

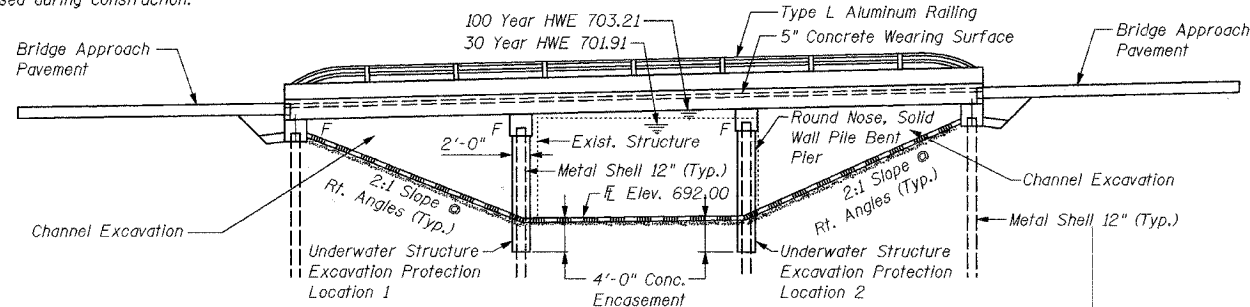
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9th	05-00142-00-BR	COLES	16	6
STA. 14+00			TO STA. 15+80	

Sheet 1 of 10 Sheets

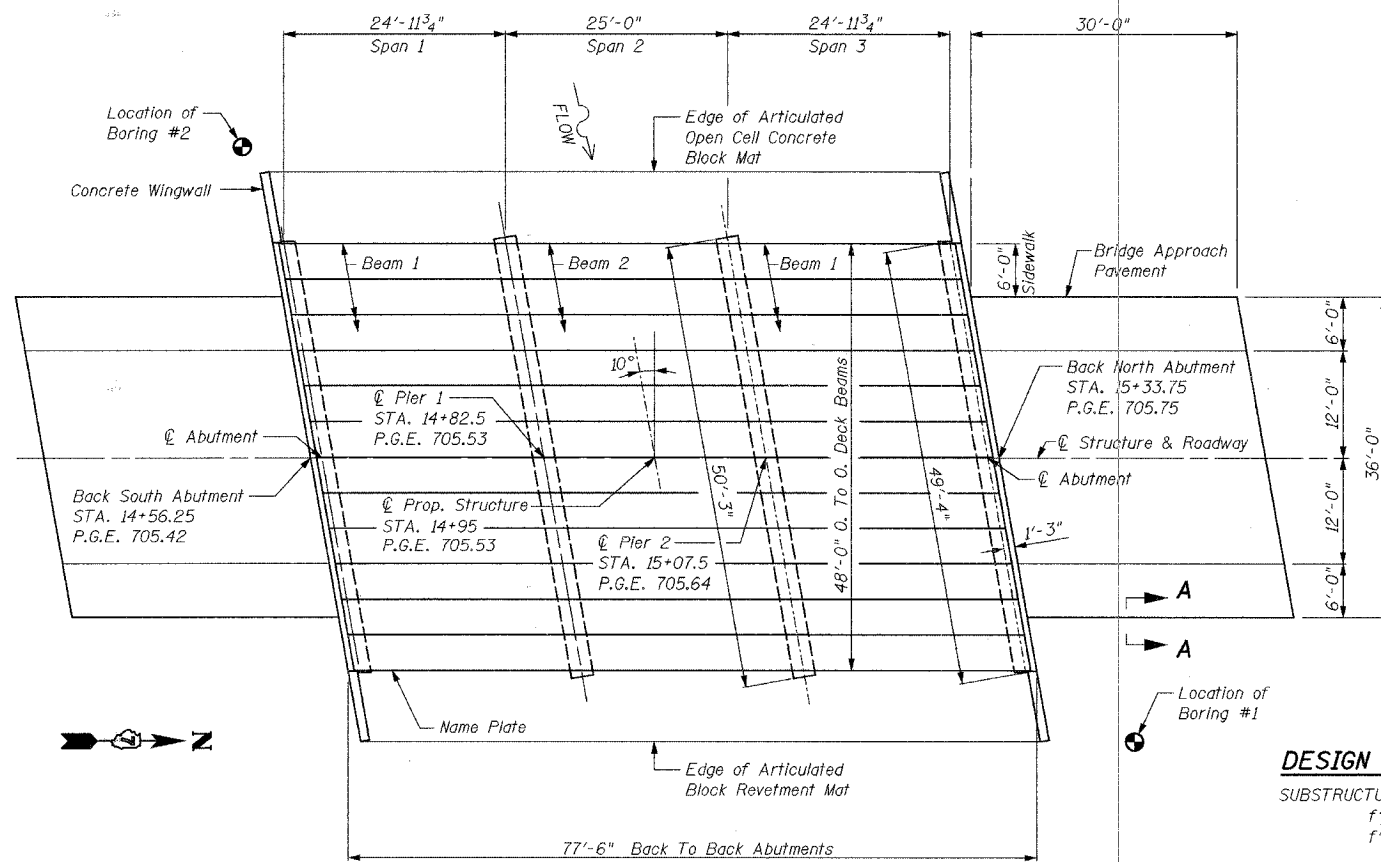
Benchmark: Spike in power pole near southwest corner of bridge. Elevation 707.67

Existing Structure: S.N. 015-3037 to be removed. The existing structure was built as a single span, concrete slab bridge on steel stringers with closed concrete abutments. The existing structure was 22'-0" out to out and 27'-0" back to back of abutments. The existing structure was widened by 22'-0" as Section 41-B-CS in 1962. The addition was built as a three span concrete deck with steel stringers and open abutments.

Road shall be closed during construction. No salvage.



ELEVATION
Scale: 1" = 10'



PLAN
Scale: 1" = 10'

KICKAPOO CREEK
BUILT 20__ BY
CITY OF MATTOON
SEC. 05-00142-00-BR
PROJECT NO. BRM-5042(15)
STATION 14+95
STR. NO. 015-6339 LOADING HS20

LETTERING FOR NAME PLATE
(SEE STD 515001)

WATERWAY INFORMATION

Flood		Freq. Yr.		Q cfs		Opening Sq. Ft.		Nat. H.W.E.		Head - ft.		Headwater Elev. - ft.	
Design	Base	100	500	1847	2463	231	280	231	492	701.91	703.21	0.5	1.2
						231	280	231	492	701.91	703.21	0.5	1.2
						280	625	280	625	704.93	704.93	0.2	0.1

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	S. Abut.	Pier 1	Pier 2	N. Abut.
	700.55	688.00	688.00	700.88

DESIGN STRESSES

SUBSTRUCTURE, SUPERSTRUCTURE
 $f'_y = 60,000$ p.s.i. (Reinforcement)
 $f'_c = 3,500$ p.s.i.

P.P.C. DECK BEAMS
 $f'_y = 60,000$ p.s.i. (Reinforcement)
 $f'_c = 5,000$ p.s.i.
 $f'_{cl} = 4,000$ p.s.i.
 $f'_s = 270,000$ p.s.i. ($\frac{1}{2}$ " ϕ strands)
 $f'_{sl} = 189,000$ p.s.i. ($\frac{1}{2}$ " ϕ strands)

DESIGN LOADING

HS 20-44

DESIGN SPECIFICATION

2002 A.A.S.H.T.O., Standard Specification for Highway Bridges

SEISMIC DATA

Seismic Performance Category (SPC) = A
 Bedrock Acceleration Coefficient (A) = 0.056
 Site Coefficient (S) = 1.0

TOTAL BILL OF MATERIAL

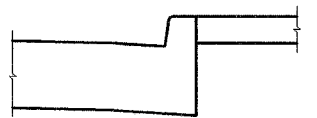
ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yds.		58	58
Pipe Underdrains for Structures 4"	Lin. Ft.		150	150
Articulated Block Revetment Mat	Sq. Yds.		551	551
Filter Fabric	Sq. Yds.		551	551
Coarse Aggregate Backfill (Special)	Cu. Yds.		18	18
Removal of Existing Structure	Each	1		1
Channel Excavation	Cu. Yds.		704	704
Structure Excavation	Cu. Yds.		146	146
Concrete Structures	Cu. Yds.		114.5	114.5
Concrete Superstructure	Cu. Yds.	45.0		45.0
Bridge Deck Grooving	Sq. Yds.	288		288
Protective Coat	Sq. Yds.	444		444
Concrete Wearing Surface	Sq. Yds.	305		305
Reinforcement Bars (Epoxy Coated)	Lbs.	12835	10680	23515
Aluminum Railing, Type L	Lin. Ft.	151		151
Name Plate	Each	1		1
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	3644		3644
Furnishing Metal Shell Piles 12 inch	Lin. Ft.		1340	1340
Driving Piles	Lin. Ft.		1340	1340
Test Pile Metal Shell	Each		2	2
Concrete Sealer	Sq. Ft.		3035	3035
Underwater Structure Excavation Protection Location-1	Each		1	1
Underwater Structure Excavation Protection Location-2	Each		1	1

GENERAL NOTES

- The contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at substructures specified or approved by the engineer before ordering the remainder of the piles.
- Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (II Modified).
- Reinforcement bars designated (E) shall be epoxy coated.
- Concrete Sealer shall be applied to the designated areas of the abutments and piers.
- Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the engineer.

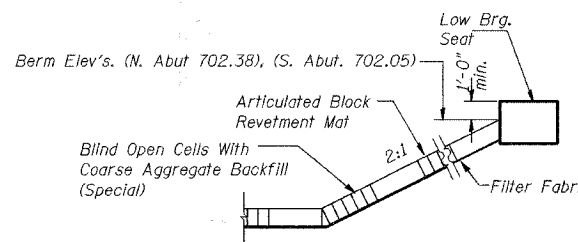
INDEX OF SHEETS

- General Plan and Elevation
- Deck Details
- Superstructure Details
- Type L Aluminum Railing
- Deck Beam 1 Details
- Deck Beam 2 Details
- Abutment Details
- Pier Details
- Soil Boring #1 Logs
- Soil Boring #2 Logs



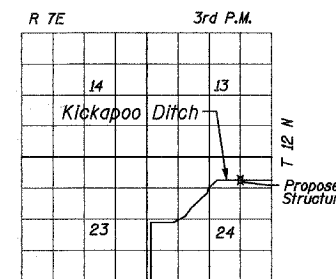
SECTION A-A

The curb shall be poured monolithic with the approach slab.



SLOPE WALL DETAIL

Not to Scale



LOCATION SKETCH

This structure has been designed to be stable for scour conditions in accordance with the FHWA Technical Advisory - T 5140.23, "Evaluating scour at Bridges" and hydraulic engineering circular 18 - EVALUATING SCOUR AT BRIDGES

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



MARTIN J. SILVESTER
STRUCTURAL ENGINEER
LICENSE EXP. DATE: 11-30-08

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
GENERAL PLAN AND ELEVATION
 9th St. Over Kickapoo Creek
 SECTION 05-00142-00-BR
 CITY OF MATTOON STA. 14+95
 STRUCTURE NO. 015-6339

SCALE: N.T.S. DRAWN BY ALB
 DATE CHECKED BY ---