S. & F. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
83	123BR	MERCER	17	1
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

P-94-152-70

INDEX OF SHEETS

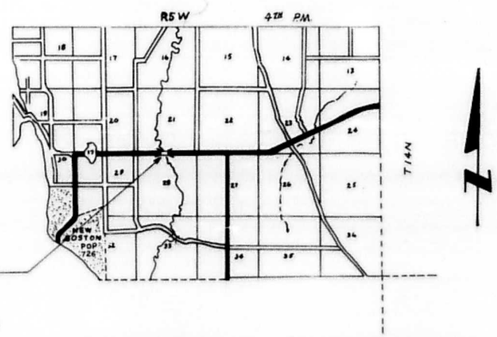
SEE SHEET 2 FOR LIST OF STANDARDS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED STATE BOND ISSUE HIGHWAY

SCALES		
PLAN	1 INCH	100 FT.
PROFILE, HOR.	1 INCH	100 FT.
PROFILE, VERT.	1 INCH	10 FT.
CROSS-SECTIONS	1 INCH	5 FT.

SBI ROUTE 83
SECTION 123BR
MERCER COUNTY
C-94-346-71



SBI. ROUTE 83 SECTION 123 BR

PROPOSED IMPROVEMENT INCLUDES REMOVAL AND REPLACEMENT OF THE EXISTING SUPERSTRUCTURE CARRYING ILL.17 OVER EDWARDS RIVER AT STATION 153+01

LAYOUT
SCALE: 1"=1 MILE

LENGTH OF IMPROVEMENT = 1400 FT.=0.265 MILE

SUBMITTED Oct. 18, 1971 Elio Suau. DIST. PROJECT ENGR.
EXAMINED Oct. 18, 1971 A.F. Bunker. DIST. ENGR.
EXAMINED Oct. 15, 1971 H.C. Bankie DIST. MAINT. ENGR.
EXAMINED M.D. Barr DIST. TRAFFIC ENGR.
Entire section inspected and approved as to policy
DATE 10-18-71 J.H. Harland DISTRICT ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SUBMITTED 10-18 19 71 J.H. Harland DISTRICT ENGINEER
EXAMINED Jan 6 19 72 Wilton Dunbrell DIRECTOR OF HIGHWAYS
PASSED Jan 6 19 72 H.C. Bankie DIRECTOR OF DIVISION
APPROVED Jan 6 19 72 Thomas J. Hamer
UNDER SECRETARY, DEPT. TRANSPORTATION ENGINEER
APPROVED Jan 6 19 72 W.J. Cellini SECRETARY

FOR INFORMATION ONLY

JOB NUMBER CONTRACT NO. 28951

SUMMARY OF QUANTITIES

CODE	ITEM	UNIT	QUANTITY
201005	TREE REMOVAL, ACRES	ACRE	2.1
202001	EARTH EXCAVATION	CU. YD.	7864
204001	BORROW EXCAVATION	CU. YD.	9074
301004	AGGREGATE BASE COURSE, TYPE B	TON	033
405003	BITUMINOUS MIXTURE COMPLETE	TON	185
406007	BITUMINOUS CONCRETE BINDER COURSE	TON	77
406008	BITUMINOUS CONCRETE SURFACE COURSE, CLASS I	TON	458
408005	PORTLAND CEMENT CONCRETE PAVEMENT 10"	SQ. YD.	37
408013	PAVEMENT FABRIC	SQ. YD.	37
501015	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	1
501022	CONCRETE REMOVAL	CU. YD	56
501026	EXPANSION BOLTS 3/4 INCH SEE BELOW	EACH	348
505001	PRECAST CONCRETE BRIDGE SLAB	SQ. FT.	329
505006	PRECAST PRESTRESSED C RETE DECK BEAMS (27" DEPTH)	SQ. FT.	14508
505007	PRECAST PRESTR ED CONCRETE DECK BEAMS (33" DEPTH)	SQ. FT.	5066
507001	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	8000
508006	STEEL RAILING, TYPE N	LIN FT.	1280
512001	REINFORCEMENT BARS	POUND	19470
513001	FURNISHING UNTREATED PILES UP TO 30 FEET	LIN. FT.	768
513022	DRIVING TIMBER PILES	LIN. FT.	768
513028	TEST PILE TIMBER	EACH	1
514001	NAME PLATES	EACH	1
620026	PAVEMENT REMOVAL AND PORTLAND CEMENT CONCRETE REPLACEMENT, TYPE II, 10 INCH	SQ.YD.	9
628001	STEEL PLATE BEAM GUARDRAIL, SINGLE RAIL	LIN. FT.	300
623003	STEEL PLATE BEAM GUARDRAIL REMOVAL	LIN. FT.	100
636007	STOCK-PILING SALVAGED AGGREGATE	CU. YD.	345
638001	TEMPORARY BRIDGE COMPLETE	EACH	1
646002	ENGINEER'S FIELD OFFICE, TYPE B	EACH	1
X04055	BASE COURSE WIDENING, 9 INCH	SQ. YD.	432
X62801	TERMINAL SECTION, SINGLE RAIL	EACH	4
Z 0178	COAL TAR INTERLAYER PROTECTIVE COAT	SQ. YD.	2200
XZ1186	PREFORMED JOINT SEALER 2½ INCH	LIN. FT.	109
XZ1090	NEOPRENE EXPANSION JOINT 2 INCH	LIN. FT.	109
XZ 1016	TRAFFIC CONTROL AND PROTECTION - STANDARD 2310	EACH	1
X64701	PAVEMENT MARKING TAPE	LIN FT	56
XZ 1086	TRAFFIC CONTROL AND PROTECTION - STANDARD 2311	L. SUM	1
502003	COFFERDAM EXCAVATION	CU. YD	88
502007	COFFERDAM (PIER 2)	EACH	1
504002	CLASS A CONCRETE	CU. YD	123.2
504003	CLASS X CONCRETE	CU. YD.	134.6

LIST OF STANDARDS

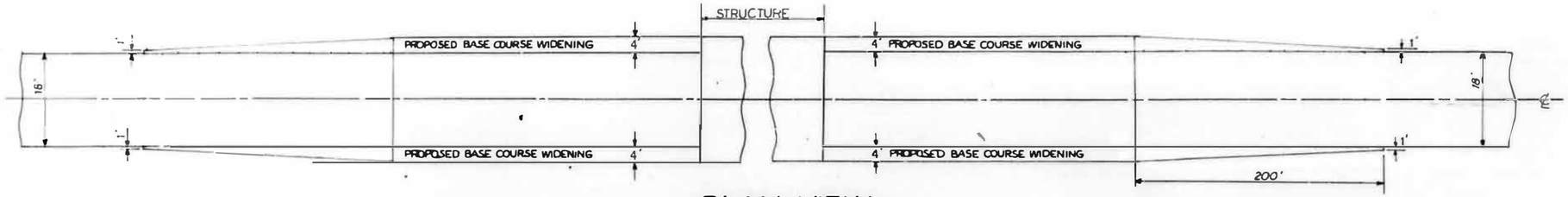
STD. NO.	DESCRIPTION
1686-3	SYMBOLS AND ABBREVI TIONS
2 3- 11 1	NAME PLATE FOR BRIDGES
2 15-3	PAVEME T FABRIC, TYPE A A D TYPE B
21 6- 1 1	PATCH NG DETAILS (PCC)
2230-7	STEEL PL TE BE ... GUARD RAIL
2231-3	TYPIC L APPL.C IO OF SPBGR
2298-3	TYPIC L APPLIC IO F R FFIC CO TROL DE ICES
2299-4	DESIG OF RAFFIC CO TROL DE ICES
2300	FL G TRAFFIC CO ROL SIG
23 3-3	TYPIC L APPLIC TIO OF TRAFFIC CO TROL DE ICES
2310-2	TYPICAL APPLIC TIO OF T AFF C CO TR DE ICES
11-3 23	TYPIC L PPLIC TIO OF R FF C CO TROL DEVICES

FOR INFORMATION ONLY

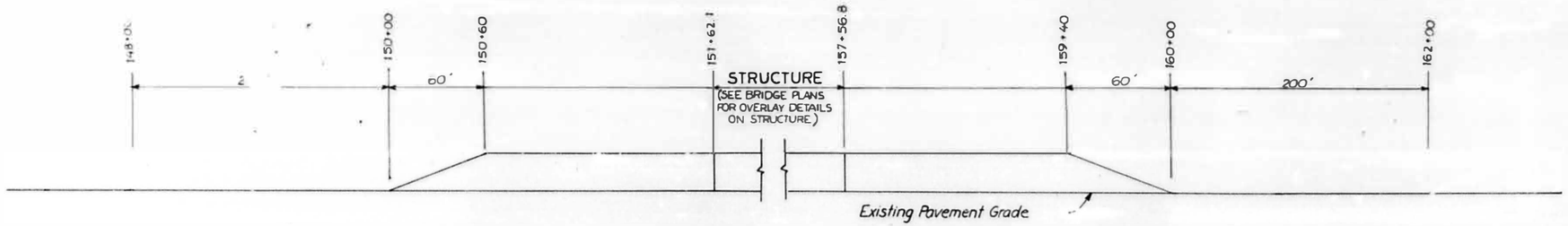
TE: raffic ont l and Pro t n Stan 2 3 s
Be use urin fr esurf ink iper ri ts
d d g a F 2 C a
TE ri fri ontrol and Protection Standard 2311-3 shall
Be used urin all Widening Operations.
b d

SBI 83 123BR Mercer. 17 3

APPROACH PAVEMENT



PLAN VIEW



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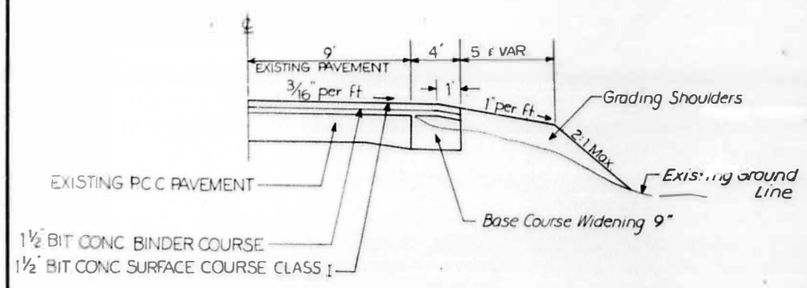
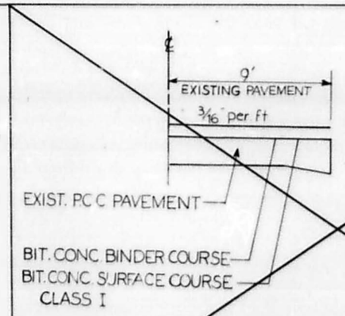
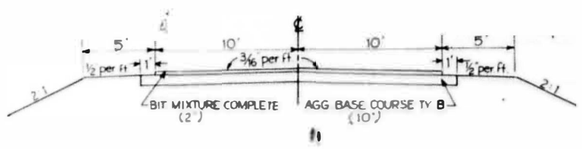


TYPICAL SECTION PAVEMENT WIDENING



TYPICAL SECTION FOR PAVEMENT WIDENING (GUTTER SECTION)

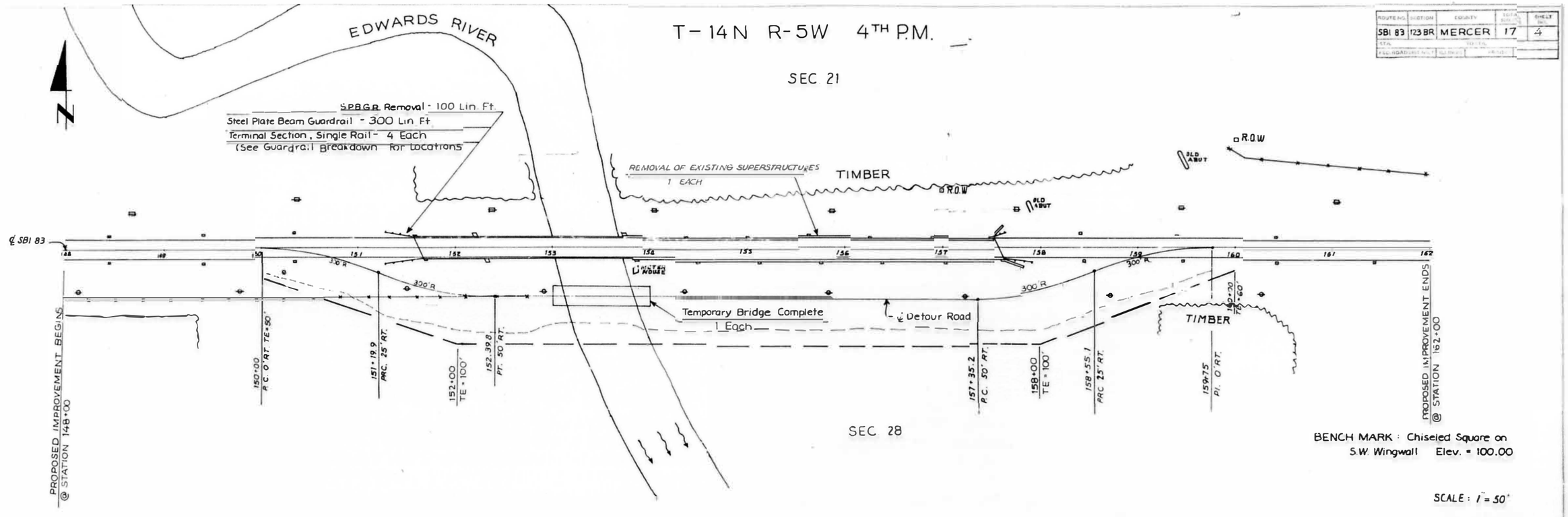


TYPICAL SECTION FOR DETOUR ROAD

		APPROACH	STRUCTURE	DETOUR				TOTAL
AGGREGATE BASE COURSE TYPE B	TON	—	—	1033				1033
BITUMINOUS MIXTURE COMPLETE	TON	—	—	185				185
STOCK-PILING SALVAGED AGGREGATE	CU. YD	—	—	345				345
BIT. CONC. BINDER COURSE	TON	77	—	—				77
BIT. CONC. SURF. COURSE CL. I	TON	92	366	—				458
BASE COURSE WIDENING 9"	SQ. YD	432	—	—				432

FOR INFORMATION ONLY

ROUTE NO.	SECTION	COUNTY	TOTAL SHTS.	SHEET NO.
SBI 83	123 BR	MERCER	17	4
STA.		TO STA.		
FED. ROAD DIST. NO.	STATE	PROJECT		



Grading Existing Shoulder (Incidental)
LT. & RT. STA 148+00 TO STA. 151+62.1
LT. & RT. STA. 157+56.8 TO STA. 162+00

Seeding – 2 Acres
SHOULDER & EASEMENT AREA

Guardrail Breakdown

LOCATION	SE.	SW.	NW.	NE.	TOTAL
SPBGR REMOVAL	25	37.5	25	12.5	100 L.F.
S.P.B.G.R.	75	75	75	75	300 L.F.
TERMINAL SECTION	1	1	1	1	4 EACH

Summary of Earthwork

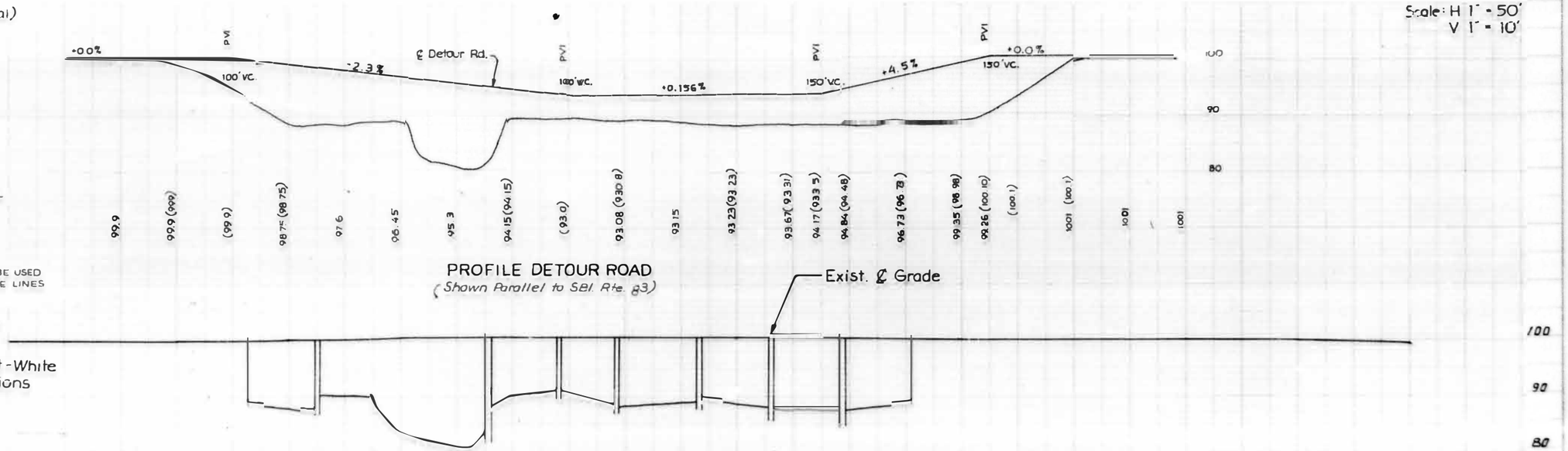
	DETOUR	DETOUR REMOVAL	TOTAL
EARTH EXCAVATION	200	7664	7864
EARTH EMBANKMENT	7664	198	7862
BORROW EXCAVATION	9074	—	9074
WASTE *	—	7425	7425

* NOTE : THIS QUANTITY INCLUDES MATERIAL TO BE USED TO BRING THE EXISTING SHOULDERS UP TO THE LINES SHOWN ON THE TYPICAL SECTIONS.

Tree Removal - Acres - 2.1 Acres
(See Special Provisions)

Pavement Marking Tape Intermittent - White
14 Stations

Scale: H 1" = 50'
V 1" = 10'



FOR INFORMATION ONLY

B.M.: Chiseled "O" Top S.W. Wingwall El. =100.00
Existing structure built as S.B.I. Rte. 83, Sec 123 BR at Sta. 154+27.60 in 1927. The structure has 1 Th Truss plus 7 R.C.D.G. spans on R.C. Piers & Abuts with a roadway width of 22.5' and out to out waterside of 24.5'. The existing superstructure will be removed & replaced with P.P.C. Bms. The Existing substructure will be rebuilt and widened as required.
A temporary bridge runaround at the job site will be required during reconstruction of the existing bridge.

STATE OF ILLINOIS
[redacted]

FOR INFORMATION ONLY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 83 Proj.	123BR	MERCER	17	5
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1
10 SHEETS

GENERAL NOTES

It shall be the responsibility of the Contractor to verify all dimensions and conditions existing in the field prior to construction and ordering of materials.

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.

Expansion guards which are not cast in the precast unit shall be fabricated and erected in accordance with Article 503.07(c) of the Standard Specifications and are included in quantity of structural steel.

The Contractor shall drive 1 timber test piles in a permanent location at " Pier 2 as directed by the Engineer before ordering the remainder of piles.

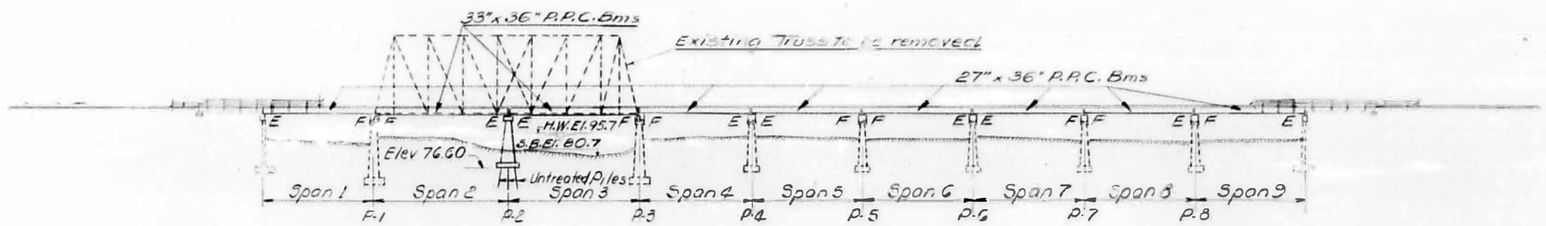
An alternate strand pattern using Extra High Strength Prestressing strand (270 k.s.i.) is permitted.

Expansion bolts shall consist of self drilling expansion anchors and ¾"ø x 12" hooked bolts.

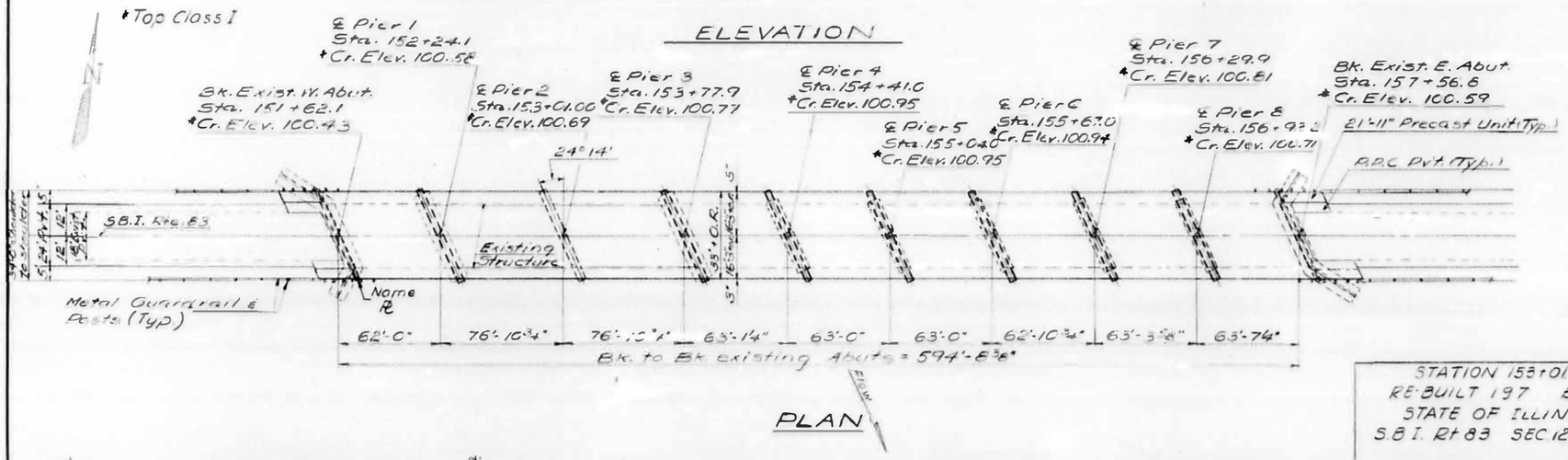
Hooked bolts shall extend a minimum of 12" into new concrete unless otherwise shown.

Shoulder transition to wing wall shall be shaped with broken concrete. Cost incidental.

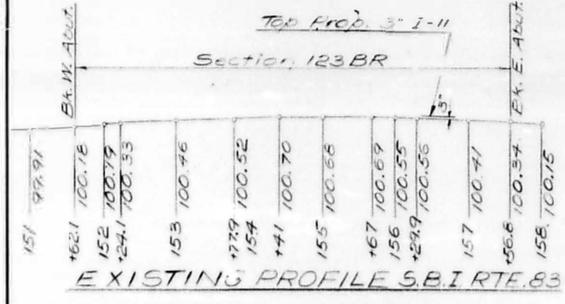
The Basic Lead Silico Chromate paint system shall be used for shop painting of Structural Steel.



ELEVATION



PLAN



EXISTING PROFILE S.B.I. RTE. 83

DESIGNED	Catonell	
CHECKED	Sal Fatum	
DRAWN	F.M.	
CHECKED	S.F.	

OCTOBER 6 1911
EXAMINED
PASSED W. C. Gammann ENGINEER OF DESIGN
APPROVED Richard H. Halterman CHIEF HIGHWAY ENGINEER

WATERWAY INFORMATION

Drainage Area 43.4 0 M.I.
Character:
Required Opening (50 yr. flood) 7,310 c/M.
Present Opening 7,310 c/M.
Proposed Opening 7,310 c/M.

Original Water El. 84.0
Low Water El. 84.0
H.W. El. 95.7

Q(100) = 18,685 c.f.s.
LOADING HS20-44

FIELD UNITS

f'c = 1400 psi (sub)
fs = 20000 psi (Reinf.)
n = 10

PRECAST UNITS

f'c = 4500 psi
f'c = 1800 psi
fs = 20000 psi
n = 9

PRECAST PRESTRESSED UNITS

f'c = 5000 psi
f'ci = 4000 psi
fs = 248000 psi (½" Strands)
fsi = 173600 psi (½" Strands)

Allow 25 #/sq Ft for future W.S.

STATION 153+0100
RE-BUILT 197 BY
STATE OF ILLINOIS
S.B.I. Rt 83 SEC 123 BR

LOADING HS20

NAME PLATE
See Standard 2113

Proposed Structure
R5W
4TH P.M.
T41N
21
22
ILL. RTE. 17
28
27
N

LOCATION SKETCH

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Precast Prestressed Conc. Dk. Bms (27")	Sq. Ft.	14,508		14508
Precast Prestressed Conc. Dk. Bms (33")	Sq. Ft.	5,066		5,066
Precast Concrete Bridge Slab	Sq. Ft.	329		329
Class X Concrete	Cu. Yds.	1.8	132.8	134.6
Class A Concrete	Cu. Yds.		123.2	123.2
Reinforcement Bars	Lbs.		19470	19470
Steel Railing Type N	Lin. Ft.	1,280		1,280
Portland Cement Conc. Pavt. (10")	Sq. Yds.	37		37
Pavement Fabric	Sq. Yds.	37		37
Pavt. Remov.; P.C.C. Repl. Type 2 (10")	Sq. Yds.	9		9
Bit. Concrete Surf. Course Class I	Tons	366		366
Coat for Interlayer Protect Ct.	Sq. Yds.	2,200		2,200
Concrete Removal	Cu. Yds.		56	56
Expansion Bolts ¾"ø	Each	56	292	348
Untreated Piles Up 30'	Lin. Ft.		768	768
Test Piles, Timber	Each		1	1
Name Plates	Each		1	1
Neoprene Expansion Joint (2")	Lin. Ft.	109		109
Preformed Joint Sealer 2½"	Lin. Ft.	109		109
Removal of Exist. Superstruct.	Each			1
Temporary Bridge Complete	Each			1
Structural Steel	Lbs.	3000		3000
Cofferdam Pier # 2	Each		1	1
Cofferdam Excavation	Cu. Yds.		88	88

N

GENERAL PLAN & ELEVATION
S.B.I. RTE. 83 OVER EDWARDS RIVER
S.B.I. RTE. 83 (ILL. RTE. 17) SEC. 123 BR

MERCER COUNTY
STA. 153+01.00

KEE CO 19-1288

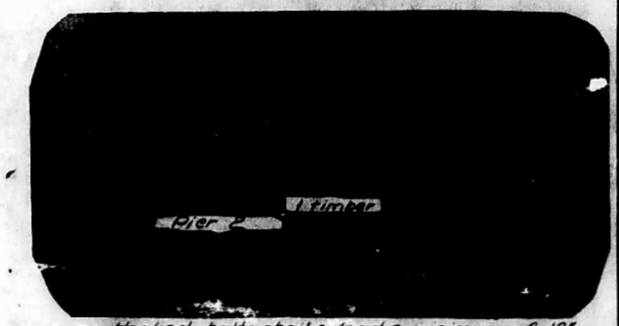
B.A.1. Connected to 7'0" Top S.W. Wing Wall El. 100.00
Existing structure built on S.B.I. Sta. & Sec. 79C, at Sta. 154+27.00 in 17-7 The structure has Thru Truss Elev. 7 R.C.D.G. girder Cont. C. Piers & Abuts with a roadway width of 22'-0" curb to curb with curbs of 2'-0". The existing steel structure will be removed & replaced with P.P.C. Bms. The Existing substructure will be retained and widened as required.
A temporary bridge runaround at the job site will be required during reconstruction of the existing bridge.

STATE OF ILLINOIS
[redacted]

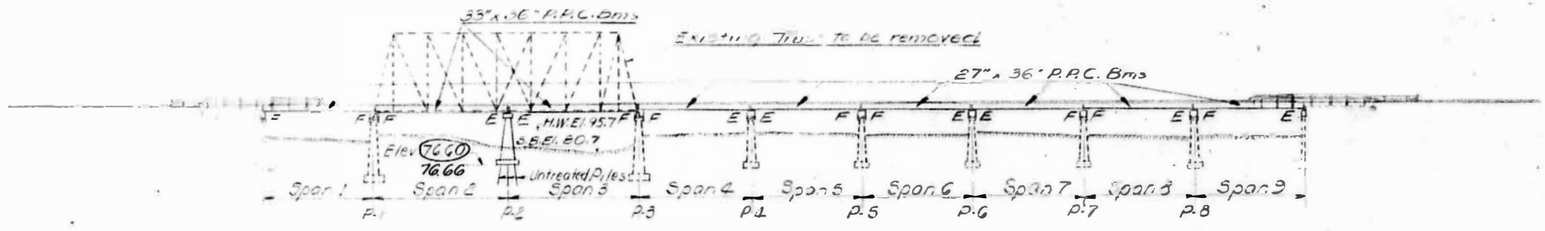
FOR INFORMATION ONLY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. Rte. 83	123 BR	MERCER	17	5A
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

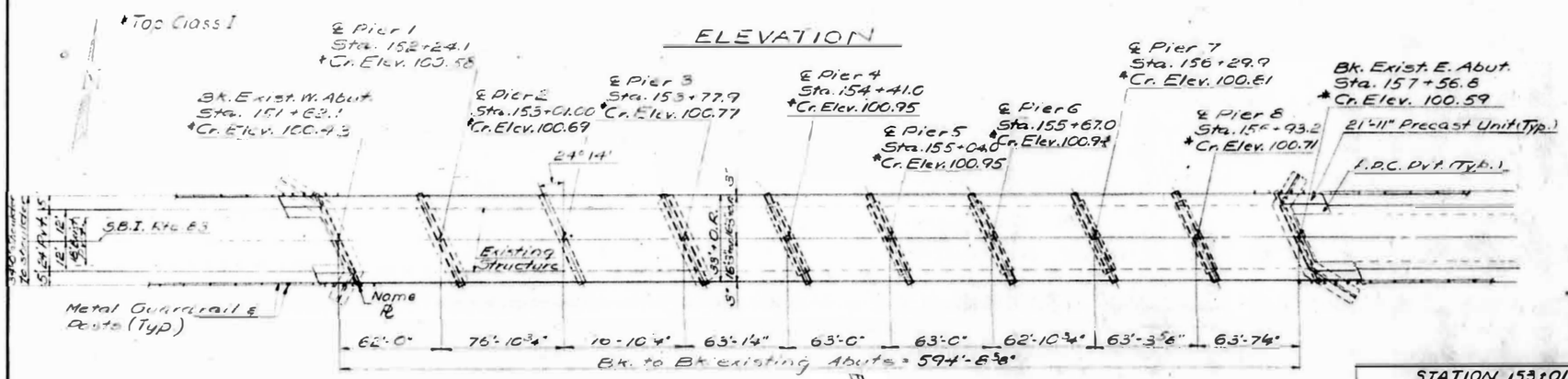
SHEET NO. 1A
10 SHEETS



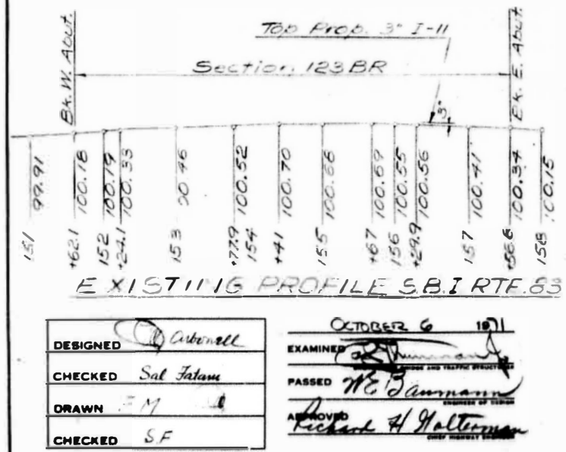
Hooked bolts shall extend a minimum of 12" into new concrete unless otherwise shown. Shoulder transition to wing wall shall be shaped with broken concrete. Cost incidental.
The Basic Lead Silico Chromate paint system shall be used for shop painting of Structural Steel.



ELEVATION



PLAN



EXISTING PROFILE S.B.I. RTE. 83

DESIGNED	Cabanell	
CHECKED	Sal Fatana	
DRAWN	J.M.	
CHECKED	S.F.	

OCTOBER 6 1971
EXAMINED
PASSED W.E. Bamesberger
APPROVED Richard H. Gutterman

WATERWAY INFORMATION

Drainage Area	434.0 Mi.
Character:	
Required Opening (50 Yr. Flood)	4310 sq.ft.
Present Opening	4310 sq.ft.
Proposed Opening	4310 sq.ft.

Ordinary High Water El. 84.0
Low Water El. 84.0
H.W. El. 95.7

Q(50) = 16,665 c.f.s.
LOADING HS20-44

PRECAST PRESTRESSED UNITS

f'c = 5000 psi
fci = 4000 psi
fs = 246000 psi (7/16" Strands)
fsi = 173,600 psi (7/16" Strands)

FIELD UNITS	PRECAST UNITS
fc = 1400 psi (sub)	f'c = 4,500 psi
fc = 1800 psi (Reinf.)	fc = 1,800 psi
fs = 20000 psi (Reinf.)	fs = 20,000 psi
n = 10	n = 8

Allow 25 #/Sq. Ft. for future W.S.

STATION 153+01.00
RE-BUILT 197 BY
STATE OF ILLINOIS
S.B.I. Rt 83 SEC 123 BR

LOADING HS20

NAME PLATE
See Standard 2113

Proposed Structure
R.S.W.
4TH P.M.
T. 14 N.
R. 1 W.
21
22
28
27
ILL. RT. 17

LOCATION SKETCH

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Precast Prestressed Conc. Dk. Bms. (27")	Sq. Ft.	14,508		14,508
Precast Prestressed Conc. Dk. Bms. (33")	Sq. Ft.	5,066		5,066
Precast Concrete Bridge Slab	Sq. Ft.	329		329
Class X Concrete	Cu. Yds.	18	132.8	134.6
Class A Concrete	Cu. Yds.		123.2	123.2
Reinforcement Bars	Lbs.		19470	19470
Steel Railing Type N	Lin. Ft.	(100)		1230
Portland Cement Conc. Pavt. (10")	Sq. Yds.	37		37
Pavement Fabric	Sq. Yds.	37		37
Pavt. Remov.; P.C.C. Repl. Type 2 (10")	Sq. Yds.	9		9
Bit. Concrete Surf. Course Class I	Tons.	366		366
Coal Tar Interlayer Protect. Cl.	Sq. Yds.	2200		2200
Concrete Removal	Cu. Yds.		56	56
Expansion Bolts ¾"ø	Each	56	292	348
Untreated Piles Up 30'	Lin. Ft.		768	768
Test Piles, Timber	Each		1	1
Name Plates	Each		1	1
Neoprene Expansion Joint (2")	Lin. Ft.	109		109
Preformed Joint Sealer 2½"	Lin. Ft.	109		109
Removal of Exist. Superstruct.	Each			1
Temporary Bridge Complete	Each			1
Structural Steel	Lbs.	3000		3000
Cofferdam Pier # 2	Each		1	1
Cofferdam Excavation	Cu. Yds.		88	88

As Revised 5-8-73 N.C.C.

GENERAL PLAN & ELEVATION
S.B.I. RTE. 83 OVER EDWARDS RIVER
S.B.I. RTE. 83 (ILL. RTE. 17) SEC. 123 BR
MERCER COUNTY
STA. 153+01.00

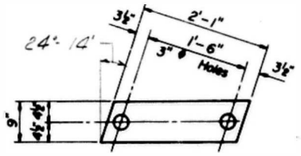
Rev. 5-8-73 N.C.C.

K & E CO. 10-1255

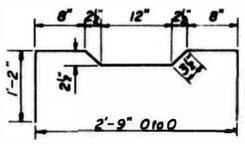
STATE OF ILLINOIS

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FAI 83	123BR	MERCER	17	6

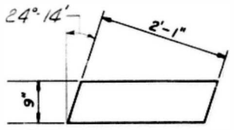
SHEET NO. 2
10 SHEETS



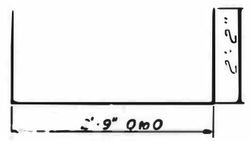
FABRIC BEARING PAD



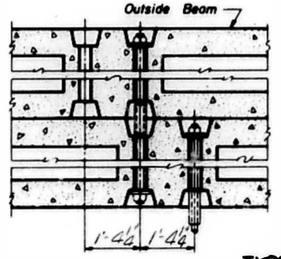
A_1 BAR

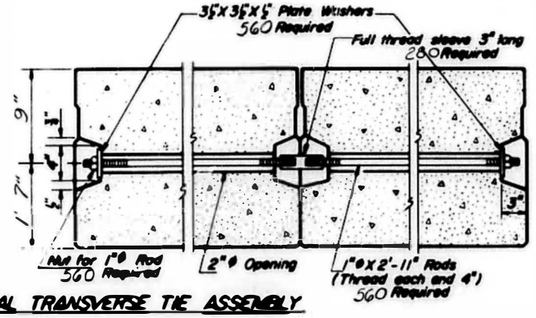


GRAPHITED ASBESTOS BEARING PAD

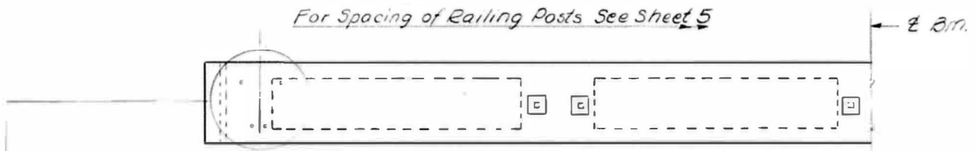


U & U_1 BAR

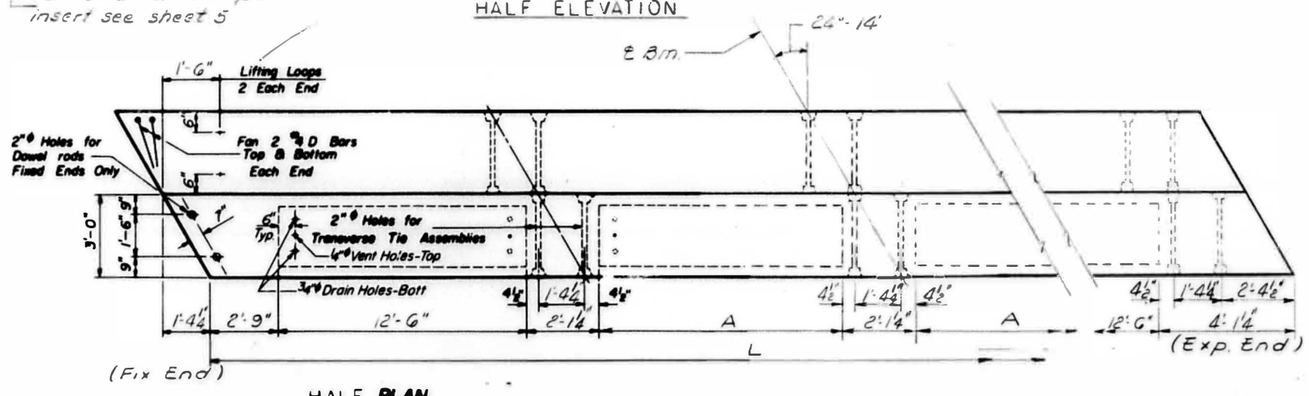




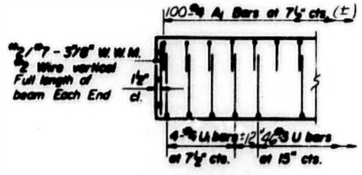
TYPICAL TRANSVERSE TIE ASSEMBLY



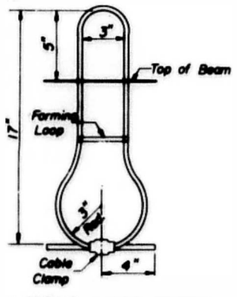
HALF ELEVATION



HALF PLAN



END ELEVATION



LIFTING LOOP DETAIL

TABLE OF A & L DIMENSIONS

	A	L
Span 1	11'-8 3/4"	61'-7½"
Span 4	12'-5 1/16"	63'-0 1/8"
Span 5	12'-4 5/16"	62'-10 5/8"
Span 6	12'-4 3/16"	62'-10 5/8"
Span 7	12'-3 11/16"	62'-9 3/8"
Span 8	12'-6 3/8"	63'-2¾"
Span 9	12'-6 3/8"	63'-2¾"

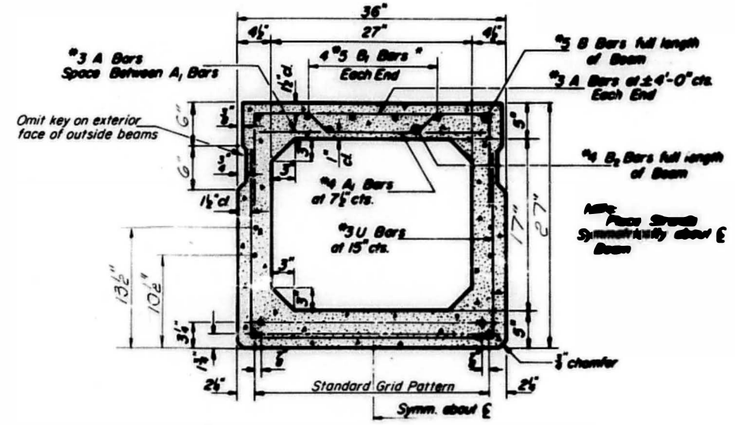
DESIGNED	C. Cabanilla
CHECKED	Sal Fatara
DRAWN	F.M.
CHECKED	S.F.

EXAMINED Oct. 6 1971
PASSED W.E. Bamesser
APPROVED Richard H. Holtzman

PD-3-R 11-10-65 Rev. 5-20-66

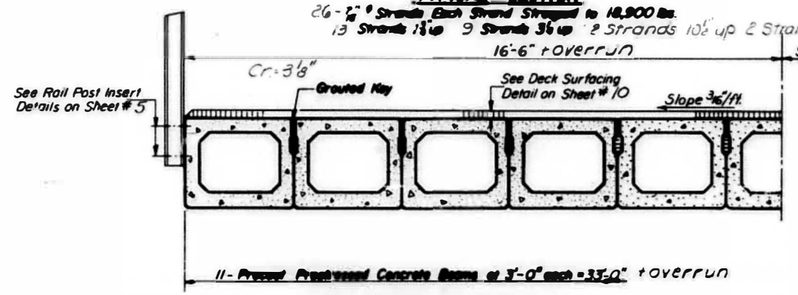
SR-6 (5-15-71)

* .2ℓ length of beam



TYPICAL SECTION

26-½" ø Strands Each Strand Stressed to 18,900 lbs.
13 Strands 1'-8" up 9 Strands 3'-6" up 2 Strands 10½" up 2 Strands 13½" up



HALF CROSS SECTION

GENERAL NOTES

Prestressing steel shall be non-galvanized high strength, stress-relieved 7-wire strand. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.109 sq in.

Lifting loops shall be ⅞" ø diameter, 6 x 19 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 39000 lbs.

The 1" ø 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 beam shall be filled with grout after transverse tie assembly is in place.

Longitudinal shear keys shall be packed with a very dry mix of 2:1 sand and P.C. mortar.

After beams have been erected, holes for the dowel anchors shall be drilled into the sub-structure and the anchor dowels shall be grouted in place.

Dowel rods shall be A.S.T.M. A-306 or A.S.T.M. A-615. Transverse tie rods shall be A.S.T.M. A-306, Grade 70-80.

After fabrication the transverse tie assemblies (tie rods, nuts, washers and sleeves) shall be hot-dipped galvanized in accordance with A.S.T.M. Designation A153.

Cost of reinforcement and accessories cast into the beam, of bearing pads, of armor angles, and of grouting longitudinal shear keys is included in unit price bid for "Precast Prestressed Concrete Deck Beams."

For Section @ Abut. & Pier see sheet 10

SPAN 1 ; SPANS 4 TO 9

BILL OF MATERIAL

Precast Prestressed Concrete Deck Beams (27")		Sq. Ft.	14508	

27" x 36" BEAMS

S.B.I. RT. 83 SEC. 123 B.R.

MERCER COUNTY

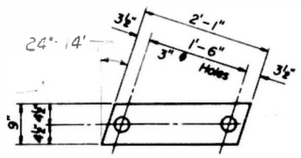
STA. 153+01.00

FOR INFORMATION ONLY

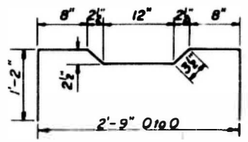
STATE OF ILLINOIS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-83	123BR	MERCER	17	7

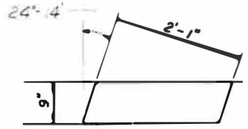
SHEET NO. 3
10 SHEETS



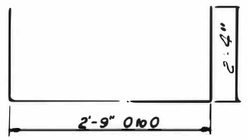
FABRIC BEARING PAD



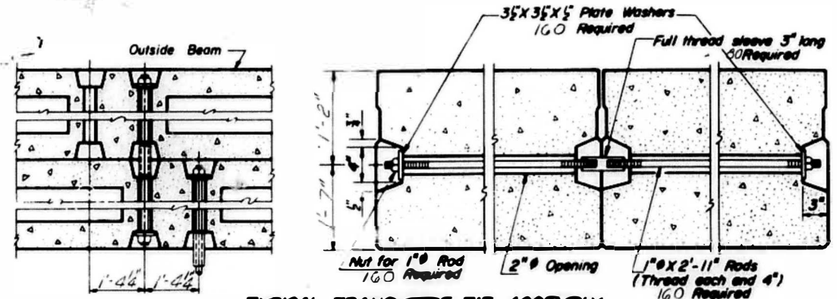
A_1 BAR



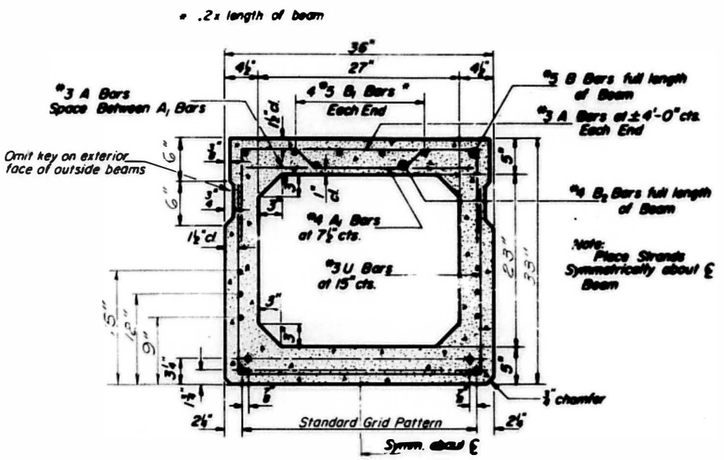
GRAPHITED ASBESTOS BEARING PAD



U & U_1 BAR

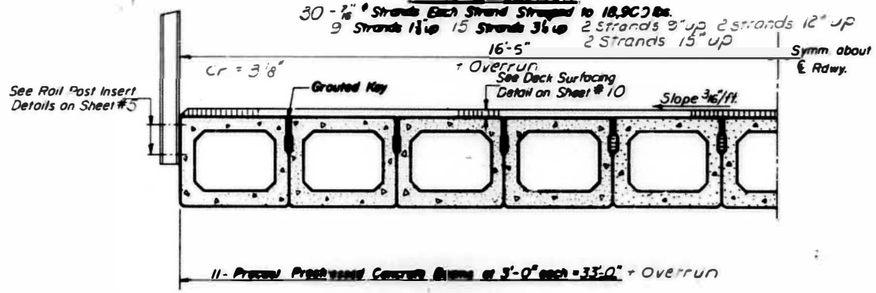


TYPICAL TRANSVERSE TIE ASSEMBLY



TYPICAL SECTION

30 - 7/16" ø Strands Each Strand Stressed to 18,900 lbs.
9 Strands 1½" up 15 Strands 3½" up 2 Strands 9" up 2 Strands 12" up 2 Strands 15" up



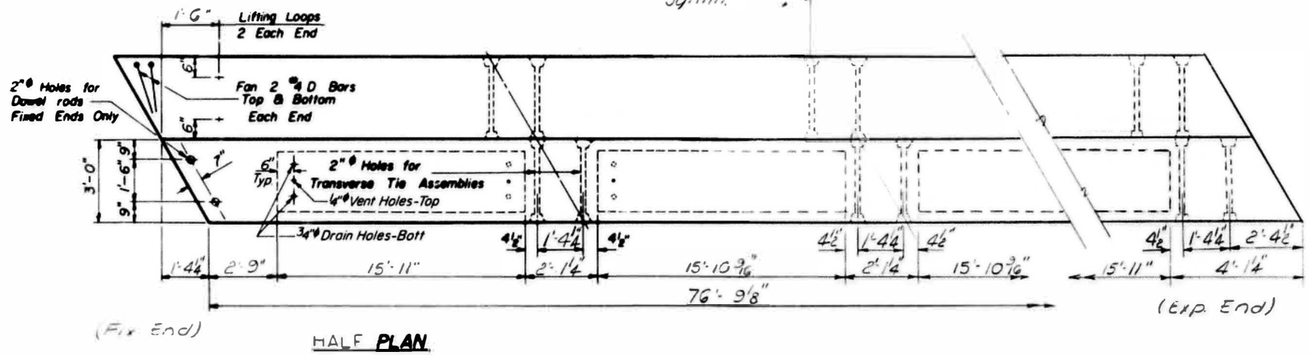
HALF CROSS SECTION

For Rail Post Spacing See Sheet 5

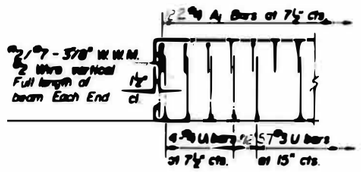
℄ Brg.

For detail of Rail post insert see sheet #5

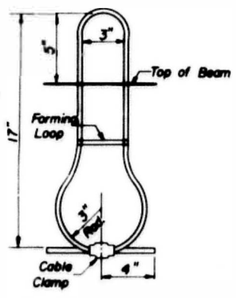
HALF ELEVATION



HALF PLAN



END ELEVATION



LIFTING LOOP DETAIL

DESIGNED	
CHECKED	Sal Fatemi
DRAWN	F M
CHECKED	SF

EXAMINED — OCT. 6 1971
PASSED — W E Baumann, ENGINEER OF DESIGN, BUREAU OF ROADS AND TRAFFIC STRUCTURES
APPROVED — Richard H Gotterman, CHIEF HIGHWAY ENGINEER

PO-3-R 11-19-65 Rev 5-20-68
SR-6 (5-15-71)

GENERAL NOTES

Prestressing steel shall be non-galvanized high strength, stress-relieved 7-wire strand.
The nominal diameter shall be ⅜" and the nominal cross-sectional area shall be 0.109 sq in.
Lifting loops shall be ¾" ø diameter, 6 x 19 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 47,500 lbs.
The 1" ø 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 beam shall be filled with grout after transverse tie assembly is in place.
Longitudinal shear keys shall be packed with a very dry mix of 2:1 sand and P.C. mortar. After beams have been erected, holes for the dowel anchors shall be drilled into the sub-structure and the anchor dowels shall be grouted in place.
Dowel rods shall be A.S.T.M. A-306 or A.S.T.M. A-615. Transverse tie rods shall be A.S.T.M. A-306, Grade 70-80.
After fabrication the transverse tie assemblies (tie rods, nuts, washers and sleeves) shall be hot-dipped galvanized in accordance with A.S.T.M. Designation A153.
Cost of reinforcement and accessories cast into the beam, of bearing pads, of armor angles, and of grouting longitudinal shear keys is included in unit price bid for "Precast Prestressed Concrete Deck Beams."

For section @ Piers 2 & 3 See sheet 10

SPANS 2 & 3

BILL OF MATERIAL

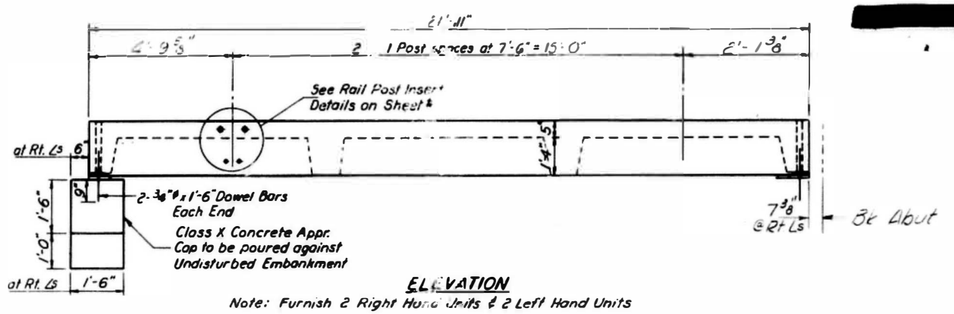
Precast Prestressed Concrete Deck Beams (33")			Sq. Ft.	5066

33" x 36" BEAMS
S.B.I. RT. 83 SEC. 123 BR
MERCER COUNTY
STA. 153+01.00

FOR INFORMATION ONLY

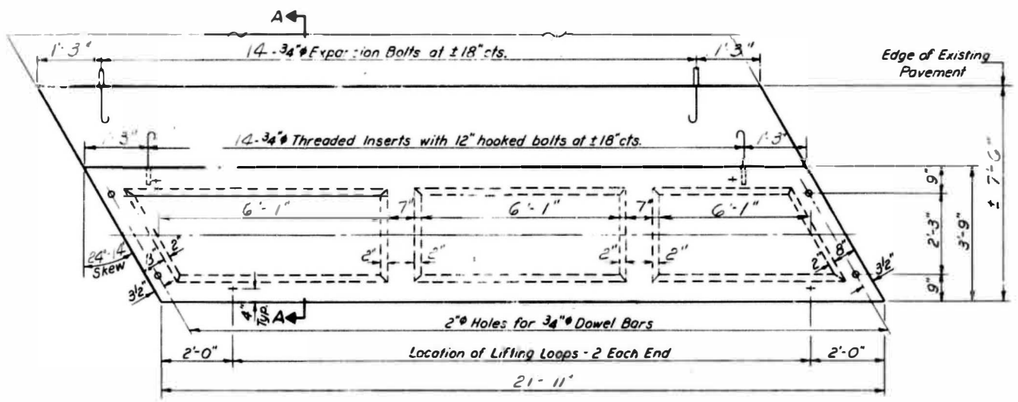
STATE OF ILLINOIS
[redacted]

					SHEET NO. 4
83	123BR	MERCER	17	8	10 SHEETS

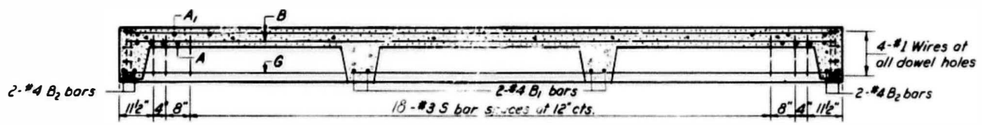


ELEVATION

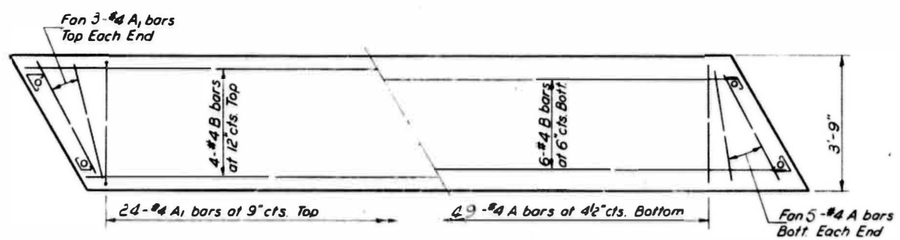
Note: Furnish 2 Right Hand Units & 2 Left Hand Units



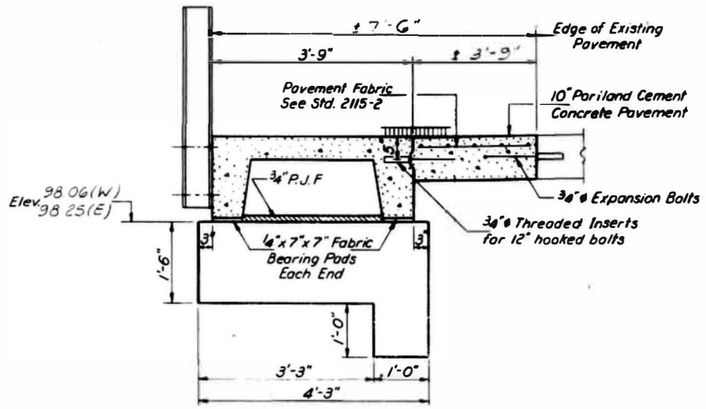
PARTIAL PLAN OF APPROACH



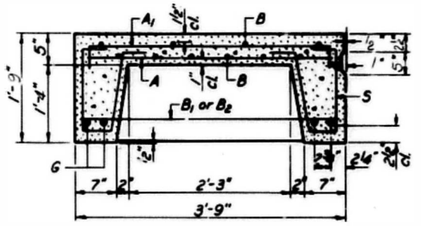
LONGITUDINAL SECTION



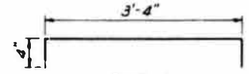
SLAB REINFORCEMENT



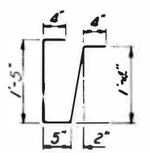
SECTION A-A



SECTION THRU PRECAST UNIT



BAR A1

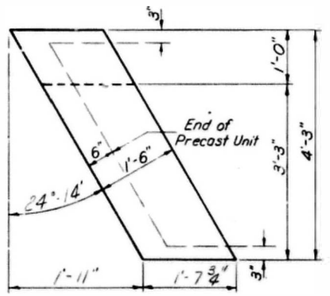


BAR S

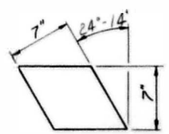
BAR LIST - ONE UNIT

Reinforcement to be cast into slab

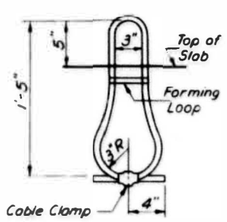
Bar	No	Size	Length	Shape
A	59	#4	3'-3"	
A1	30	#4	4'-0"	
B	10	#4	21'-8"	
B1	4	#4	3'-6"	
B2	4	#4	3'-10"	
G	4	#11	21'-8	
S	46	#3	3'-10"	



PLAN - APPR. CAP



FABRIC BRG. PAD



LIFTING LOOP DETAIL

NOTES

Unless otherwise approved by the Engineer, lifting loops shall be ½"ø, 6 x 19 class wire rope with fiber core and shall have a minimum ultimate strength of 18,700 lbs. Loops shall be burned off after slab has been erected.

Holes shall be drilled and anchor dowels grouted in place.

Cost of reinforcement and accessories cast into the slab unit, bearing pads, furnishing, drilling for, placing and grouting anchor dowels and ¾"ø hooked bolts is included in Unit bid price for "Precast Concrete Bridge Slab."

The Precast Concrete Bridge Slab shall be erected and aligned with the exterior face of the exterior Deck Beam after Deck Beams are in final position.

BILL OF MATERIAL

Item	Unit	Quantity
Precast Concrete Bridge Slab	Sq. Ft.	329
Portland Cement Concrete Pavement (10")	Sq. Yds.	37
Pavement Fabric	Sq. Yds.	37
~~Expansion Bolts ¾"ø~~	Each	56
Class X Concrete	Cu. Yds.	1.8

STRESSES

fc = 4,500 psi
fc = 1,800 psi
fs = 20,000 psi
n = 3

LOADING HS-20

DESIGNED	[illegible]		
CHECKED	Sal Fatemi		
DRAWN	F.M.		
CHECKED	S.F.		

OCT 6 1971

EXAMINER [signature]

PASSED W. E. Baumann ENGINEER OF BRIDGES

APPROVED Richard H. Lotterman CHIEF HIGHWAY ENGINEER

APPROACH DETAILS

S.B.I. RT 83 SEC. 123 B.R.
MERCER COUNTY
STA. 153+01 O.C.

AP-2 20' Precast Appr. Unit (Skewed R.F.) (5-15-71)

FOR INFORMATION ONLY

STATE OF ILLINOIS

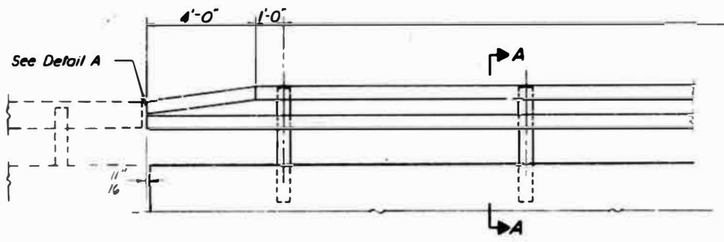
83	123BR	MERCER	17	9

SHEET NO. 5
10 SHEETS

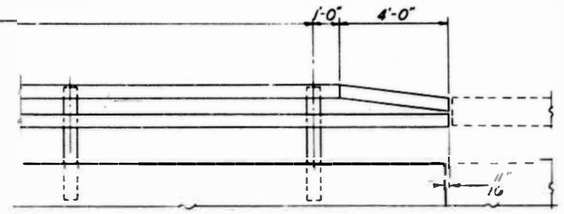
84 Posts spaces @ 7'-6" c/s = 630'-0"

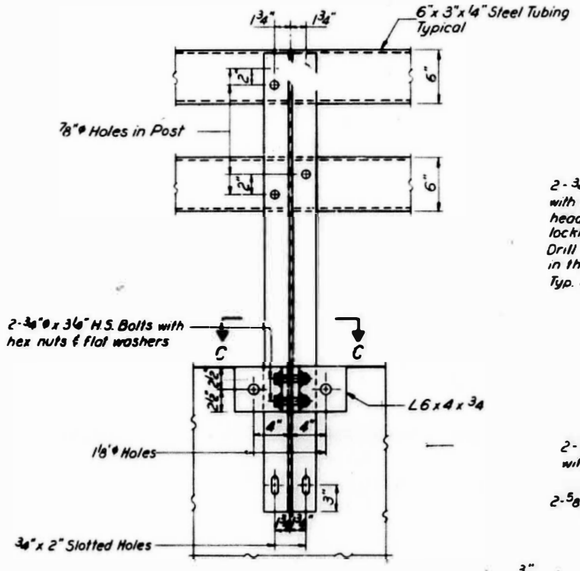
FOR INFORMATION ONLY

Note
Adjust Rail Post spacing if necessary to clear 8 of transverse tie rods by 8'-6"

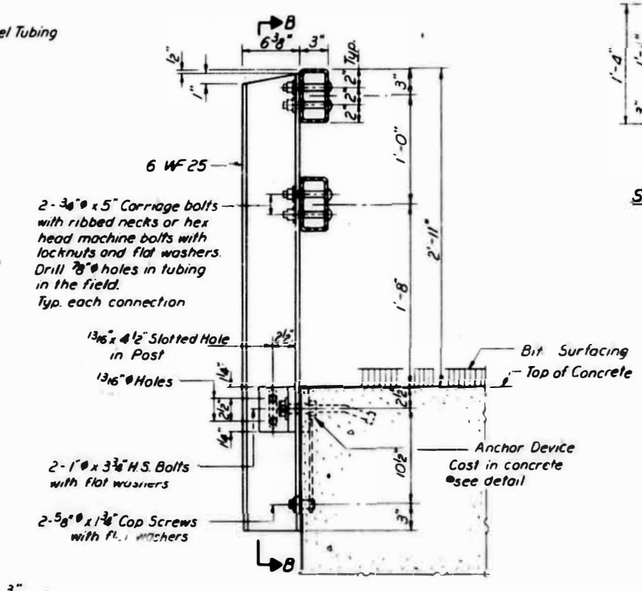


ELEVATION
Showing inside face of railing

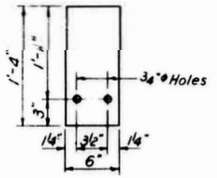




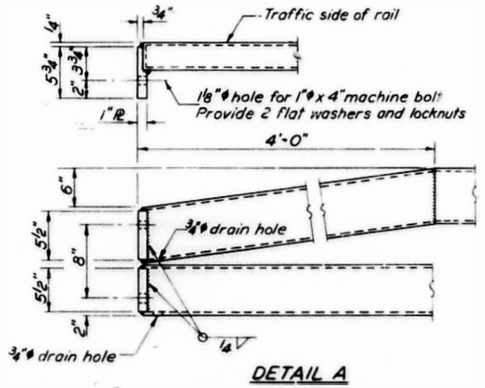
SECTION B-B



SECTION A-A



SHIM DETAIL



DETAIL A

NOTES

Hollow structural steel tubing shall conform to the requirements of A.S.T.M. designation A-501 "Hot Formed Welded and Seamless Carbon Steel Structural Tubing."

All other steel shapes and plates shall conform to the requirements of A.S.T.M. designation A-36 except posts shall conform to A.S.T.M. A-441.

Bolts, cap screws, and nuts shall conform to the requirement of A.S.T.M. designation A-307 except for high strength bolts, nuts and washers noted which shall conform to A.S.T.M. designation A-325.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with A.S.T.M. designation A-153.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with A.S.T.M. designation A-123 and A-385. Galvanized rail shall not be painted.

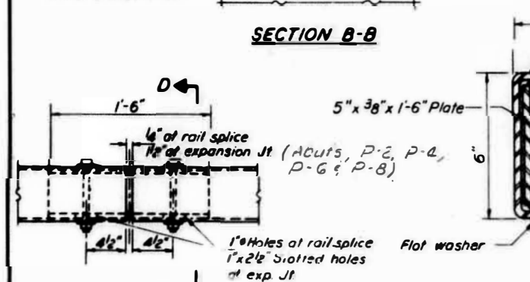
Railing shall be in accordance with Section 508 of the Standard Specifications, except as noted, and shall be paid for at the contract unit price per lineal foot for STEEL RAILING, TYPE N

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

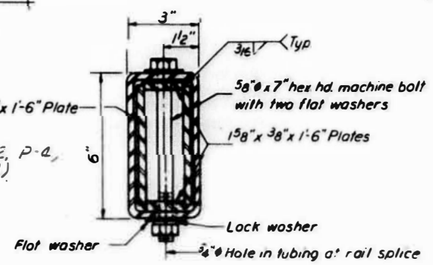
The lower portion of the post flange in contact with concrete shall receive two coats of asphalt paint conforming to Section 714.08 Type B or place ⅛" fabric bearing pad between the post and concrete.

The ¾"ø high strength bolts used to connect the 6 x 4 x ⅜ angles to the post shall be tightened in accordance with Article 710.11 of the Standard Specifications. The 1"ø high strength bolts connecting the angles to the concrete beam shall be tightened to a snug fit and given an additional ⅛ turn.

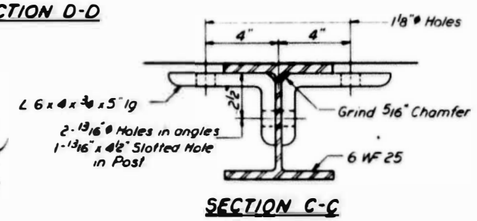
For multi-span bridges, sufficient ¼" x 6" x 1'-6" galvanized steel shims shall be provided to align rail between adjacent spans. Cost incidental to Steel Railing.



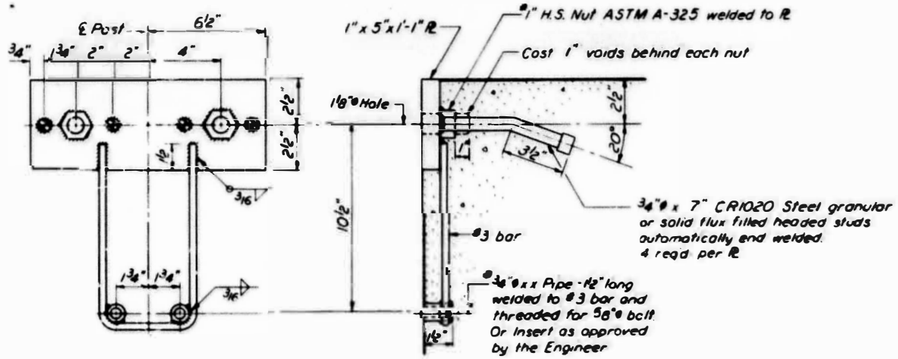
RAIL SPLICE



SECTION D-D



SECTION C-C



ANCHOR DEVICE

● Threaded areas shall be plugged or blocked off during casting of beam

BILL OF MATERIAL

Item	Unit	Quantity
STEEL RAILING, TYPE N	Lin. Ft.	230

DESIGNED	M. Ashmawi	
CHECKED	Sal Fatani	
DRAWN	F.M.	
CHECKED	S.F.	

EXAMINED OCT. '80
PASSED W.E. Bamesberger
APPROVED Ronald H. Holterman

(9'-0" Max Post Spacing)

TYPE N STEEL RAILING

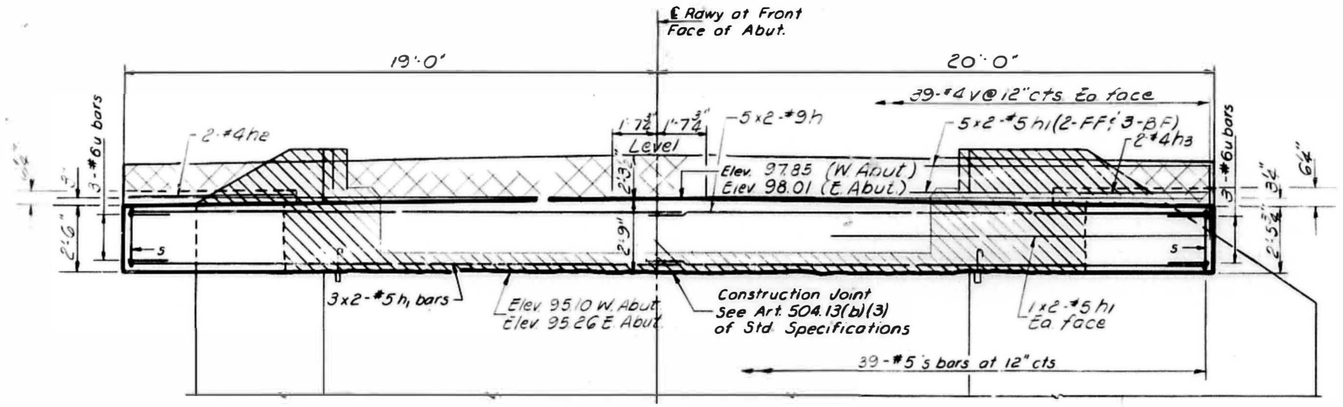
S.B.I. RT. 83 SEC. 123BR
MERCER COUNTY
STA. 153+01.00

R-2

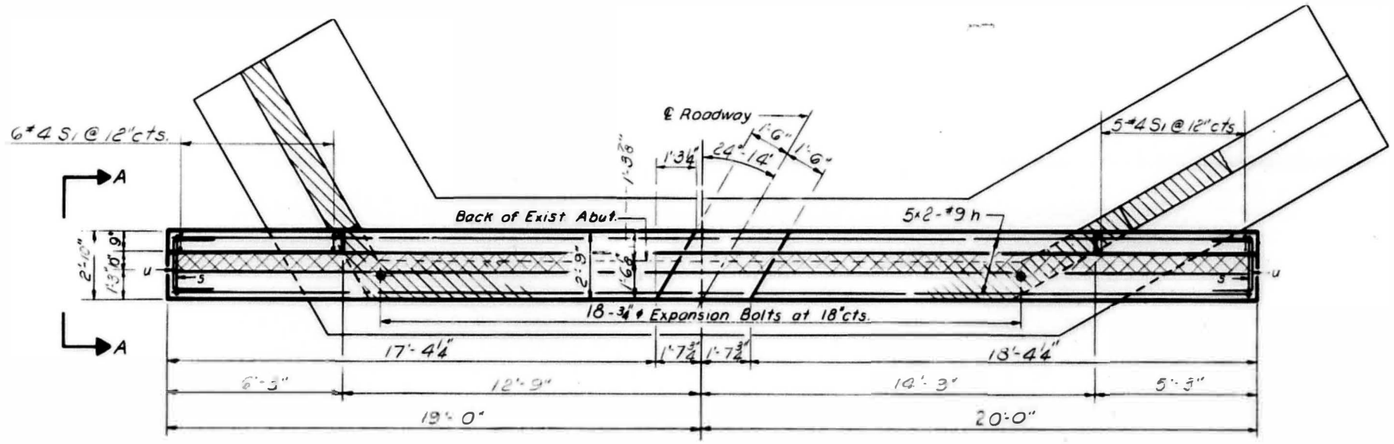
STATE OF ILLINOIS
[redacted]

				SHEET NO. 6
S.B.I. Rte. 83	123BR	MERCER	17	10 10 SHEETS

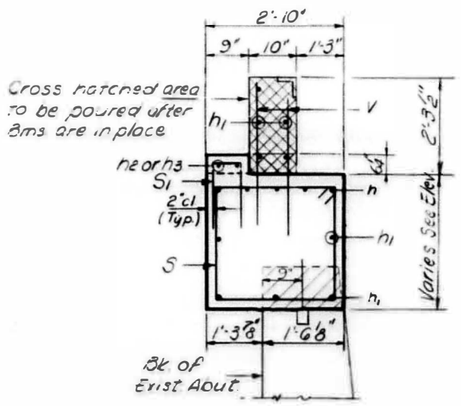
FOR INFORMATION ONLY



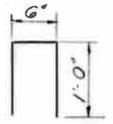
ELEVATION



PLAN



VIEW A-A



Bar S1

TWO ABUTMENTS

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	20	#9	20'-6"	—
h1	40	#5	19'-9"	—
h2	4	#4	6'-0"	—
h3	4	#4	5'-0"	—
s	78	#5	10'-5"	⊓
S1	22	#4	2'-6"	⊓
u	12	#6	7'-5"	—
V	156	#4	3'-0"	—
Class X Concrete		Cu. Yds.	282	
Reinforcement Bars		Lbs.	3580	
Expansion Bolts		Each	36	
Concrete Removal		Cu. Yds.	?	

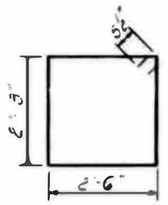
Notes

Hatched area indicates Concrete Removal Reinforcement extending into removed area shall be cleaned and incorporated into the new construction.

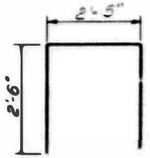
Expansion Bolts shall be anchored in sound concrete

All edges shall have standard ¾ chamfers

Bars indicated thus 5x2-#5 etc. indicates 5 lines of bars with lengths per line



BAR s



BAR u

DESIGNED	[signature]
CHECKED	Sal Fatau
DRAWN	F Mercado
CHECKED	S.F.

EXAMINED OCT. 6 1971

PASSED W. E. Baumann
ENGINEER OF DESIGN

APPROVED Richard H. Mollerman
CHIEF HIGHWAY ENGINEER

ABUTMENTS

S.B.I. RT. 83 SEC. 123 B.R.

MERCER COUNTY

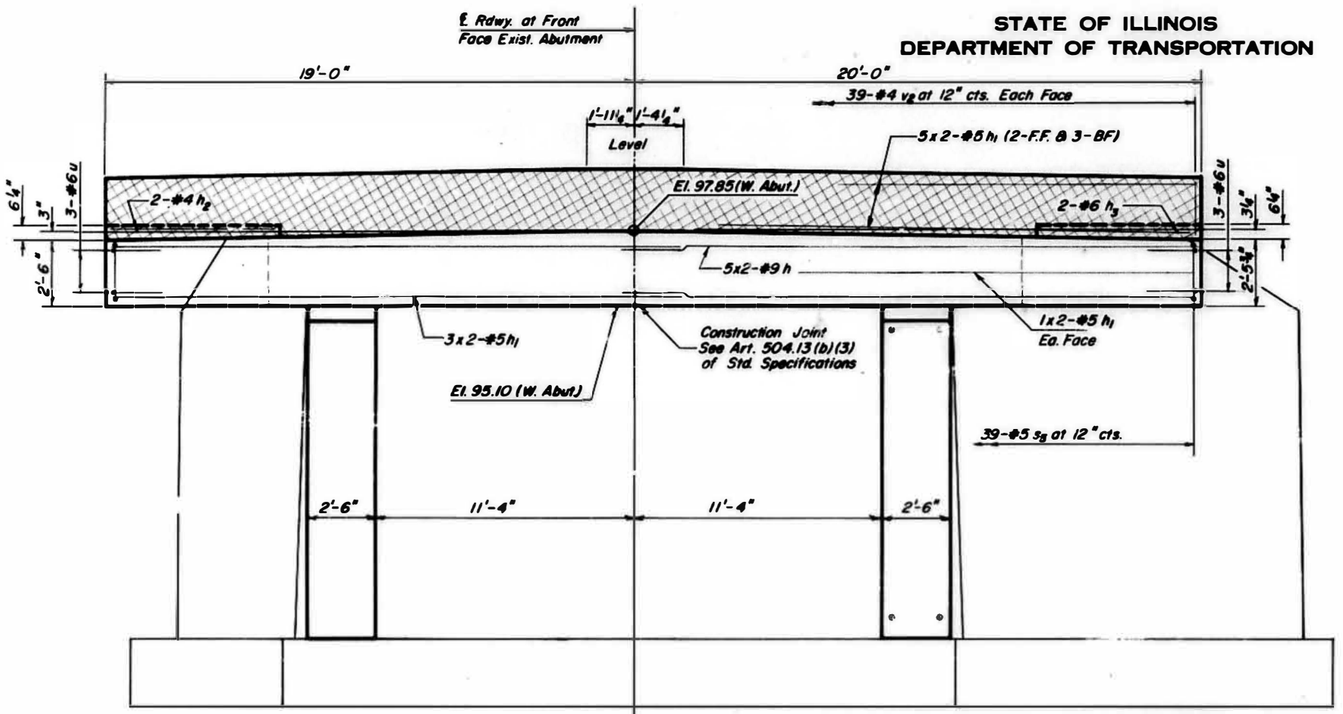
STA. 153+01.00

A-4 (5-13-71) Skew R F, Fixed

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. RTE. 83	123BR	MERCER	17	10A
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

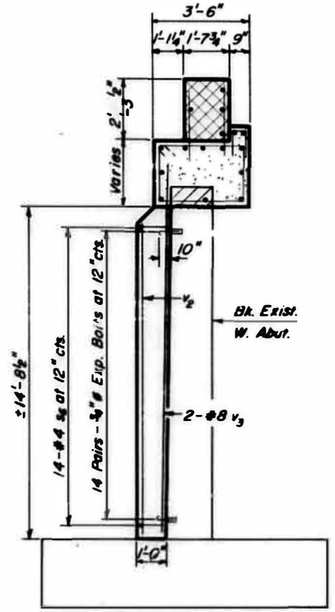
SHEET NO. 6A
10 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

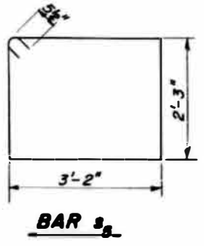


ELEVATION

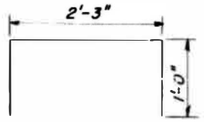
Notes: Remove existing abutment cap. All existing reinforcement bars in this area shall be cleaned & incorporated into new construction except s bars which will be replaced by s_8 bars.
Expansion Bolts shall be anchored in sound concrete.
All edges shall have standard ¾" chamfers
Bars indicated thus 5 x 2 - #5 etc. indicates 5 lines of bars with 2 lengths per line.
Cross-hatched areas to be poured after beams are in place.



SECTION THRU ABUT.

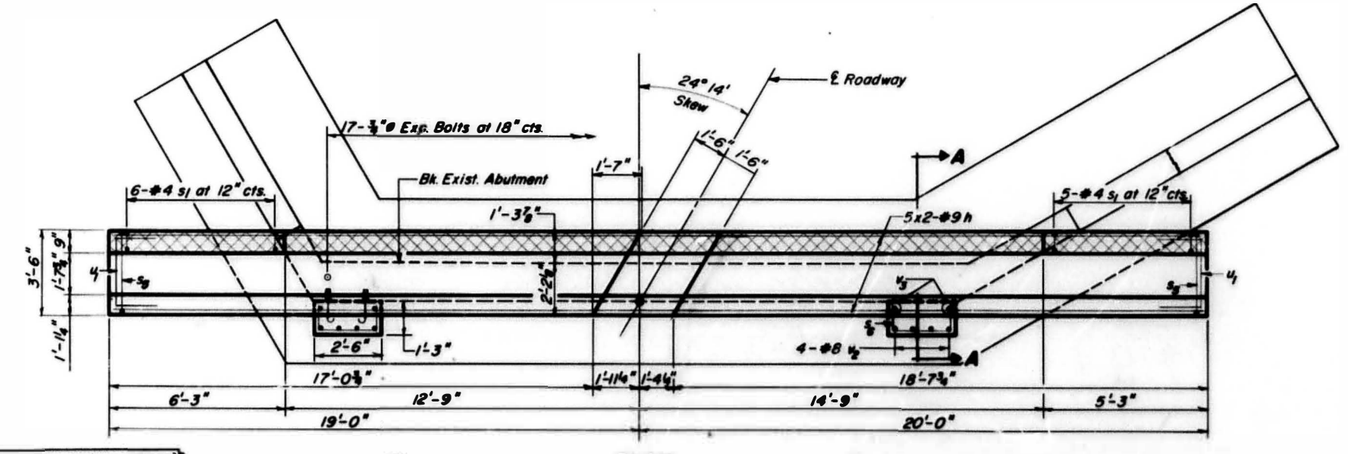


BAR s_8

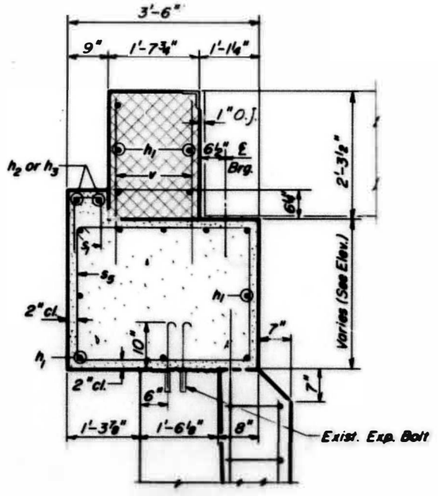


BAR s_9

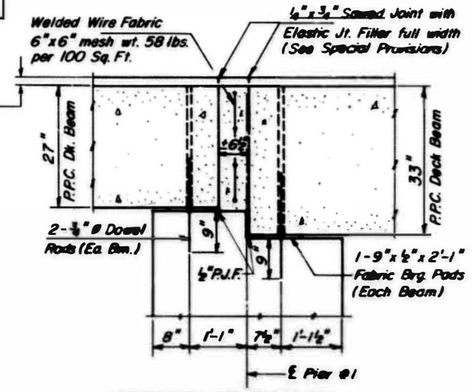
Cut s_9 bars in field to fit if necessary



PLAN



SECTION A-A



SECTION AT PIER #1

ADDITIONAL BILL OF MATERIAL

BAR	NO	SIZE	LENGTH	SHAPE
s_8	39	#5	11'-9"	□
s_9	28	#4	4'-3"	⊐
v_2	8	#8	13'-9"	——
v	4	#8	16'-9"	——
Class X Concrete			Cu. Yds.	22
Reinforcement Bars			Lbs.	1030
Expansion Bolts (¾"ø)			Each	73

DESIGNED	W Hoag 11-21-79
CHECKED	
DRAWN	P. BARNETT
CHECKED	

EXAMINED 19
PASSED
APPROVED

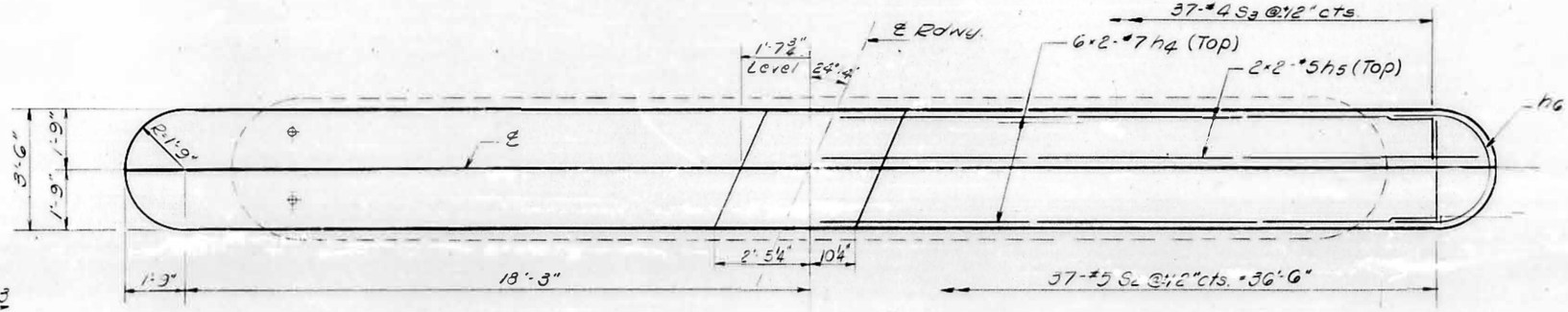
WEST ABUTMENT
S.B.I. RT. 83 SEC. 123 BR
MERCER COUNTY
STA. 153+01.00

FOR INFORMATION ONLY

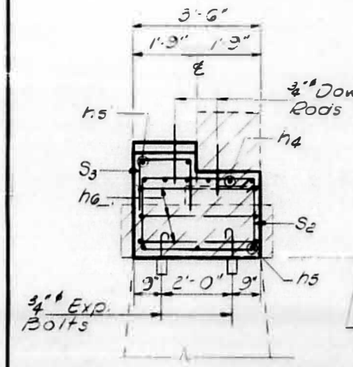
STATE OF ILLINOIS

FOR INFORMATION ONLY

					SHEET NO. 7
83	123BR	MERCER	17	11	SHEETS

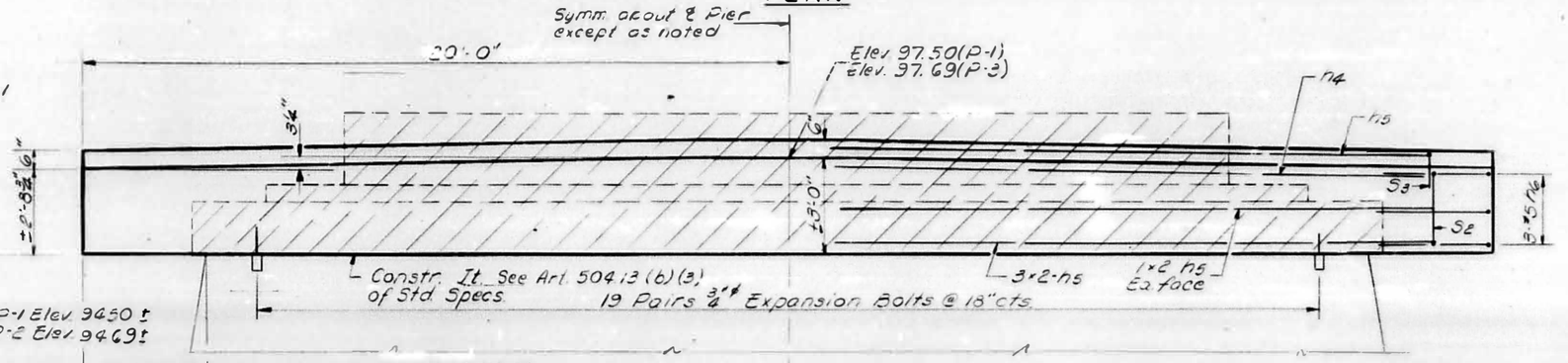


Spans 1 or 4 | Spans 2 or 3

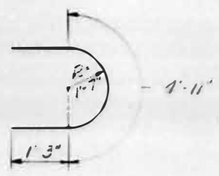


END VIEW

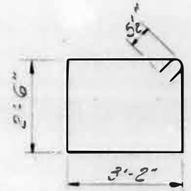
PLAN



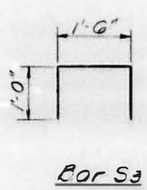
ELEVATION



Bar h6



Bar S2



Bar S3

TWO PIERS

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h4	24	#7	20'-6"	
h5	28	#5	20'-3"	
h6	12	#5	7'-5"	
S2	74	#5	12'-3"	
S3	74	#4	3'-6"	

Class X Concrete	Cu Yds	346
Reinforcement Bars	Lbs	28410
Expansion Bolts ¾" ø	Each	76
Concrete Remov	Cu Yds	29

NOTE: Hatched area indicates Concrete Removal. Reinforcement extending into removed area shall be cleaned and incorporated into the new construction. Expansion bolts shall be anchored in sound concrete. All edges shall have standard ¾" chamfers. Bars indicates thus 6-2#7 etc indicates 6 lines of bars with 2 lengths per line

DESIGNED	[illegible]
CHECKED	Sal Fatani
DRAWN	F. Mercado
CHECKED	SF

EXAMINED Oct 6 1971

PASSED W. E. Bamesberger

APPROVED Richard H. Holterman

PIERS 1 & 3

S.B.I. RT 83 SEC. 123 B.R.

MERCER COUNTY

STA. 153+01.00

STATE OF ILLINOIS

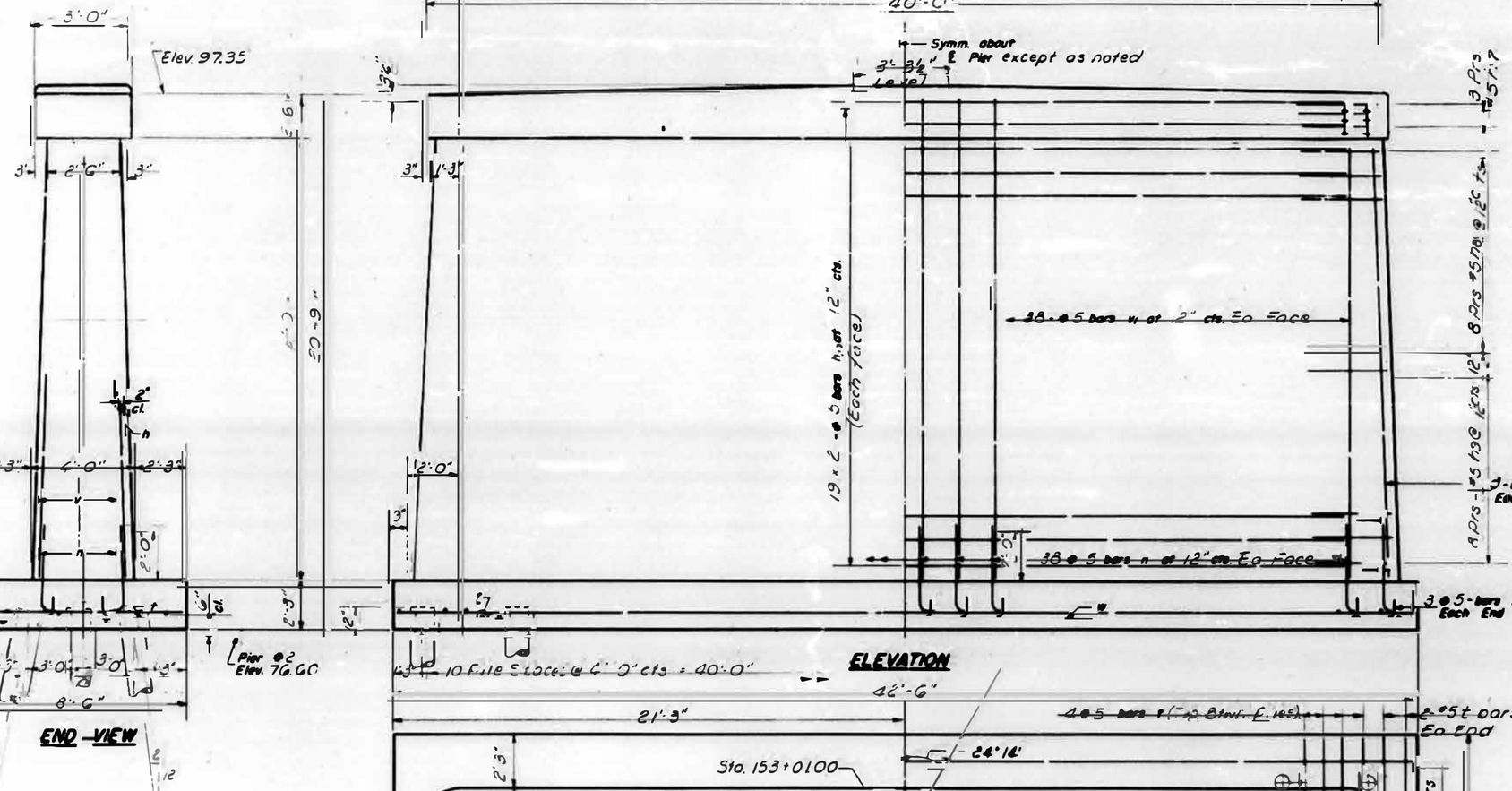
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. 83	123BR	MERCER	17	12

SHEET NO. 8 SHEETS

PILE DATA

Type	untreated
Capacity	20 Tons
Est. Length	24 Ft.
No. Req'd.	33 (incl. test pile)

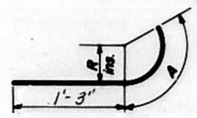
TOP - PLAN



END - VIEW

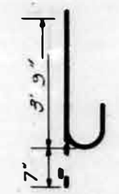
ELEVATION

FOOTING - PLAN



Bar	A	B
h7	1'-6"	2'-9"
h8	1'-1"	2'-4"
h9	1'-5"	2'-11"

DETAIL OF BARS h, h1, h2



BAR - n

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h7	12	#5	4'-0"	
h8	32	#5	3'-7"	
h9	32	#5	4'-2"	
h10	76	#5	19'-9"	
n	82	#5	4'-3"	
℄	44	#5	8'-3"	
h1	82	#5	18'-3"	
w	8	#5	21'-9"	
Class A Concrete		Cu. Yds.		123.2
Reinforcement Bars		Lbs.		4320
Steel H Piles		Lin. Ft.		768
Test Piles (Timber)		Each		1

DESIGNED	[redacted]
CHECKED	Sol Jalavi
DRAWN	F. M. Bausman
CHECKED	S.E.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
Richard H. Hoyt
CHIEF ENGINEER

P-1 Re-drawn 7-21-59 Rev. 11-23-59

PIER # 2
S.B.I. RT. 83 SEC 123 BR
MERCER COUNTY
STA. 153+01.0C

FOR INFORMATION ONLY

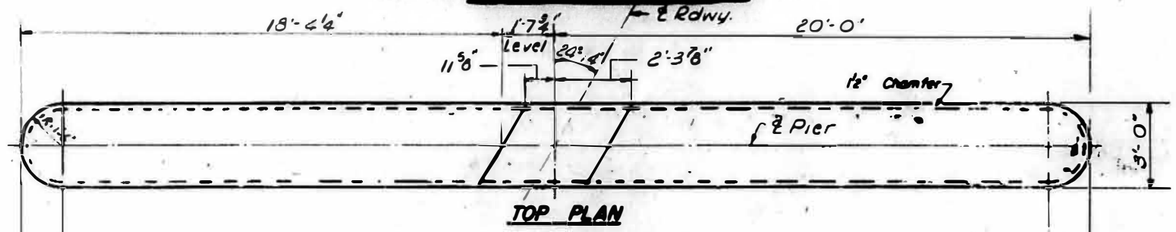
STATE OF ILLINOIS

83	123BR	MERCER	17	12A

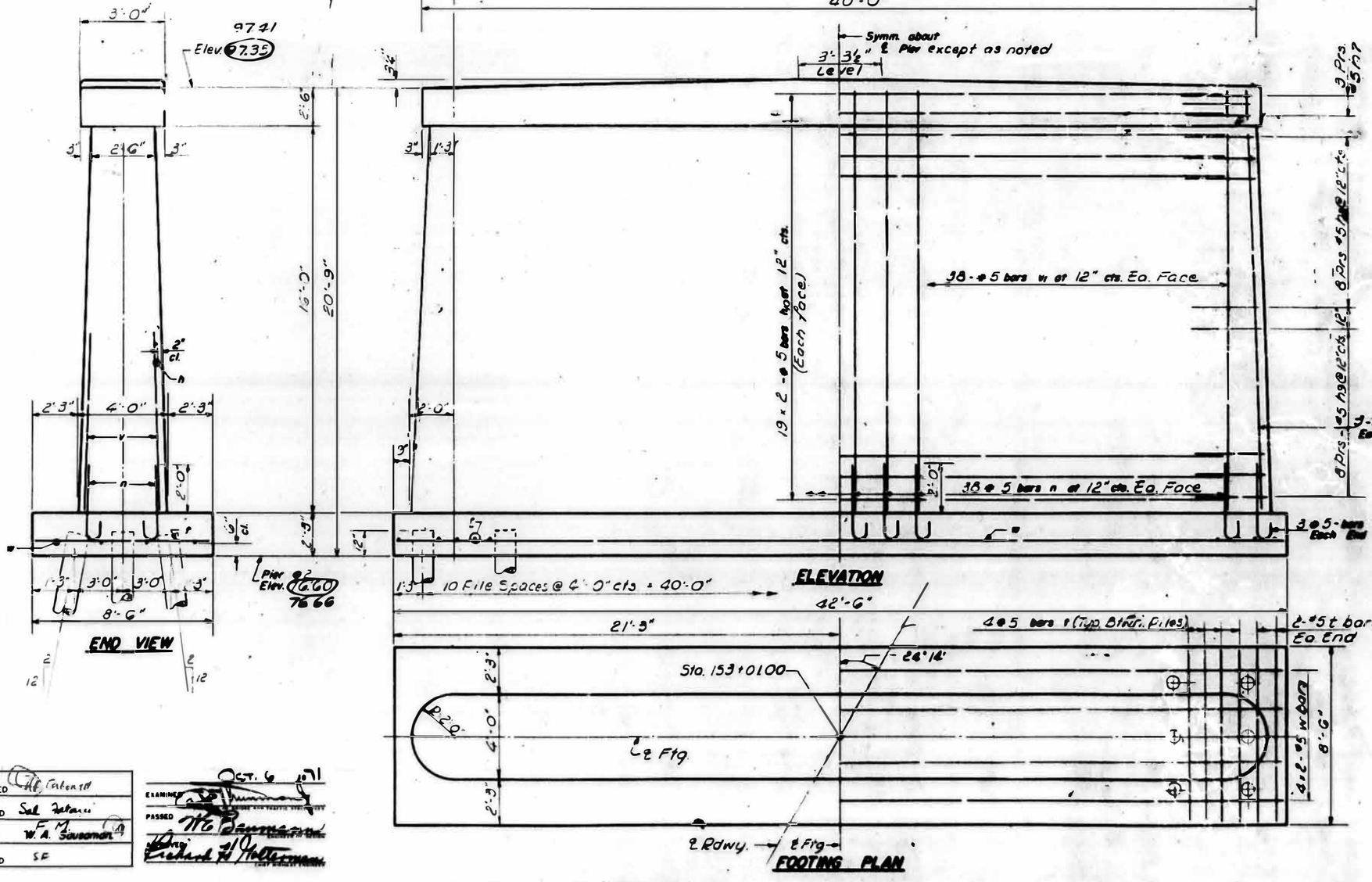
SHEET NO. 8A
SHEETS

PILE DATA

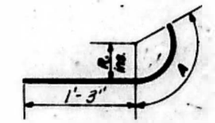
Type	Untreated
Capacity	20 Tons
Est. Length	24 Ft
No. Req'd.	33 (inc. test pile)



TOP PLAN



FOOTING PLAN



Bar	R	A
h7	1'-4	2'-9"
h8	1'-1"	2'-4"
h9	1'-5"	2'-11"

DETAIL OF BARS h, h1, h2

BAR n

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h7	12	#5	2'-0"	
h8	32	#5	3'-7"	
h9	32	#5	4'-4"	
h10	76	#5	19'-9"	
n	82	#5	4'-3"	
t	44	#5	8'-3"	
t1	82	#5	18'-5"	
s	8	#5	21'-9"	
Class A Concrete			Cu. Yds.	123.3
Reinforcement Bars			Lbs.	4320
Untreated Piles			Lin. Ft.	768
Test Piles (Timber)			Each	1

As Revised 5-8-73 N.C.C.

DESIGNED	H. Peterson
CHECKED	Sal Tatarian
DRAWN	W. A. Sauerman
CHECKED	S.F.

EXAMINED OCT. 6 1971
PASSED H. E. Bammann
Director Richard H. Hoffman

P-1 Re-drawn 7-21-59 Rev. 11-25-59

PIER # 2

S.B.I. RT. 33 SEC. 123 B R

MERCER COUNTY

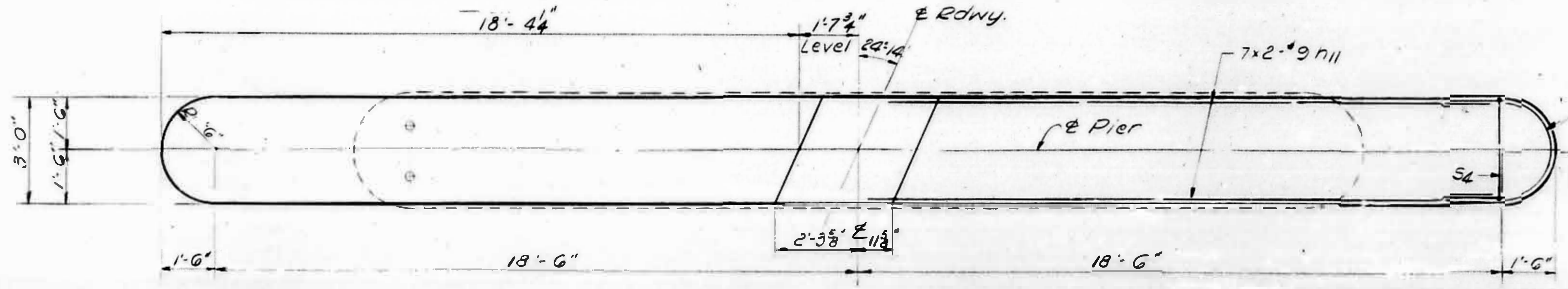
STA. 153+01.00

FOR INFORMATION ONLY

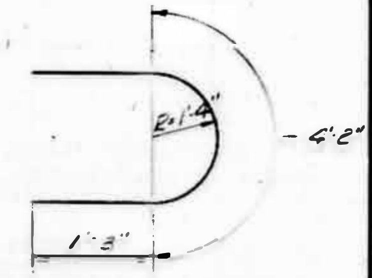
STATE OF ILLINOIS
[redacted]

Route No.	Section	County	Total Sheets	Sheet No.
S.B.I. Rte 83	123BR	MERCER	17	13

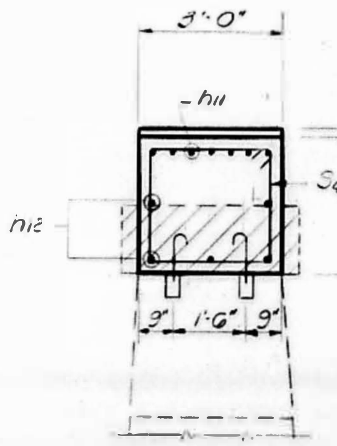
SHEET NO. 9
10 SHEETS



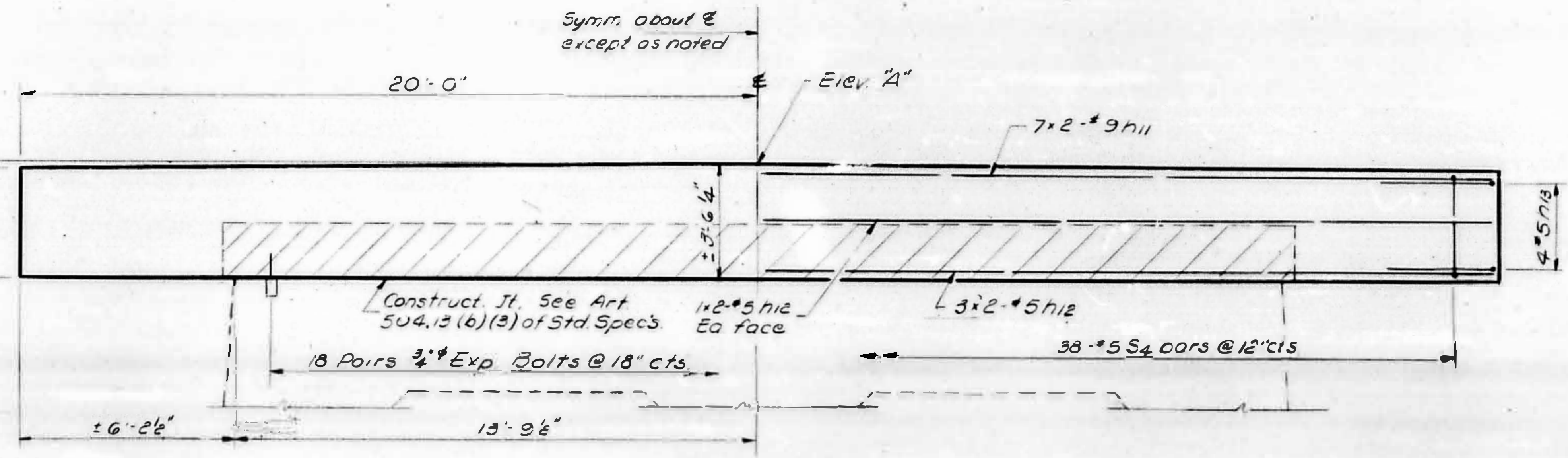
PLAN



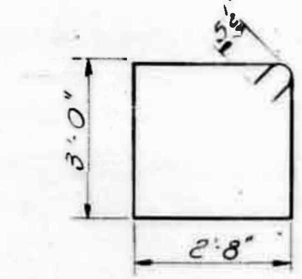
Bar h13



END VIEW



ELEVATION



Bar S4

TABLE OF "B" ELEVS.

P-4	94.85±
P-5	94.85±
P-6	94.84±
P-7	94.71±
P-8	94.61±

TABLE OF "A" ELEVS

Pier 4	98.37
Pier 5	98.37
Pier 6	98.36
Pier 7	98.23
Pier 8	98.13

Notes

Hatched area indicates Concrete Removal. Reinforcement extending into removed area shall be cleaned and incorporated into the new construction.

Expansion bolts shall be anchored in sound concrete.

All edges shall have standard ¾" chamfers.

5 PIERS

BILL OF MATERIAL

Bar	No	Size	Length	Shape
h11	70	#9	21'-0"	—
h12	50	#5	20'-3"	—
h13	40	#5	6'-8"	⊃
S4	190	#5	12'-3"	⊓

Class X Concrete	Cu Yds.	74.0
Reinforcement Bars	Lbs.	18760
Expansion Bolts ¾"#	Each	180
Concrete Removal	Cu. Yds.	26

DESIGNED	[signature]
CHECKED	Sal Fatam
DRAWN	F Mercado
CHECKED	S.F

OCT 6 1971
EXAMINED [signature]
PASSED [signature] Baumann
APPROVED Richard H Golterman

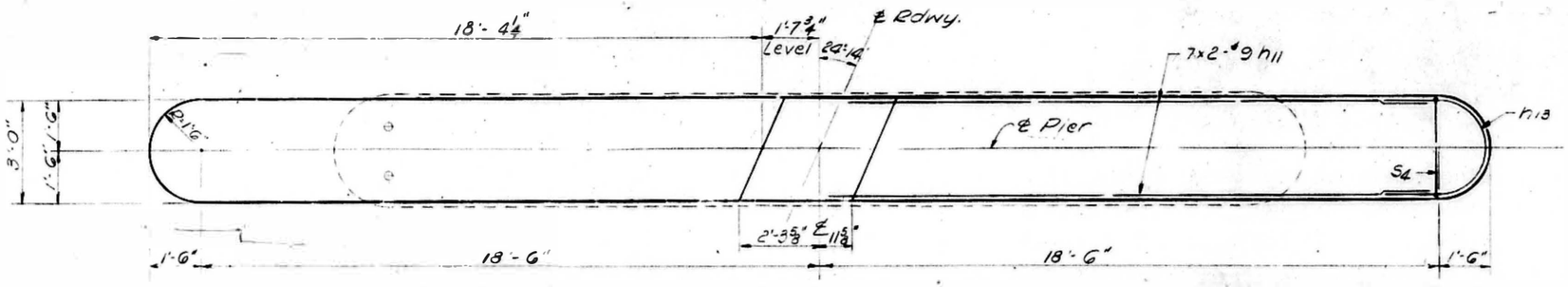
FOR INFORMATION ONLY

PIERS 4 TO 8
S.B.I. RT. 83 SEC. 123 BR
MERCER COUNTY
STA 153+01.00

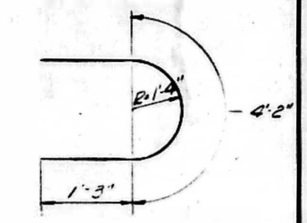
K&E CO 10-1288

STATE OF ILLINOIS

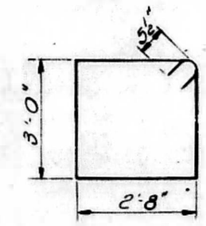
					SHEET NO. 9A
83	123BR	MERCER	17	13A	10 SHEETS



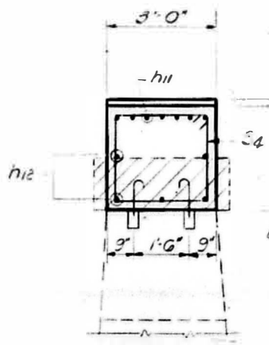
PLAN



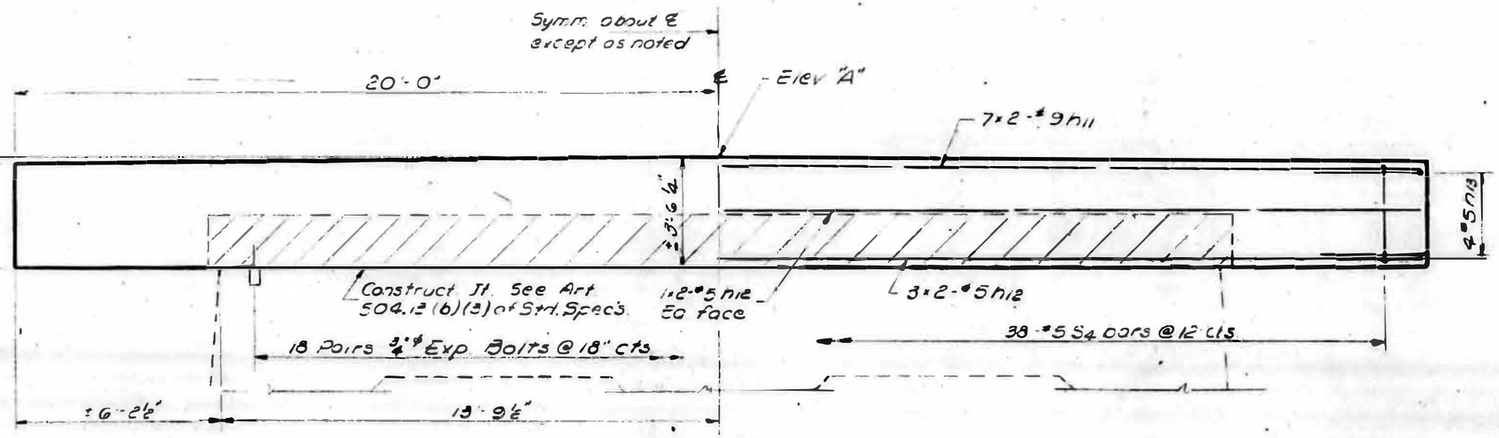
Bar h13



Bar S4



END VIEW



ELEVATION

TABLE OF "B" ELEVS.

P-4	94.85±	94.91±
P-5	94.85±	
P-6	94.84±	94.90±
P-7	94.71±	
P-8	94.61±	

TABLE OF "A" ELEVS.

Pier 4	98.37	98.43
Pier 5	98.37	
Pier 6	98.36	98.42
Pier 7	98.23	
Pier 8	98.13	

5 PIERS

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h11	70	#9	21'-0"	—
h12	50	#5	20'-3"	=
h13	40	#5	6'-8"	⊃
S4	190	#5	12'-3"	□
Class X Concrete			Cu Yds.	74.0
Reinforcement Bars			Lbs.	8760
Expansion Bolts ¾"ϕ			Each	180
Concrete Removal			Cu. Yds.	26

As Revised 5-8-73 N.C.C.

Notes:
Hatched area indicates Concrete Removal. Reinforcement extending into removed area shall be cleaned and incorporated into the new construction.
Expansion bolts shall be anchored in sound concrete.
All edges shall have standard ¾" chamfers.

DESIGNED	
CHECKED	Sal Fatum
DRAWN	F Mercado
CHECKED	S.F

EXAMINED Oct 6 1971

PASSED W.E. Bamesberger

Director Richard F. Hetterman

FOR INFORMATION ONLY

PIERS 4 TO 6

S.B.I. RT. 83 SEC. 123 BR

MERCER COUNTY

STA. 153+01.00

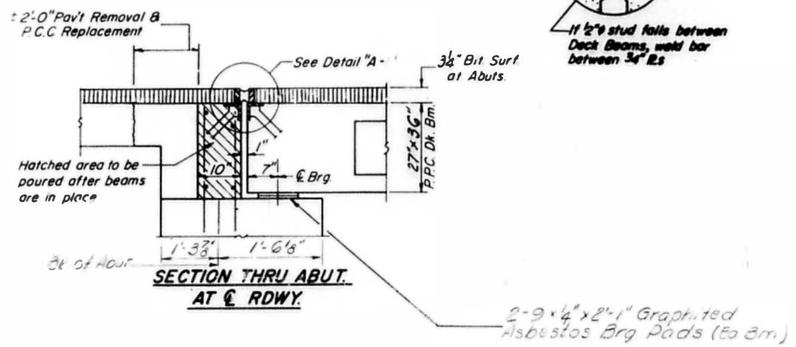
K&E CO 19-1255

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. RTE 83	123BR	MERCER	17	14
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

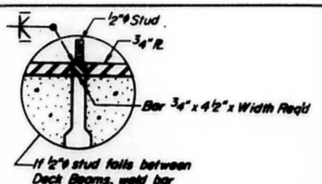
SHEET NO. 10
10 SHEETS

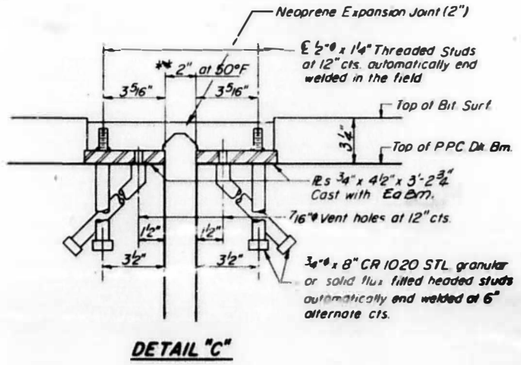
STATE OF ILLINOIS
[redacted]

FOR INFORMATION ONLY

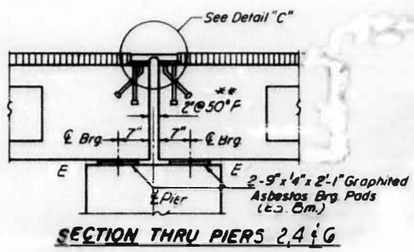


SECTION THRU ABUT. AT ℄ RDWY.

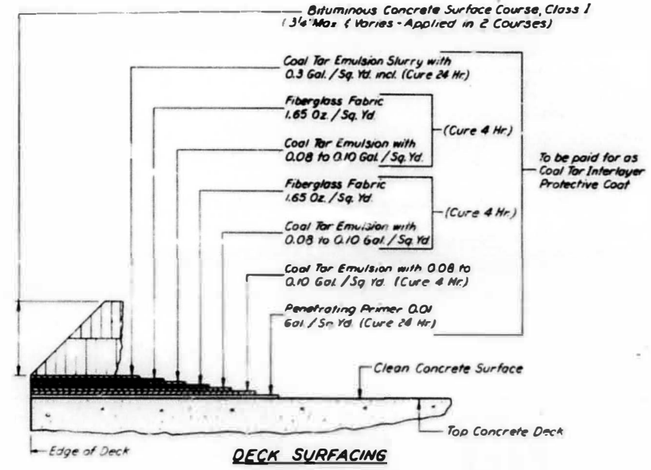




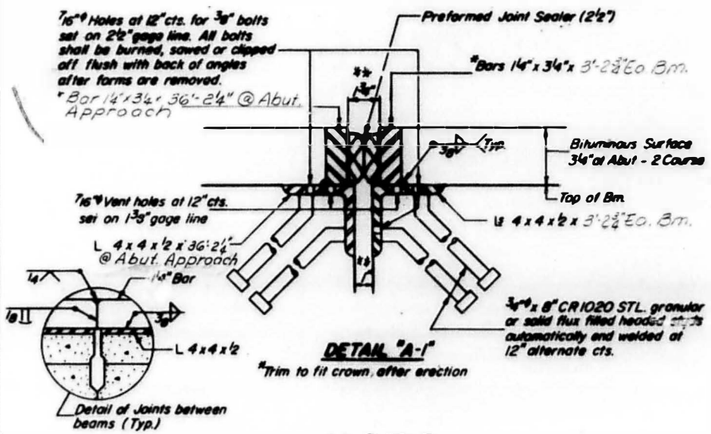
DETAIL "C"



SECTION THRU PIERS 2 & 6



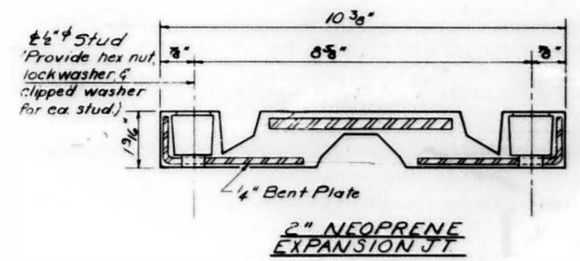
DECK SURFACING



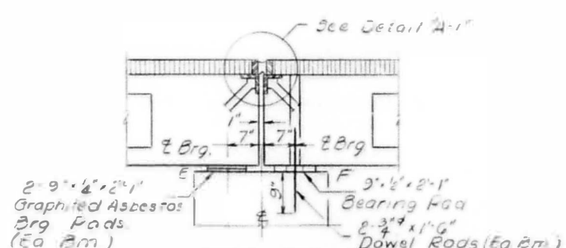
DETAIL "A-1"

Trim to fit crown, after erection

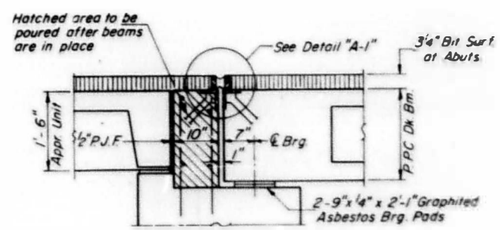
@ 50°F



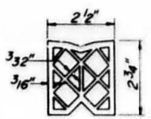
2" NEOPRENE EXPANSION JT.



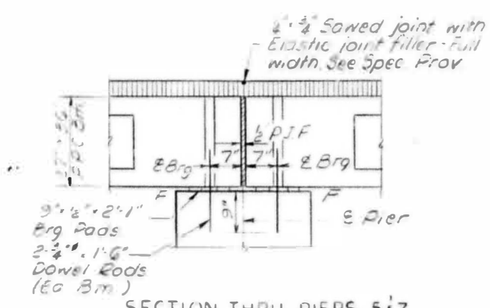
SECTION THRU PIER 8



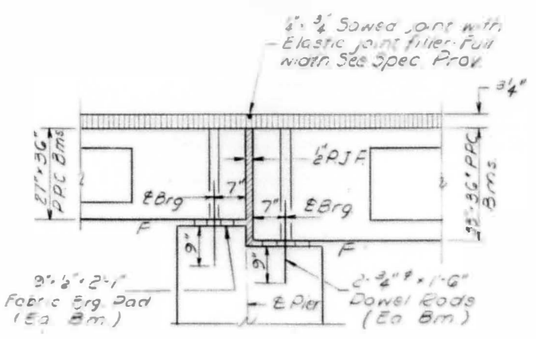
SECTION THRU ABUT. AT OUTSIDE BEAM



PREFORMED JOINT SEALER



SECTION THRU PIERS 5 & 7



SECTION THRU PIERS 1 OR 3

DESIGNED	[illegible]
CHECKED	Sal Fatum
DRAWN	F. Mecado
CHECKED	S.F.

EXAMINED
PASSED W.E. Baumann ENGINEER OF BRIDGES AND TRAFFIC STRUCTURES
APPROVED Richard H. Hoffman CHIEF HIGHWAY ENGINEER
OCT. 6 19 71

DETAILS
S.B.I. RT. 83 (ILL. 17) SEC. 123 BR
MERCER COUNTY
STA. 153+01.00

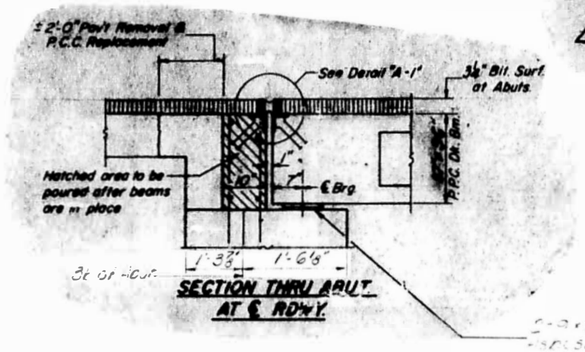
K & E CO 19-1288

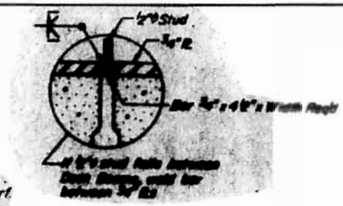
STATE OF ILLINOIS

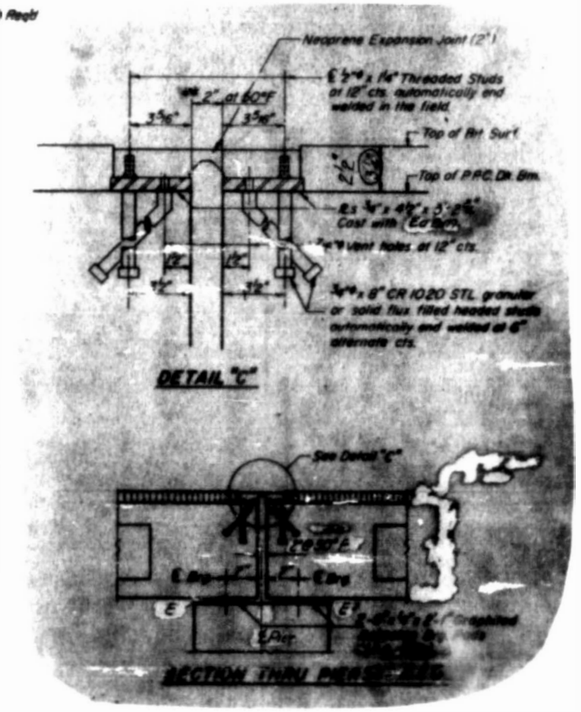
ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 83	123BR	MERCER	17	14A
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

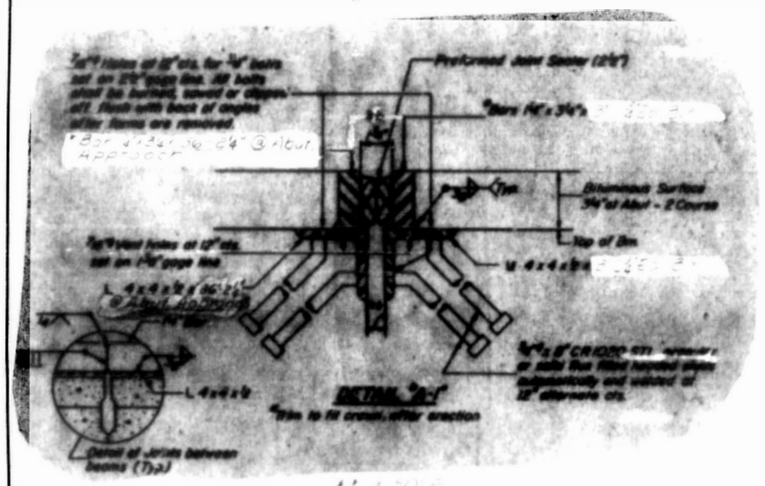
SHEET NO. 10 A
1 10 SHEETS

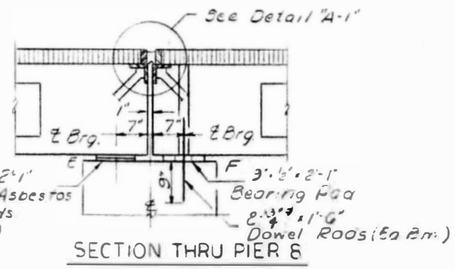
FOR INFORMATION ONLY

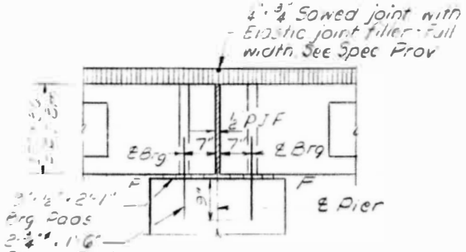


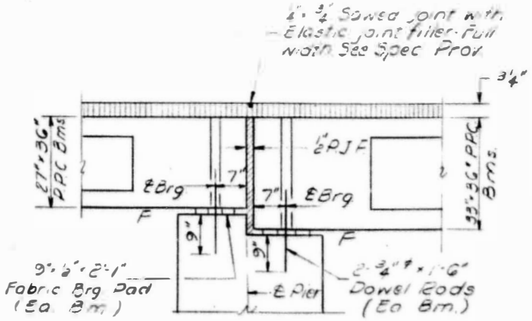


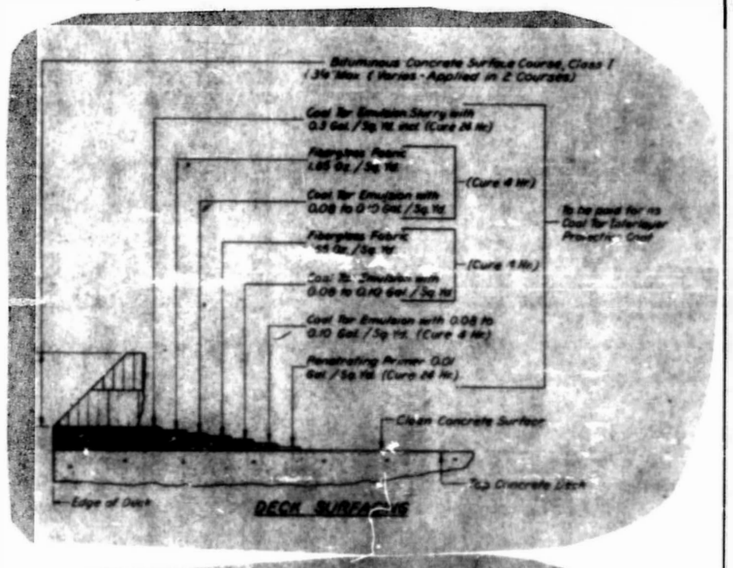


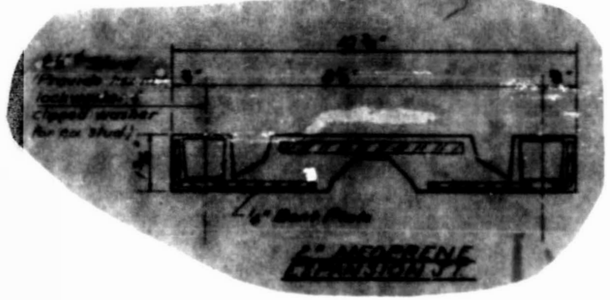


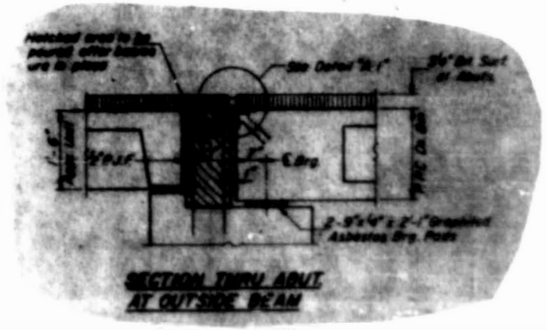












EXPANSION JOINT SEALER

DESIGNED	[illegible]
CHECKED	Sal Falau
DRAWN	F. Mercado
CHECKED	S.F.

EXAMINED Oct. 6 19 71
PASSED W.E. Bauzmann
APPROVED Richard H. Hoeltermann

As Revised 5-8-73 N.C.C.

DETAILS

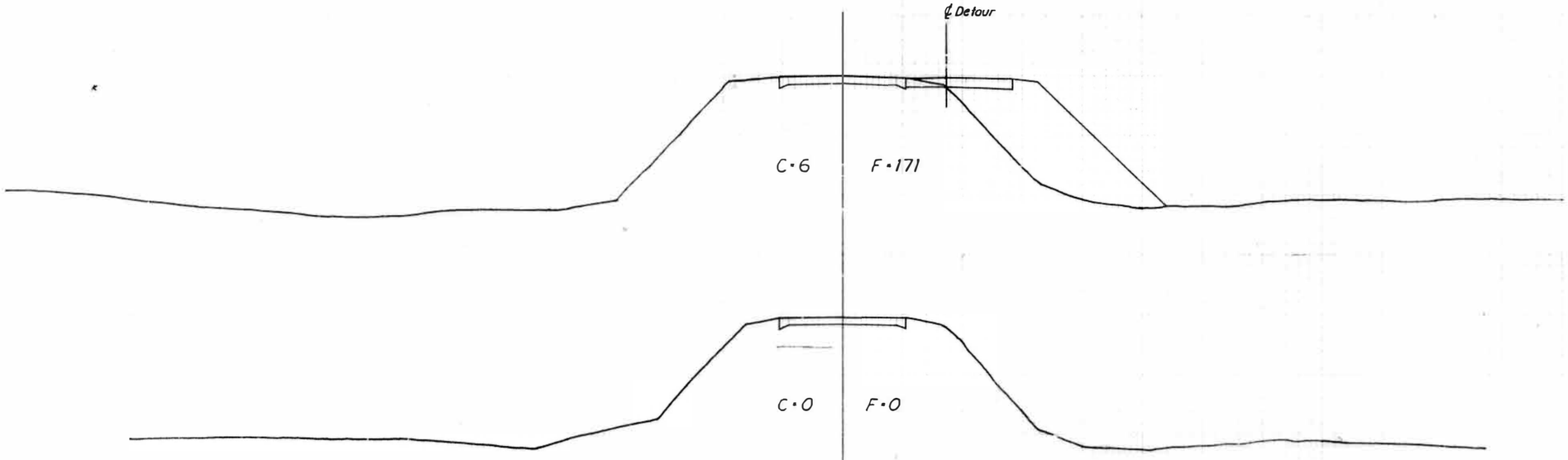
S.B.I. RT. 83 (ILL. 17) SEC. 123 BR

MERCER COUNTY

STA. 153+01.00

K & E CO. 191255

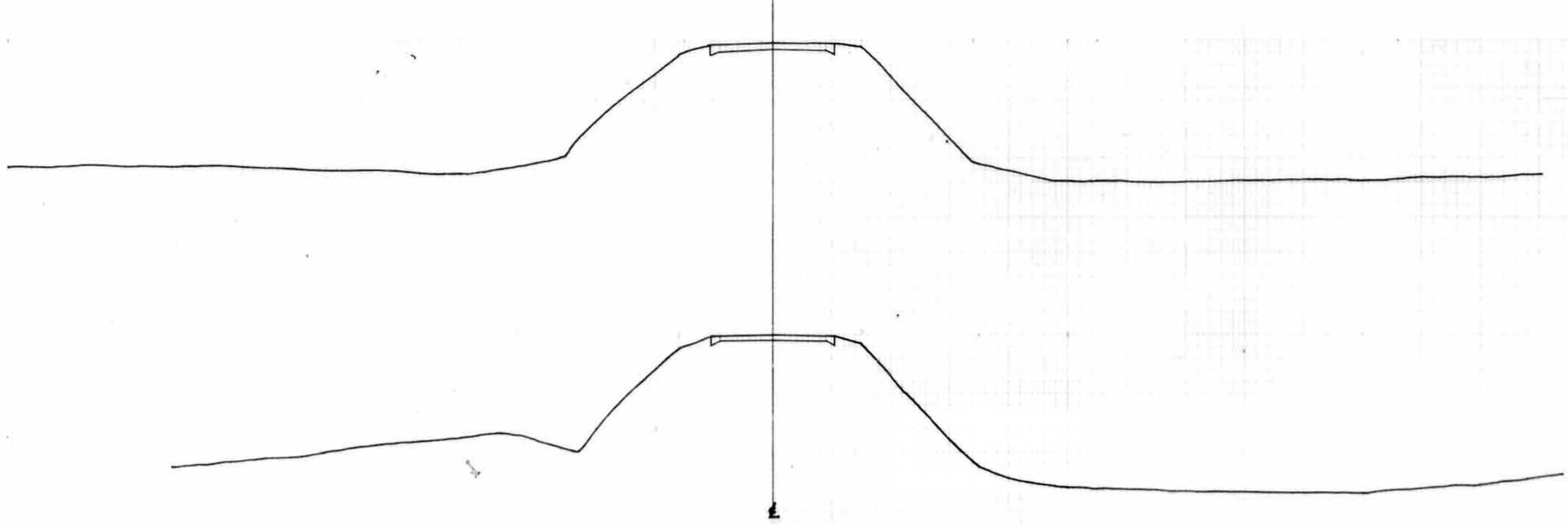
ROUTE NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
SBI 83	123 BR	MERCER	17	15
	148+00		151+00	



100 151 + 00

100 150 + 00

FOR INFORMATION ONLY



100 149 + 00

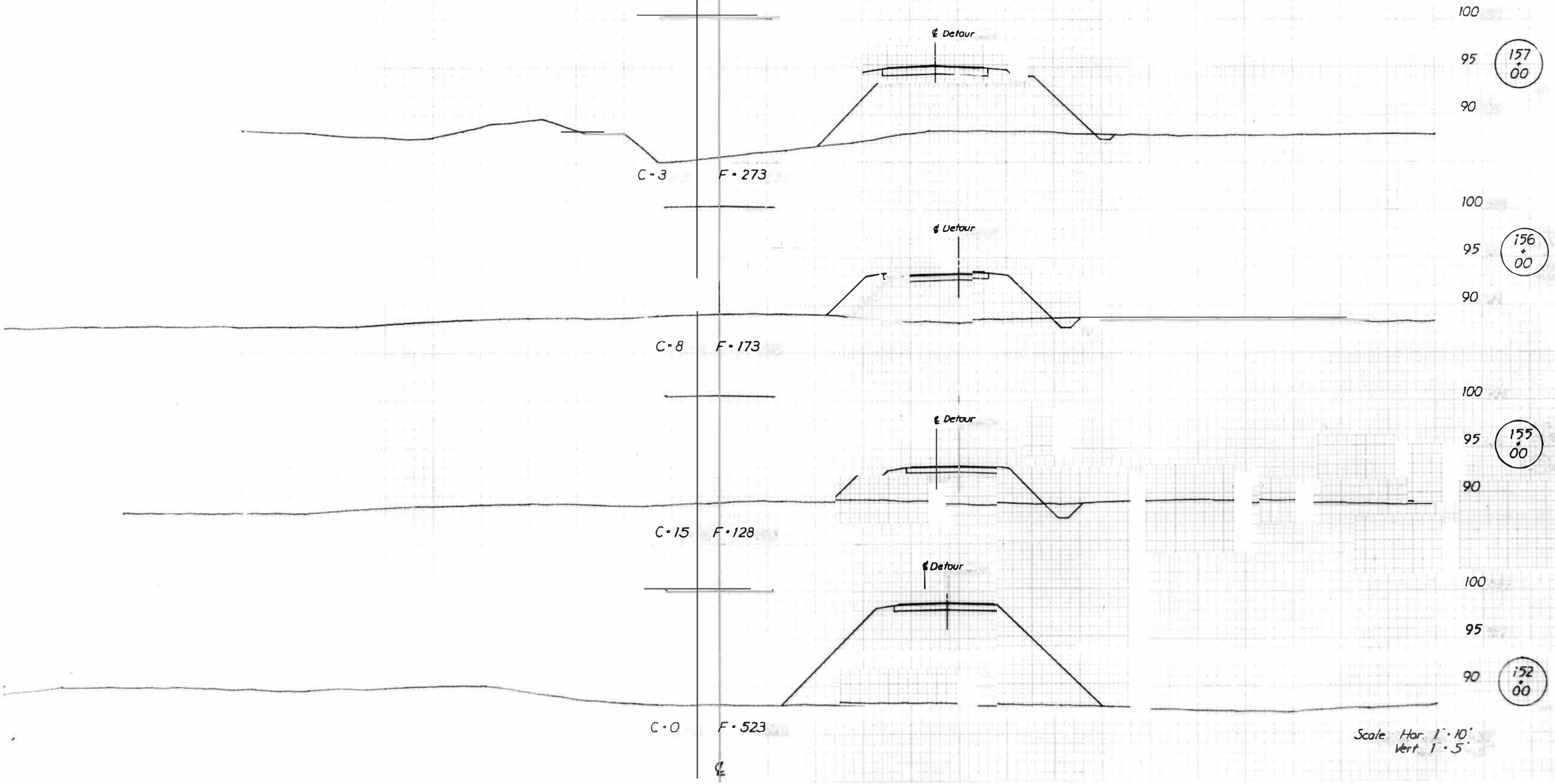
100 148 + 00

1" VERT = 5'
1" HORI = 10'

ROUTE NO.	SECTION	TOTAL SHEETS	SHEET NO.
SBI 83	123 BR	MERCER 17	16
STA. 152+00		TO STA. 157+00	
F.A. ROAD DIST. NO. 7	ILLINOIS	PROJECT	

FOR INFORMATION ONLY

G. Lockhart
G. Lockhart
7/8/11
7/8/11



SBI	83	123BR	MERCER	17	17
158·00				160·00	

FOR INFORMATION ONLY