ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 332	(24BR-1)BR	CLARK	20	15
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 1
20 SHEETS

Contract No. 70218

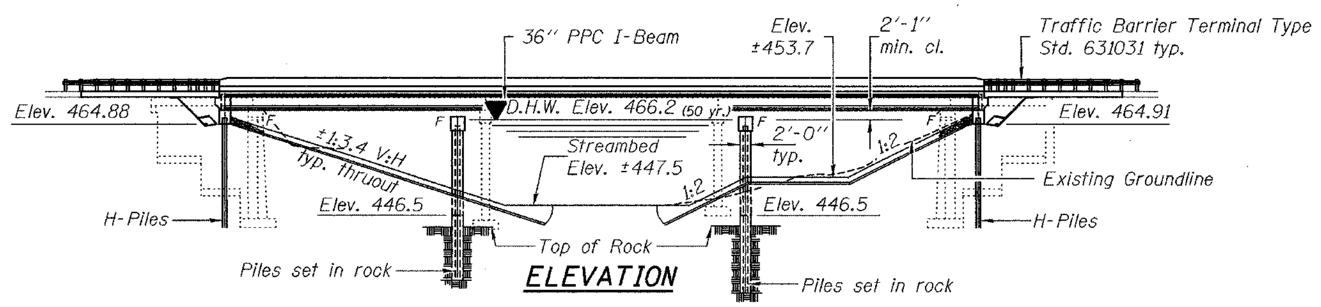
70218

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

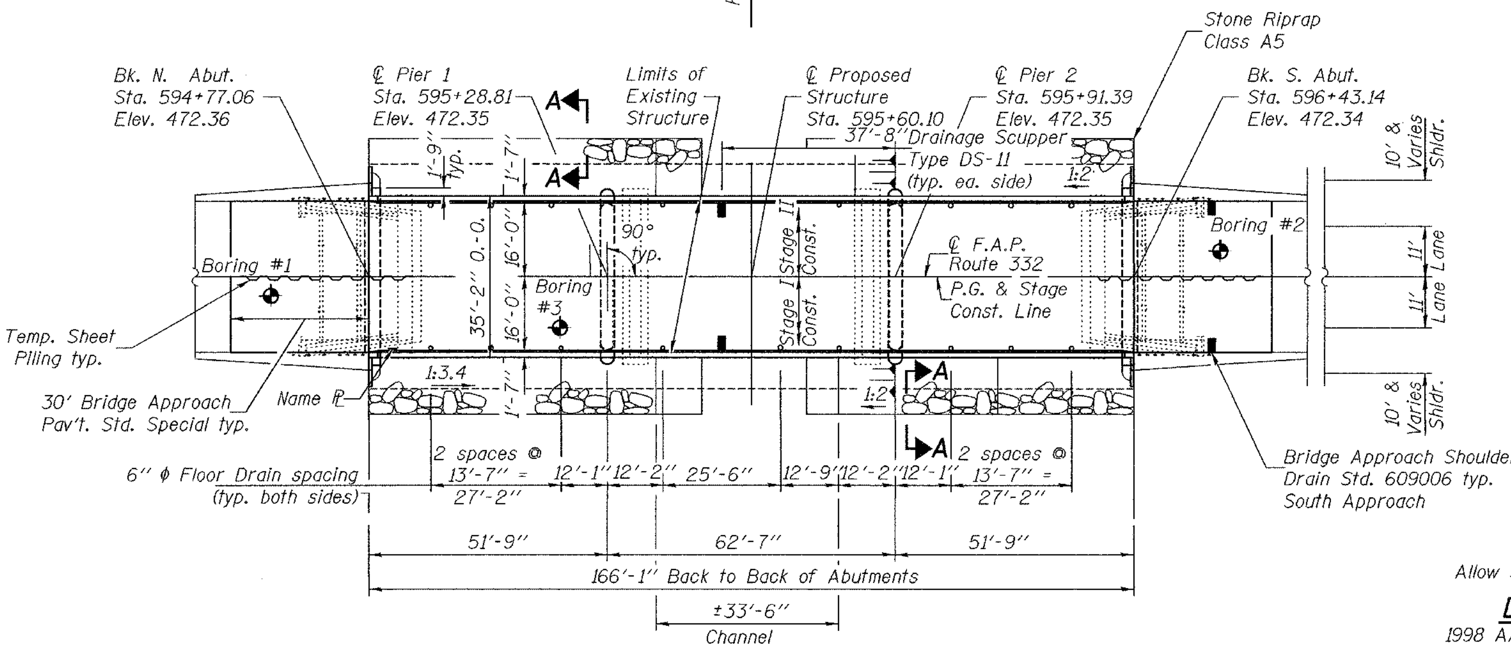
Bench Mark: 4628-43 Chiseled Square on the Northwest wingwall S.N. 012-0016. Station 594+84.40 Rt. 16.7' Elevation = 468.75'.

Existing Structure: S.N. 012-0016 was built in 1924 under S.B.I. Rte. 1, Section 24 B & C-1 at Sta. 595+94. In 1971 the bridge was widened, the superstructure was replaced with 3 simple span PPC deck beams and 2 new piers were added under S.B.I. Rte. 1, Section 24BR at Sta. 595+94. The substructure consists of closed abutments founded on timber piles and solid piers on spread footings. The Bk. to Bk. dimension measures 153'-4" while the O.-O. width measures 33'-0". The structure is to be replaced using stage construction.

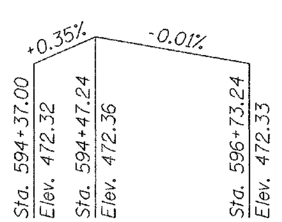
No salvage



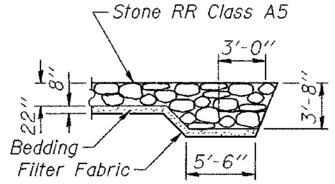
ELEVATION



PLAN



PROFILE GRADE
(along ℄ roadway)



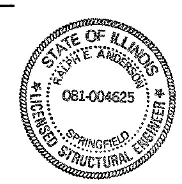
SECTION A-A

STATION 595+60.10
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. ROUTE 332 - SEC. (24BR-1)BR
LOADING HL-93
STR. NO. 012-0071

NAME PLATE
See Std. 515001

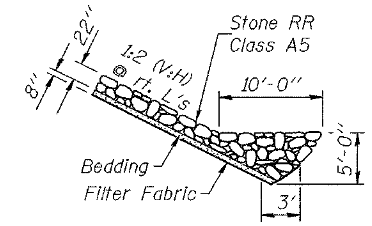
DESIGNED	
CHECKED	SJB / SMR
DRAWN	BECKY M. CURRY
CHECKED	CCC SMR

December 8, 2004
EXAMINED Thomas J. Domagalski — ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson — ENGINEER OF BRIDGES AND STRUCTURES



EXPIRES 11-30-2006

INDEX OF SHEETS



STONE RIPRAP ANCHOR DETAIL

LOADING HL-93
Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS
1998 AASHTO LRFD Bridge Design Specifications with 1999 thru 2003 Interims

DESIGN STRESSES

FIELD UNITS

f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)

PRECAST PRESTRESSED UNITS

f'_c = 6,000 psi
f'_{ci} = 5,000 psi
f'_s = 270,000 psi (½"ϕ low lax. strands)
f_{si} = 201,960 psi (½"ϕ low lax strands)

SEISMIC DATA
Seismic Performance Zone (SPZ) = 1
Bedrock Acceleration Coefficient (A) = 7.4%g
Site Coefficient (S) = 1.5

WATERWAY INFORMATION

Exist. Low Grade Elev. 470.8 ft. @ Sta. 599+00

Drainage Area = 113.4 mi.²	Prop. Low Grade Elev. 470.8 ft. @ Sta. 599+00								
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
	10	6352	1097	1113	461.5	0.4	0.4	461.9	461.9
Design	50	9417	1737	1777	466.2	0.5	0.5	466.7	466.7
Base	100	10688	1895	1949	467.3	0.5	0.5	467.8	467.8
Max. Calc.	500	13671	2115	2035	469.1	0.7	1.1	469.8	470.2

10 Year Velocity through Existing Bridge = 5.8 fps 10 Year Velocity through Prop. Bridge 5.7 fps

GENERAL NOTES

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.

Excavation behind existing abutment walls shall be done before removing the existing superstructure. The Contractor shall sawcut the existing abutments at the stage removal line before Stage I removal.

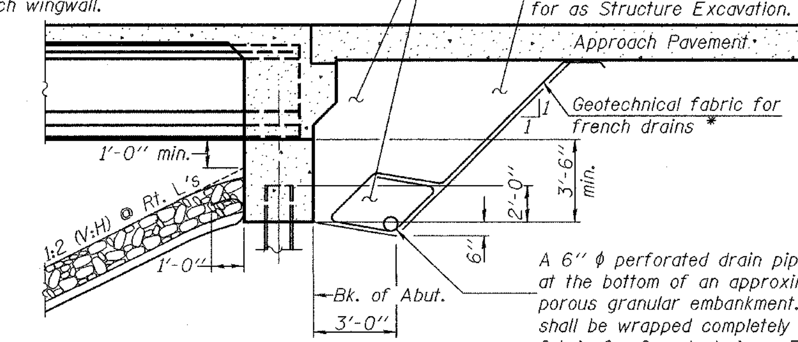
Reinforcement bars shall conform to the requirement of AASHTO M31 or M322 Grade 60.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		294	294
Porous Granular Embankment	Cu. Yd.		158	158
Protective Coat	Sq. Yd.	730		730
Concrete Structures	Cu. Yd.		163.4	163.4
Concrete Superstructure	Cu. Yd.	218.6		218.6
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 36"	Foot	984.5		984.5
Reinforcement Bars, Epoxy Coated	Pound	45,830	13,960	59,790
Name Plates	Each	1		1
Diamond Grinding (Bridge Section)	Sq. Yd.	740.4		740.4
Bar Splicers	Each	542	116	658
Furnishing Steel Piles HP 10x57	Foot		342	342
Driving Steel Piles	Foot		264	264
Temporary Sheet Piling	Sq. Ft.		753	753
Drainage Scuppers, DS-11	Each	2		2
Floor Drains	Each	18		18
Setting Piles in Rock	Each		12	12
Stone Riprap, Class A5	Sq. Yd.		962	962
Filter Fabric for use with Riprap	Sq. Yd.		962	962
Underwater Structure Excavation Protection - Location 1	Each		1	1
Underwater Structure Excavation Protection - Location 2	Each		1	1
Furnishing Steel Piles HP 10x42	Foot		264	264

Backfill with uncompacted porous granular embankment with a gradation of CA-5 or CA-7 by Bridge Contractor after superstructure is in place. Limits shall be 1'-0" from the end of each wingwall.

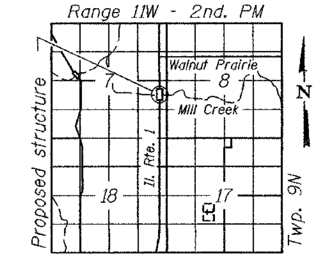
Excavation for placing Porous Granular Embankment is paid for as Structure Excavation.



A 6" ϕ perforated drain pipe shall be situated at the bottom of an approximate 2'x2' area of porous granular embankment. The 2'x2' area shall be wrapped completely in geotechnical fabric for french drains. Extend pipe parallel with the cap until intersecting with the sideslope. Pipes shall drain onto concrete headwalls (Article 601.05 of the Standard Specifications and Highway Standard 601101). *

* Included in the cost of Porous Granular Embankment.

SECTION THRU INTEGRAL ABUTMENT
(Horiz. dim. @ Rt. L's)



LOCATION SKETCH

GENERAL PLAN
ILLINOIS ROUTE 1 OVER MILL CREEK
F.A.P. ROUTE 332 - SEC. (24BR-1)BR
CLARK COUNTY
STATION 595+60.10
STRUCTURE NO. 012-0071

REVISED JAN 07 2005