

08.gpd_5250.DWG APR. 22, 2010

BENCHMARK: T.B.M. R.R. spike in Power Pole
Sta. 107+99.86, 50.7' Rt.
El. 456.080

EXISTING STRUCTURE S.N. 003-3020

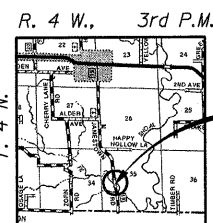
The existing structure, constructed in 1958, consists of four spans (4 @ 36') of precast channel beams with an overall length of 146'-0" back-to-back of abutments on a 30° left forward skew and provides a clear roadway width of 24'-0" between the concrete curbs and a 26'-3" width out to out of the deck. The existing substructure consists of spill through pile bent abutments and pile bent piers on timber piles.

The Contractor shall remove and dispose of the existing structure in accordance with Section 501 of the Standard Specifications.

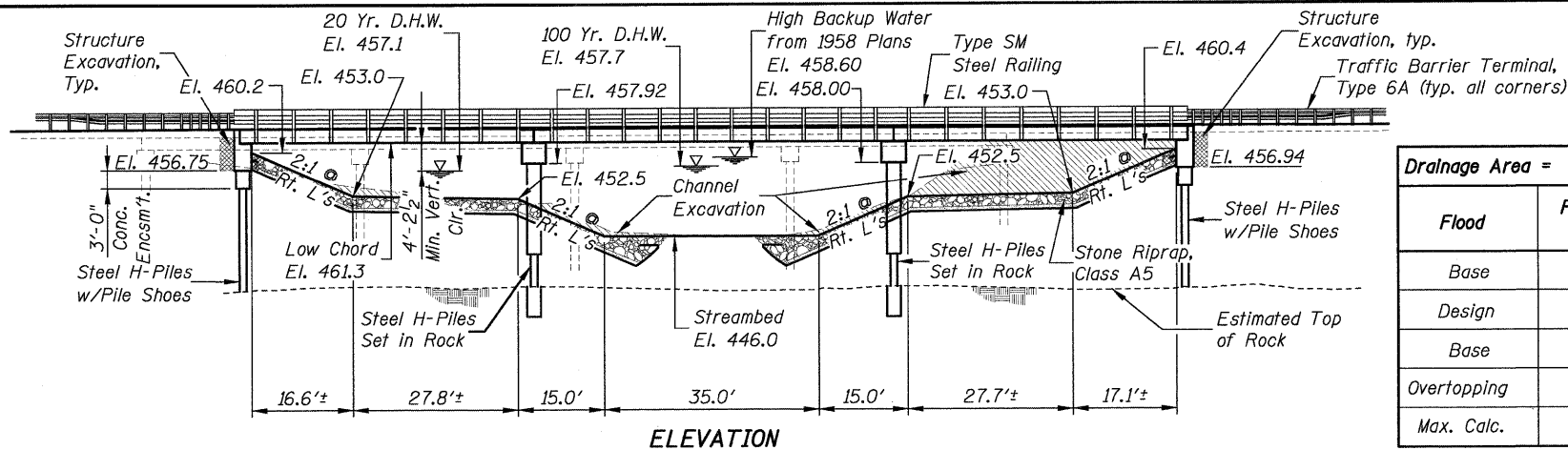
The existing roadway will remain open to one lane of traffic during the construction period utilizing stage construction.

Piers shall be kept for Stage I Traffic.

SALVAGE: No salvage



LOCATION SKETCH



ELEVATION

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications with 2008 Interims

DESIGN STRESSES

PRECAST PRESTRESSED UNITS

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

FIELD UNITS
 f'_c = 3,500 p.s.i.
 f_y = 60,000 p.s.i. (reinf.)
 f_y = 50,000 p.s.i. (M270 Grade 50)

LOADING HL-93

Allow 50 p.s.f. for future wearing surface

SEISMIC DATA

Seismic Performance Zone (SPZ): 2
Design Spectral Acceleration at 1.0 sec (S_{D1}) = 0.239 g
Design Spectral Acceleration at 0.2 sec (S_{D5}) = 0.560 g
Soil Site Class = D

Note:

Channel excavation shall be transitioned from the edge of the proposed deck to match the existing channel at the R.O.W. line.

Traffic Barrier Terminal, Type 6A & Type 1 (Special) Tangent & SPBGR Type A, typical all corners. See Roadway Plans.

LOCUST FORK CREEK
BUILT 201 BY
BOND COUNTY
SECTION 02-00074-00-BR
F.A.S. 783 STATION 107+52
S.N. 003-3050 LOADING HL93
PROJ. NO. BRS-0783(107)

NAME PLATE

See Std. 515001.
Locate Name Plate as shown in Plan View.

INDEX OF BRIDGE SHEETS

1. General Plan & Elevation
2. Bridge Staging, Details & General Notes
3. Temporary Concrete Barrier for Stage Construction
4. Superstructure
5. 27" x 36" P.P.C. Deck Beam - Spans 1 & 3
6. 27" x 36" P.P.C. Deck Beam - Span 2
7. 27" x 36" P.P.C. Deck Beam Details
8. Steel Railing, Type SM with Hot-Mix Asphalt Wearing Surface
9. Pile Bent North Abutment
10. Pile Bent South Abutment
11. Piers 1 & 2
12. HP Pile Details
13. Bar Splicer Assembly Details
14. Soil Boring Logs

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER.	SUB.	TOTAL
Channel Excavation	Cu. Yd.			971
Stone Riprap, Class A5	Sq. Yd.			1,060
Filter Fabric	Sq. Yd.			1,060
Hot-Mix Asphalt Surface Course, Mix "C", N70	Ton	151		151
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		124	124
Concrete Structures	Cu. Yd.		91.6	91.6
Concrete Encasement	Cu. Yd.		30.6	30.6
Prec. Pres. Conc. Dk. Bms. (27" Depth)	Sq. Ft.	5,698		5,698
Reinforcement Bars, Epoxy Coated	Pound		10,440	10,440
Bar Splicers	Each		72	72
Steel Railing, Type SM	Foot	320		320
Furnishing Steel Piles HP 12x53	Foot		270	270
Furnishing Steel Piles HP 12x74	Foot		448	448
Driving Steel Piles	Foot		270	270
Test Pile Steel HP 12x53	Each		2	2
Pile Shoes	Each		12	12
Temporary Sheet Piling	Sq. Ft.		132	132
Name Plates	Each		1	1
Waterproofing Membrane System	Sq. Yd.	634		634
Portland Cement Mortar Fairing Course	Foot	1,741		1,741
Setting Piles in Rock	Each		14	14
Temporary Soil Retention System	Sq. Ft.		259	259
Underwater Struct. Excav. Protection-Loc. 1	Each		1	1
Underwater Struct. Excav. Protection-Loc. 2	Each		1	1

GENERAL PLAN & ELEVATION

F.A.S. 783 (C.H. 19/JAMESTOWN RD.)

OVER LOCUST FORK CREEK

SECTION 02-00074-00-BR

BOND COUNTY

STATION 107+52 STRUCTURE NO. 003-3050

SHEET NO.	F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1	783	02-00074-00-BR	BOND	25	8
S.N. 003-3050			CONTRACT NO. 97446		
FED. ROAD DIST. NO. _____		ILLINOIS		FED. AID PROJECT	

"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 LRFD Bridge Design Specifications' including seismic design."

Bradley G. Hummert Date: 4/22/10

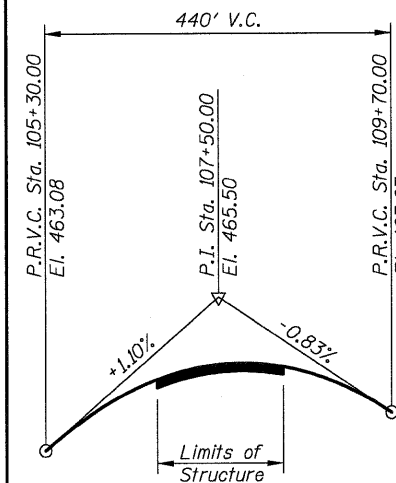
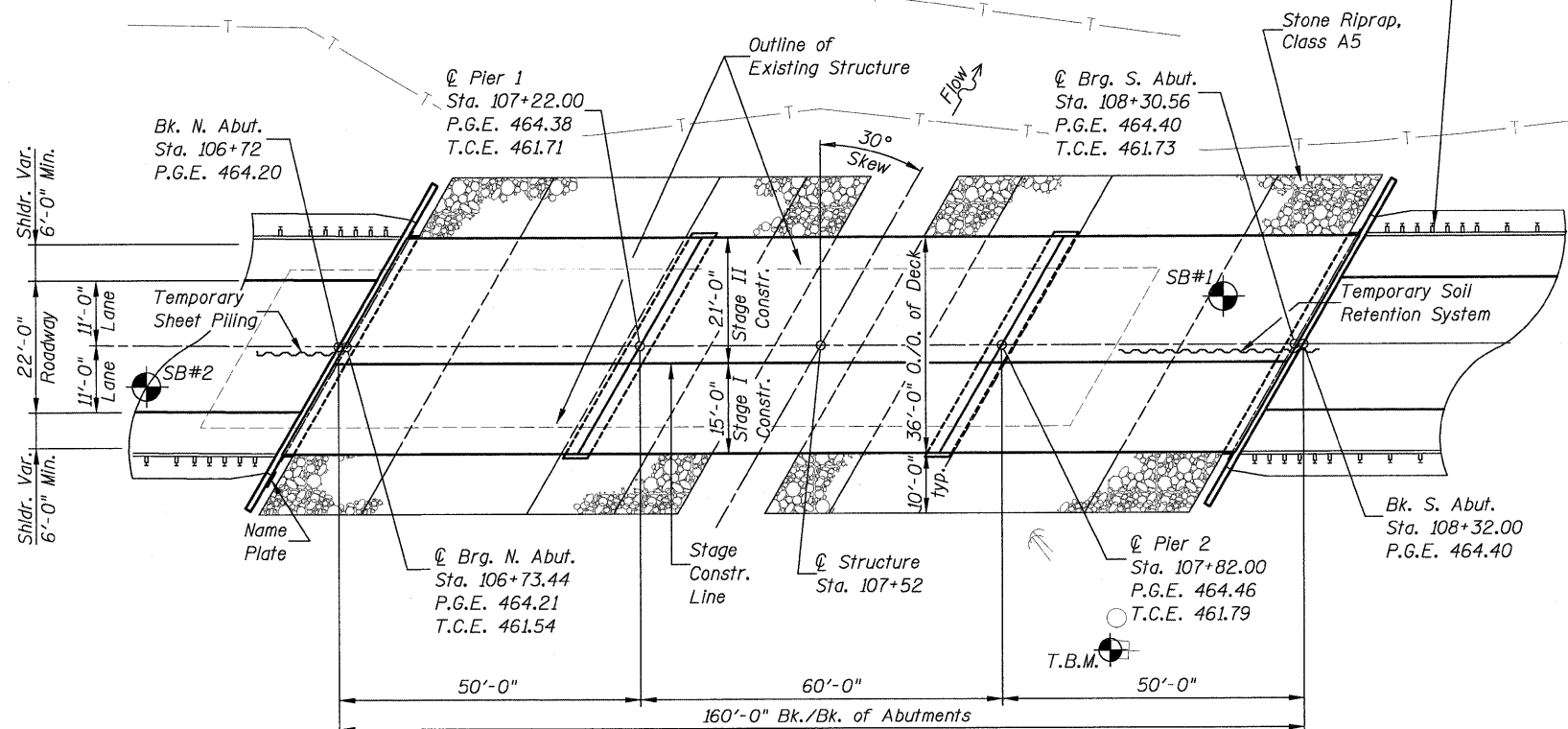
Bradley G. Hummert
Licensed Structural Engineer
In Illinois No. 081-005428

Expires: November 30, 2010



DESIGNED	K.M.M.
CHECKED	L.D.G.
DRAWN	K.H.L.
CHECKED	B.G.H.

PLAN



PROFILE GRADE
F.A.S. 783 (C.H. 19)

H.M.G. NO. 5250