

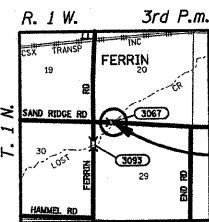
0144055-01-GPEL.DGN MAR. 12, 2009

BENCHMARK: Spike set in Power Pole
Sta. 17+70.70, 22.03' Rt.
El. 449.42

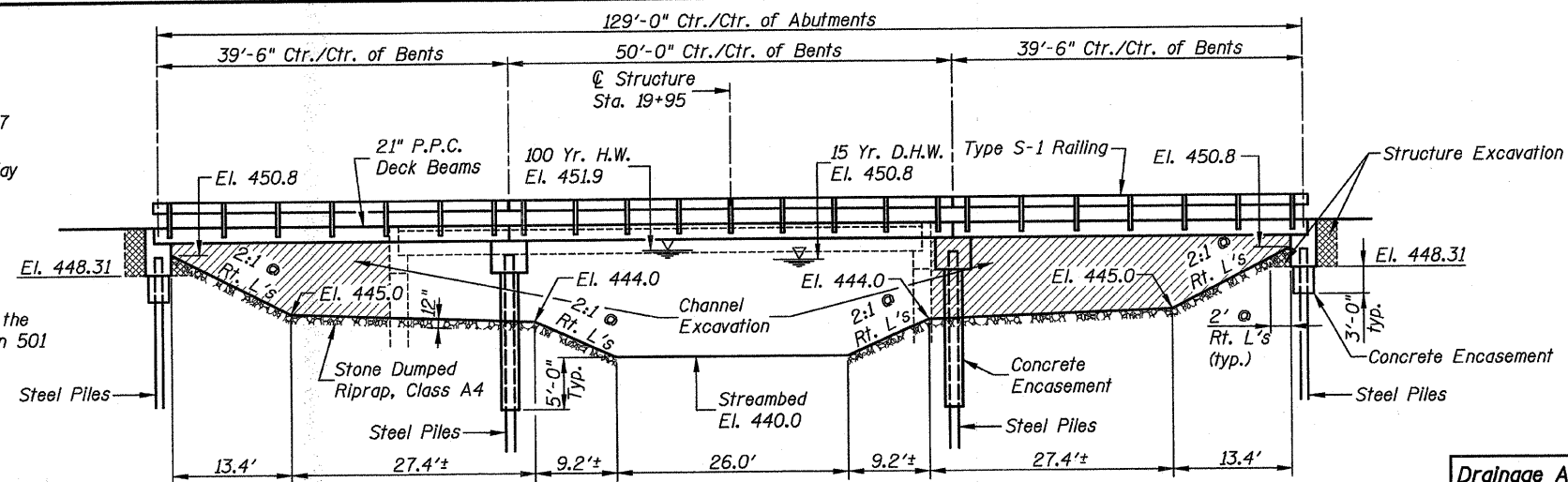
EXISTING STRUCTURE S.N. 014-3067
The existing structure consists of a single span bridge with 6" concrete deck and overlay supported on W33 steel beams on closed concrete abutments.
The structure measures 61.0' back to back of abutments and 18.0' out to out of bridge deck.

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

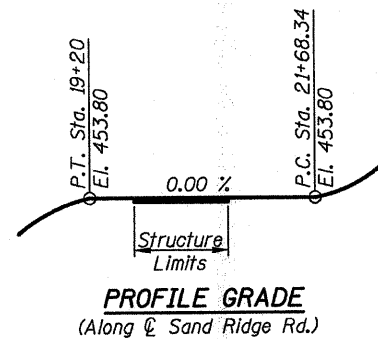
SALVAGE: No Salvage



LOCATION SKETCH



ELEVATION



PROFILE GRADE
(Along Centerline of Sand Ridge Rd.)

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

GENERAL NOTES

1. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr. 60 (IL Modified). See Special Provisions.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
4. The bankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
5. The Contractor shall drive test piles to 110% of the nominal required bearing specified in production location at substructures specified or approved by the Engineer before ordering remaining piles.

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (Feet)	W. Abut.	Pier 1	Pier 2	E. Abut.
	445.31	435.00	435.00	445.31

WATERWAY INFORMATION

Drainage Area = 211 Sq. Mi.			Low Grade El. = 449.0 @ Sta. 16+00						
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exlst.	Prop.		Exlst.	Prop.	Exlst.	Prop.
Design	15	3,220	426	750	450.8	0.1	0.4	451.0	451.2
Base	100	5,140	426	828	451.9	0.1	0.1	452.0	452.0
Overtopping	2	1,180	388	527	448.9	1.0	0.1	449.9	449.0
Max. Calc.	500	N/A							

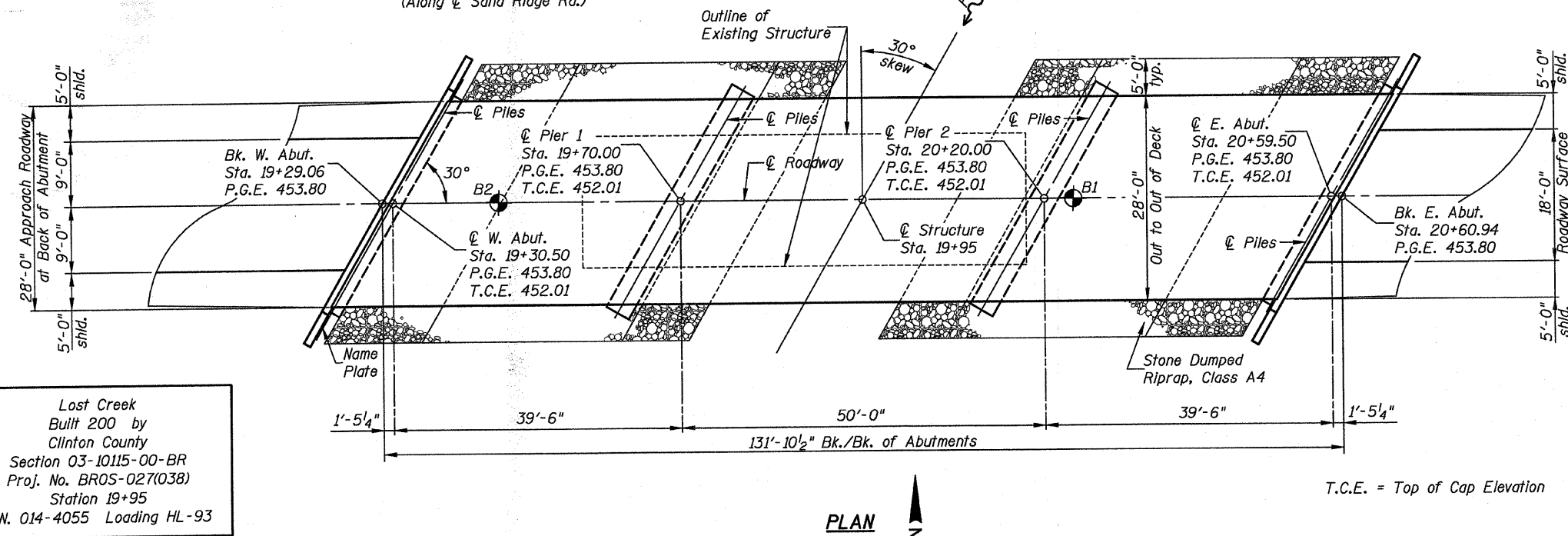
INDEX OF BRIDGE SHEETS

1. General Plan & Elevation
2. P.P.C. Deck Beam Superstructure
3. 21" x 48" P.P.C. Deck Beam - Spans 1 & 3
4. 21" x 48" P.P.C. Deck Beam - Span 2
5. 21" x 48" P.P.C. Deck Beam Details
6. Pile Bent Abutment
7. Pile Bent Pier
8. Steel Railing, Type S-1
9. HP Pile Details
10. Soil Boring Logs

TOTAL BILL OF MATERIALS

ITEM	UNIT	SUPER	SUB.	Total
Channel Excavation	Cu. Yd.			874
Stone Dumped Riprap, Class A4	Ton			238
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		73	73
Concrete Structures	Cu. Yd.		61.8	61.8
Concrete Encasement	Cu. Yd.		22.2	22.2
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	3,647		3,647
Reinforcement Bars, Epoxy Coated	Pound		6,900	6,900
Steel Railing, Type S-1	Foot	264		264
Furnishing Steel Piles HP 10x42	Foot		275	275
Furnishing Steel Piles HP 12x53	Foot		275	275
Driving Steel Piles	Foot		550	550
Test Piles Steel HP 12x53	Each		2	2
Name Plates	Each			1
Portland Cement Mortar Fairing Course	Foot	780		780

GENERAL PLAN & ELEVATION
T.R. 137 (SAND RIDGE ROAD) OVER LOST CREEK
SECTION 03-10115-00-BR
CLINTON COUNTY
STATION 19+95
STRUCTURE NO. 014-4055



PLAN

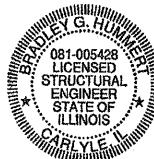
Lost Creek
Built 200 by
Clinton County
Section 03-10115-00-BR
Proj. No. BROS-027(038)
Station 19+95
S.N. 014-4055 Loading HL-93

NAME PLATE
(See Std. 515001)
Locate Name Plate as shown in Plan View.

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

"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: 3/12/09
Bradley G. Hummert
Licensed Structural Engineer
in Illinois No. 081-005428 Expires: November 30, 2010



DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design
Specifications with 2008 Interims

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

PRECAST UNITS

f'c = 6,000 psi
f'cl = 5,000 psi
f's = 270,000 psi (1/2" Strands)
f'sl = 201,960 psi (1/2" Strands)

LOADING HL-93

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

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.191 g
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.510 g
Soil Site Class = C

SHEET NO.	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1	137	03-10115-00-BR	CLINTON	15	4
S.N. 014-4055			CONTRACT NO. 97374		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		