Bench Mark #1: P.K. nail in power pole Sta. 39+62, 46' Lt., Elev. 500.67

Bench Mark #2: P.K. nail in power pole Sta. 42+81, 46' Lt., Elev. 500.47

28' L x 24'W. No salvage.

Existing Structure: S.N. 017-3014. Single span precast concrete slab bridge on timber abutments.

SOUTH ABUTMENT

### STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

TBT, Type 1 (Special)

Tangent and 6A. (Typ. all 4 corners)

Porous Granular

Encasement (Typ.)

Concrete

Steel Piles HP12x53 (Typ.)

NORTH ABUTMENT

- General Plan and Elevation
- 27" x 48" PPC Deck Beam Details 27" x 48" PPC Deck Beam Details

STATION 41 + 30.00 BUILT 2010 BY CRAWFORD COUNTY F.A.S. RTE. 696 SEC. 08-00092-00-BR LOADING HI-93 STRUCTURE NO. 017-3059

See Std. 515001

## LOADING HL-93

25#/sq. ft. included in dead load for future wearing surface.

## <u>DESIGN SPECIFICATIONS</u>

2007 (4th Ed.) AASHTO LRFD Bridge Design Specifications, with 2008 Interims.

## DESIGN STRESSES FIELD UNITS

 $f'_{C} = 3,500 \text{ psi}$   $f_{y} = 60,000 \text{ psi (reinforcement)}$ 

## PRECAST PRESTRESSED UNITS

f'c = 6,000 psi f'ci = 5,000 psi

 $f_{pu}$  = 270,000 psi ( $^{l}_{2}$ "  $\phi$  low lax. strands)  $f_{pbt} = 201,960 \text{ psi } (\frac{1}{2}\text{"} \phi \text{ low lax. strands})$  $f_V = 60,000 \text{ psi (reinforcement)}$ 

#### SEISMIC DATA

Seismic Performance Zone (SPZ) = 2 Soil Site Classification = D  $S_{D1} = 0.205$   $S_{DS} = 0.465$ 

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.





11-30-2010 Date of License Expiration

RHUTASEL and ASSOCIATES, INC.

CONSULTING ENGINEERS • LAND SURVEYORS

CENTRALIA, ILLINOIS

ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

# INDEX OF SHEETS

- 4. Steel Railing, Type SM Details
- Abutment Details
- 6. HP Pile Details

NAME PLATE

### BILL OF MATERIALS (BRIDGE ONLY)

The Steel H-piles shall be according to AASHTO M270 Grade 50.

GENERAL NOTES

Layout of slope protection system may be varied in the field to suit ground

The Contractor shall drive test pile to 110% of the Nominal Required Bearing

See Section 502 of the Standard Specifications for Structural Excavation.

specified in a production location at the substructure specified or approved by the

Channel excavation shall be excavated as shown within the limits of the proposed

the material satisfactory, it may be used to construct the roadway embankment.

The abutment bearing seat surfaces for the precast prestressed concrete deck

A corrosion inhibitor shall be used in the concrete for the precast prestressed

deck beams, according to Aticle 1020.05(b)(12) and 1021.06 of the Standard

beams shall be adjusted by shimming to assure firm and even bearing. As required, 18" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be

bridge, then tapered to the existing channel at the ROW line. If the Engineer deems

Reinforcement bars shall conform to the requirements of ASTM A 706

Grade 60 (IL Modified). See Special Provisions.

Engineer before ordering the remainder of piles.

conditions as directed by the Engineer.

See Special Provisions for Soil Borings.

Do not scale these drawings.

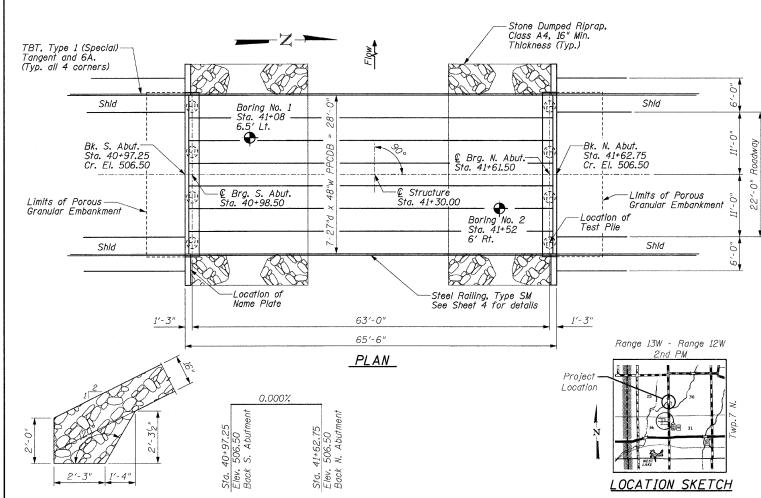
provided for each bearing.

Specifications.

ITEM	UNIT	SUPER	SUB	TOTAL						
Channel Excavation	Cu Yd	-	476	476						
Porous Granular Embankment	Ton	-	96	96						
Stone Dumped Riprap, Class A4	Ton	-	150	150						
Removal of Existing Structures	Each	-	-	1						
Concrete Structures	Cu Yd	-	23.8	23.8						
Concrete Encasement	Cu Yd	-	2.8	2.8						
PPCDB (27" Depth)	Sq Ft	1797	-	1797						
Reinforcement Bars	Pound	-	3980	3980						
Steel Railing, Type SM	Foot	131	-	131						
Furnishing Steel Piles HP12x53	Foot	-	406	406						
Driving Piles	Foot	-	406	406						
Test Pile Steel HP12x53	Each	-	1	1						
Name Plates	Each	-	1	1						
RELATED BRIDGE ITEMS										
Traffic Barrier Terminal, Type 6A	Each	-	-	4						
Traffic Barrier Terminal, Type 1 (Spec) Tan.	Each	-	-	4						
Terminal Marker - Direct Applied	Each	-	-	4						

GENERAL PLAN AND ELEVATION COUNTY HIGHWAY 6 OVER BENNETT CREEK F.A.S. ROUTE 696 - SECTION 08-00092-00-BR CRAWFORD COUNTY STATION 41+30.00 STRUCTURE NO. 017-3059

SHEET NO. 1	F.A.S. RTE.	SECTION						COUNTY	TOTAL SHEETS	SHEE NO.	
	696	96 08-00092-00-BR							CRAWFORD	10	5
6 SHEETS						CONTRACT	NO. 95	598			
	FED. RC	DAD D	IST.	NO.	7	ILLINOIS	FED.	ΑI	D PROJECT		



27"d x 48"w PPCDB (Tÿpical) □

Channel Excavation

E El. 495.0

Stone Dumped Riprap,

ELEVATION

Class A4, 16" Min.

Thickness (Typ.)

-Steel Railing, Type SM See Sheet 4 for details.

/Berm'

RIPRAP ANCHOR DETAIL

DESIGNED - GLH CHECKED - GLH DRAWN - JN

CHECKED - GLH

GRADE ON STRUCTURE (along € F.A.S. Rte. 696)

WATERWAY INFORMATION

(By Connor & Connor, Inc.)

Drainage Area = 4.28 sq. mi. Low Grade Elev. 506.20 ft. © Sta. 44+00.00									
Flood	Freq.	a	Opening	Sq. Ft.	Nat.	Head - Ft.		Headwater El.	
F100a	Yr.	C.F.S.	Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.
Design	20	1527	152	286	502.3	2.6	0.7	397.54	503.0
Base	100	2050	165	315	502.9	3.5	1.0	506.4	503.9
Overtopping									
Max. Calc.	500	2790	182	357	503.6	3.5	1.8	507.1	505.4