

Benchmarks: 4672-1 Chisled square on top of southwest wingwall of bridge. Sta 932+44.28, 18.27' RT, Elev. 636.85  
 4672-2 Chisled square on top of bridge curb. Sta 934+03.55, 15.91' RT, Elev. 636.26  
 4672-3 Chisled square on top of southeast wingwall of bridge. Sta 934+55.52, 17.91' RT, Elev. 636.17

Existing structure: Structure number 015-0031 was built in 1931 as Section 122-B IL 133 over the Little Embarras River at Sta. 933+50.00. The superstructure was replaced and substructure was widened in 1964 as Section 122-BR. The existing structure is 34'-0" Out to Out of Deck, 212'-0" Back to Back of Abutments. It has 4-spans at 53'-0" each, with 27" Precast Concrete Deck Beams with spill thru counterfort abutments on timber piling and solid piers on timber pile supported footings. The existing structure shall be removed and replaced using staged construction. No Salvage.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1
749	(122BR) BR	COLES	49	14	24 SHEETS
FED. ROAD DIST. NO.		ILLINOIS	FED. ROAD PROJECT		Contract #74146

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.		163	163
Pipe Underdrain for Structures, 4"	Foot		152	152
Geocomposite Wall Drain	Sq. Yd.		87	87
Stone Riprap, Class A4	Sq. Yd.		1911	1911
Filter Fabric	Sq. Yd.		1911	1911
Removal of Existing Structures	Each	1		1
Structure Excavation	Cu. Yd.		374	374
Concrete Structures	Cu. Yd.		135.0	135.0
Concrete Superstructure	Cu. Yd.	316.0		316.0
Bridge Deck Grooving	Sq. Yd.	823		823
Floor Drains	Each	30		30
Drainage Scuppers, DS-11	Each	4		4
Protective Coat	Sq. Yd.	1086		1086
Furnishing and Erecting Precast Prestressed Concrete I-Beams 42"	Foot	1708		1708
Reinforcement Bars, Epoxy Coated	Pound	64,500	13,610	78,110
Furnishing Steel Piles HP 10 x 42	Foot		462	462
Furnishing Steel Piles HP 12 x 53	Foot		891	891
Driving Steel Piles	Foot		1353	1353
Name Plates	Each	1		1
Bar Splicers	Each	789	96	885
Temporary Soil Retention System	Sq. Ft.		502	502
*Underwater Structure Excavation Protection Location 1	Each		1	1

\*Excavation protection applies to Pier 2.

**GENERAL NOTES**

Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.  
 Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.  
 All construction joints shall be bonded.  
 Removal of existing bridge rails included in the cost of Removal of Existing Structures.

**LOADING HS20-44**

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

**INDEX OF SHEETS**

- 1 General Plan
- 2 Stage Construction Details
- 3 Temporary Concrete Barrier
- 4-6 Top of Slab Elevations
- 7 Superstructure
- 8 Superstructure Details
- 9 Diaphragm Details
- 10 Scupper Details
- 11 Framing Plan and Pier Seat Details
- 12-15 42" PPC I-Beam
- 16 Abutments
- 17-19 Piers 1-3
- 20 Bar Splicer Assembly Details
- 21 Anchor Bolt Details
- 22-24 Boring Logs

**SEISMIC DATA**

Seismic Performance Category (SPC) = A  
 Bedrock Acceleration Coefficient (A) = 0.051g  
 Site Coefficient (S) = 1.0

**DESIGN SPECIFICATIONS**

2002 AASHTO

**DESIGN STRESSES**

**FIELD UNITS**

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinf.)

**PRECAST PRESTRESSED UNITS**

$f'_c = 6,000$  psi  
 $f'_{ci} = 5,000$  psi  
 $f'_s = 270,000$  psi ( $\frac{1}{2}$ "  $\phi$  Low Relax. Strands)  
 $f_{si} = 201,960$  psi ( $\frac{1}{2}$ "  $\phi$  Low Relax. Strands)

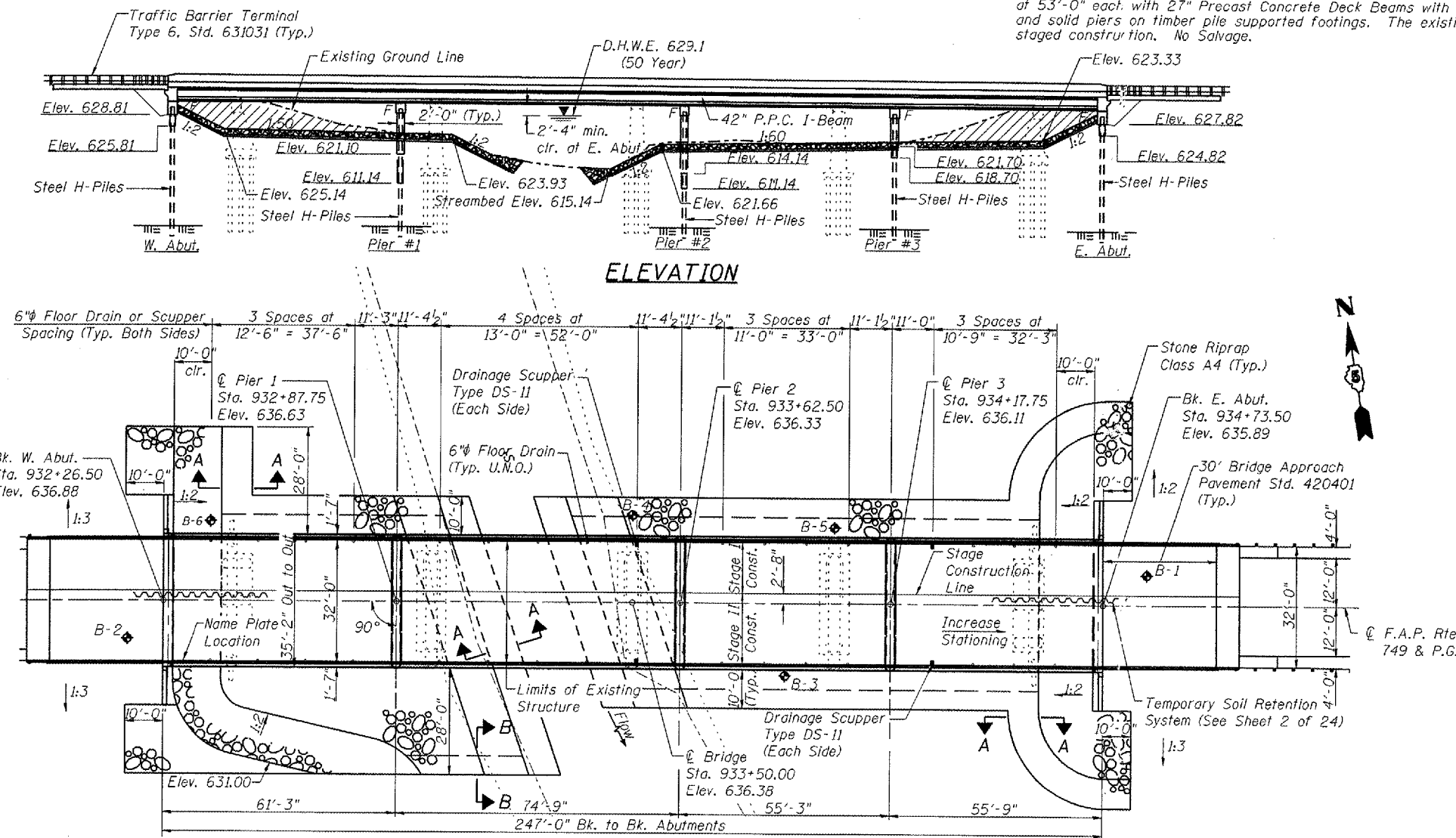
ILLINOIS DEPARTMENT OF TRANSPORTATION

**GENERAL PLAN**

IL ROUTE 133 OVER THE  
 LITTLE EMBARRAS RIVER  
 F.A.P. ROUTE 749 SECTION (122BR)BR  
 COLES COUNTY  
 STATION 933+50.00  
 STRUCTURE NO. 015-0074

DATE: MARCH 2006

DRAWN BY: MLO  
 CHECKED BY: PBB

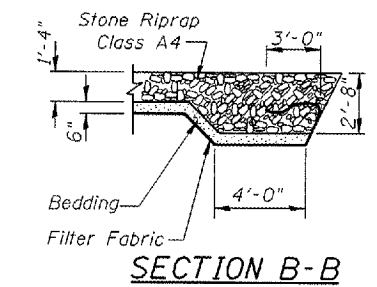


**ELEVATION**

**APPROVED**  
 For Structural Adequacy Only

*Ralph E. Anderson (T.S.D.)*  
 Engineer of Bridges & Structures

	W. Abut.	Pier 1	Pier 2	Pier 3	E. Abut.
Design Scour Elevation	625.81	611.14	611.14	618.70	624.82

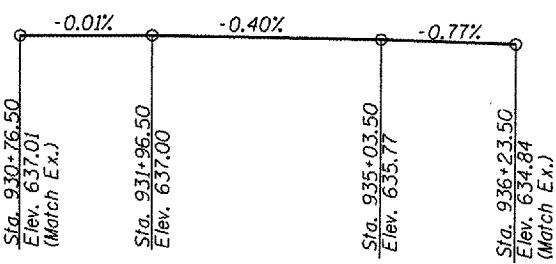


**SECTION B-B**

**WATERWAY INFORMATION**

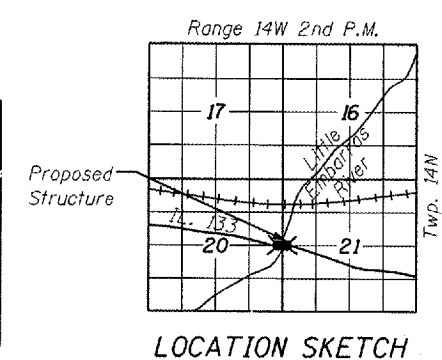
Drainage Area = 75.95 sq.mi. Low Grade Elev. = 634.22 @ Sta. 938+99.94

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E. Ft.		Head-Ft.		Headwater Elev. - Ft.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	10	3469	1042	1033	628.2	0.5	0.5	628.7	628.7	
Base	100	5046	1192	1299	629.1	0.8	0.7	629.9	629.8	
Overtopping	-	-	-	-	-	-	-	-	-	-
Max. Calc.	500	7178	1347	1569	630.0	1.2	1.1	631.2	631.1	



**PROFILE GRADE**

F.A.P. Rte. 749 (IL. Rte. 133)  
 (Along  $\phi$  Roadway)



**LOCATION SKETCH**

STATION 933+50.00  
 BUILT 20\_\_ BY  
 STATE OF ILLINOIS  
 F.A.P. RTE. 749  
 SECTION (122BR)BR  
 LOADING HS20  
 STR. NO. 015-0074

**NAME PLATE**

See Std. 515001



*Sheila J. Kimlinger*  
 Sheila J. Kimlinger, S.E.  
 Structural Engineer License No. 081-005283  
 Expiration Date: 11/30/2006