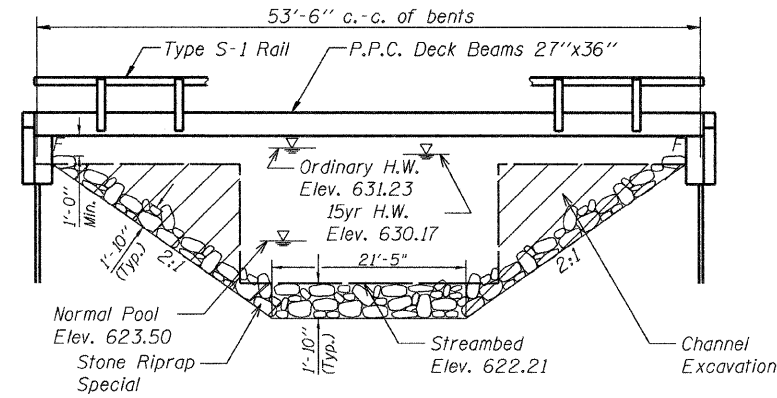


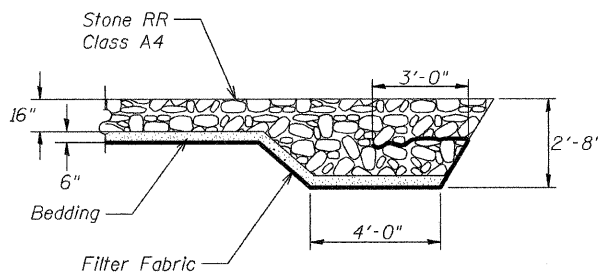
B.M. #1 - Sta. 6+24.68, 22.49' Left, Nail in wood post, Elev. 652.56
 B.M. #2 - Sta. 9+81.59, 10.0' Left, Cut " " in Conc. Deck, Elev. 629.14
 B.M. #3 - Sta. 14+24.56, 10.39' Right, "PK" Nail in 24" CMP, Elev. 633.21

Existing Structure - Structure 092-3224 consists of single span reinforced concrete deck on steel I-beams on closed concrete abutments. The bk. to bk. of abutments length is 30' and the out-to-out width is 18'. The existing structure shall be completely replaced. Road closure shall be used during construction.

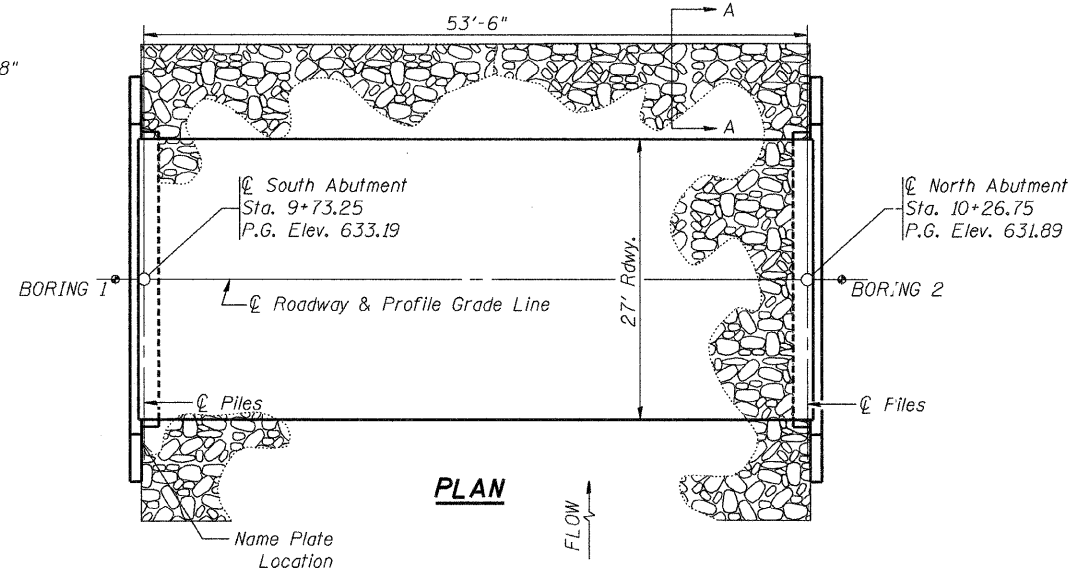
Salvage - Any material deemed salvageable by the Engineer shall be stockpiled on the R.O.W. and shall become the property of Vermilion County. The Contractor shall dispose of all remaining material.



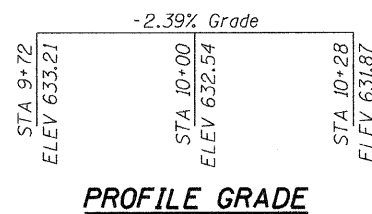
ELEVATION



SECTION A-A



PLAN



PROFILE GRADE

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $F_y = 60,000$ psi (reinforcement)

PRECAST PRESTRESSED UNITS

$f'_c = 6,000$ psi
 $f'_ci = 5,000$ psi
 $F'_s = 270,000$ psi ($\frac{1}{2}$ " low relax. strands)
 $F_{sl} = 201,960$ psi ($\frac{1}{2}$ " low relax. strands)

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications - 4th ed.

LOADING HL-93

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

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.100
 Design Spectral Acceleration at 0.2 sec. (S_{D2}) = 0.189
 Soil Site Class = C

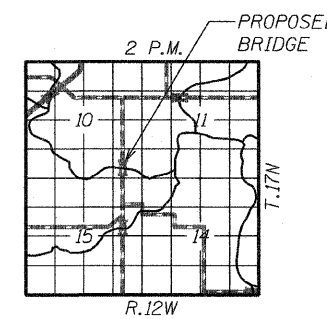
PILE DATA (2-ABUTS.)

Type STEEL HP 12x53
 Nominal Required Bearing 319 kips
 Factored Resistance Available 160 kips
 Estimated Pile Length 43 Feet North Abut. and 42 Feet South Abut.
 Number of Production Piles 10
 Number of Test Piles 2 (1 In Each Abutment)

FAYETTE CREEK
 BUILT 200_ BY
 VERMILION COUNTY
 SEC. 01-03130-00-BR
 PROJECT NO. BROS-183(092)
 TR 427 STA. 10+00
 STR. NO. 092-3493 LOADING HL-93

LETTERING FOR NAME PLATE

Locate Name Plate on the outside face of the Southeast Wingwall.



LOCATION SKETCH

WATERWAY INFORMATION

Drainage Area = 12.8 SQ MI		Low Grade Elev. = 630.69 @ Sta. 11+50							
Flood	Freq. Yr.	Q C.F.S.	Opening Exist.	Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Headwater El. Prop.		
Design	15	1321	106.1	295.0	630.17	1.47	0.52	631.64	630.69
Base	100	2060	106.1	318.0	631.23	1.07	0.69	632.30	631.92
Overtopping									
Max. Calc.	500								

GENERAL NOTES

- The Contractor shall drive 1 test pile at each abutment, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.
- See Bridge Plan Sheet 7 for boring logs.
- A Corrosion inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams.
- Concrete sealer shall be applied to exterior face of each fascia beam.
- The Steel H-piles shall be according to AASHTO M270 grade 50.
- Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.
- Reinforcement bars designated (E) shall be epoxy coated.
- 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 the production location at substructures specified or approved by the engineer before ordering the remainder of piles.

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub. Abuts.	Total
Removal of Existing Structures	Each	-	-	1
Concrete Structures	Cu. Yd.	-	19.4	19.4
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1470	-	1470
Steel Bridge Railing, Type S-1	Foot	109	-	109
Reinforcement Bars, Epoxy Coated	Pound	-	2500	2500
Furnishing Steel Piles HP 12x53	Foot	-	425	425
Driving Piles	Foot	-	425	425
Test Piles Steel HP 12x53	Each	-	2	2
Name Plates	Each	1	-	1
Concrete Cut-off Wall	Cu. Yd.	-	6.2	6.2
Structure Excavation	Cu. Yd.	-	76.5	76.5
Stone Riprap Class A4 (Special)	Sq. Yd.	-	269	269
Channel Excavation	Cu. Yd.	-	-	-
Controlled Low-Strength Material	Cu. Yd.	-	45.2	45.2
Pile Shoes	Each	-	12	12

INDEX OF SHEETS

- General Plan & Elevation
- Superstructure
- Superstructure Details
- Steel Railing
- Abutment Details
- Pile Details
- Boring Logs



Daniel Feuerborn
 Daniel Feuerborn
 License Expires 11-30-2010
 12.10.2009
 Date

I certify that to the best of 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 Specifications for Highway Bridges.

**GENERAL PLAN & ELEVATION
 TR 427 OVER FAYETTE CREEK**

DATE: 11-03-09 DRAWN BY: JEH CHECKED BY: DF

SHEET NO. 1 OF 7 SHEETS	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	-	01-03130-00-BR	VERMILION	17	5
		SN 092-3493	CONTRACT NO. 91366		
		FED. ROAD DIST. NO. -	ILLINOIS FED. AID PROJECT		



DRAWN BY: JEH CHECKED BY: DF DATE: xx-xx-xx