE = #SCALE#	DRAWN	REVISED		SCALE: NONE	SHEET NO. 2 OF 11 SHEETS	STA. TO STA.	303	09-11118-00-BR	SHELBY	22 6
	PLOT DATE = #DATE#	CHECKED	REVISED								CONTRACT NO. 95629
		DATE	REVISED					FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		