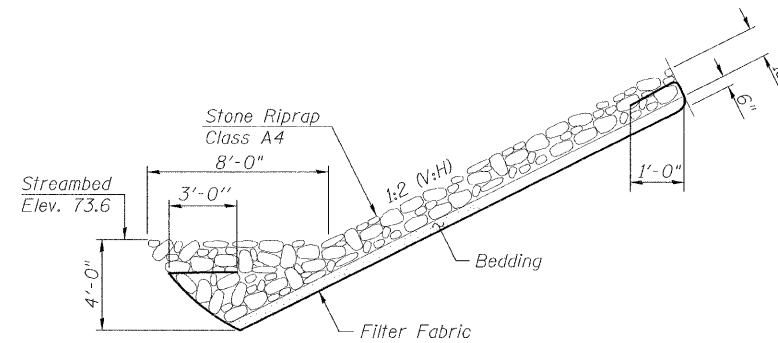
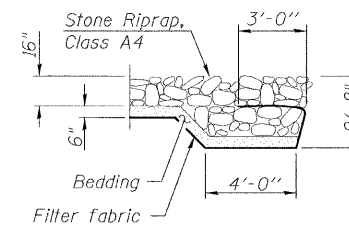


**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.		830	830
Stone Riprap, Class A4	Ton		578	578
Filter Fabric	Sq. Yd.		871	871
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		137	137
Concrete Structures	Cu. Yd.		111.9	111.9
Concrete Encasement	Cu. Yd.		16.9	16.9
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	3204		3204
Reinforcement Bars	Lb.		12060	12060
Steel Railing, Type S-1	Foot	270		270
Furnishing Steel Pile HP 10x42	Foot		224	224
Furnishing Steel Pile HP 12x53	Foot		315	315
Name Plates	Each	1		1
Underwater Structure Excavation Protection - Location 1	Each		1	1
Underwater Structure Excavation Protection - Location 2	Each		1	1
Setting Piles in Rock	Each		18	18



**END SLOPE RIPRAP TREATMENT**



**SECTION A-A**

**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 ( $\frac{1}{2}$ " low lax strands)  
 $f_{pbt} = 201960$  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. See Special Provisions.  
 The layout of the riprap slopewall may be varied to suit ground conditions in the field as determined by the Engineer.  
 Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.

**WATERWAY INFORMATION**

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	4291	818	1272	87.2	0.1	0.1	87.3	87.3	
Base	100	7051	853	1481	89.0	0.3	0.2	89.3	89.2	
Exist. Overtop.	13.8	4200								
Prop. Overtop.	14.8	4275								
Max. Calc.	500	9388	853	1590	90.2	0.2	0.2	90.6	90.4	



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 3/19/10  
 Expiration Date 11/30/2010

FILE NAME =	USER NAME = #USER#	DESIGNED -	REVISIONS -	<p><b>Allen Henderson &amp; Associates, Inc.</b>                  Civil and Structural Engineers Springfield, IL                  62703 Phone: (217)544-8033 IL Design Firm                  No. 184-001907</p>	<b>GENERAL PLAN &amp; ELEVATION</b>			T.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE = #SCALE#	CHECKED -	REVISIONS -	SCALE: NONE		SHEET NO. 5 OF 19 SHEETS	STA. 12+75.00 TO STA. 18+75.00	159	07-18118-00-BR	SHELBY	19	5	
PLOT DATE = #DATE#	DATE	REVISIONS -					S.N. 087-3567	CONTRACT NO. 95626				
							FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT					