

011-0021

#32926 *36X 7-10-98 F.A.P. RTE. 753 (IL 104) CHRISTIAN CO. SEC.: 142 (BR, BR-1, BR-2) & 143 BR I&R (copy #30)

Revised 001 02 DEC 1997

36X 98% 4-17-1999

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* SHEET 48 HAS BEEN DELETED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

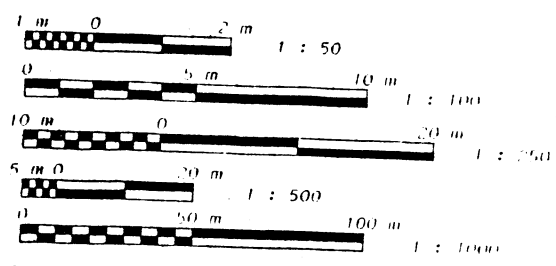
F.A.P. ROUTE 753 (IL 104)
SECTION 142 (BR, BR-1, BR-2) & 143 BR

PROJECT ACBHF-753(22)
CHRISTIAN COUNTY
C-96-520-98

STANDARDS

- 000001-01
- 420401-01
- 515001
- 630001
- 631026
- 701001
- 701006-01
- 701011
- 701201
- 701301
- 701306
- 701311
- 701321-01
- 701326
- 702001
- 704001
- 780001
- 781001-01

METRIC RATIOS



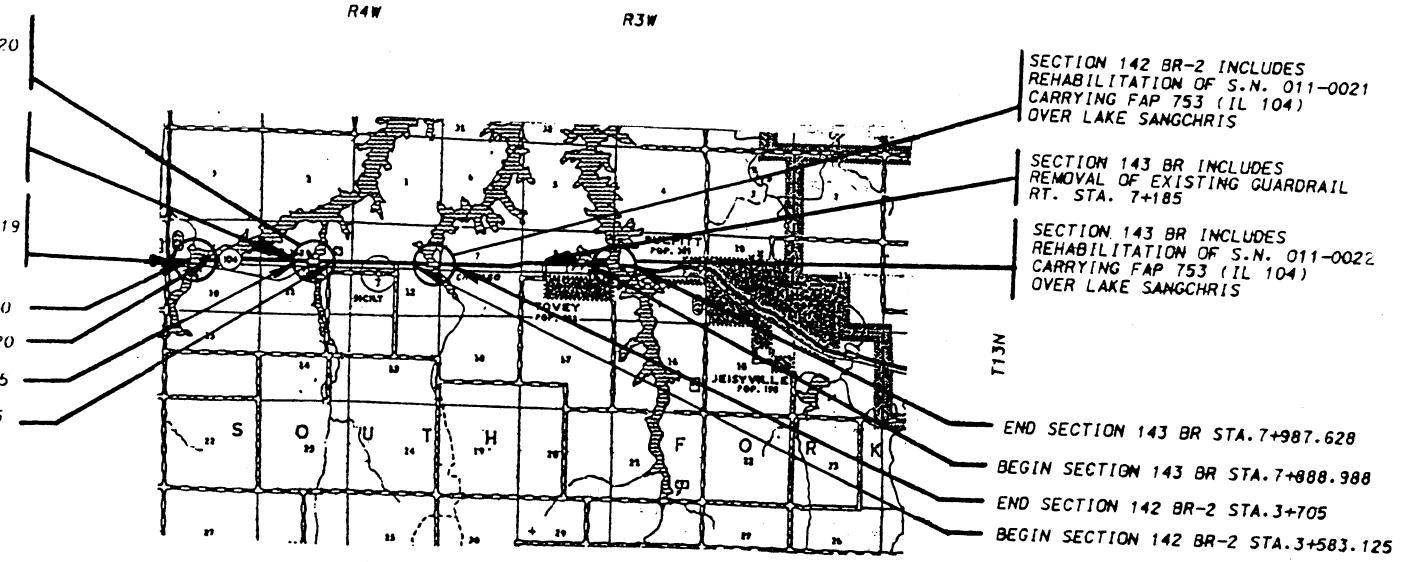
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD
ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT
CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS
ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123

CONTRACT NO. 92926

CHRISTIAN COUNTY SECTION 142 (BR, BR-1, BR-2), 143 BR FAP 753

011-0021

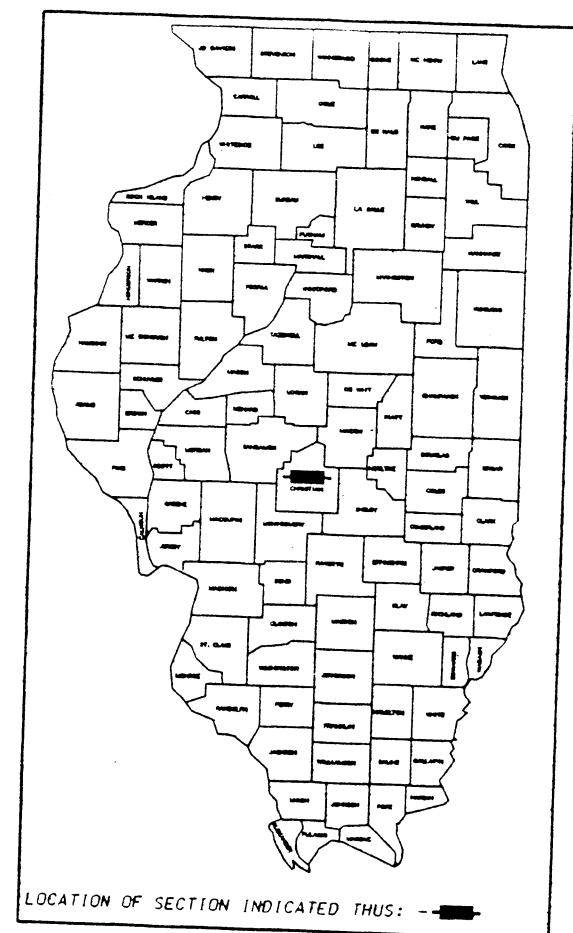


LOCATION MAP
SCALE 1 : 63360

GROSS LENGTH OF SECTION	7597.628 METERS	7.589 KILOMETERS
SECTION 142 BR	130.000 METERS	0.130 KILOMETERS
SECTION 142 BR-1	130.000 METERS	0.130 KILOMETERS
SECTION 142 BR-2	121.875 METERS	0.122 KILOMETERS
SECTION 143 BR	98.640 METERS	0.099 KILOMETERS
NET LENGTH OF SECTION	480.515 METERS	0.481 KILOMETERS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 753	142	CHRISTIAN	75	1
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	*ACBHF-753(22)	

D-96-514-96



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED December 17, 1997
James L. Embs
DISTRICT ENGINEER

19__

ENGINEER OF PROJECT
DEVELOPMENT AND IMPLEMENTATION
June 19, 1998
Bill Hunkley
ENGINEER OF DESIGN AND ENVIRONMENT

June 19, 1998
James P. Stipan
DIRECTOR, DIVISION OF HIGHWAYS

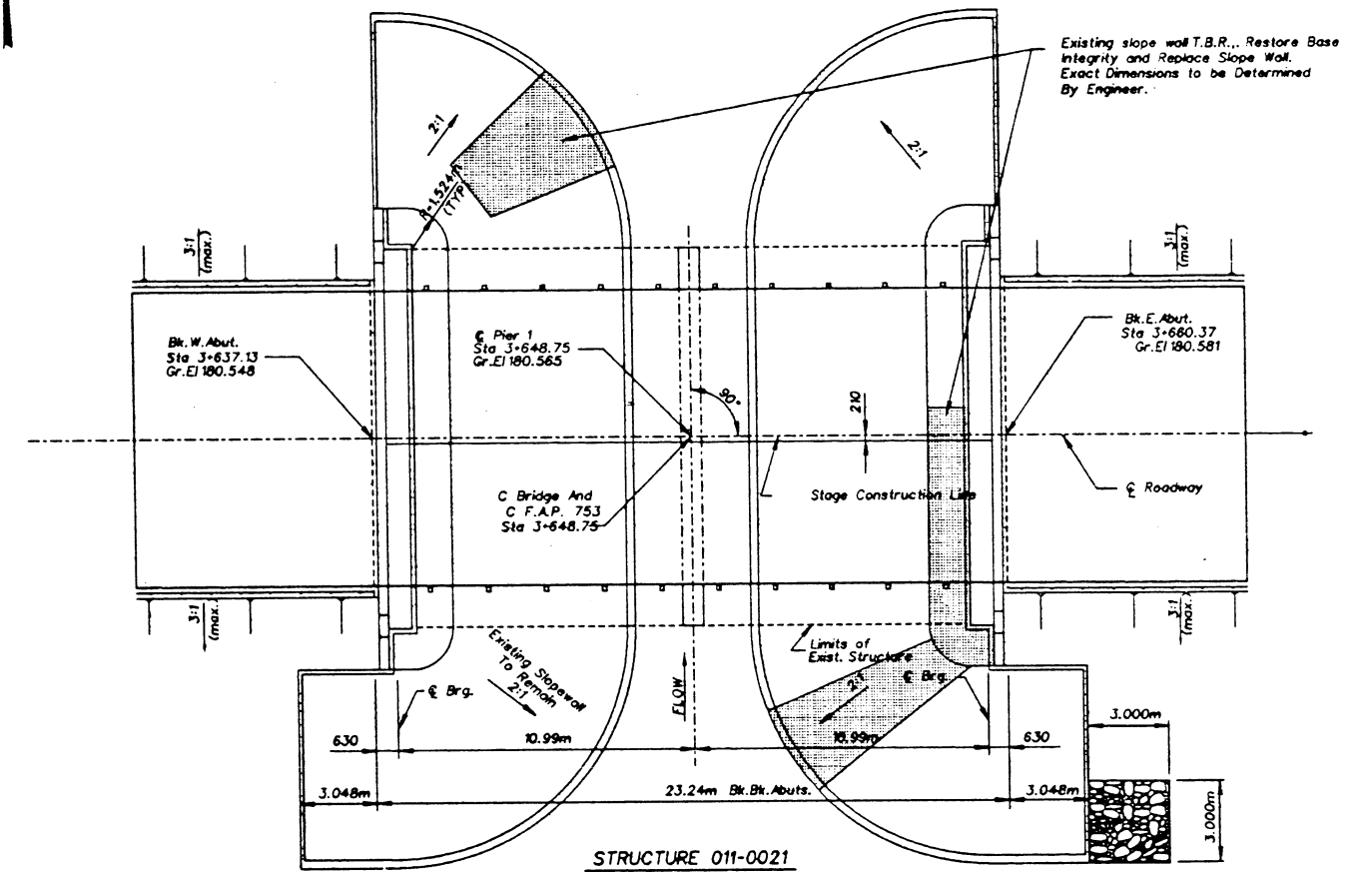
CURRENT A.D.T. = 3350 (1994)
PROJECTED A.D.T. = 4150 (2017)

PRINTED BY AUTHORITY OF THE STATE OF ILLINOIS

6-237

AAIC AAIC Incorporated
Architects / Engineers

ROUTE NO.	SECTION	GRAVITY	75% SHEETS	SHEET NO.	SHEET NO. X X SHEETS
B.1 F.A.P. 753		CHRISTIAN	75	1A	
FEED. AND DIST. NO. 7		SLUDGE	FEED. NO. PROJECT.		



A cross-sectional diagram of a stone riprap filter layer. It shows a layer of prepared stone riprap (CL. A 4) resting on a prepared bedding. Below the bedding is a proposed filter fabric for use with riprap, which is 152mm thick. The entire assembly is supported by a prepared subgrade. The riprap layer is 406mm thick. Arrows point from the labels to the corresponding parts of the diagram.

Labels in the diagram:

- PREPARED STONE RIPRAP CL. A 4
- PROP. BEDDING
- 406mm
- 152mm
- Proposed Filter fabric for use with Riprap
- Prepared subgrade

RIP RAP QUANTITIES

Bridge 0011-0019	m ²	Bridge 0011-0021	m ²
East side	9	East side	9
West side	9		
Subtotal	18	Subtotal	9

SLOPE WALL REPAIRS
& RIPRAP INSTALLATION
ILLINOIS ROUTE 104 OVER
LAKE SANGCHRIS
F.A.P. 753 SECTION 142BR & 142BR-2
STA 0+448.67 & 3+648.75
CHRISTIAN COUNTY, ILLINOIS

DESIGNED	SCH
CHECKED	WCU
DRAWN	SY
CHECKED	RAB

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 2
E. & T. F.A.P. 753	142BR-2	CHRISTIAN	75	40	
REG. ROAD DIST. NO. 7		E.L. ROAD	REG. AND PROJECT-		



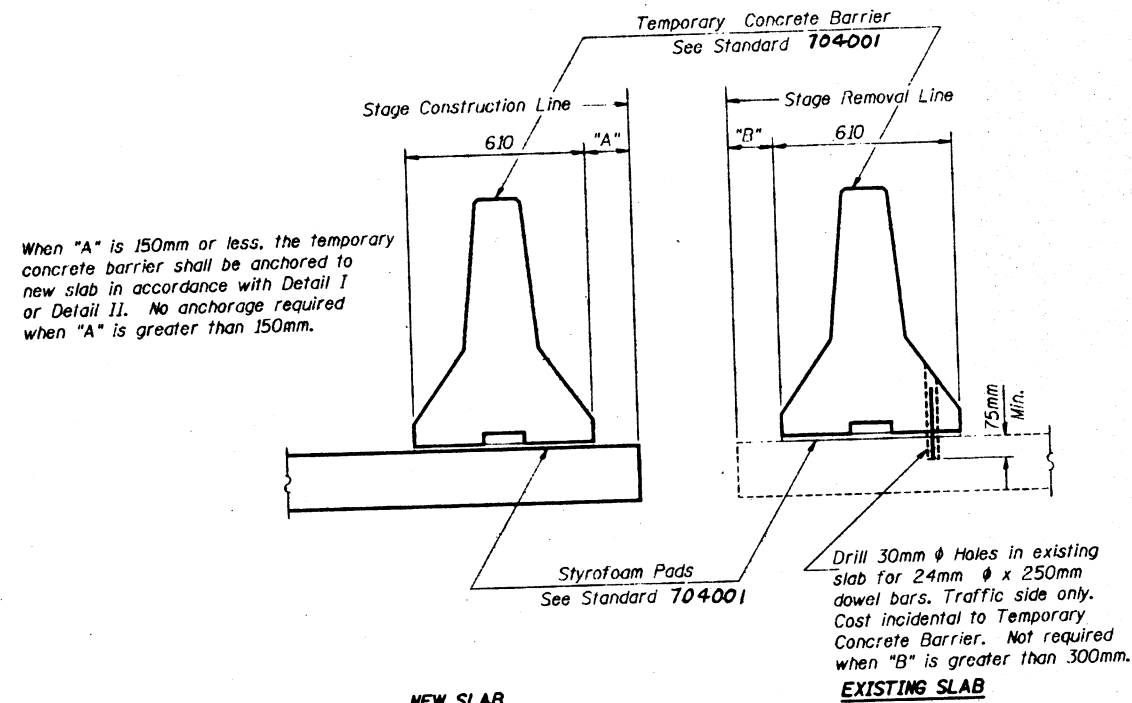
- FINAL CROSS SECTION
(Looking East)

ITEM NAME	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructures	Each	1		1
Concrete Removal	m ³		4.8	4.8
Concrete Superstructure	m ³		4.8	4.8
Bridge Deck Grooving	m ²	231.3		231.3
Concrete Wearing Surfaces	m ²	233.8		233.8
Precast Prestressed Concrete Deck Beams (432mm)	m ²	244.8		244.8
Reinforcement Bars , Epoxy Coated	KG	3550		3550
Steel Bridge Rail, Type SM	Meter	46.48		46.48
Name plates	Each	1		1

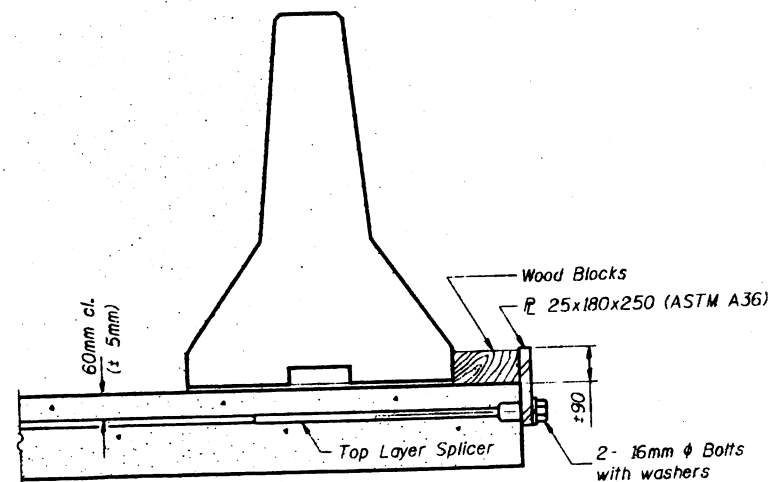
AAIC
AAIC Incorporated
Architects / Engineers

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SHEET	COUNTY	DATE	BY	SHEET NO. 3
753	M2BR-2	CHRISTIAN	75	41	9 SHEETS
F.A.P. 753					
FILE NAME: C:\E\T\A\T\Y	ILLINOIS	REC. AND PROJECT			

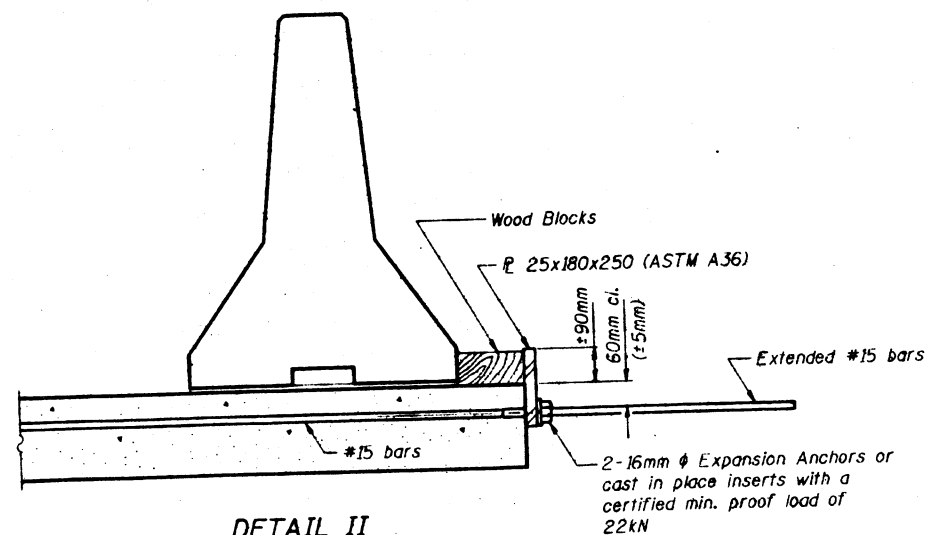


SECTIONS THRU SLAB



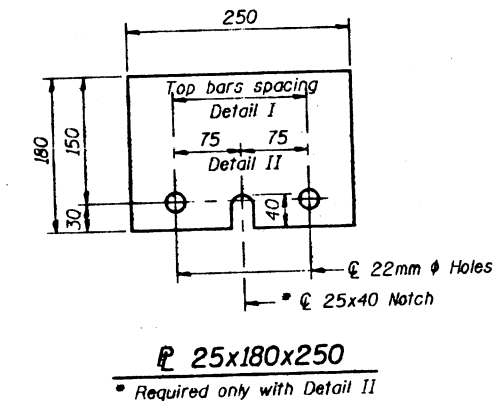
DETAIL I

The 25x180x250 Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



DETAIL II

The 25x180x250 Plate shall not be removed until Stage II Construction forms and all reinforcement bars are in place and the concrete is ready to be placed.



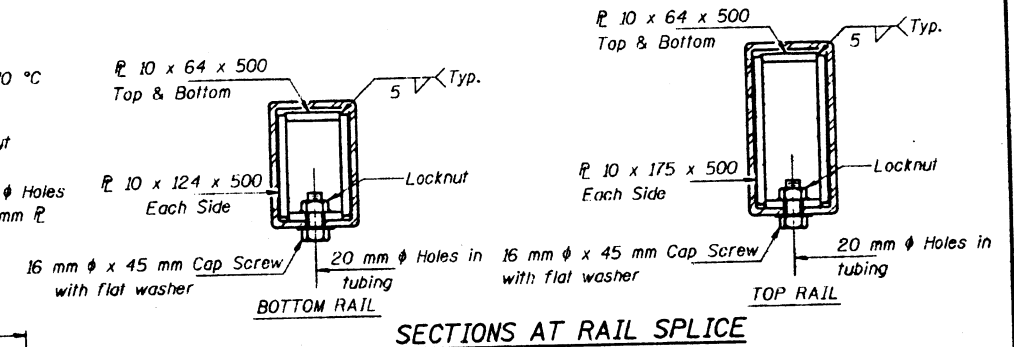
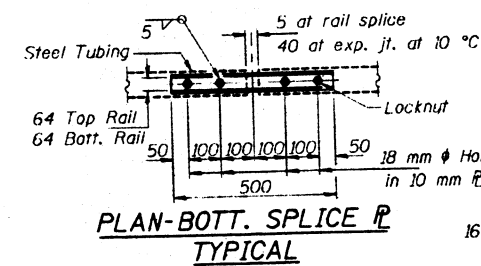
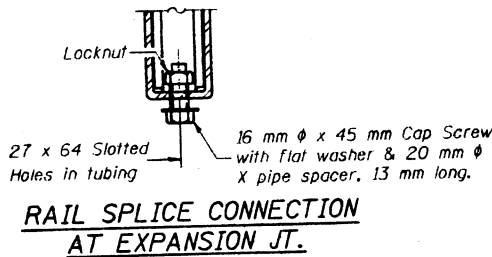
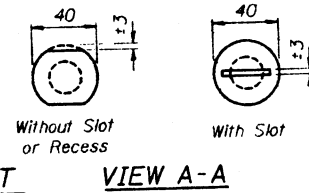
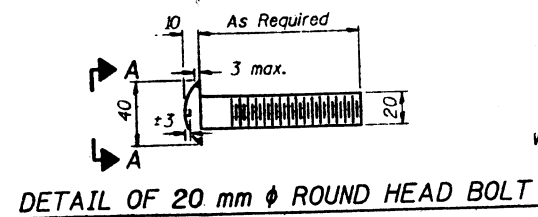
NOTES

- Detail I - With Bar Splicer or Couplers:
Connect one (1) 25x180x250 steel $\bar{L}$ to the top layer of couplers with 2-16mm ϕ bolts screwed to coupler at approximate $\bar{C}$ of each 3m barrier panel.
- Detail II - With Extended Reinforcement Bars:
Connect one (1) 25x180x250 steel $\bar{L}$ to the concrete slab with 2-16mm ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate $\bar{C}$ of each 3m barrier panel.
- Cost of anchorage is incidental to Temporary Concrete Barrier.
For pay item "Temporary Concrete Barrier", see Roadway plans.

TEMPORARY CONCRETE BARRIER
ILLINOIS ROUTE 104 OVER
SANGCHRIS LAKE
F.A.P. 753 SECTION 142BR-2
STA. 3+648.75
CHRISTIAN COUNTY, ILLINOIS
STRUCTURE NO. 011-0021

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	LETS	SHEET	SHEET NO.
F.A.P. 753	142BR-2	CHRISTIAN	75	42	9 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			



NOTES

Hollow structural steel tubing shall conform to the requirements of ASTM designation A-500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 20 N-m at -18 °C.

All other steel shapes and plates shall conform to the requirements of AASHTO M-270 Grade 250 except posts and angles shall conform to AASHTO M-270, Grade 345.

Bolts, cap screws, and nuts shall conform to the requirements of ASTM designation A-307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M-164M.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with AASHTO M-232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with AASHTO M-111 and ASTM A-385. Galvanized rail shall not be painted.

Railing shall be in accordance with Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per meter for STEEL BRIDGE RAIL, TYPE SM.

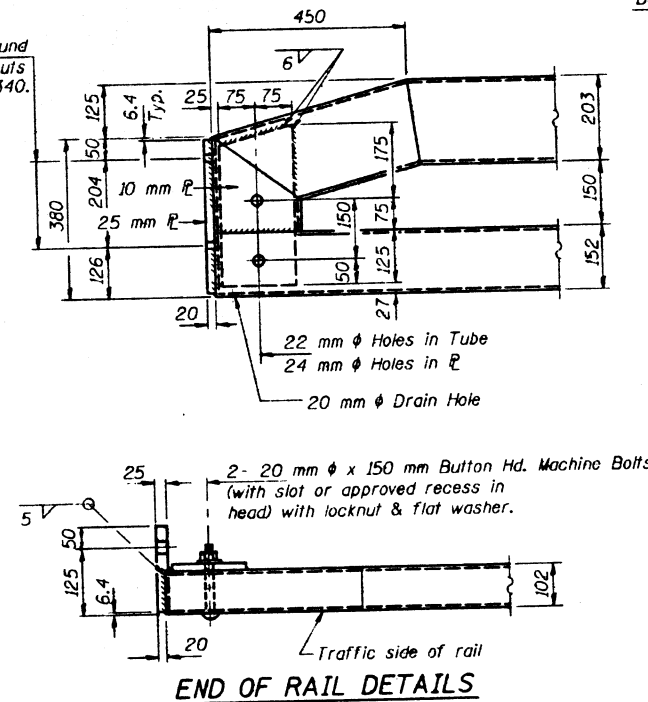
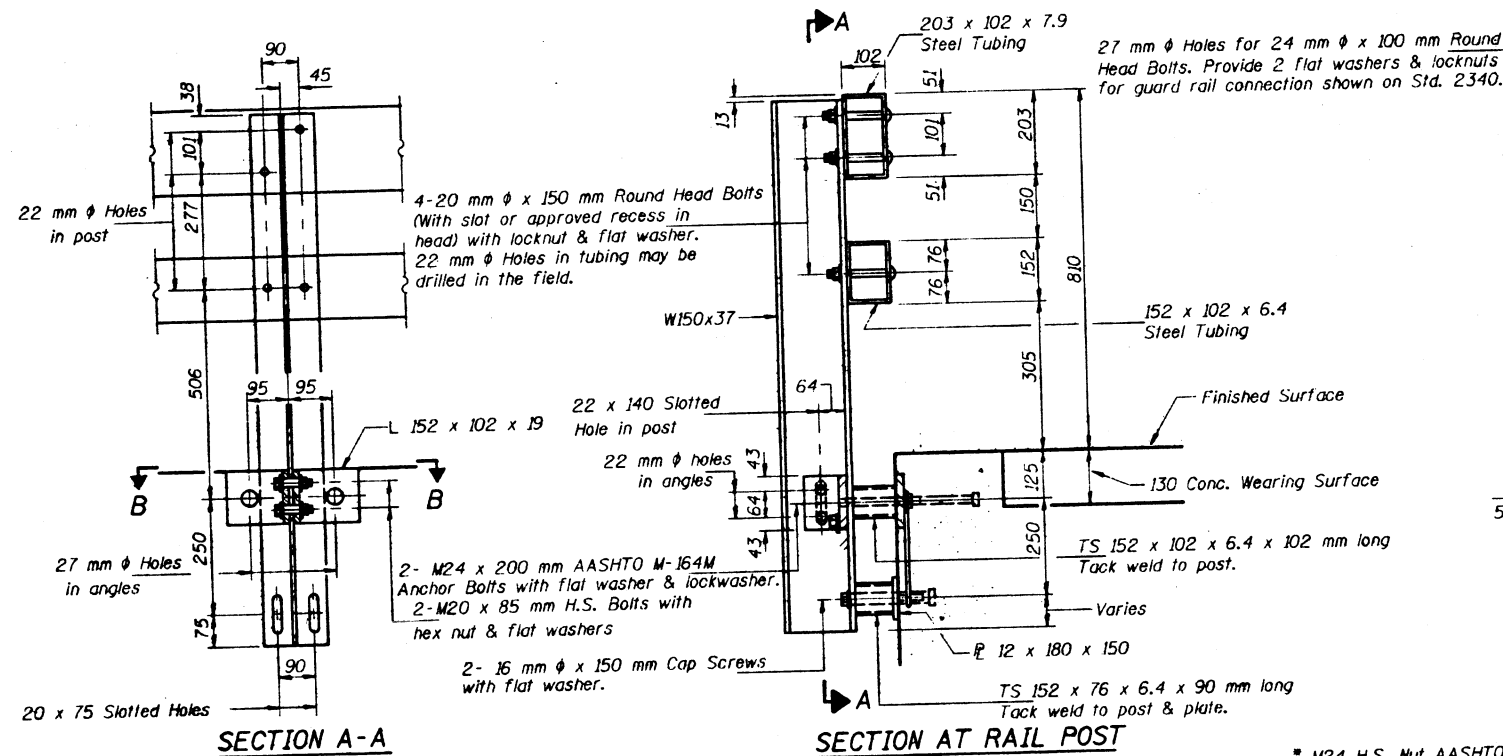
All field drilled holes shall be coated with an approved zinc rich paint before erection.

For multi-span PPC Deck bridges, sufficient 6 x 150 x 360 galvanized steel shims shall be provided to align rail between adjacent spans. Cost incidental to STEEL BRIDGE RAIL, TYPE SM.

Bolts located at expansion joint shall be provided with locknuts and shall be tightened only to a point that will allow railing movement.

The M20 high strength bolts used to connect the 152 x 102 x 19 angles to the post shall be tightened in accordance with Article 505.04(FX3) of the Standard Specifications. The M24 high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/2 turn. The 16 mm Ø cap screws in bottom of posts shall be tightened to a snug fit only.

All dimensions are in millimeters (mm) except as noted.

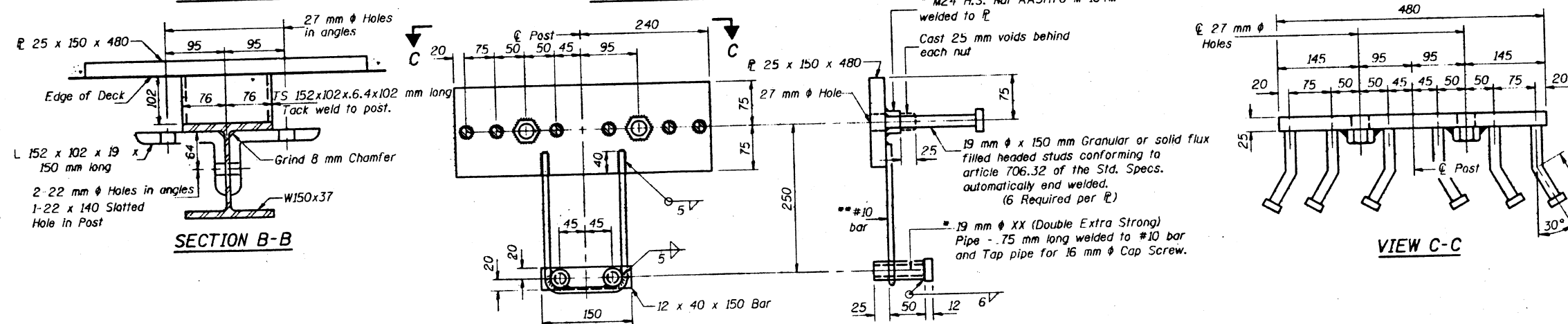


BILL OF MATERIAL

Item	Unit	Quantity
Steel Bridge Rail, Type SM	m	56.6

TYPE SM
STEEL BRIDGE RAIL SIDE MOUNTED

TYPE SM STEEL RAILING
ILLINOIS ROUTE 104 OVER
LAKE SANGCHRIS
F.A.P. 753 SECTION 142BR-2
STA. 3+648.75
CHRISTIAN COUNTY, ILLINOIS
STRUCTURE NO. 011-0021



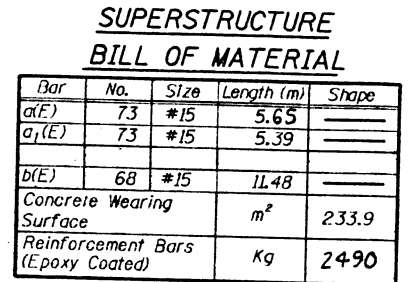
ANCHOR DEVICE

* Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.

** Whenever the lower insert assemblies interfere with strand locations, the #10 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 12 mm.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
U. S. L. F. A. P. 753	142BR-2	CHRISTIAN	75	43
F.B. ROAD DIST. NO. 7	S.L. MILES		FED. AID PROJECT -	

SHEET NO. 5
9 SHEETS



NOTES:

The diagram illustrates the cross-section of a bridge deck, divided into two construction stages. The total width is 10.96m, labeled as 'Out To Out Concrete'. The deck is composed of 12 PPC Deck Beams, with a nominal width of 914mm and a depth of 432mm. The construction stages are defined by a central 'Ronded Stage Construction Joint (wearing surface)'. Stage I construction (3.60m wide) includes the central joint and is flanked by 1.88m sections. Stage II construction (5.48m wide) is added to the outer edges. Key features include:

- Dimensions:** Total width 10.96m; Stage I width 3.60m; Stage II width 5.48m; End sections 1.88m.
- Structural Elements:** 12 PPC Deck Beams; 130mm Reinforced Concrete Overlay (Typ.); Stage Const. Jt. (PPC Deck Beams); 210 and 660 reinforcement details.
- Grades and Slopes:** 2.0% slopes at both ends; 1.5% slope in the central joint area; P.G. (Proposed Grade) line.
- Other Features:** Exterior Brg. Pad (Bridge Pad); Interior Brg. Pad; Type SW Steel Bridge Rail (Typ.) at the right end; B(E) (Bridge End) markers.

Concrete wearing surface shall be sloped to meet the top of notch on exterior deck beams as required.

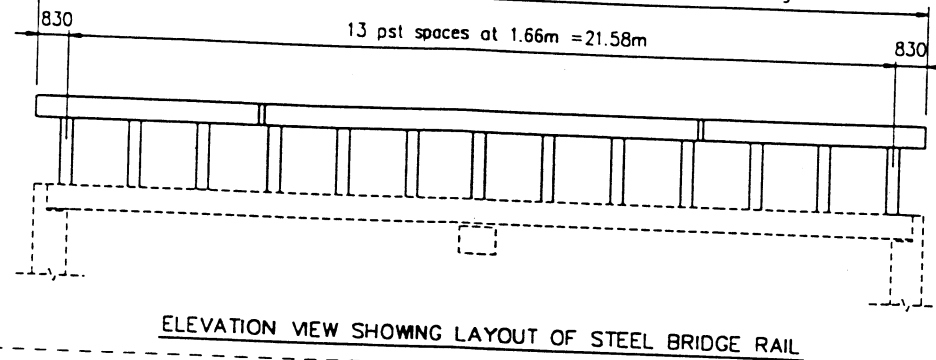
SECTION C-C

DESIGNED	R.A.B.
CHECKED	W.C.U.
DRAWN	S.Y.
CHECKED	R.A.B.

SUPERSTRUCTURE
ILLINOIS ROUTE 104 OVER
LAKE SANGCHRIS
F.A.P. 753 SECTION 142BR-2
STA. 3+648.75
CHRISTIAN COUNTY, ILLINOIS
STRUCTURE NO. 011-0021

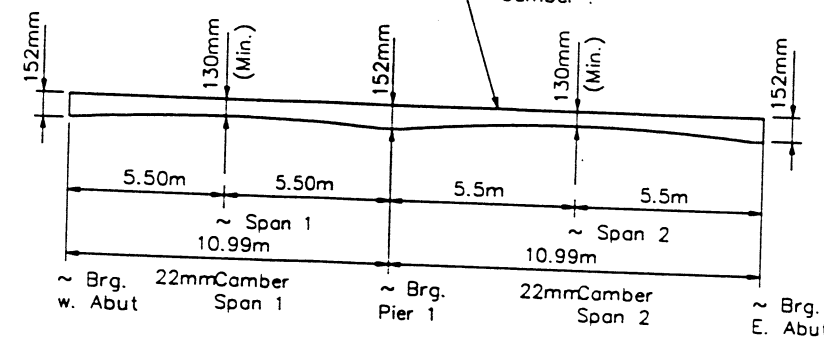
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

23.24m Back To Back Abutments, End To End Railings



ELEVATION VIEW SHOWING LAYOUT OF STEEL BRIDGE RAIL

Vary Thickness of Reinforced Concrete Surface to Compensate for Expected Camber

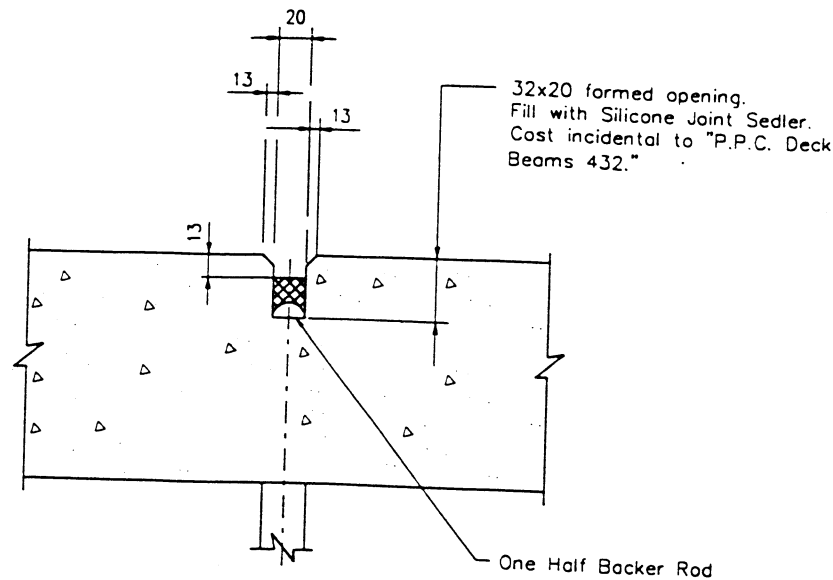


REINFORCED CONCRETE WEARING SURFACE POURING DIAGRAM
(Not to Scale.)

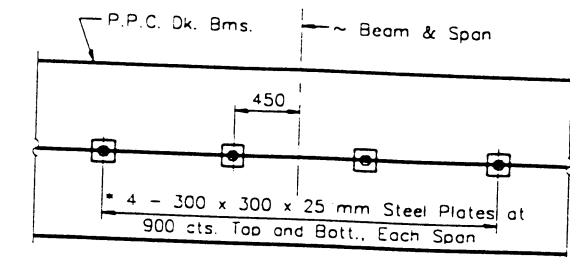
ROUTE NO.	SECTION	DESIGNER	DATE	SHEET NO.
F.A.P. 753	142BR-2	CHRISTIAN	75	44
PER ROAD DIST. NO. 1	NUMBER	PER. NO. PROJECT		

SHEET NO. 6

9 SHEETS

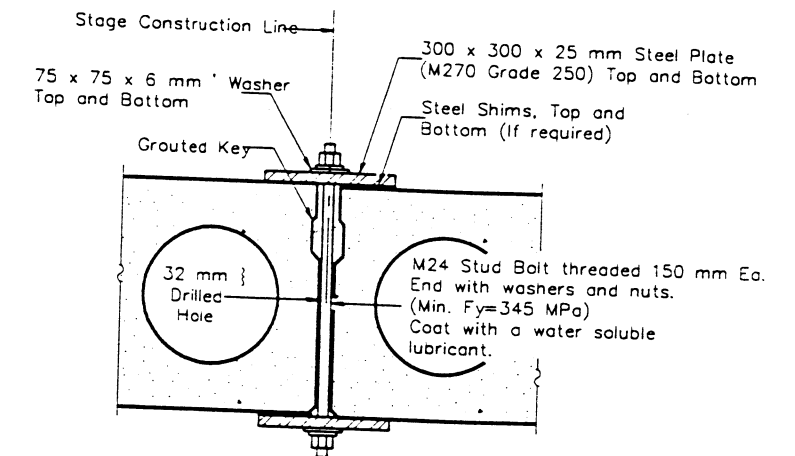


DETAIL "A"
(Showing size of R.L. Ltd)

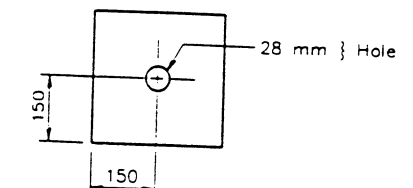


PLAN

* Space plates to miss Temporary Bridge Rail Posts.



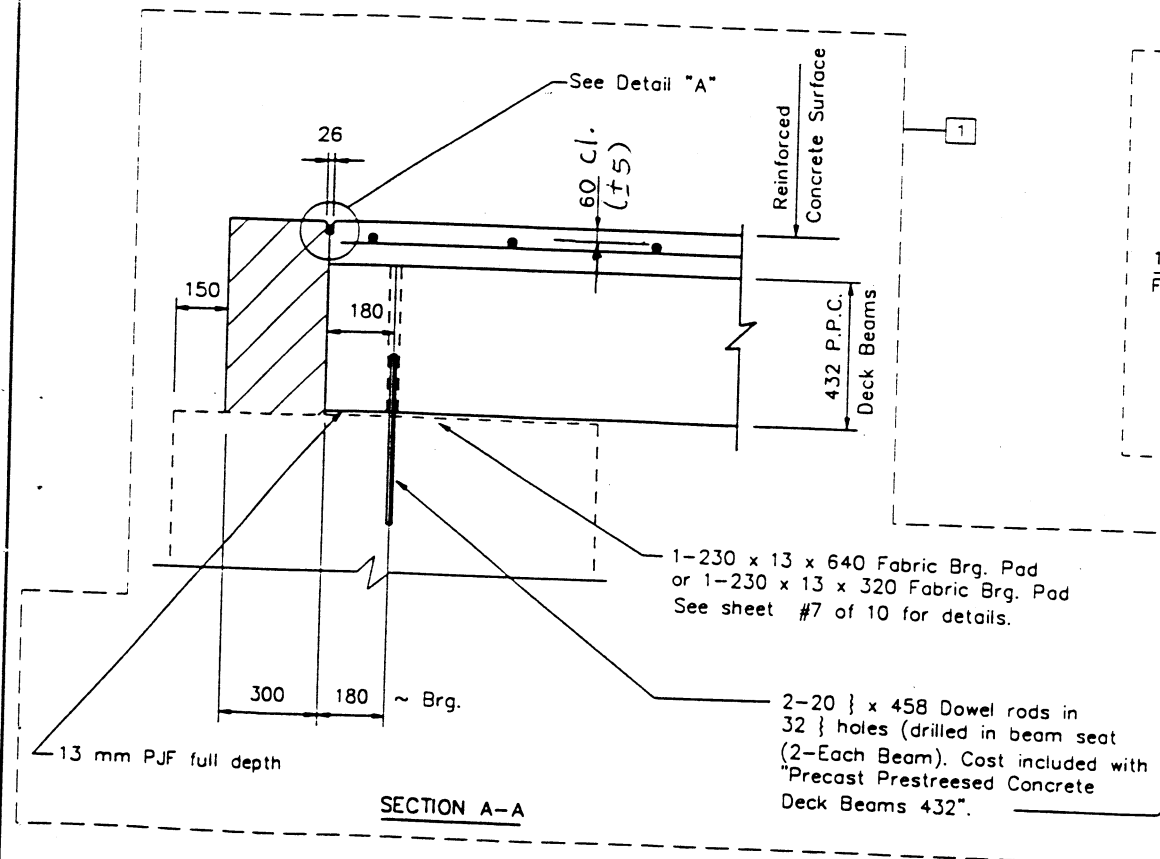
SECTION



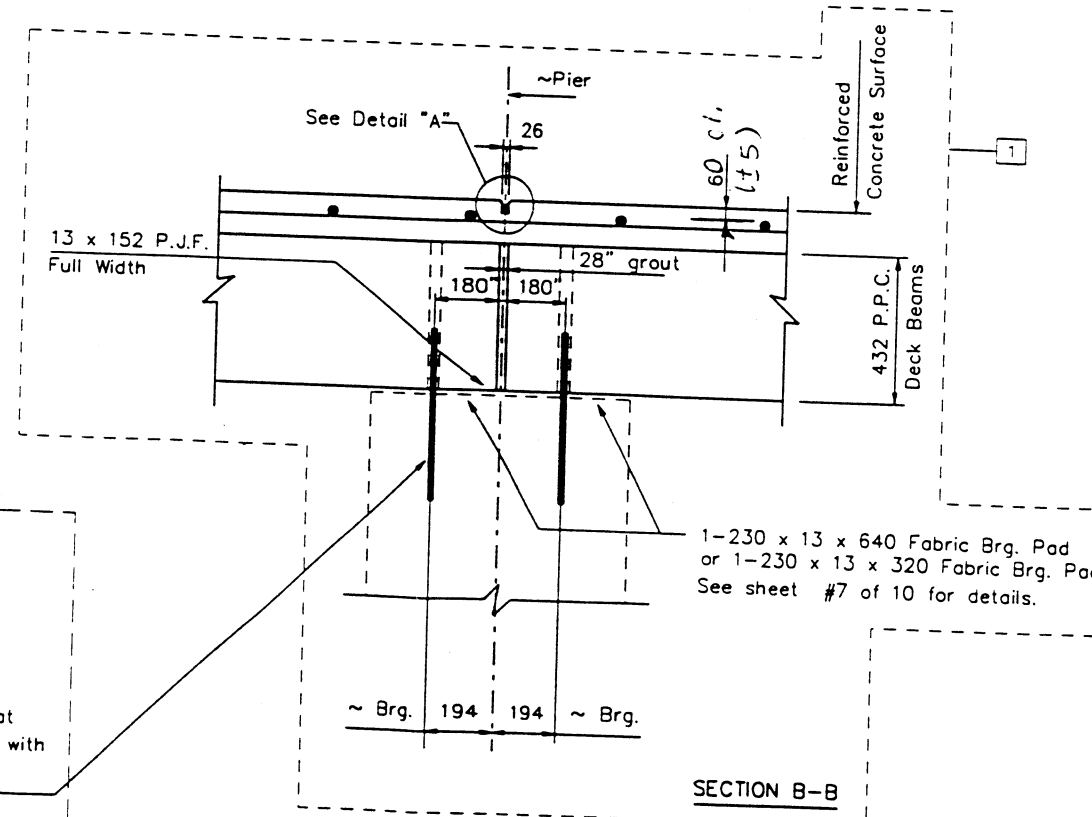
CLAMPING PLATE

SHEAR KEY CLAMPING DETAILS AT STAGE CONST. JT.

Cost incidental with Precast Prestressed Concrete Deck Beams. See Stage Construction Detail for traffic lane.



SECTION A-A



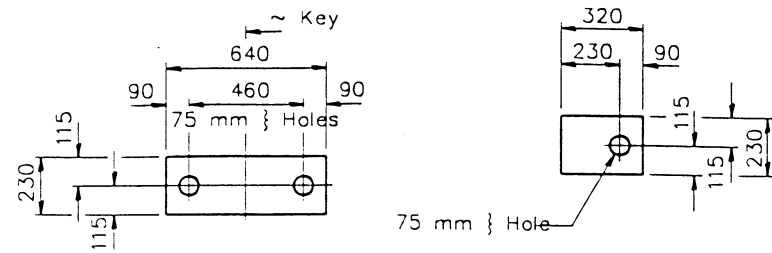
SECTION B-B

Dowel Rods shall be grouted after beams are in place and allowed to cure (minimum 24 hours) prior to grouting the shear keys.

SUPERSTRUCTURE DETAILS
ILLINOIS ROUTE 104 OVER
LAKE SANGCHRIS
F.A.P. 753 SECTION 142BR-2
STA. 3+648.75
CHRISTIAN COUNTY, ILLINOIS
STRUCTURE NO. 011-0021

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

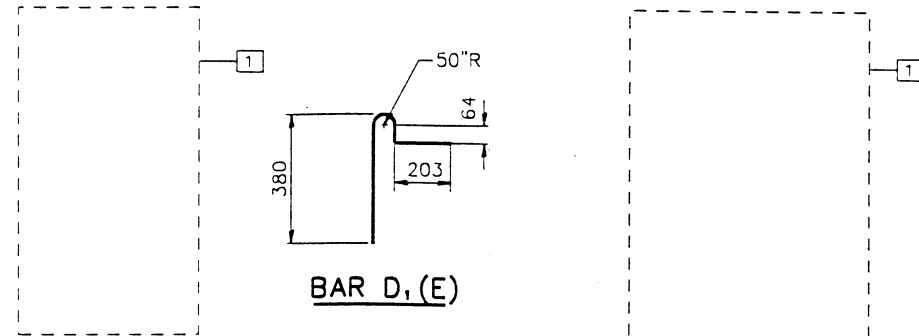
PROJECT NO.	SECTION	COUNTY	DATE	SHEET NO.
753	142BR-2	CHRISTIAN	75	45
SHEET NO. 7				
9 SHEETS				



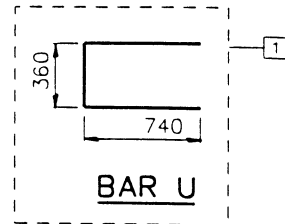
FABRIC BEARING PAD
(Interior)

FABRIC BEARING PAD
(Exterior)

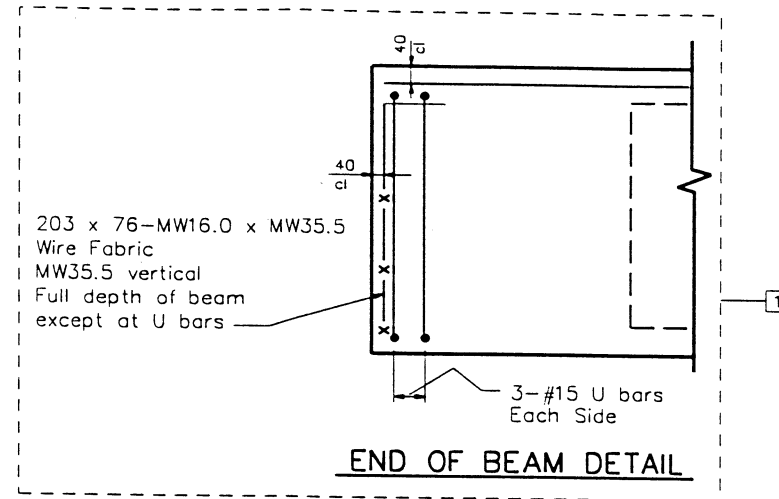
FIXED



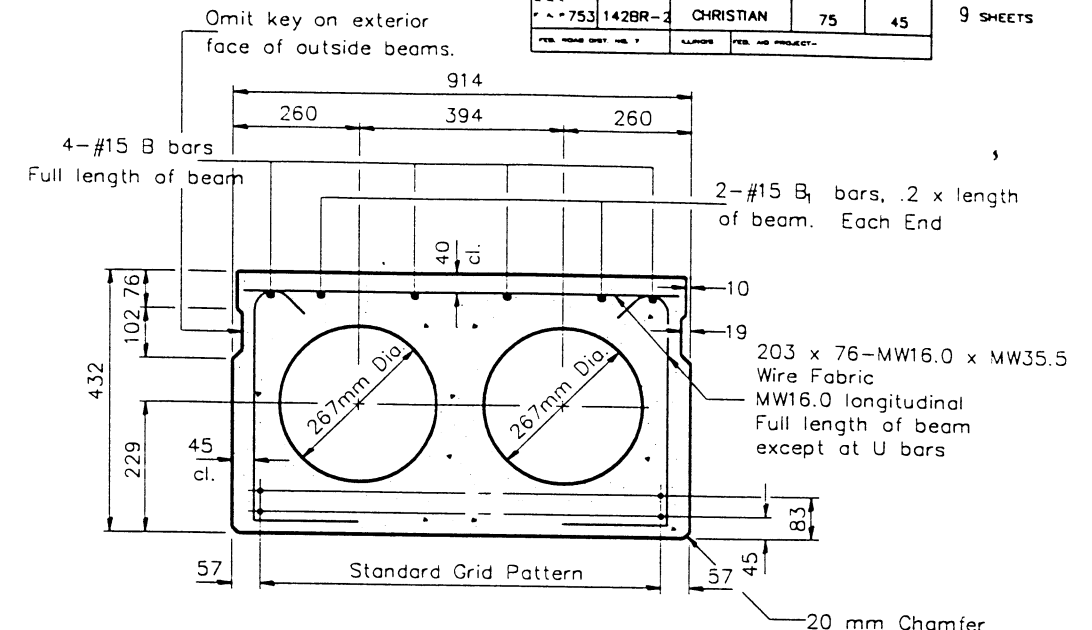
BAR D₁(E)



BAR U

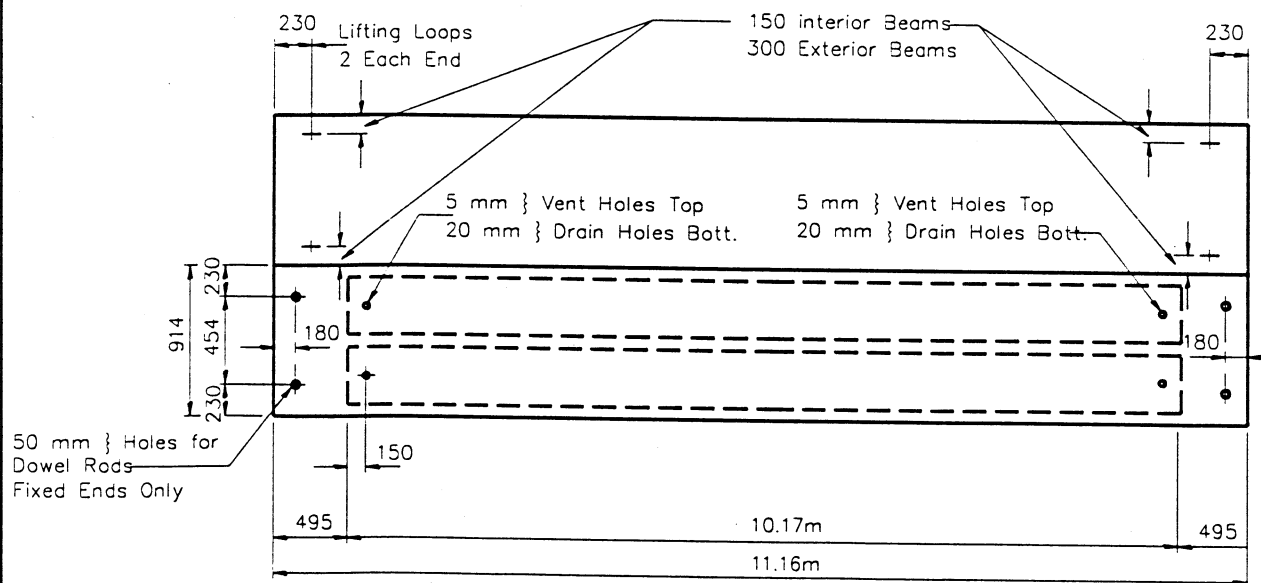


END OF BEAM DETAIL



SECTION THRU INTERIOR BEAM

Note: Place strands 11-12.7 mm } Strands, Each Strand Stressed to 128,500 N. symmetrically about ~ of beam.
5 Strands 45 } mm up & 6 Strands 83 } mm up.



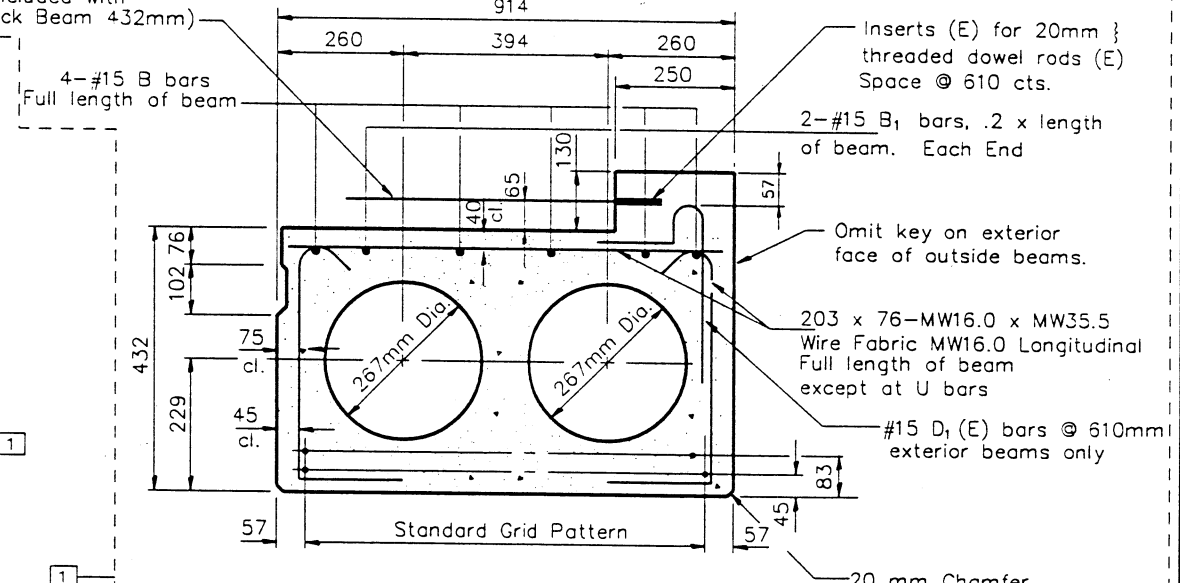
PLAN

BILL OF MATERIAL
(Per Beam)

Bar	No.	Size	Length (m)	Shape
B	4	#15	11.06	—
B ₁	4	#15	2.23	—
D ₁ (E)	18	#15	.762	⌋
U	12	#10	1.840	⌋
Precast Prestressed Conc. Deck Bms.		m ²	10.20	

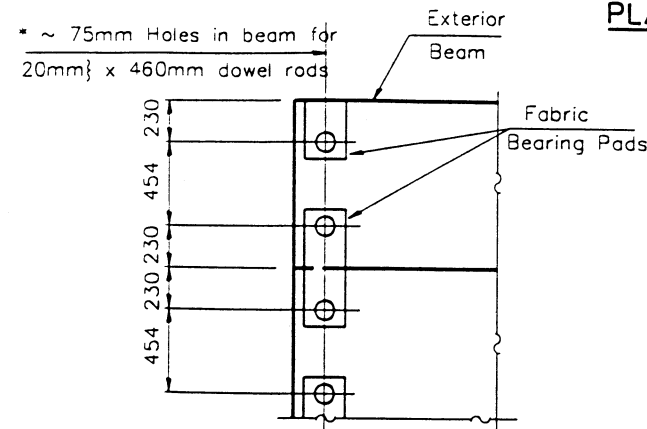
Reinforcement bars designated (E) shall be epoxy coated.

* Exterior Beams only.

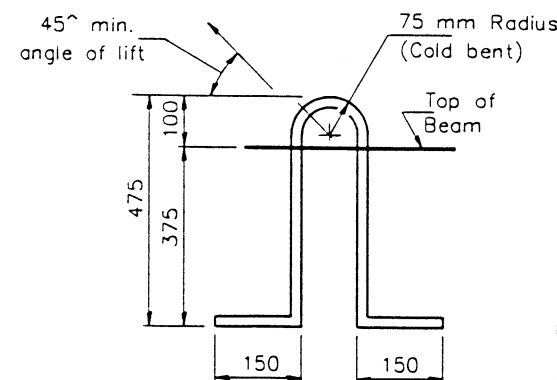


SECTION THRU EXTERIOR BEAM

Note: Place strands 11-12.7 mm } Strands, Each Strand Stressed to 128,500 N. symmetrically about ~ of beam.
5 Strands 45 } mm up & 6 Strands 83 } mm up.



DETAIL OF BEARING PADS
UNDER DECK BEAMS



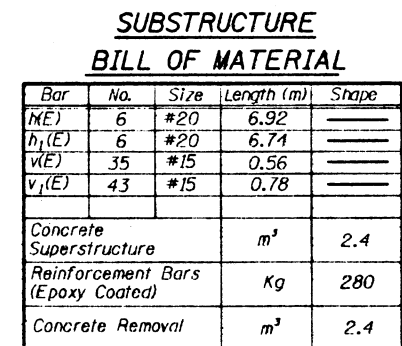
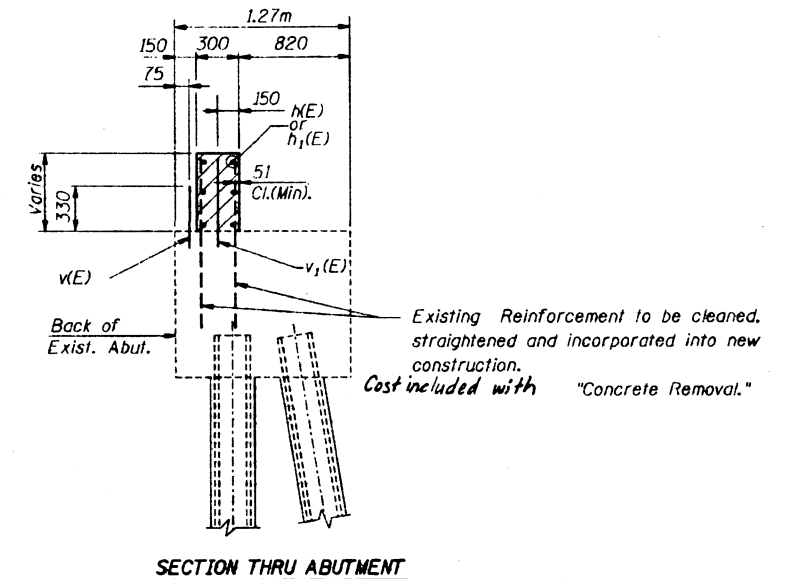
LIFTING LOOP DETAIL

NOTES

Prestressing steel shall be uncoated high strength, stress-relieved 7-wire strand ($F_u=1860$ MPa). The nominal diameter shall be 12.7 mm and the nominal cross-sectional area shall be 98.71 mm². Lifting loops shall be 2 - 12.7 mm strands ($F_u=1860$ MPa) as shown. The 25 mm } rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place. Reinforcement bars shall conform to the requirements of AASHTO M-31M, M-42M or M-53M Grade 400. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 3 mm fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. A Calcium Nitrite Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength, f_{ci} , shall be 28 MPa. An equal substitution of the low-relaxation strands for the stress-relieved strands will be permitted. All dimensions are in millimeters (mm) except as noted.

**SUPERSTRUCTURE - PPC DECK
BEAMS, SPANS 1 AND 2
ILLINOIS ROUTE 104 OVER
LAKE SANGCHRIS
F.A.P. 753 SECTION 142BR-2
STA. 3+648.75
CHRISTIAN COUNTY, ILLINOIS
STRUCTURE NO. 011-0021**

ROUTE NO.	SECTION	COUNTY	1914 DATE	SHEET NO.	SHEET NO. 8
S. & L. P. A. P. 753	142BR-2	CHRISTIAN	75	46	
FEE, HOND. DIST. NO. /		ALLIANCE	FEE, AND PROJECT:		9 SHEETS



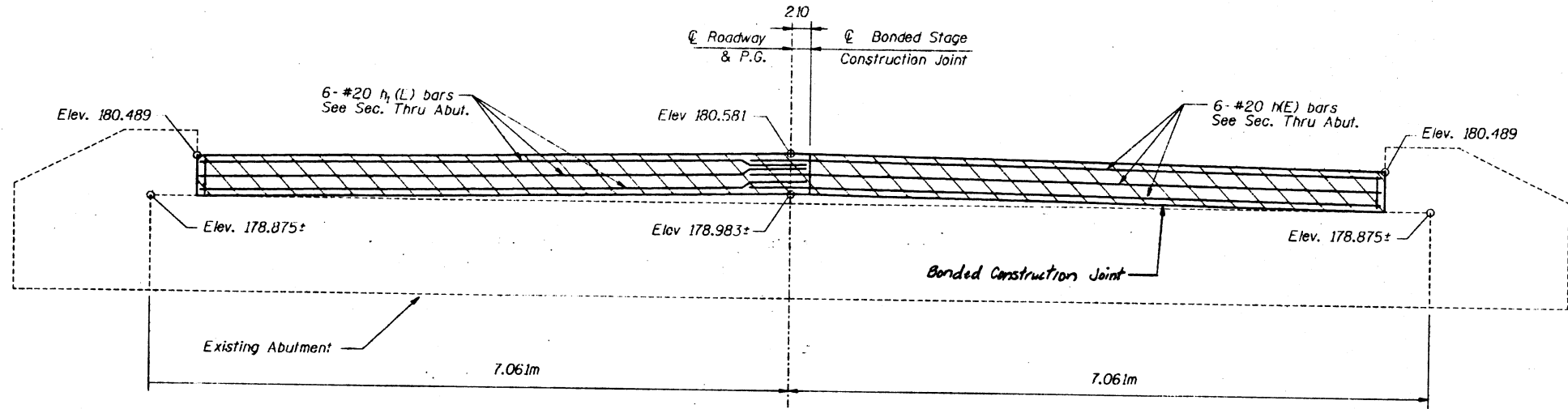
Hatched area indicates "Concrete removal" and "Concrete Superstructure."
Existing vertical reinforcement extending into removed areas shall be cleaned, straightened and incorporated into the new construction.
Concrete Superstructure shall be poured as shown above after the superstructure forms have been removed.
All edges shall have standard 19mm chamfers except as noted.
Reinforcement bars designated (E) shall be epoxy coated.
Min. bar lap for #20 bar = 610 mm.

WEST ABUTMENT
ILLINOIS ROUTE 104 OVER
LAKE SANGCHRIS
F.A.P. 753 SECTION 142BR-2
STA. 3+648.75
CHRISTIAN COUNTY, ILLINOIS
STRUCTURE NO. 011-0021

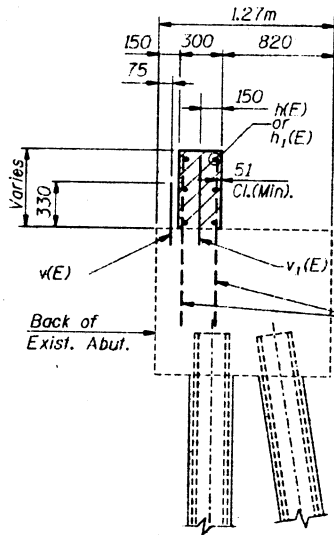
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
753	142BR-2	CHRISTIAN	75	47
9 SHEETS				

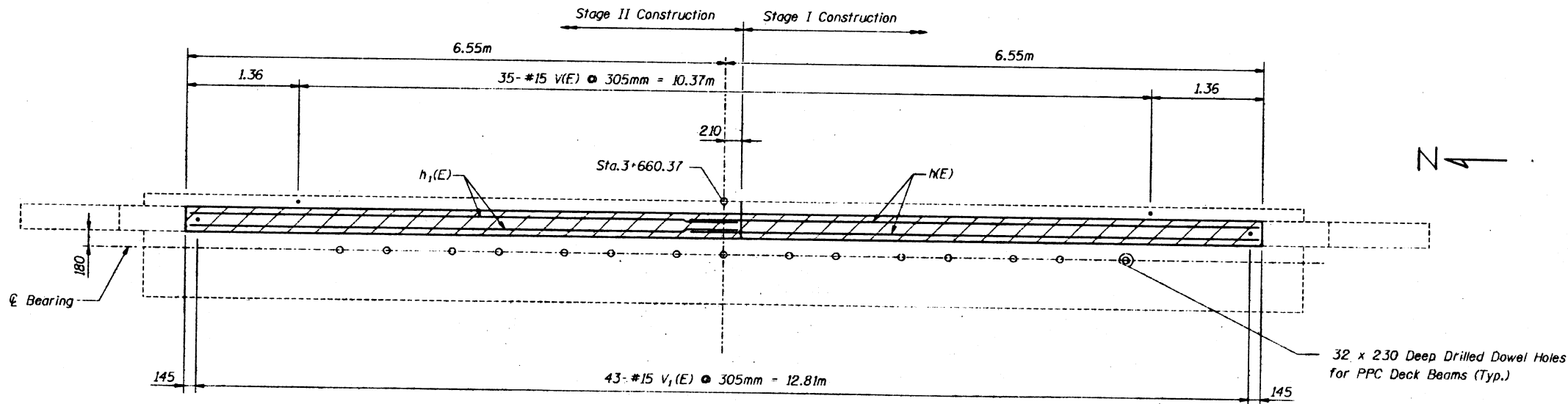
SHEET NO. 9
9 SHEETS



ELEVATION
(Looking West)



SECTION THRU ABUTMENT



PLAN

**SUBSTRUCTURE
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h1(E)	6	#20	6.92m	—
h1(E)	6	#20	6.76m	—
v(E)	35	#15	.56m	—
v1(E)	43	#15	.78m	—
Concrete Superstructure				m ³ 2.4
Reinforcement Bars (Epoxy Coated)				Kg 280
Concrete Removal				m ³ 2.4

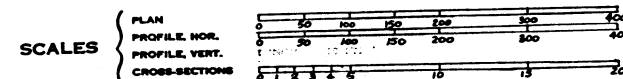
* Epoxy grout v(E) and v1(E) bars in 22mm ϕ x 230mm Min. drilled holes. The grout and the method of application shall be approved by the Department. See Art. 584 of the Standard Spec's.

Hatched area indicates "Concrete removal" and "Concrete Superstructure." Existing vertical reinforcement extending into removed areas shall be cleaned, straightened and incorporated into the new construction. Concrete Superstructure shall be poured as shown above after the superstructure forms have been removed. All edges shall have standard 19mm chamfers except as noted. Reinforcement bars designated (E) shall be epoxy coated. Min. bar lap for #20 bar = 610 mm.

EAST ABUTMENT
ILLINOIS ROUTE 104 OVER
LAKE SANGCHRIS
F.A.P. 753 SECTION 142BR-2
STA. 3+648.75
CHRISTIAN COUNTY, ILLINOIS
STRUCTURE NO. 011-0021

INDEX OF SHEETS ON SHEET NO. 3

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
STATE BOND ISSUE HIGHWAY



S.B.I. ROUTE 104 SEC. 142, 143 (XRS-1), 142B-1 & 143B-1

PROJECT F-196
CHRISTIAN COUNTY

C-96-053-64

SECTION 142B-1, ONE BRIDGE @ STA. 1251+35.00
PRECAST PRESTRESSED CONCRETE BEAMS
2 SPANS @ 35'-11 1/2"

OMISSION STATION 1185+00
TO STATION 1241+85

OMISSION STATION 1148+00
TO STATION 1171+00

STATION EQUATION
1314+71.6 BK. = 0+00 AH.

SECTION 143B-1, ONE BRIDGE @ STA. 40+94
PRECAST PRESTRESSED CONCRETE BEAMS
2 SPANS @ 64'-5 1/2"

END SECTION 142, 143 (XRS-1), 142B-1 & 143B-1
@ STATION 50+00

BEGIN SECTION 142, 143 (XRS-1), 142B-1 & 143B-1
STATION 1095+00

SECTION 142B-1, ONE BRIDGE @
STA. 1109+06.18, PRECAST PRESTRESSED
CONCRETE BEAMS, 2 SPANS @ 25'-5 1/2"
& 1 SPAN @ 37'-7"

SECTION 142B-1, ONE BRIDGE @ STA. 1177+60
PRECAST PRESTRESSED CONCRETE BEAMS,
2 SPANS 35'-8 1/2" & 1 SPAN 36'-4"

OMISSION STATION 1254+75
TO STATION 9+00

SCALE 0 1/2 1 MILE 1 1/2 2 3 4 5 MILES
NET LENGTH = 12,090.0 FT. = 2.290 MILES

SEC. 142, 143 (XRS-1), 142B-1 & 143B-1			
BOND ISSUE	SEC.	COUNTY	SHEET NO.
104		CHRISTIAN	60
ILLINOIS PROJECT			

P-96-031-63-2



LOCATION OF SECTION INDICATED THUS:—

STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS AND BUILDINGS DIVISION OF HIGHWAYS	
SUBMITTED	August 7, 1964 E. K. O'Donnell
EXAMINED	August 17, 1964 W. W. Quasell
PASSED	August 17, 1964 E. K. O'Donnell
APPROVED	August 17, 1964 James H. Doherty
APPROVED	August 17, 1964 James H. Doherty

CONTRACT NO. 23825

CHRISTIAN COUNTY

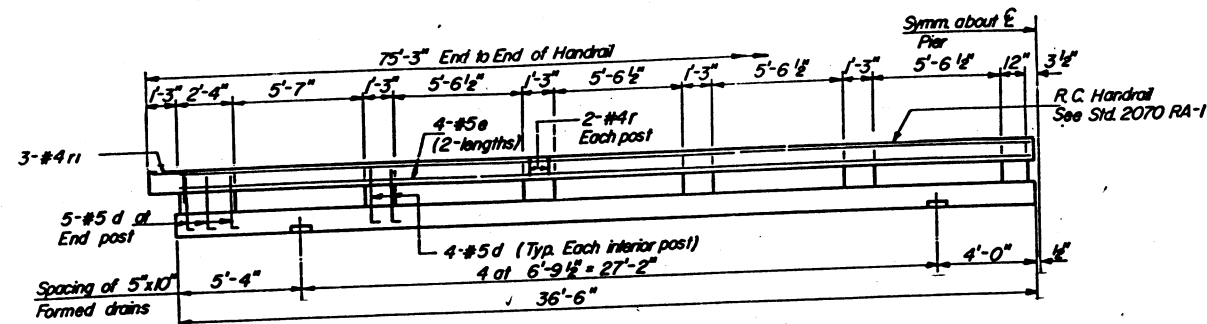
S. B. I. ROUTE 104
SECTION 142, 143 (XRS-1), 142B-1 & 143B-1

6-25

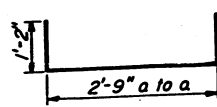
DESIGNED <i>Tsa-ming Yang</i>	EXAMINED <i>H.E. Baumann</i> REGISTERED PROFESSIONAL ENGINEER
CHECKED <i>M. Tomashik</i> S.E.P. R.S.	PASSED BY <i>E. H. H. H. H.</i> REGISTERED PROFESSIONAL ENGINEER
DRAWN <i>T.L. F.M.</i>	APPROVED <i>V.E. Olcott</i>

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

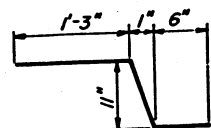
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
104	142B-1	Christian	60	20
PER. ROAD DIST. NO. 7	ILLINOIS	PER. AND PROJECT		



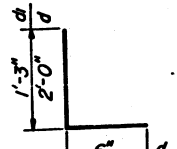
HALF ELEVATION OF HANDRAIL



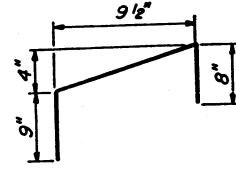
BAR u



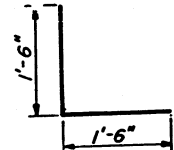
BAR z



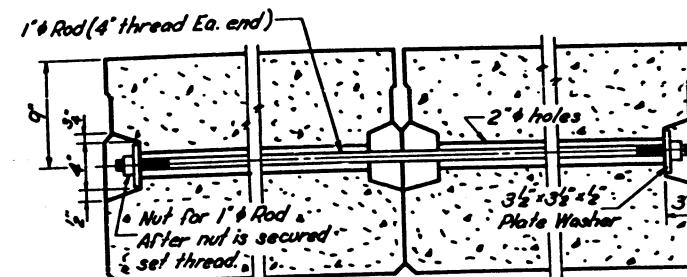
BARS d & d1



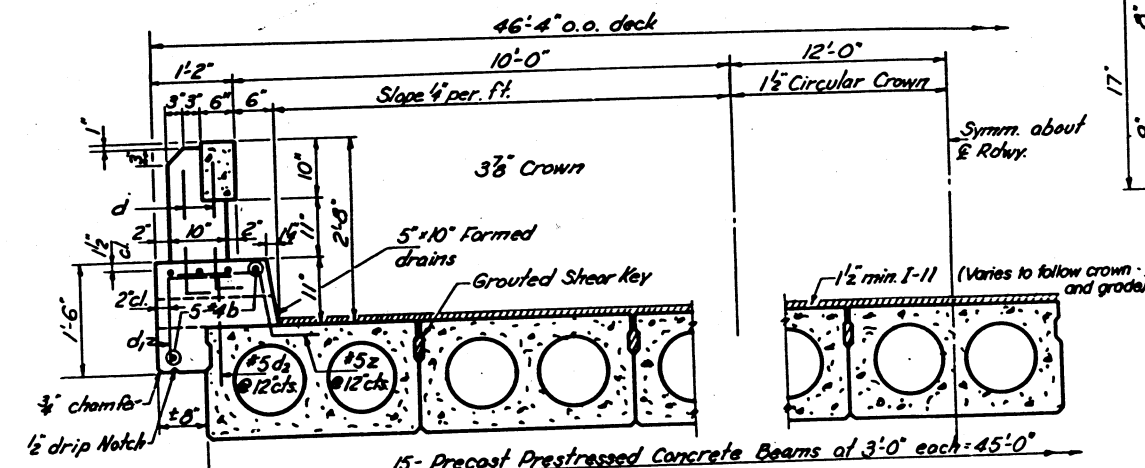
BAR r



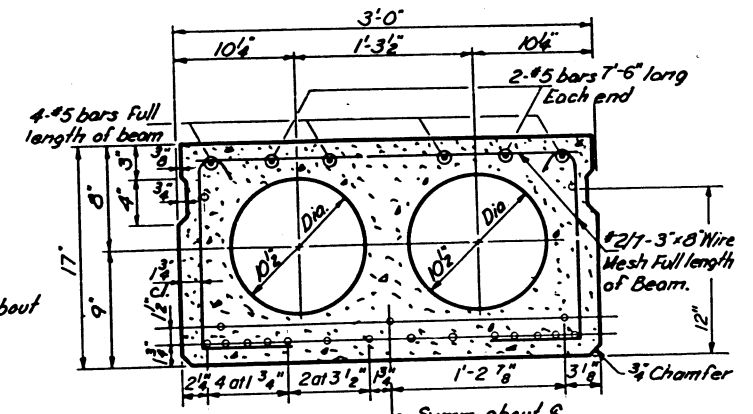
BAR ri



TRANSVERSE TIE ASSEMBLY



HALF CROSS SECTION

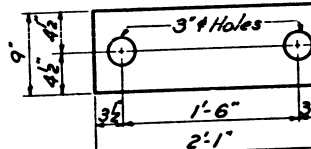


SECTION A-A

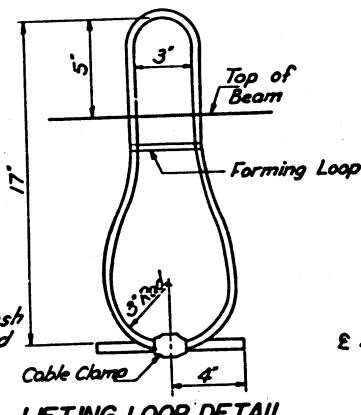
19-7 wire 7/16" strands. Each strand stressed to 16,900.
14 strands 1 1/2" up, 3 strands 3/4" up and 2 strands 12" up

GENERAL NOTES

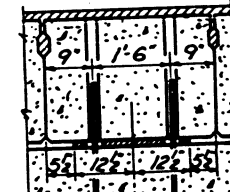
For item "Precast Prestressed Concrete Bridge Deck" See Supplemental Specifications effective March 2, 1964.
Prestressing steel shall be non-galvanized high strength stress-relieved 7-wire strand. The nominal diameter shall be 7/16" and the nominal cross-sectional area shall be 0.109 square inch.
Lifting loops shall be 5/8" diameter, 6 x 19 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 33,000 lbs. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set.
Pockets that receive transverse tie bar on outside of beam shall be filled with grout after transverse tie assembly is in place.
Longitudinal shear keys shall be drypacked with 1:1 sand and P.C. Mortar.
Dowel bars shall be set in drilled holes and grouted in place.
Cost of reinforcement and accessories casted into beams, of bearing pads, of furnishing and assembling transverse ties, of furnishing, drilling and grouting dowel holes, and of grouting longitudinal shear keys is included in unit price bid for "Precast Prestressed Concrete Bridge Deck"



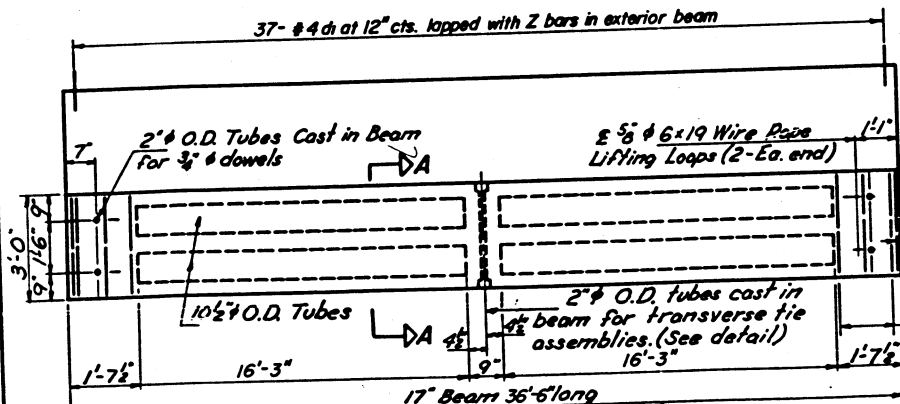
PLAN OF FABRIC BRG. PAD



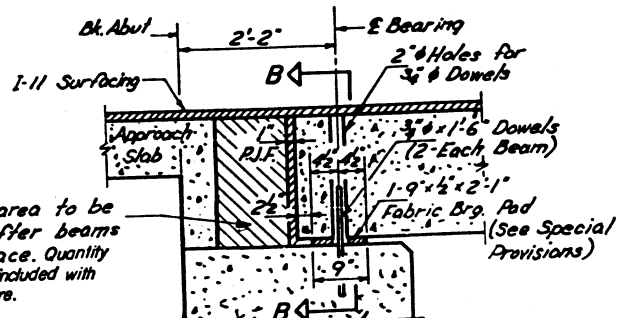
LIFTING LOOP DETAIL



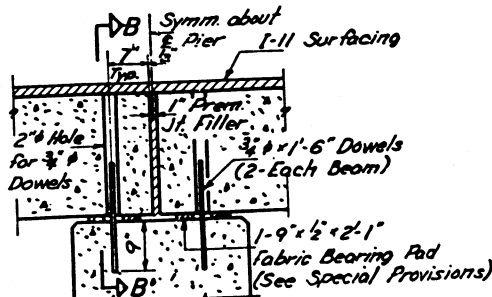
SEC. B-B



PLAN OF BEAMS-SPAN 1 & 2 (30 req'd.)



SEC. THRU ABUTMENT



SEC. THRU PIERS

BILL OF MATERIAL

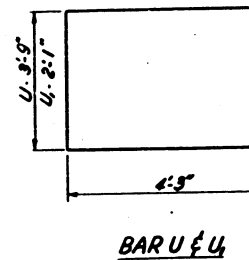
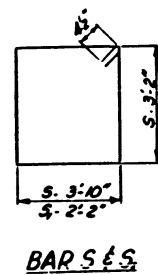
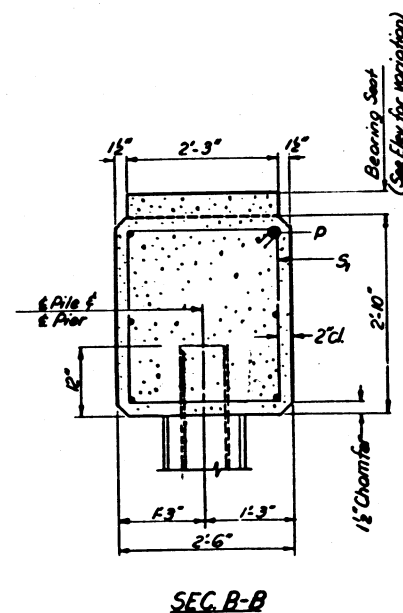
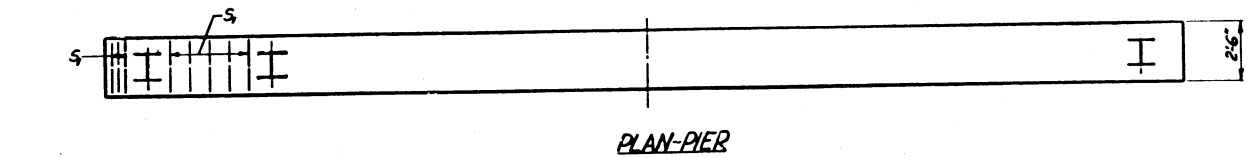
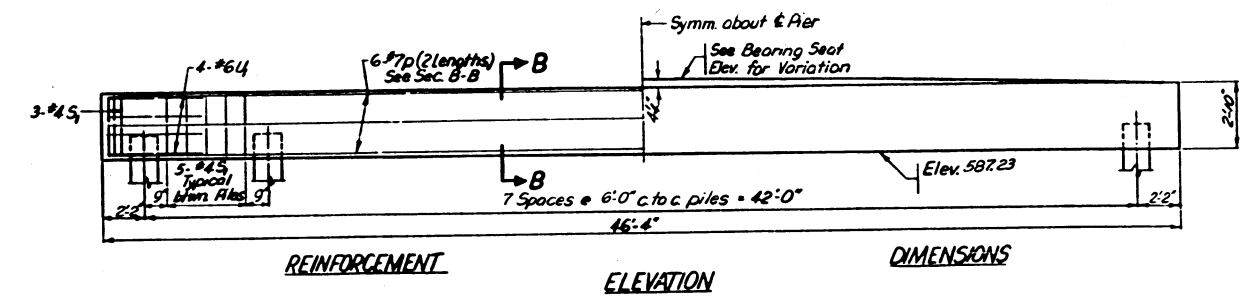
BAR	NO.	SIZE	LENGTH	SHAPE
b	40	#4	19'-0"	—
d	100	#5	2'-6"	—
di	148	#4	2'-6"	—
e	32	#5	19'-0"	—
r	48	#4	2'-3"	—
ri	12	#4	3'-0"	—
17" Precast Prestressed Concrete Bridge Deck				Sq. Ft. 3285
Class X Concrete				Cu Yds. 15.5
Handrail Concrete				Cu Yds. 3.7
Reinforcement Bars				Lbs. 1750
Bit. Conc. Surface Course (1 1/2" I-11)				Tons 2.9

SUPERSTRUCTURE
S.B.I. RT. 104 SEC. 142B-1
CHRISTIAN COUNTY
STA. 1251+35.00

DESIGNED T. M. Young
CHECKED M. J. Thomas
DRAWN Thomas A. Lewis
CHECKED M. J. Thomas

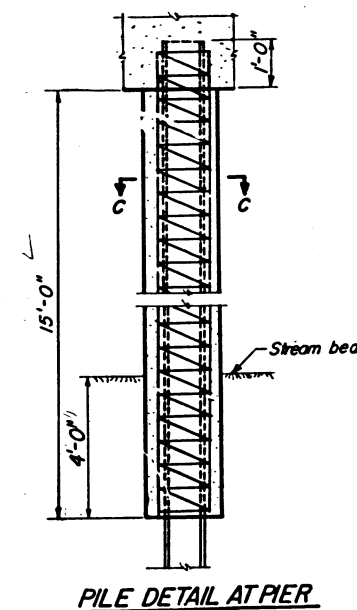
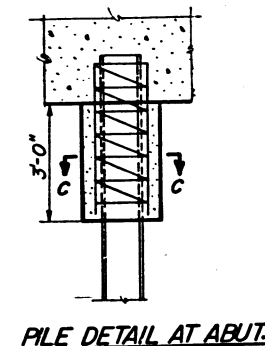
EXAMINED H. E. Baumann
PASSED E. J. Thomas
APPROVED U. E. O'Leary

Hatched area to be poured after beams are in place. Quantity of cl. X conc. included with Superstructure.



PILE DATA - PIER

Type - Steel (10BP42)
Capacity - 30 Tons
Est. Length - 35 Ft
No. Req'd - 8 (including
one test pile)



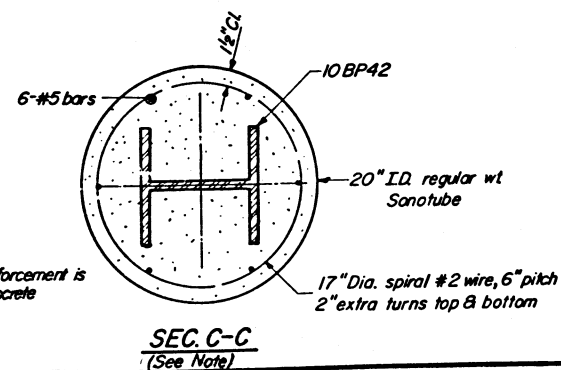
BAR	NO	SIZE	LENGTH	SHAPE
h	16	#6	22'-3"	—
h ₂	48	#5	6'-5"	—
P	44	#7	24'-0"	—
S	84	#4	14'-5"	□
S ₂	41	#4	10'-1"	□
U	16	#6	12'-3"	□
U ₂	8	#6	10'-7"	□
V	172	#4	3'-3"	—
V ₂	56	#4	5'-7"	—
CLASS X Concrete			Cu Yds	630
Reinforcement Bars			Lbs	5120
Steel Files (10 BP42)			Lin Ft	735
Test Piles Steel (10 BP42)			Each	1
CLX Conc Encasement			Cu Yds	131

SUBSTRUCTURE
S.B.I. RT. 104 SEC. 142B-1
CHRISTIAN COUNTY
STA. 1251 + 35.00

DESIGNED *M. Parneshis, T. M. Y.*
CHECKED *Ts. ming Yang M.T.*
DRAWN *M. Parneshis*
CHECKED *Ts. ming Yang*

AUGUST 3 1964
 EXAMINED H.E. Baumann
MANAGER OF BRIDGE AND TRAFFIC STRUCTURES
 PASSED Edith Baumann
MANAGER OF BRIDGE AND TRAFFIC STRUCTURES
 APPROVED U.E. Duff
MANAGER OF BRIDGE AND TRAFFIC STRUCTURES

NOTE:
Space reinforcement in cap to miss dowel bars
All edges shall have standard $\frac{3}{8}$ " chamfer except
as noted
Four seats monolithically with cap



Note: Cost of sonotube & reinforcement is incidental to Class X Concrete Encasement.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6.6.1-104 P. A.	142B-1	Christian	60	22
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 4 SHEETS

Form No. B. O. 137 Rev. 9-64

Sh 1 of 3 Sh

BRIDGE FOUNDATION BORING LOG				Date	7-16-64			
PROJECT		BRIDGE		Bored By		S. Lewis		
ROUTE				Checked By		H. Brady		
SEC		STA		1251+35				
COUNTY		Christian						
Boring No.	Station	Offset	Elevation	z	Ch / L	z	Ch / L	
1	1251+73	15' L						
Ground Surface			588.0	0				
Dark Gray Silty Clay Loam (Stiff)								
20% Strain			-3	11	1.8 B	22		
20% Strain				9	1.1 B			
579.0								
Gray Brown Mottled Sandy Clay Loam (Soft)								
20% Strain			-10	8	1.1 B	27		
20% Strain				4	0.7 B			
-15				2	0.2 E			
572.0								
Light Gray Clay Till (Hard)								
100 4"						6		
-20				100 8"	7.9 E			
566.0								

Surface Water El. _____
 Groundwater El. at Completion _____
 After _____ Hours _____

Gray Brown Sandy Clay Till _____
 Boring Completed _____

Sh 2 of 3

BRIDGE FOUNDATION BORING LOG				
PROJECT _____	BRIDGE _____		Date	7-16-68
ROUTE EBI 104			Bored By	S. Lewis
SEC. 1429-1	STA. 1251+35		Checked By	H. Brady
COUNTY Christian				
Boring No. 2	Elevation	x	Qs f/c.	(%)
Station 1250+56			Surface Water El.	
Offset 15' Rt			Groundwater El. at Completion	570.0
			After 24 Hours	579.0
Ground Surface	587.0	0	Brown Silt (Very Dense) (Medium)	15% Strain
Red Brown Silty Clay (Medium)				563.0
			Gray-Brown Silty Clay Till (Very Dense) Angular Layers	10% Strain
	-3	9		5% Strain
				559.0
	580.5		Boring Completed	
Gray Brown Silty Clay (Stiff)	20% Strain	6		-30
	578.0			
Black Silty Clay Lean (Medium)	20% Strain	4		-35
	20% Strain	5		-40
	-13	9		
	569.5	16		
Gray Brown Silty Clay Till (Hard)	20% Strain			
	15% Strain	18		
	565.5			-45

Sh. 3 of 3 Sh.

[illegible]

Type failure:
B - Bulge Failure
S - Shear Failure
E - Estimated Value

BORING DATA
S.B.I. 104 SEC. 142-B-1
CHRISTIAN COUNTY
STA. 1251 +35

DESIGNED *T. M. Yang*
CHECKED *M. Penashis*
DRAWN *Joseph L. Putnam*
CHECKED *M. T.*

AUGUST 3 1964
 EXAMINED W.E. Baumann
REVIEWED BY SENIOR AND SENIOR OFFICIALS
 PASSED [Signature]
REVIEWED BY SENIOR AND SENIOR OFFICIALS
 APPROVED V.E. O'Leary
REVIEWED BY SENIOR AND SENIOR OFFICIALS