

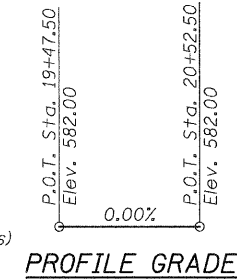
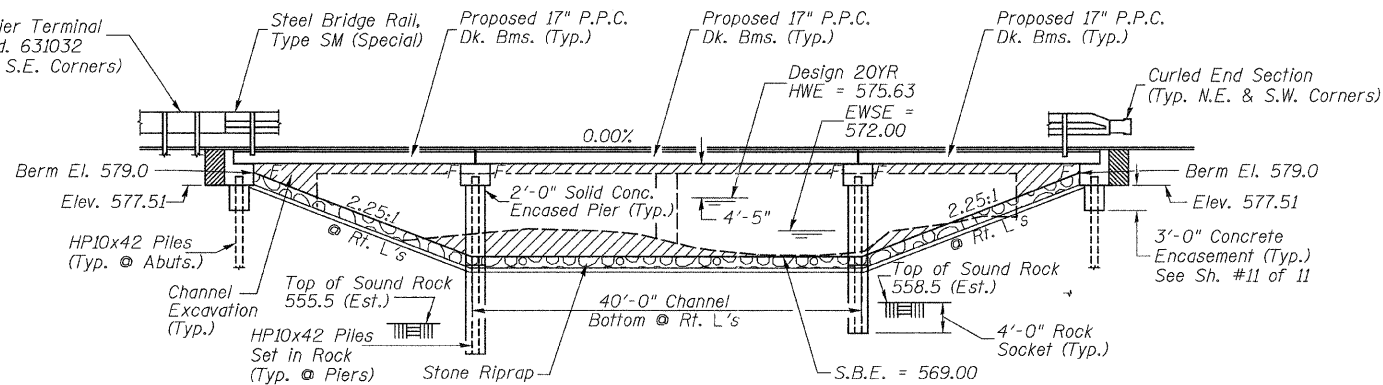
B.M.: RR Spike in Power Pole  
Sta. 17+01, 91' Rt.  
Elev. 575.62

RR Spike in 15" Tree  
Sta. 22+70, 25' Lt.  
Elev. 578.53

Existing Structure:  
Two span concrete T-beam on a stem pier and concrete closed abutments. The structure is 90'-0" back to back of abutments, 28'-4" out to out deck, and is skewed 30°. Str. No. 075-3000

Salvage: None  
Road to be closed to traffic during construction.

Traffic Barrier Terminal  
Type 6A, Std. 631032  
(Typ. N.W. & S.E. Corners)



**NORTH FORK HADLEY CREEK  
BUILT 201 BY  
PIKE COUNTY  
SEC. 11-00089-00-BR  
C.H. 4 STATION 20+00.00  
F.A. PROJ. BRS-0596(105)  
STR. NO. 075-3324 LOADING HL-93**

**NAME PLATE**

Locate Name Plate at S.E. Wingwall  
Corner of Bridge (See Std. 515001)

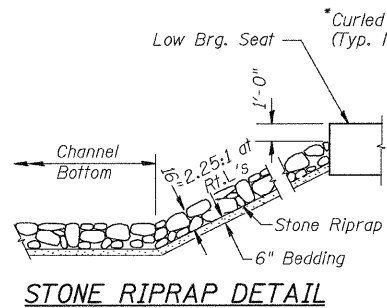
\*Terminal Marker-Direct Applied to be placed on Curled End Sections in accordance with Std. 635006

**ELEVATION**

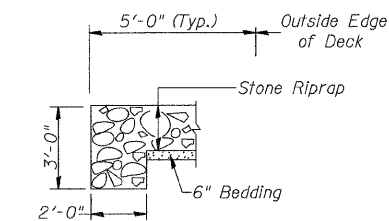
**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	CU YD	---	300	300
Stone Riprap, Class B4 (Special)	TON	---	415	415
Removal of Existing Structures	EACH	---	---	1
Structure Excavation	CU YD	---	80	80
Cofferdam Excavation	CU YD	---	55	55
Concrete Structures	CU YD	---	106.2	106.2
Precast Prestressed Concrete Deck Beams (17" Depth)	SQ FT	3,286	---	3,286
Reinforcement Bars	POUND	---	9,380	9,380
Steel Bridge Rail, Type SM (Special)	FOOT	210	---	210
Furnishing Steel Piles HP10x42	FOOT	---	531	531
Driving Piles	FOOT	---	225	225
Test Pile Steel HP10x42	EACH	---	2	2
Setting Piles in Rock	EACH	---	12	12
Concrete Encasement	CU YD	---	19.6	19.6
Name Plates	EACH	---	1	1
Waterproofing Membrane System	SQ YD	373	---	373
Portland Cement Mortar Fairing Course	FOOT	225	---	225
Controlled Low-Strength Material	CU YD	---	23.2	23.2
Cofferdam (Type I) (Location-1) (Pier #1)	EACH	---	1	1
Cofferdam (Type I) (Location-2) (Pier #2)	EACH	---	1	1
Hot-Mix Asphalt Surface Course, Mix "C", N50	TON	51	---	51

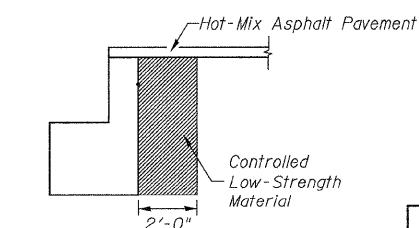
See Special Provisions



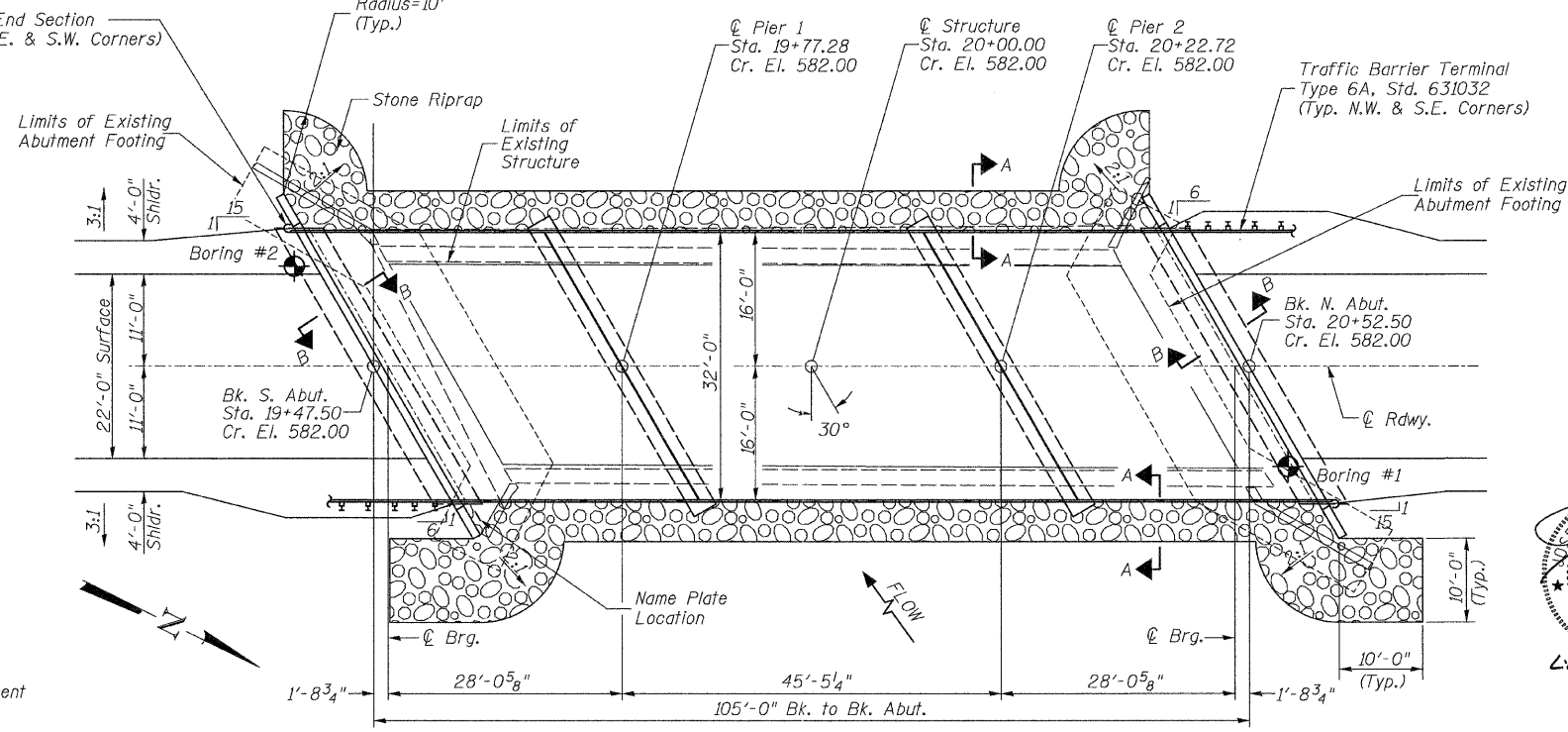
**STONE RIPRAP DETAIL**



**SECTION A-A**



**SECTION B-B**



**PLAN**

**DESIGN SCOUR TABLE**

Location	S. Abut	Pier 1	Pier 2	N. Abut
Design Scour Elevation	577.51	555.50	558.50	577.51

**WATERWAY INFORMATION**

Drainage Area = 5.35 Sq. Mi. Low Grade Elev. = 578.52 @ Sta. 15+00.00

Flood Yr.	Freq. C.F.S.	Q	Opening Sq. Ft.	Nat. H.W.E.	Head - Ft.	Headwater El.
			Exist. Prop.	Exist. Prop.	Exist. Prop.	Exist. Prop.
Design	20	1,685	299 337	575.63 0.48 0.29	576.11	575.92
Base	100	2,470	342 378	576.24 0.92 0.59	577.16	576.83

**DESIGN SPECIFICATIONS**

2010 AASHTO LRFD Bridge Design Specifications with Interims

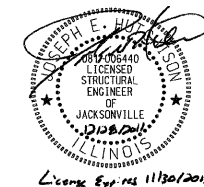
**DESIGN STRESSES**

(FIELD UNITS)  $f'_c = 3,500$  p.s.i.  $f_y = 60,000$  p.s.i. (Rein.)

(PRECAST PRESTRESSED UNITS)  $f'_c = 6,000$  p.s.i.  $f'_{ci} = 5,000$  p.s.i.  $f'_s = 270,000$  p.s.i. ( $\frac{1}{2}$ " Strands)  $f'_{si} = 201,960$  p.s.i. ( $\frac{1}{2}$ " Strands)

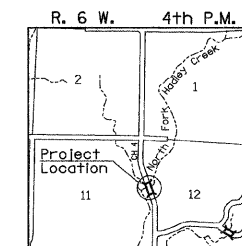
**LOADING HL-93**

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



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 Standard Specification for Highway Bridges. This design complies with all requirements of the current AASHTO Guide Specifications for Seismic Design of highway bridges.

*[Signature]* 12/28/2011  
Illinois Structural No. 6440  
Expires 11/30/2012



**LOCATION SKETCH**

**GENERAL PLAN & ELEVATION**

**PIKE COUNTY  
SECTION 11-00089-00-BR  
C.H. 4 OVER NORTH FORK HADLEY CREEK**

DESIGNED	S.T.M.
CHECKED	J.E.H.
DRAWN	S.T.M.
CHECKED	J.E.H.

SHEET NO. 1	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
17 SHEETS	CH 4	11-00089-00-BR	PIKE	28	8
S.N. 075-3324			CONTRACT NO. 93564		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0596(105)		