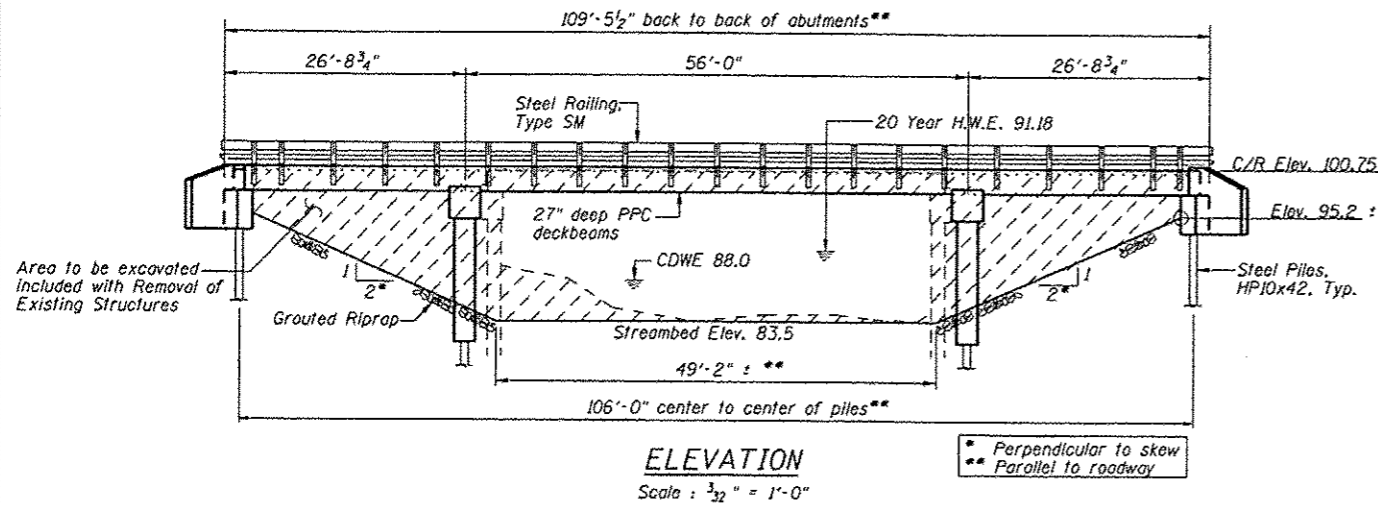


ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET TOTAL
FAS452	*	FULTON	26	6
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

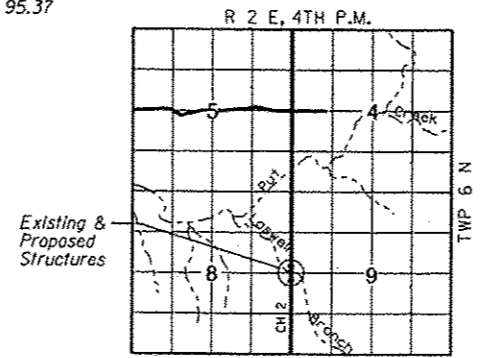
* 09-00130-05-BR

Existing Structure: Existing Structure is a single span bridge with 21" concrete deck beams. The substructure is closed concrete abutments with nearly straight back timber wingwalls.

BM #1 - Chiseled "X" in T/Curb at south end of east bridge curb, Elev. 100.29
 BM #2 - RR spike in power pole at Sta. 7+25, 30' RT., Elev. 95.61
 BM #3 - RR spike in power pole at Sta. 11+23, 33' RT., Elev. 95.37



ELEVATION
 Scale: 3/32" = 1'-0"

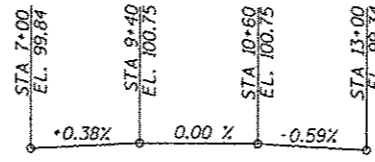


LOCATION SKETCH

STRUCTURE NO. 029-3214
 SEC. 09-00130-05-BR BUILT 20...
 FAS 452/CH2
 FULTON COUNTY
 LOADING HL-93

NAME PLATE

See Standard 515001



PROFILE GRADE

DESIGN SPECIFICATIONS

AASHTO (2007) and applicable Interims

DESIGN LOADING

HL-93
 50 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)
- $f'_{ci} = 4,000$ psi (P.P.C. Units)
- $f_y = 60,000$ psi (Reinforcement)
- $f'_s = 270,000$ psi (1/2" ϕ Strands)
- $f'_{si} = 201,960$ psi (1/2" ϕ Strands)

WATERWAY DATA

Drainage Area	7.59 Sq. Mi.
Existing Opening	254.4 Sq. Ft.
Required Opening (20 Yr.)	470 Sq. Ft.
Proposed Opening (20 Yr.)	502 Sq. Ft.
Design Discharge (20 Yr.)	2180 C.F.S.
Computed Discharge (100 Yr.)	3340 C.F.S.
20 Yr. Head	0.19 Ft.
100 Yr. Head	0.93 Ft.

BORING DATA

N - Standard Penetration Test - Blows per foot to drive 2" O.D. split spoon sampler 12" with 140 lb. hammer falling 30".
 Qu - Unconfined Compressive Strength - Tons/Sq. Ft.
 W - Water Content - Percentage of oven dry weight - %

BORING B-1

Location: STA 9+53 (±),
 6 ft. RT of ϕ Road

Depth (ft)	N	Qu	W	Soil Description
0				Elev. 99.4
0-1				7" Oil/Chip
1-1.5				12" Sand & Gravel
1.5-5	8	-	13.1	Brown Silty CLAY w/ Gravel, Some Sand
5-7	5	1.05B	18.4	
7-9	2	1.28B	18.4	
9-11	2	0.98B	18.9	Damp Gray Silty CLAY, Small Pebbles, Soft
11-13	2	0.60B	15.9	
13-15	4	2.48S	18.4	
15-17	2	0.64BS	24.3	Seeping Water @ 17'
17-19	3	0.32V	21.7	Gray Silty CLAY w/ Sand
19-21	5	-	18.0	Gray Silty Fine SAND, Wet, Soft
21-23	3	-	18.3	
23-25	73	-	15.0	Coarse Sandy Gravel
25-27	101/1.5	-	13.1	Broken Rock @ 29'
27-29	102/2"	-	-	Broken Limestone @ 31.5'
29-31				Auger Refusal @ 33'
31-33				End of Boring @ 33'

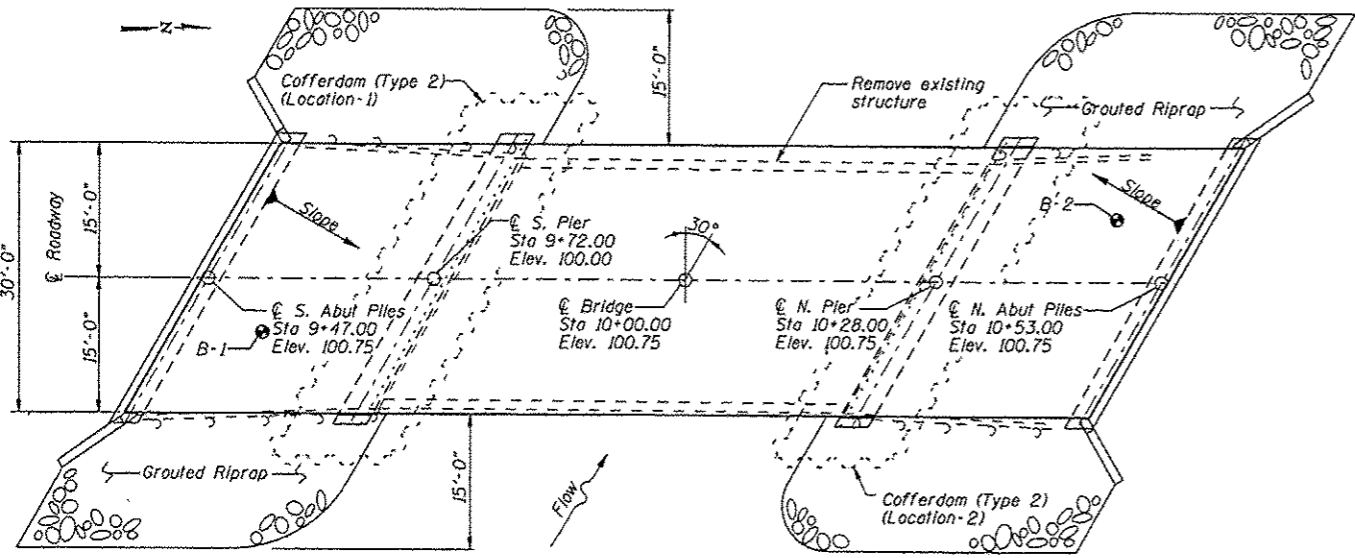
BORING B-2

Location: STA 10+48 (±),
 7 ft. LT of ϕ Road

Depth (ft)	N	Qu	W	Soil Description
0				Elev. 99.5
0-1				6" Oil/Chip
1-1.5				13" Sand & Gravel
1.5-5	7	2.32BS	13.3	
5-7	6	-	28.0	Brown Gray Silty CLAY w/ Some Sand, Small Pebbles, Organics
7-9	9	-	18.4	
9-11	1	0.98B	19.8	Tan Silty CLAY, Damp, Very Soft
11-13	5	-	14.9	
13-15	1	0.75B	24.1	Gray Silty CLAY, Soft
15-17	3	-	20.5	
17-19	5	-	20.5	Brown Coarse SAND w/ Gravel, Wet
19-21	7	-	21.6	
21-23	12	-	19.2	Gray Coarse SAND w/ Pebbles and Broken Rocks, Wet
23-25	83	2.56V	11.7	Very Hard Gray Clayey SHALE
25-27	102/1"	-	15.5	Auger Refusal @ 33'
27-29				End of Boring @ 33'

TOTAL BILL OF MATERIAL

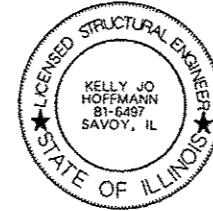
ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each	1	-	1
Structure Excavation	Cu. Yd.	-	225	225
Cofferdam Excavation	Cu. Yd.	-	265	265
Cofferdam (Type 2) (Location-1)	Each	-	1	1
Cofferdam (Type 2) (Location-2)	Each	-	1	1
Concrete Wearing Surface, 5"	Sq. Yd.	365	-	365
Concrete Structures	Cu. Yd.	-	142.2	142.2
Bridge Deck Grooving	Sq. Yd.	365	-	365
Seal Coat Concrete	Cu. Yd.	-	115	115
Protective Coat	Sq. Yd.	432	-	432
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	3215	-	3215
Reinforcement Bars, Epoxy Coated	Pound	9780	11530	21310
Steel Railing, Type SM	Foot	216	-	216
Furnishing Steel Piles HP10x42	Foot	-	890	890
Driving Piles	Foot	-	890	890
Test Pile Steel HP10x42	Each	-	4	4
Pile Shoes	Each	-	30	30
Name Plates	Each	-	1	1
Controlled Low-Strength Material	Cu. Yd.	-	105	105
Grouted Riprap	Sq. Yd.	-	430	430
Concrete Cut-Off Wall	Cu. Yd.	-	6.9	6.9



PLAN
 Scale: 3/32" = 1'-0"

GENERAL NOTES

- The Contractor shall drive test piles to 110% of the Nominal Required Bearing specified in production locations of the substructures specified or approved by the Engineer before ordering the remainder of the piles.
- Boring Data is shown only as a guide to bidders in estimating soil conditions which may be encountered during construction.
- Class S1 or MS Concrete shall be used in the abutments.
- Reinforcement bars shall conform to the requirements of ASTM A706, Grade 60 (IL Modified). See Special Provisions.
- Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.



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 LRFD Bridge Design Specifications."

Kelly Jo Hoffmann
 KELLY JO HOFFMANN
 Illinois Licensed Structural Engineer Number 6497
 License Expires 11/30/14

DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.R. Wolf				
APVD	J.A. Fraunhoffer	NO.	DATE	REVISION	BY

FRAUNHOFER & ASSOCIATES
 A Division of Engineering Resource Associates, Inc.
 Consulting Engineers, Scientists, & Surveyors

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GENERAL PLAN AND ELEVATION
 FAS 452 (CH2) OVER LASWELL BRANCH OF PUT CREEK
 SEC 09-00130-05-BR
 FULTON COUNTY

SHEET	6
DWG	9029GPE.dgn
DATE	DEC 2012
PROJ	9029