

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
F.A.S. 1842	106BR	ST. CLAIR	61	22
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

Contract No. 76129

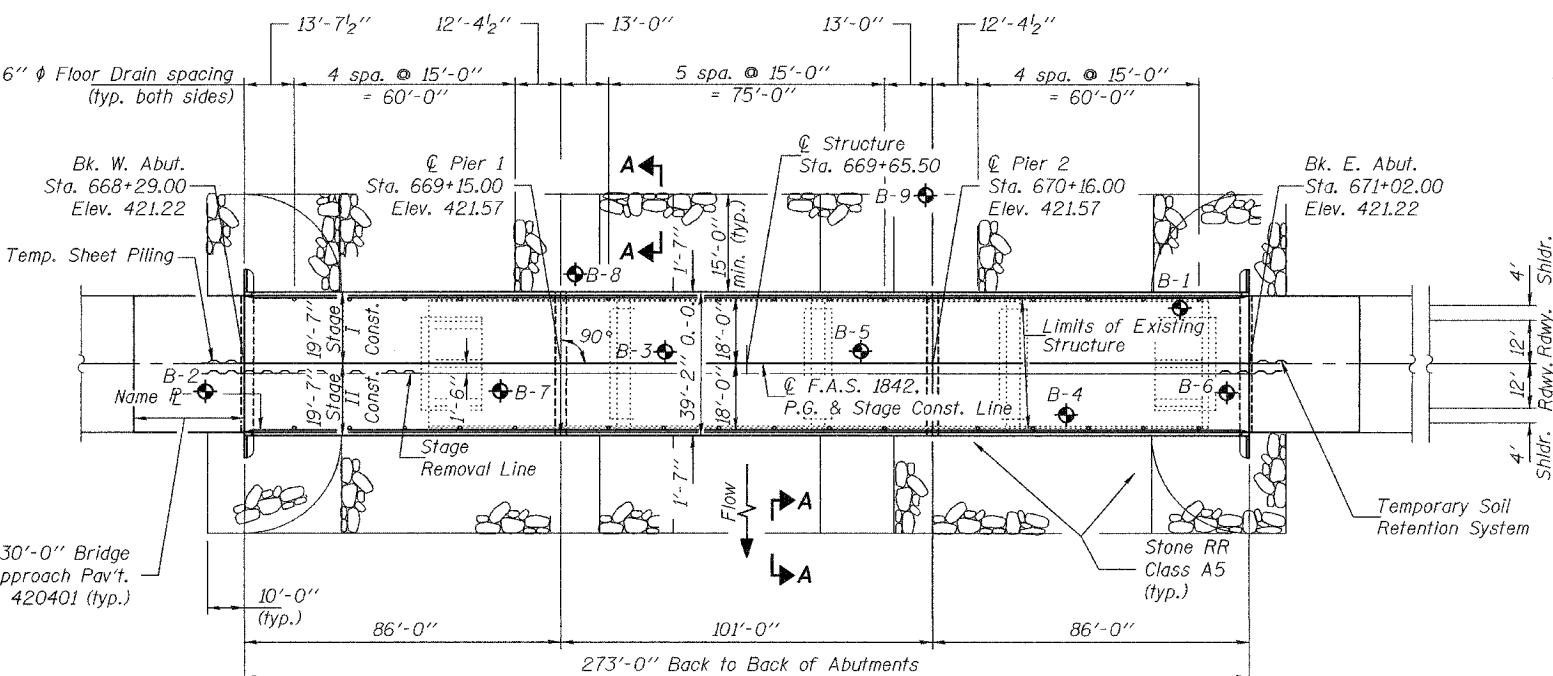
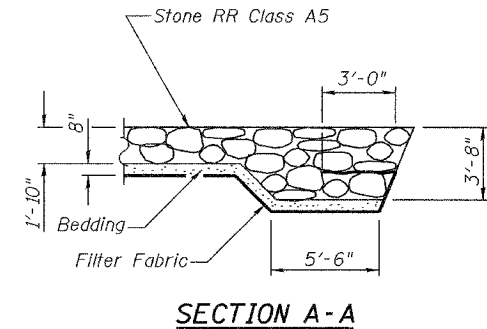
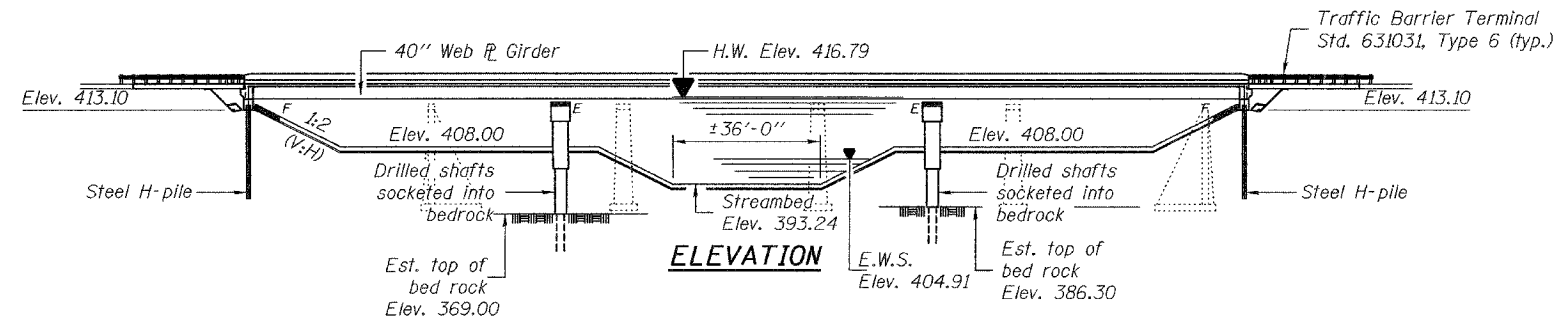
Bench Mark: Chiseled "□" N.W. corner of concrete slab for gaging station, Elev. 416.656

Existing Structure: S.N. 082-0089; Built in 1933 as S.B.I. Route 156, Section 106-B. Existing structure is a 4-span reinforced concrete T-beam superstructure on closed abutments and solid wall piers keyed into bedrock. The structure is 211'-10⁵/₈" Bk. to Bk. abuts. The structure was widened in 1971 with 2 additional PPC-deck beams on each side to its current width of 35'-0" O. to O. of deck. Traffic to be maintained utilizing stage construction.

No salvage

STATION 669+65.50
BUILT 20 BY
STATE OF ILLINOIS
F.A.S. RTE 1842 SEC. 106BR
LOADING HS20
STR. NO. 082-0387

NAME PLATE
See Std. 515001



TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structure	Each			1
Concrete Superstructure	Cu. Yd.	348.5		348.5
Concrete Structures	Cu. Yd.		147.4	147.4
Reinforcement Bars, Epoxy Coated	Pound	81,790	74,570	156,360
Furnishing and Erecting Structural Steel	L. Sum			1
Name Plates	Each	1		1
Bar Splicers	Each	922	70	992
Stud Shear Connectors	Each	3618		3618
Drilled Shaft in Soil	Cu. Yd.		83.8	83.8
Drilled Shaft in Rock	Cu. Yd.		28.3	28.3
Elastomeric Bearing Assembly Type I	Each	12		12
Temporary Sheet Piling	Sq. Ft.		1155	1155
Structure Excavation	Cu. Yd.		208	208
Porous Granular Embankment (Special)	Cu. Yd.		156	156
Bridge Deck Grooving	Sq. Yd.	1031		1031
Protective Coat	Sq. Yd.	1321		1321
Floor Drains	Each	32		32
Underwater Structure Excavation Protection, Location 1	Each		1	1
Underwater Structure Excavation Protection, Location 2	Each		1	1
Stone Riprap, Class A5	Sq. Yd.		1660	1660
Filter Fabric	Sq. Yd.		1660	1660
Furnishing Steel Piles HPI2x53	Foot		425	425
Driving Piles	Foot		425	425
Temporary Soil Retention System	Sq. Ft.		137	137
Pipe Underdrains for Structures, 4"	Foot		149	149
Geocomposite Wall Drain	Sq. Yd.		73	73
Test Pile Steel HPI2x53	Each		2	2
Mechanical Splice	Each		88	88
Asbestos Bearing Pad Removal	Each	32		32
Anchor Bolts, 1" φ	Each	24		24
Anchor Bolts, 1/2" φ	Each	24		24

INDEX OF SHEETS

- General Plan
- General Data
- Stage Construction Details
- Temporary Concrete Barrier
- 6. Top of Slab Elevations
- Superstructure
- Superstructure Details
- Diaphragm Details
- Structural Steel
- Structural Steel Details
- Bearing Details
- Anchor Bolt Details
- 15. Abutments
- 17. Piers
- Bar Splicer Assembly Details
- 22. Boring Logs

LOADING HS20-44

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

DESIGN SPECIFICATIONS

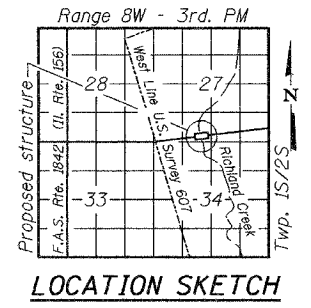
1996 AASHTO with 1997, 1998, 1999, 2000 & 2002 Interims

DESIGN STRESSES

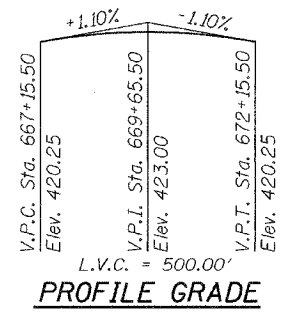
FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)
 $f_y = 50,000$ psi (AASHTO M270 Grade 50)
 $f_y = 36,000$ psi (AASHTO M270 Grade 36)

SEISMIC DATA

Seismic Performance Category (SPC) = B
 Bedrock Acceleration Coefficient (A) = 12.0%
 Site Coefficient (S) = 1.5



GENERAL PLAN
 ILLINOIS ROUTE 156 OVER
 RICHLAND CREEK
 F.A.S. ROUTE 1842 - SECTION 106BR
 ST. CLAIR COUNTY
 STATION 669+65.50
 STRUCTURE NO. 082-0387



DESIGNED	Jennifer B. Kramer
CHECKED	Thomas J. Marshall
DRAWN	BMC AMBER SEIBER
CHECKED	RTM

January 24, 2007
 EXAMINED: Thomas J. Marshall
 PASSED: Ralph E. Anderson
 ENGINEER OF BRIDGE DESIGN
 ENGINEER OF BRIDGES AND STRUCTURES



EXPIRES 11-30-2008

Existing Low Grade Elev. 419 ft. @ Sta. 676+84
 Drainage Area = 129.4 sq. mi Proposed Low Grade Elev. 419 ft. @ Sta. 676+84

Flood	Freq. Yr.	Q C.F.S.	Opening Exist.	Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Prop.	Headwater El. Exist.	Prop.
Design	10	10900	1733	2623	417.2	1.4	0.3	418.6	417.5
Base	100	17800	1733	2831	418.4	2.9	1.1	420.6	418.9
Ex. Overtop	15	11600	1733	-	417.3	1.7	-	419.0	-
Pr. Overtop	55	16000	-	2779	417.8	-	1.2	-	419.0

10 year velocity through Exist. Bridge = 6.3 fps 10 year velocity through Prop. Bridge = 4.2 fps