

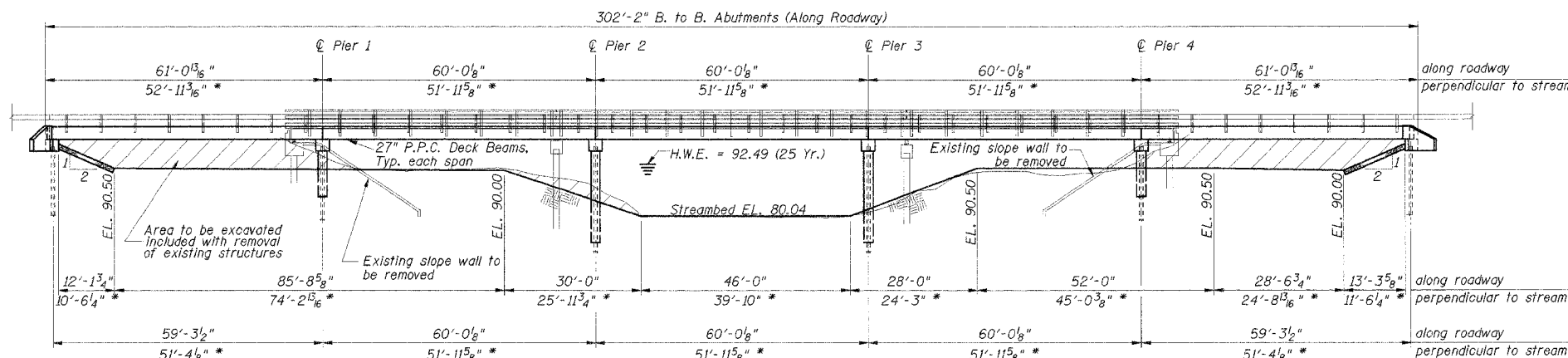
Existing Structure: (3 Spans) Steel girders supporting a concrete deck.  
 Abutments/Piers caps are concrete supported on concrete piles.  
 201' Long and 24' Wide.

BM #1 - Spike in power pole at Sta 0+60.00, 39.0' L.T., Elev. 97.51

ROUTE NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
C.H. 2	*	Fulton	14	5
FED. ROAD DIST. NO. 7		ILL. HIGHWAY PROJ. NO.	BR-5-452(10)	

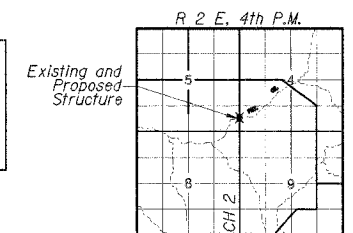
\*04-00130-00-BR

CONTRACT #89373



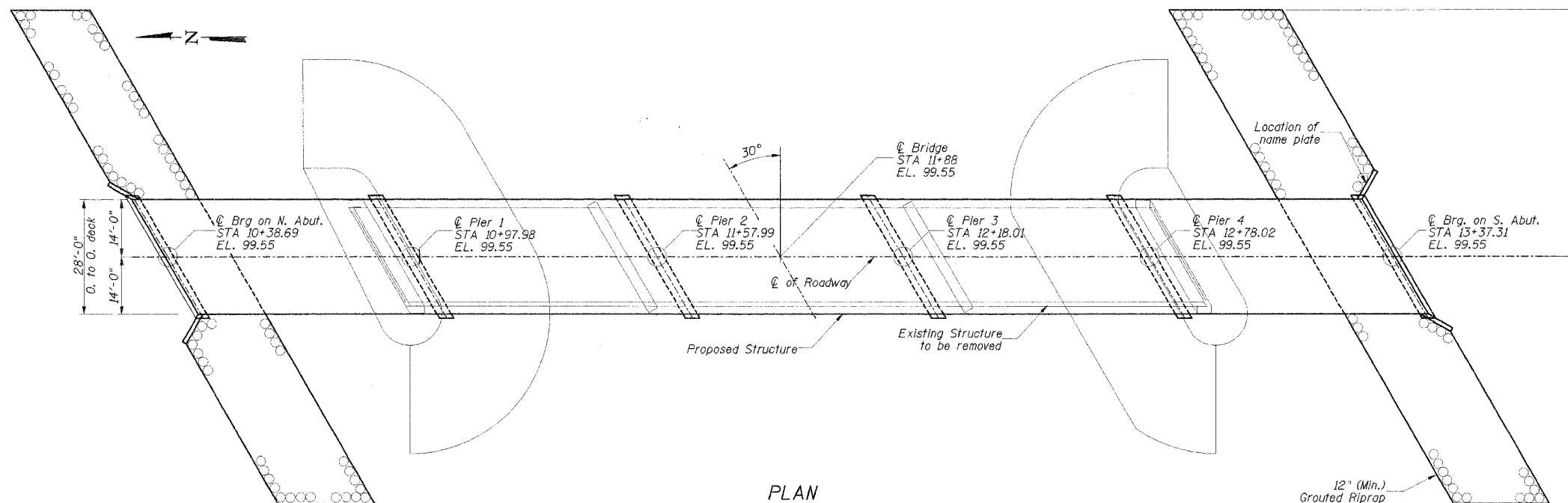
STRUCTURE NO. 029-3213  
 SEC. 04-00130-00-BR  
 COUNTY HIGHWAY 2  
 FULTON COUNTY  
 LOADING HS-20-44

NAME PLATE  
 See Standard 515001

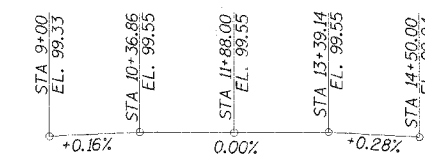


LOCATION SKETCH

Drainage Area	82.47 Sq. Mi.
Existing Opening (25 Yr.)	940.7 Sq. Ft.
Required Opening (25 Yr.)	1,212 Sq. Ft.
Proposed Opening (25 Yr.)	1,238.7 Sq. Ft.
Design Discharge (25 Yr.)	10,279 C.F.S.
Computed Discharge (100 Yr.)	14,283 C.F.S.
25 Yr. Head	0.33 Ft.
100 Yr. Head	0.77 Ft.



PLAN



PROFILE GRADE

DESIGN SPECIFICATIONS

AASHTO (2002)

DESIGN LOADING

HS 20-44  
 25 P.S.F Future Wearing Surface

DESIGN STRESSES

- $f'_c = 3,500$  psi (Cast in Place Concrete)
- $f'_c = 5,000$  psi (P.P.C. Units)
- $f'_{cl} = 4,000$  psi (P.P.C. Units)
- $f_y = 60,000$  psi (Reinforcement)
- $f'_s = 270,000$  psi ( $1/2$ "  $\phi$  Strands)
- $f'_{sl} = 201,960$  psi ( $1/2$ "  $\phi$  Strands)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each	1		1
Precast Prestressed Concrete Deck Beams (27" Deep)	Sq. Ft.	8,388		8,388
Steel Railing, Type S-1	Foot	600		600
Concrete Wearing Surface	Sq. Yd.	946		946
Reinforcement Bars - Epoxy Coated	Pounds	12,980		12,980
Furnishing Steel Piles, HP10x42	Foot		3,080	3,080
Driving Steel Piles	Foot		3,080	3,080
Test Piles, Steel HP10x42	Each	6		6
Metal Shoes	Each	44		44
Conc. Cut-off Wall	Cu. Yds.	6.5		6.5
Concrete Structures	Cu. Yds.	215.2		215.2
Name Plate	Each	1		1
Reinforcement Bars	Pound	14,620		14,620
Structure Excavation	Cu. Yds.	384		384
Controlled Low-Strength Material	Cu. Yds.	70		70

GENERAL NOTES

1. The Contractor shall drive 1 steel test pile in a permanent location at each abutment and pier as directed by the Engineer before ordering the remainder of piles.
2. Boring Data is shown only as a guide to bidders in estimating soil conditions which may be encountered during construction. See Sheet 14 for Boring Logs.
3. Class SI or MS Concrete shall be used in the abutments.

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 the requirements of the current "AASHTO Standard Specifications for Highway Bridges."

*Keith E. Brandau* 12/15/05

KEITH E. BRANDAU  
 Illinois Licensed Structural Engineer Number 4905  
 License Expires 11/30/06



DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	K.E. Brandau				
APVD	K.E. Brandau	NO.	DATE	REVISION	BY

FRAUENHÖFFER

Frauenhoffer and Associates, P.C. Consulting Engineers  
 3002 Crossing Court Champaign, Il. 61822 217-351-6268

GENERAL PLAN AND ELEVATION

COUNTY HIGHWAY 2  
 SECTION 04-00130-00-BR  
 FULTON COUNTY

SHEET 5

DWG NO. 4056-gpe.dwg

DATE NOV 2005

PROJ. NO. 4056