Bench Mark: Chiseled "□" on top of W. side of S. abut. of S.N. 029-0004 (Existing Spoon River Bridge) Elev. 480.75 (146.533)

Existing Structure: S.N. 029-0003: 5 span PPC-deck beam supported on timber pile footings. Built 1925 under Section 18BRY. S.B.I. Route 31 at Sta. 64+75. Widened and added Pier 2 & 3 with metal shell piles with new superstructure 1970. Existing structure to be removed and replaced along new alignment. Two-way traffic maintained on existing structure during Stage I, II & III construction.

No salvage

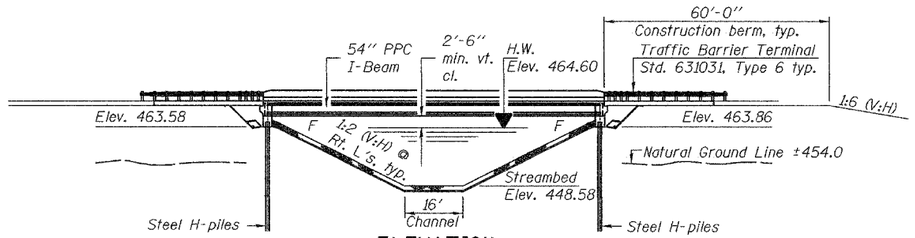
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 315	(18BRY-1)BR	FULTON		152
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

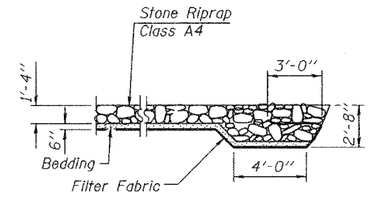
SHEET NO. 1
13 SHEETS

Contract #88753

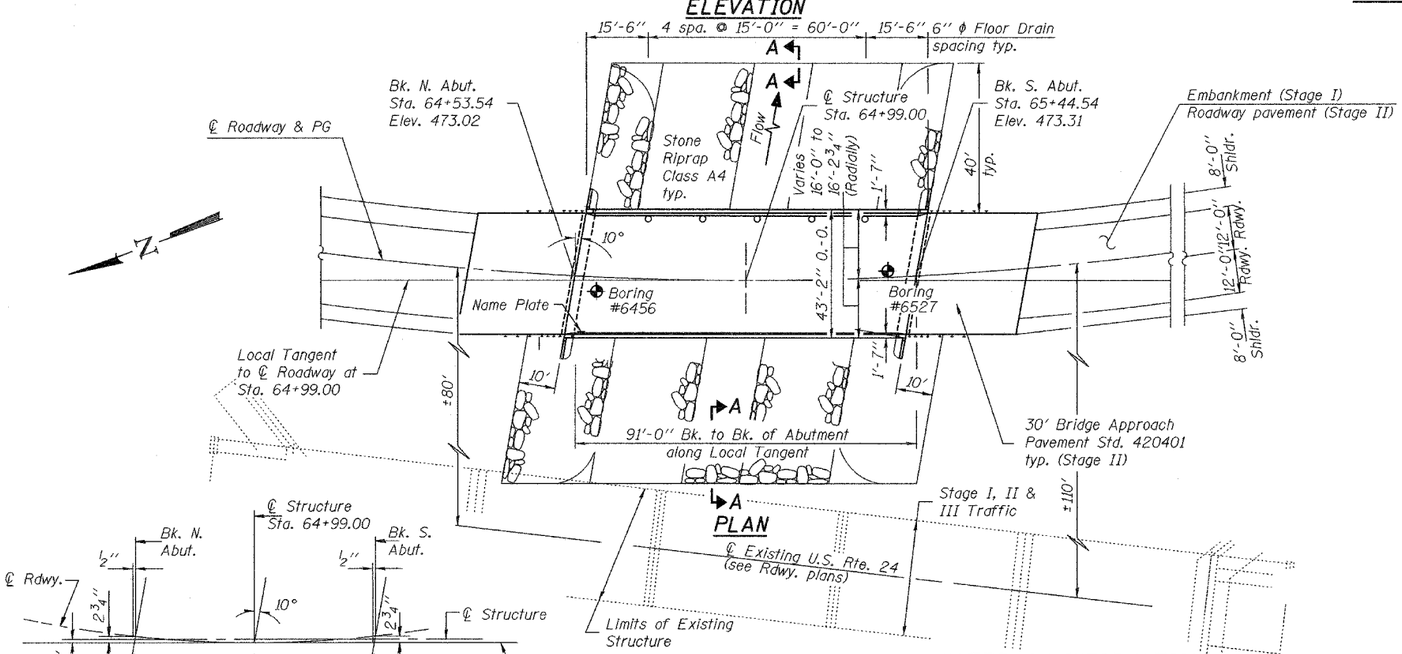
Note: For channel debris removal see Roadway Plans.



ELEVATION



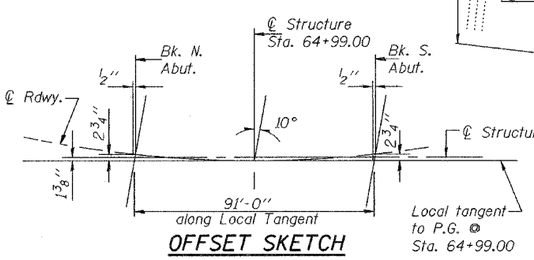
SECTION A-A



PLAN

PROFILE GRADE

(along ℄ roadway)



OFFSET SKETCH

CURVE DATA
U.S. RTE. 24

P.I. Sta. = 71+34.68
△ = 28°-53'-55.60" (LT)
D = 1°-15'-23.35"
R = 4,560.00'
T = 1,175.00'
L = 2,299.97
E = 148.95'
e = 3.3%
P.C. Sta. = 59+59.68
P.T. Sta. = 82+59.64

GENERAL NOTES

Reinforcement bars shall conform to the requirements of AASHTO M 31 or M322 Grade 60.

Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.

All Construction joints shall be bonded.

The Contractor shall drive 1 test pile in a permanent location at the North abutment as directed by the Engineer before ordering the remainder of piles.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.		293	293
Stone Riprap, Class A4	Ton		938	938
Filter Fabric	Sq. Yd.		1407	1407
Removal of Existing Structures No. 1	Each			1
Structure Excavation	Cu. Yd.		89	89
Floor Drains	Each	5		5
Concrete Structures	Cu. Yd.		44.4	44.4
Concrete Superstructure	Cu. Yd.	151.6		151.6
Bridge Deck Grooving	Sq. Yd.	384		384
Protective Coat	Sq. Yd.	481		481
Furnishing and Erecting Precast Prestressed Concrete I-Beams 54"	Foot	537		537
Reinforcement Bars, Epoxy Coated	Pound	27720	6380	34100
Furnishing Steel Piles HP 12x74	Foot		825	825
Driving Steel Piles	Foot		825	825
Test Pile Steel HP 12x74	Each		1	1
Name Plates	Each	1		1
Bar Splicers	Each	80		80

INDEX OF SHEETS

1- General Plan and Elevation
2- General Details
3-4- Top of Slab Elevations
5- Superstructure
6- Superstructure Details
7- Diaphragm Details
8- Framing Plan
9- Beam Details
10- North Abutment
11- South Abutment
12- Bar Splicer Assembly Details
13- Soil Boring Logs

LOADING HS20-44

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

DESIGN SPECIFICATIONS

2002 AASHTO

DESIGN STRESSES

FIELD UNITS

f'_c = 3,500 psi (conc.)
f_y = 60,000 psi (reinf.)

PRECAST PRESTRESSED UNITS

f_c = 6,000 psi
f'_{ci} = 5,000 psi
f'_s = 270,000 psi (1/2"ϕ low lax. strands)
f_s = 201,960 psi (1/2"ϕ low lax strands)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 4.3%g
Site Coefficient (S) = 1.0

WATERWAY INFORMATION

Drainage Area = 1837 mi.^{2} — Low Grade Elev. 463.3' (exist.), 468.80' (prop.)

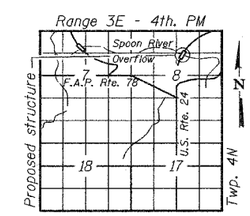
Flood	Freq. Yr.	Structure Number	Q C.F.S. Exist.	Q C.F.S. Prop.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	029-0004	21305	24123	4720	6555	463.2	1.3	0.7	464.5	463.9
		029-0003	4474	1692	1689	619					
		overtopping	35	-	-	-					
		Total	25815	25815	6409	7174					
Design	50	029-0004	23318	35650	5293	7488	464.6	1.4	1.2	466.0	465.8
		029-0003	5248	2702	1689	722					
		overtopping	9786	-	-	-					
		Total	38352	38352	6982	8210					
Base	100	029-0004	26161	40432	5489	7837	465.1	1.2	1.2	466.3	466.3
		029-0003	3948	3182	1689	762					
		overtopping	13505			-					
		Total	43614	43614	7178	8599					
Overtopping	10	029-0004	20009	-	4439	-	462.5	0.8	-	463.3	-
		029-0003	4005	-	1689	-					
		Total	24014	-	6128	-					
Max. Calc.	500	029-0004	26627	51941	5945	8756	466.5	0.9	0.9	467.4	467.4
		029-0003	5156	4210	1689	873					
		overtopping	24368	-	-	-					
		Total	56151	56151	7634	9629					

Exist. 10-yr. velocity: 4.5 ft./sec. (029-0004); 2.6 ft./sec. (029-0003)
Prop. 10-yr. velocity: 3.7 ft./sec. (029-0004); 2.7 ft./sec. (029-0003)
Max. H.W.E. 463.75' (date varies)

STATION 64+99.00
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. RT. 315 SEC. (18BRY-1)BR
LOADING HS20
STR. NO. 029-0067

NAME PLATE

See Std. 515001



LOCATION SKETCH

GENERAL PLAN
F.A.P. ROUTE 315 OVER SPOON RIVER OVERFLOW
U.S. ROUTE 24 - SECTION (18BRY-1)BR
FULTON COUNTY
STATION 64+99.00
STRUCTURE NO. 029-0067

DESIGNED	Alan M. Johnson
CHECKED	Philip E. Campbell
DRAWN	Michael B. Mossman
CHECKED	AMJ PEC

April 25, 2005
EXAMINED Thomas J. Domalewski — ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson — ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS — RALPH E. ANDERSON — 081-004625 — SPRINGFIELD — LICENSED STRUCTURAL ENGINEER

EXPIRES 11-30-2006

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