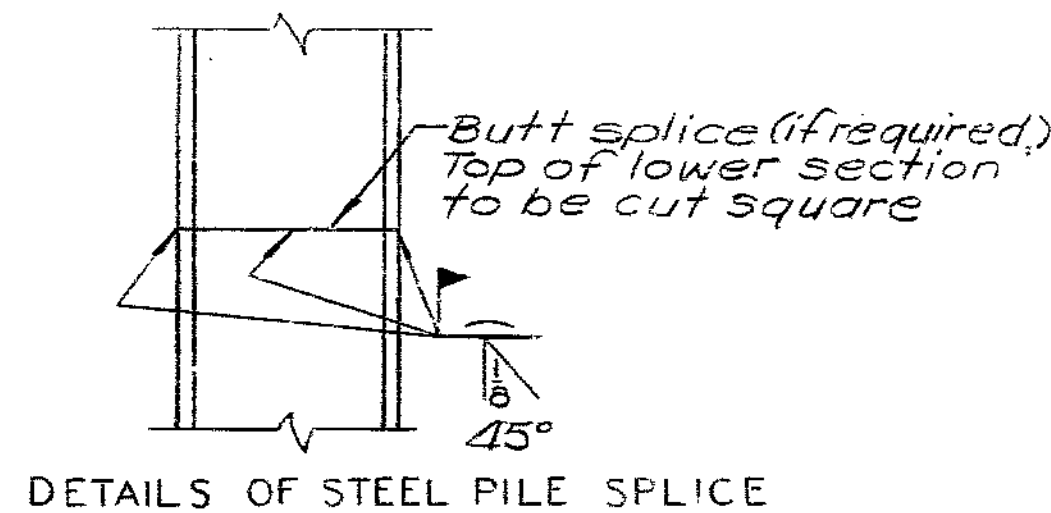




FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		79	38	

PILE AND FOOTING DATA					
BENT NO.		1		3	
PILE TYPE AND SIZE		APPR. BM. HPI0X42	BRG. BM. HPI0X42	BRG. BM. HPI0X42	APPR. BM. HPI0X42
BEARING PILE	NUMBER	10	14	18	10
	APPROXIMATE LENGTH FT.	15	15	17	22
	DESIGN BEARING TONS	19	54	52	25
	HAMMER ENERGY REQUIRED FT. LBS.	7,000	13,700	13,400	7,000
SPREAD FOOTINGS	FOUNDATION MATERIAL			ROCK	
	DESIGN BEARING VALUE TONS/50 FT.			9.8	

Minimum energy requirement of hammer based on plan length and design bearing value of piles. All pile shall be driven to practical refusal.



ESTIMATED QUANTITIES			
ITEM		SUBSTR.	TOTAL
REMOVAL OF BRIDGES	LUMP SUM		1
CLASS I EXCAVATION	CU. YD.	235	235
PEDESTRIAN FENCE (72 IN.)	LIN. FT.		513
STRUCTURAL STEEL PILE (HPI0X 42)	LIN. FT.	886	886
CLASS B CONCRETE	CU. YD.	412.4	412.4
( ) SLAB ON STEEL *	SG. YD.		2261
LAMINATED NEOPRENE BRG. PADS (STEEL STRUCTURES) EACH			36
PERFORMED COMPRESSION EXP. JT. SEAL (2.5 IN) LIN. FT.			184
REINFORCING STEEL (GRADE 60)	POUND	49,650	49,650
SAFETY BARRIER CURB	LIN. FT.		492
CONDUIT SYSTEM ON STRUCTURE	LUMP SUM		1
FABRICATED STRUCTURAL CARBON STEEL	POUND		283,600
FABRICATED SIGN SUPPORT BRACKETS	LUMP SUM		1
FABRICATED STRUCT. LOW ALLOY STEEL A-372	POUND		203,510
PAINTING (SYSTEM B) GREEN	TON		242.3
SLAB ON SEMI-DEEP ABUTMENT	SG. YD.		432
RAISED MEDIAN BARRIER	SG. FT.		966
SIDEWALK (BRIDGES)	SG. FT.		2,768

\* See Special Provisions

ESTIMATED QUANTITIES FOR ALTERNATE SLABS			
TYPE OF SLABS	SLAB ON STEEL		
	REINF. (LBS.)		CONC.
	EPOXY	PLAIN	CU. YD.
CAST-IN-PLACE CONVENTIONAL FORMS	76,770	60,770	550.1
STAY-IN-PLACE FORMS **	76,770	60,770	550.1

\*\* Does not include concrete required to fill corrugation of S.I.P. forms

Note: All concrete and reinforcing steel above Const. Joint under slab in Semi-Deep Abutments are included in superstructure quantities.

The table of Estimated Quantities for Alternate Slabs represents the quantities used by the state in preparing the cost estimate for concrete slabs. Variations may be encountered in these estimated quantities but these variations cannot be used for an adjustment in the Contract Unit Price per square yard.

GENERAL NOTES:

Design Specifications:  
A.A.S.H.T.O.-1977 Load Factor Design

Design Loading:

H320-4d  
15#/Sq.Ft. Future Wearing Surface  
Modified 24,000# Tandem Axle  
Earth 120#, Equivalent Fluid  
Pressure 30#

Fatigue Stress - Case II

Design Unit Stresses:

Class B Concrete (Substructure)  $f'_c = 3,000$  psi  
Class B1 Concrete (Safety Barrier and Median Barrier Curb)  $f'_c = 4,000$  psi  
Class B2 Concrete (Superstructure except Safety Barrier and Median Barrier Curb)  $f'_c = 4,000$  psi

Reinforcing Steel (Grade 60)

$f_y = 60,000$  psi

Structural Carbon Steel

$f_y = 36,000$  psi

Structural Steel (A.S.T.M A-372 Grade 50)

$f_y = 50,000$  psi

Steel Pile  $f_b = 9,000$  psi

Joint Filler:

All joint filler shall meet the requirements of Std. Spec. 1057.2.4.

Fabricated Steel:

Field connections, High Strength Bolts  $\frac{3}{4}$ "  $\phi$ , holes  $\frac{13}{16}$ "  $\phi$  except as noted.

Paint:

System B, by contractor in accordance with Std. Spec. 712.12. (Color of the final field coat shall be green)

Construction Clearance:

A minimum vertical clearance of 14'-0" from crown of existing lanes and a minimum lateral clearance of 28'-0" centered on existing lanes shall be maintained during construction.

Reinforcing Steel:

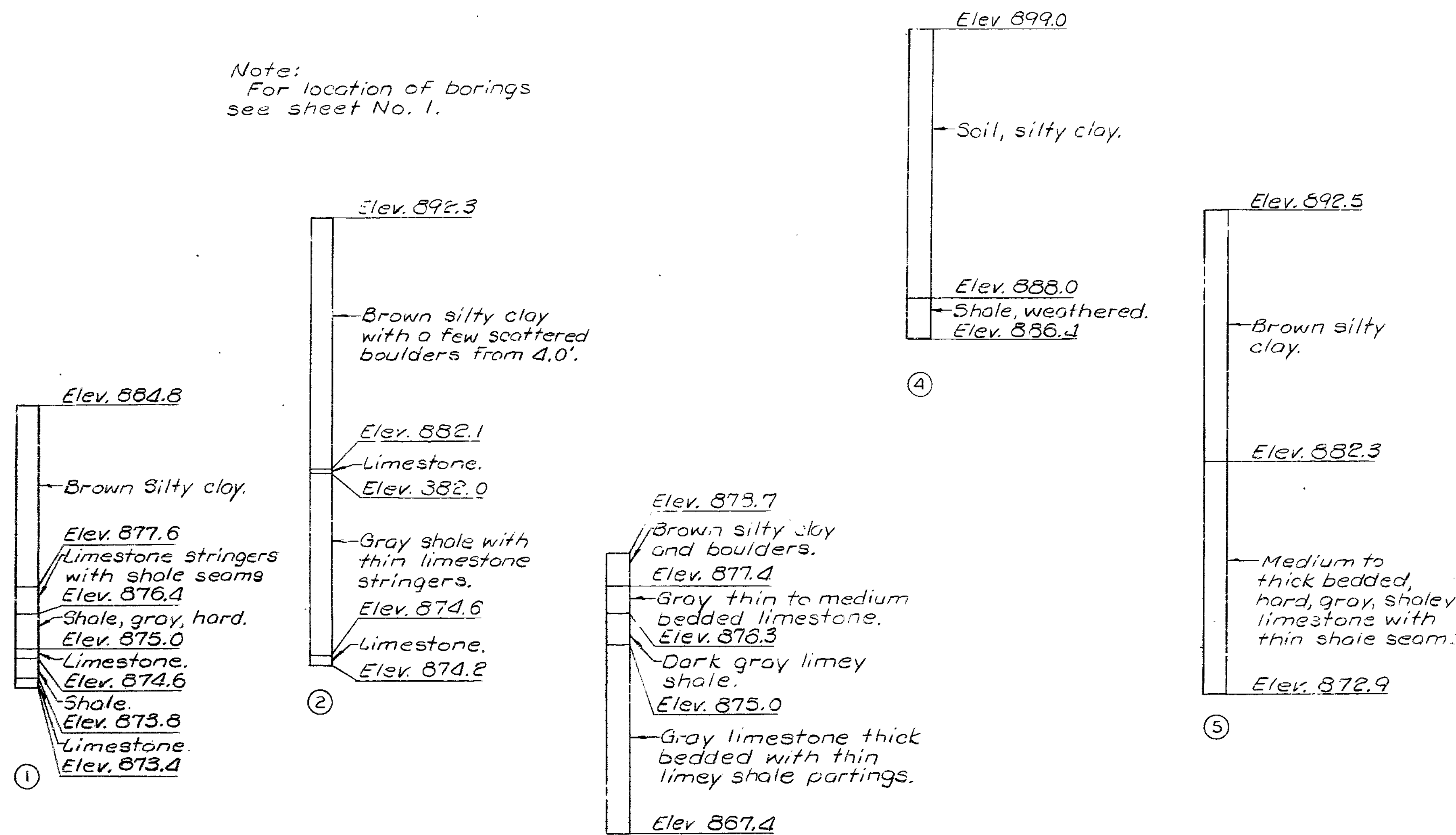
Minimum clearance to reinf. steel shall be  $1\frac{1}{2}$ " unless otherwise shown.

All reinforcing bars in tops of substructure beams or caps shall be spaced to clear anchor bolts for bearings by at least  $\frac{1}{2}$ ".



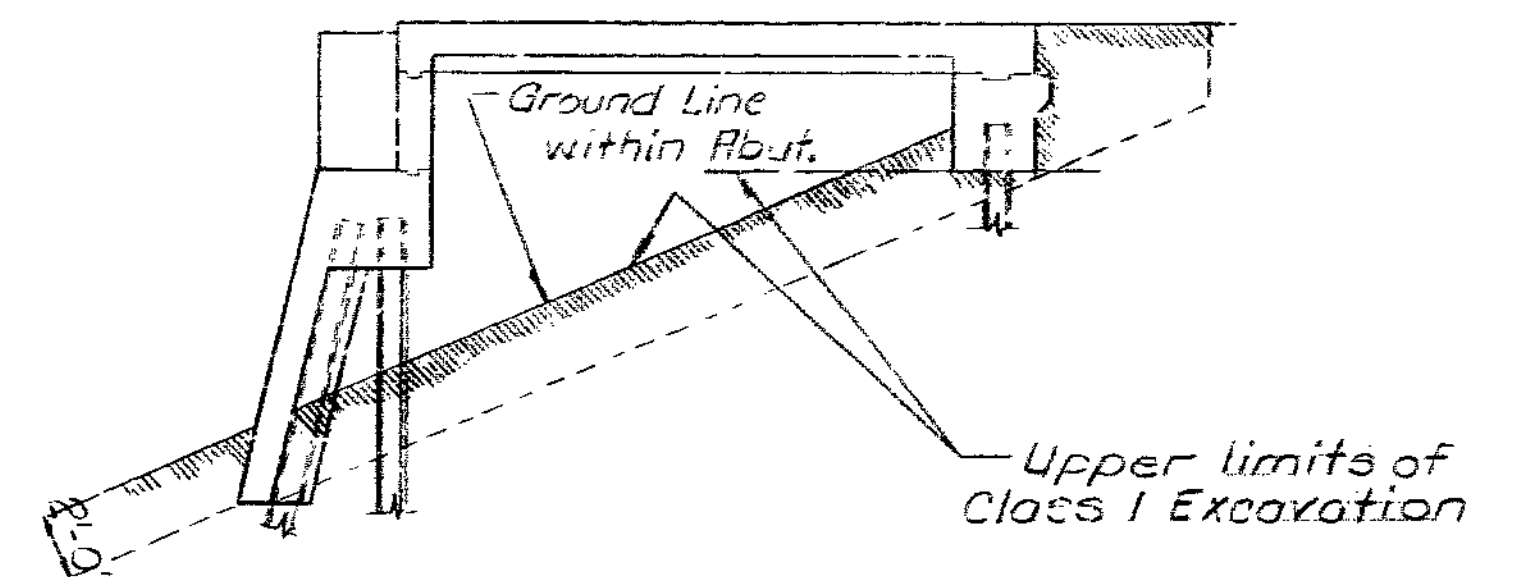
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		88	39	

Note:  
For location of borings see sheet No. 1.

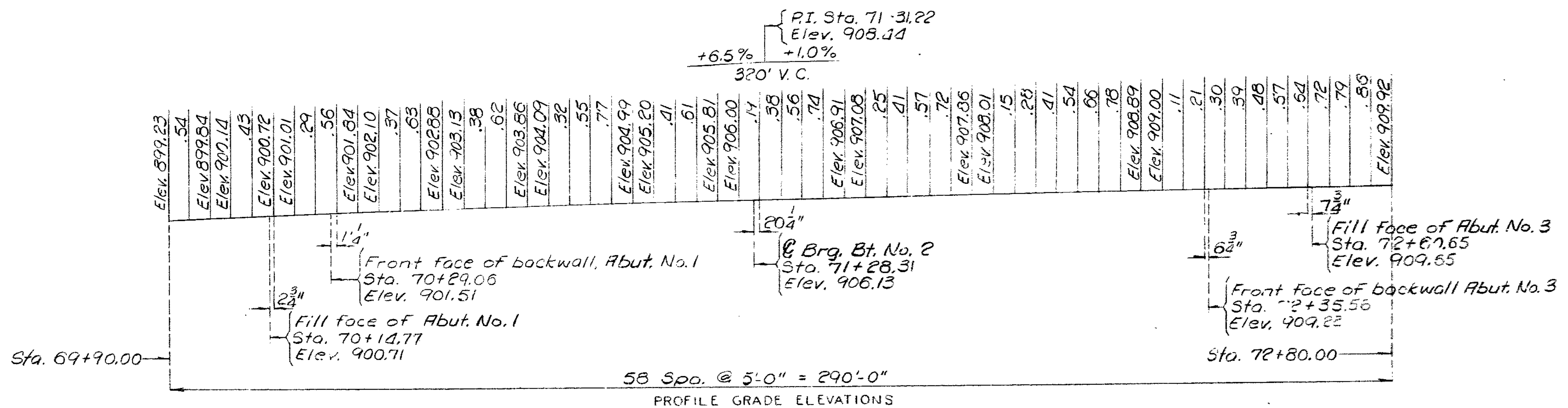


BORING DATA

In no case shall the earth within abutments No. 1 and 3 be above the Ground Line shown. Forms supporting the abutment slab may be left in place. The maximum variation of the head of the pile and the battered face of the pile from the position shown on the plans shall not be more than 2" for pile under Abutments No. 1 and 3. Exposed steel piles within abutment to be coated with a heavy coating of an approved bituminous paint.



GROUND LINE AND PILING IN ABUTMENTS



38

DETAILED June 1980  
CHECKED June 1981

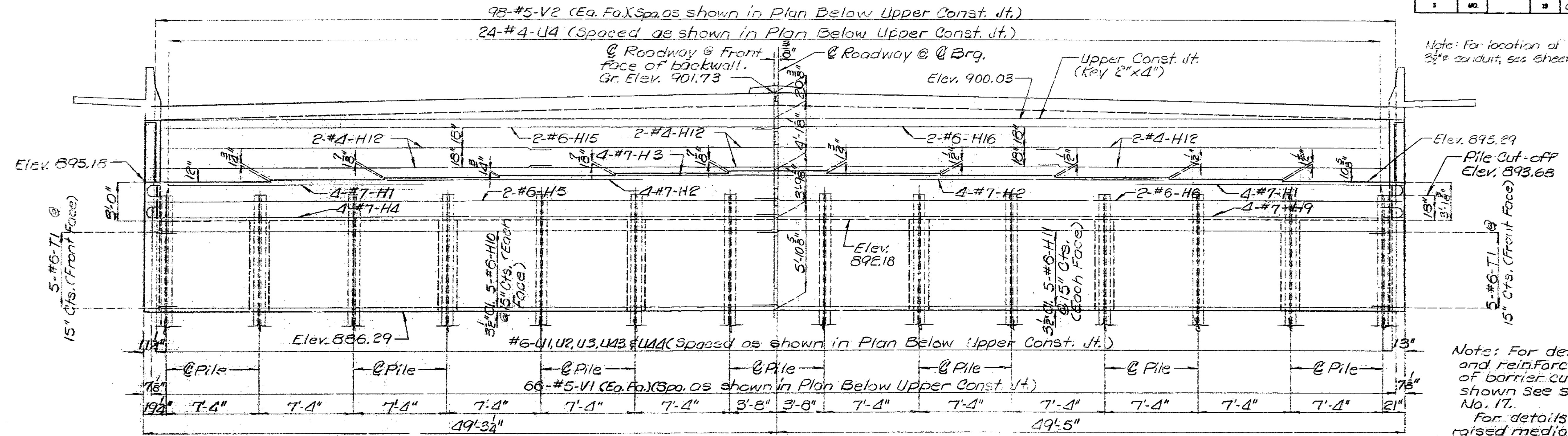
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 3 of 23.

JACKSON COUNTY

A-3763

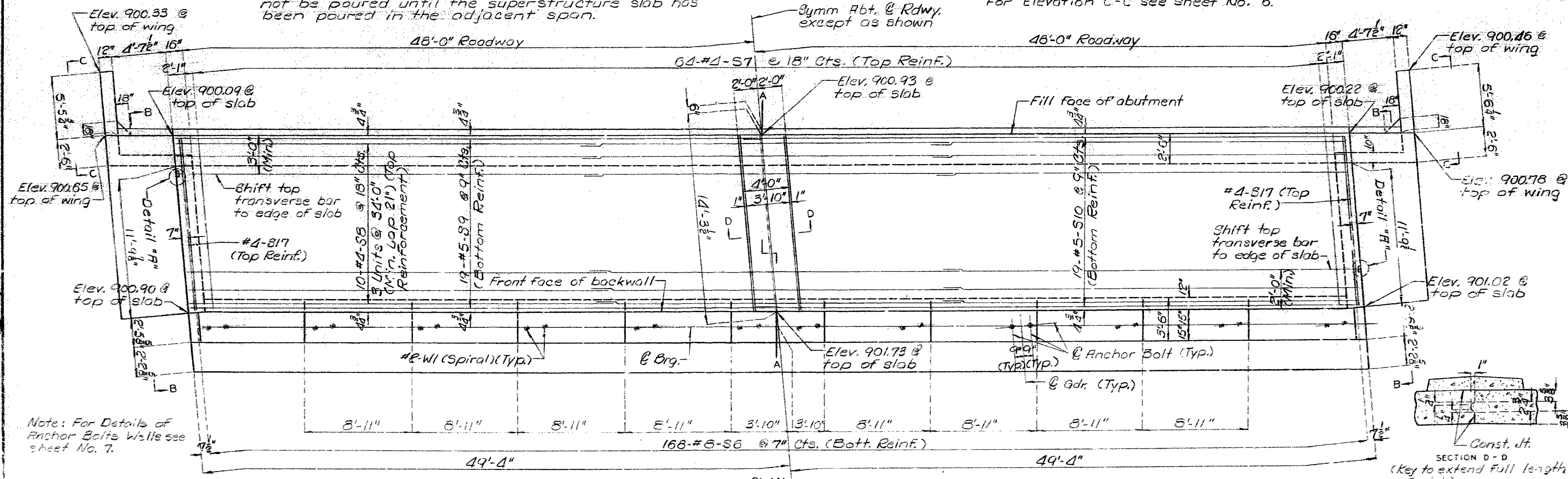
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		79	40	



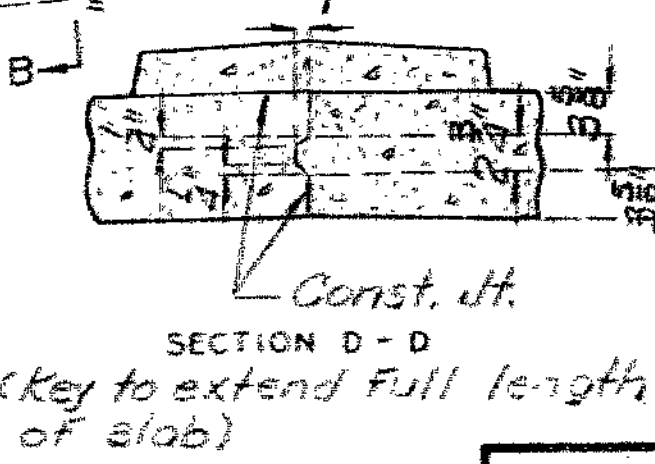
Note: For location of 2" and 3" conduits, see sheet 21.

Note: For details and reinforcement of barrier curb not shown see sheet No. 17.  
For details of raised median not shown see Sht. No. 15.

Note: Top of backwall and expansion device for Abutment No. 1 to conform to crown of Rdwy. slab. Backwall above upper construction joints shall not be poured until the superstructure slab has been poured in the adjacent span.  
Note: For Detail "A" see sheet, No. 15.  
For Section A-A see sheet No. 6.  
For Elevation B-B see sheet No. 5.  
For Elevation C-C see sheet No. 6.



Note: For Details of Anchor Bolts Walls see sheet No. 7.



DETAILS OF END ABUTMENT NO. 1

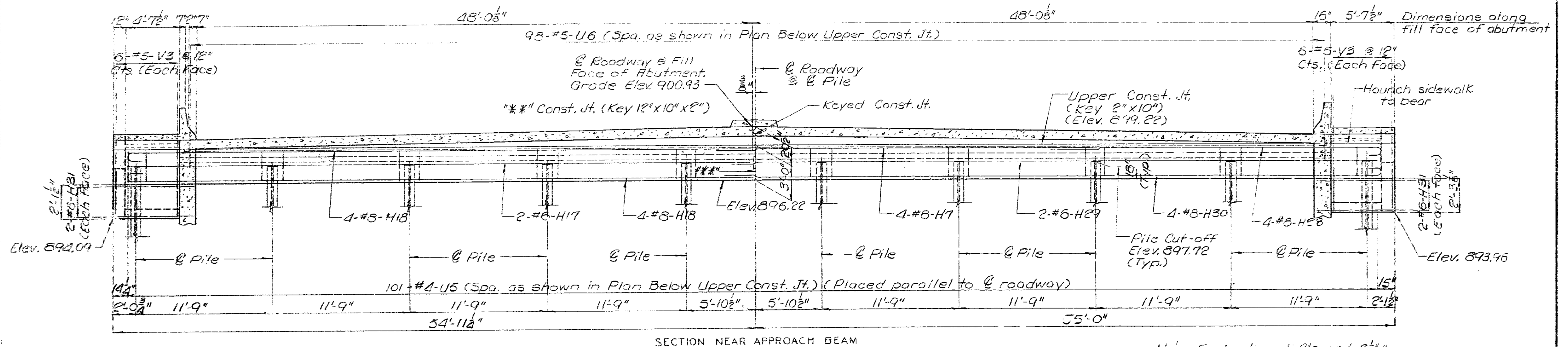
DATE: June 19 80  
CHECKED: June 19 81

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 4 of 23.



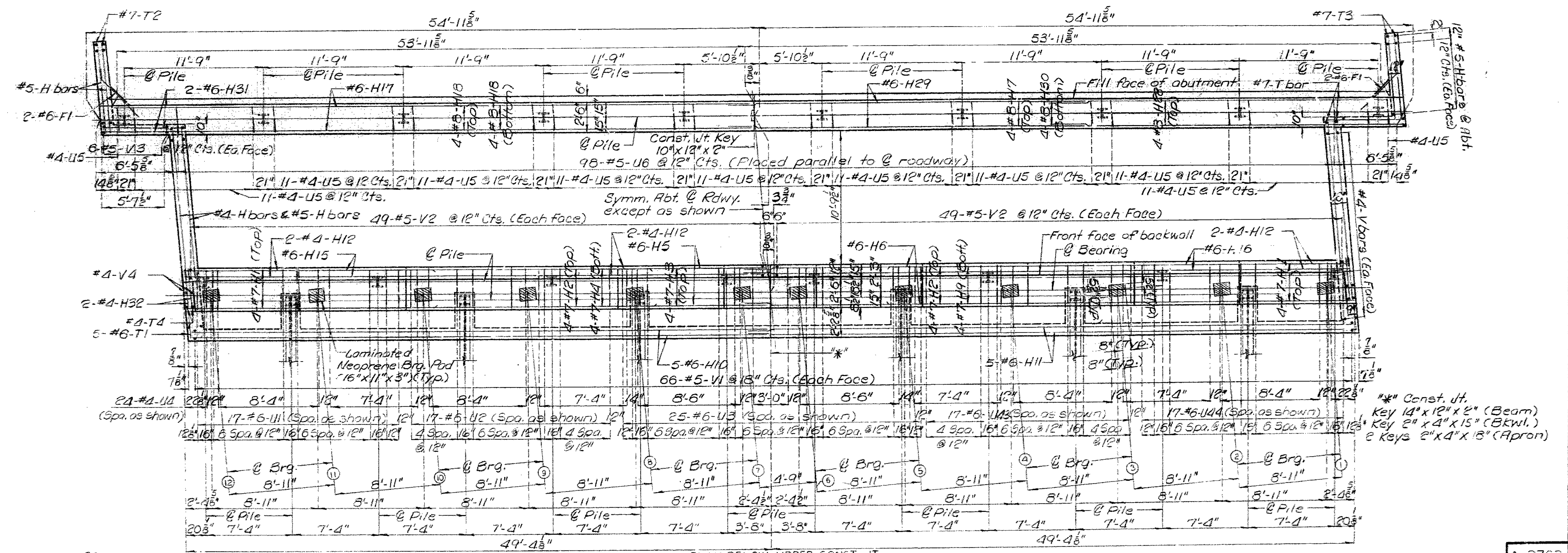
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	41	



SECTION NEAR APPROACH BEAM

Note: For location of 2" and 3 1/2" conduits, see sheet 21.

40



PLAN BELOW UPPER CONST. JT. DETAILS OF END ABUTMENT NO. 1

Note: This drawing is not to scale. Follow dimensions.

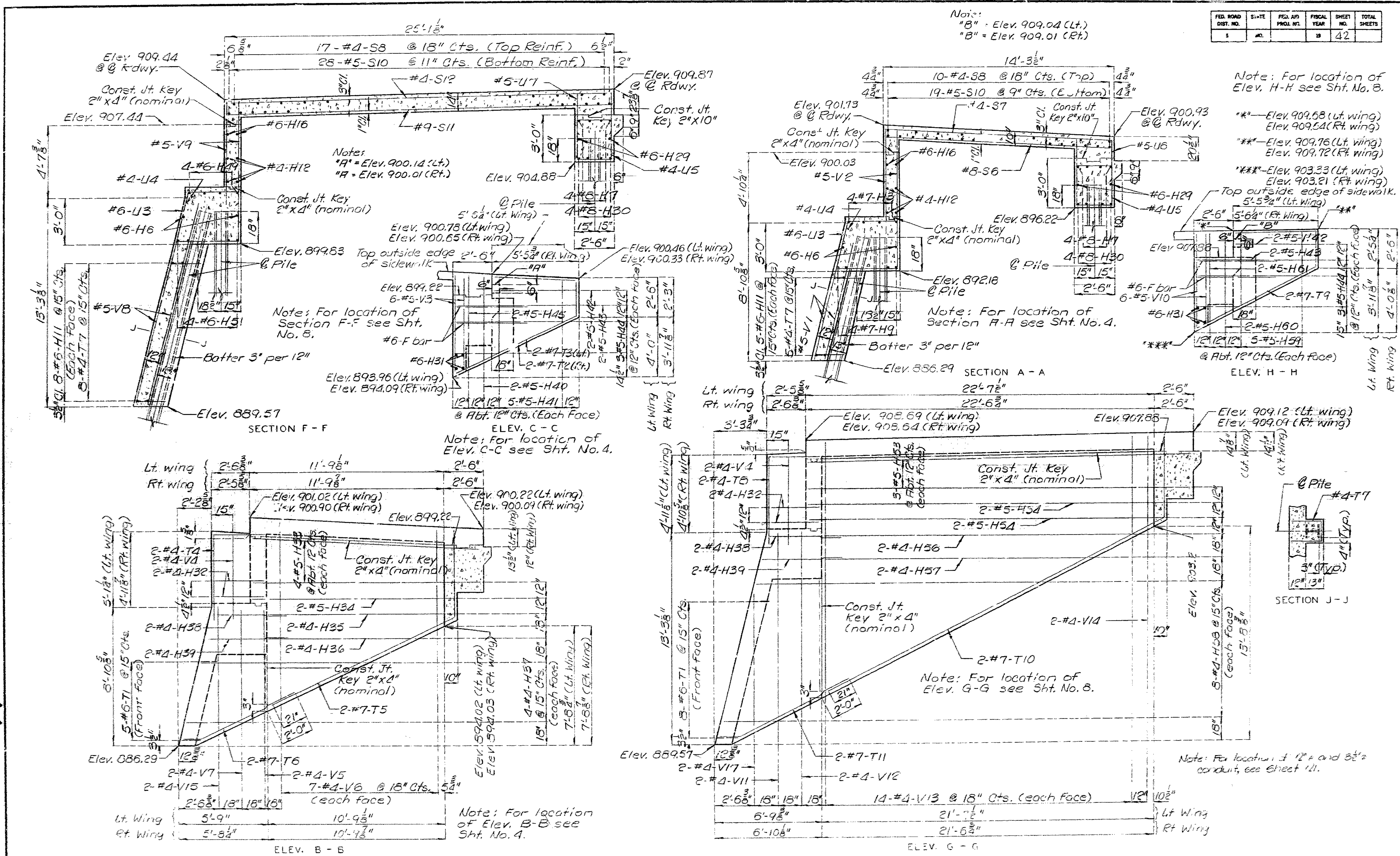
Sheet No. 5 of 23.

JACKSON COUNTY

A-3763

DETAILED June 19 50  
CHECKED June 19 51





FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		18	42	

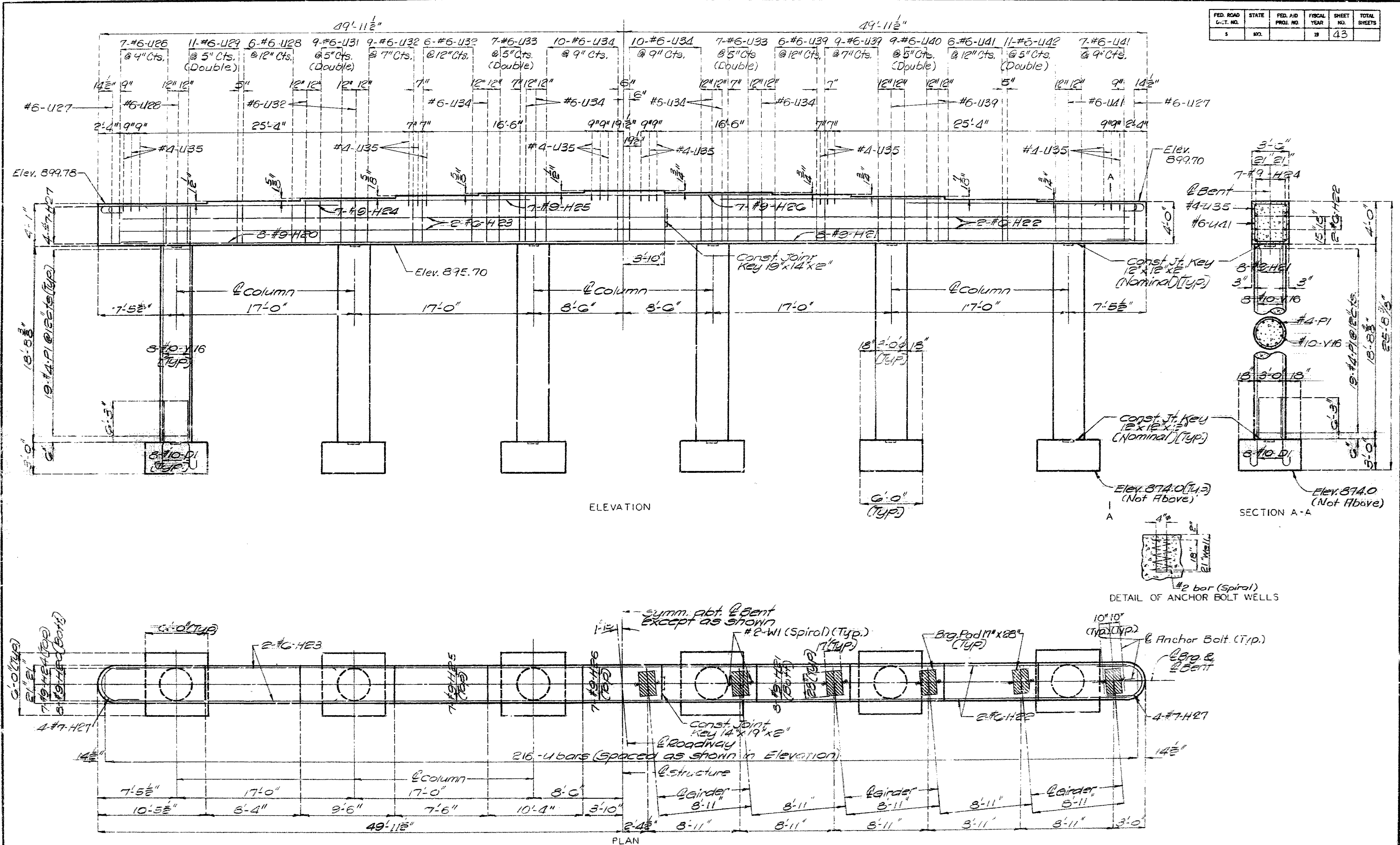
41  
 DETAILED July 1980  
 CHECKED June 1981

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 6 of 23.



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	43	



DATE: July 1980  
 CHECKED: June 1981

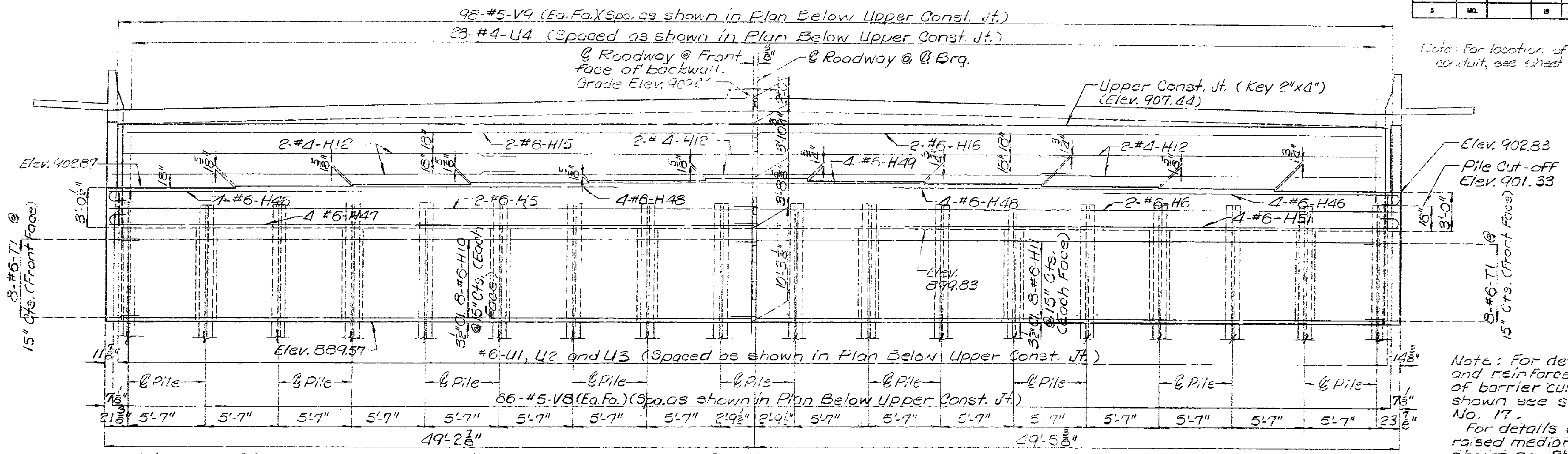
Notes: This drawing is not to scale. Follow dimensions.

DETAILS OF INTERMEDIATE BENT NO. 2 Sheet No. 7 of 23.

JACKSON COUNTY

A-3763

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		89	24	



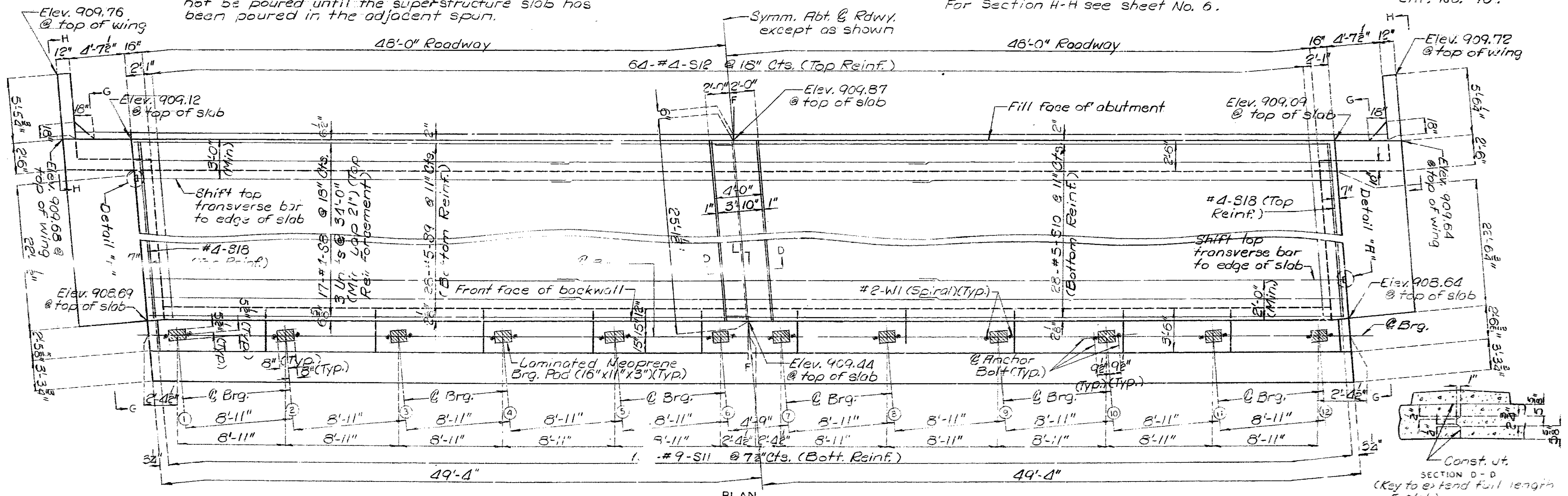
Note: For location of 1 1/2" and 3 1/2" conduit, see sheet 11.

Note: For details and reinforcement of barrier curb not shown see sheet No. 17.  
 For details of raised median not shown see Sht. No. 15.  
 For details of Anchor Bolts see Sht. No. 10.

Note: Top of backwall and expansion device for Abutment No. 3 to conform to crown of Rdwy. slab. Backwall above upper construction joints shall not be poured until the superstructure slab has been poured in the adjacent span.

Note: For Detail "A" see sheet No. 15.  
 For Section F-F see sheet No. 6.  
 For Section G-G see sheet No. 6.  
 For Section H-H see sheet No. 6.

43



DETAILED June 19 80  
 CHECKED June 19 81

Note: This drawing is not to scale. Follow dimensions.

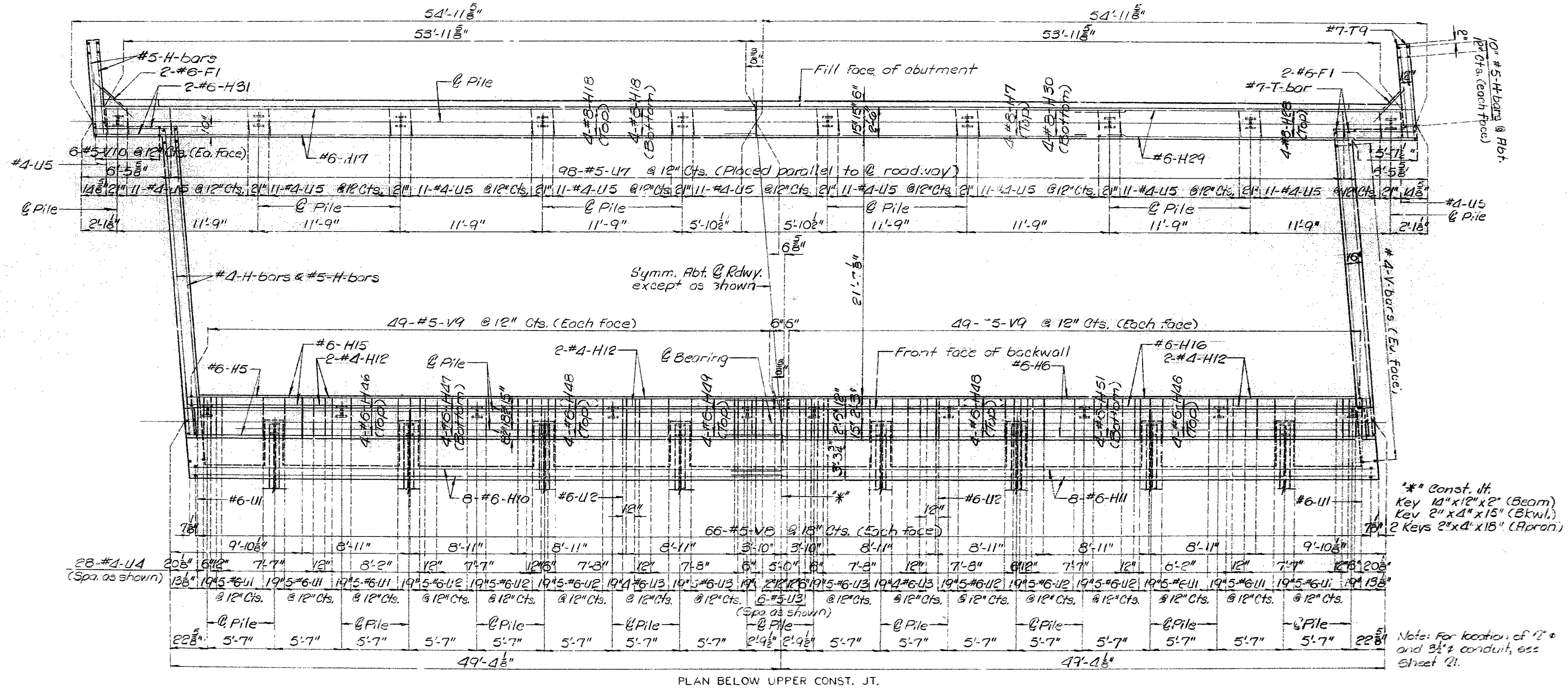
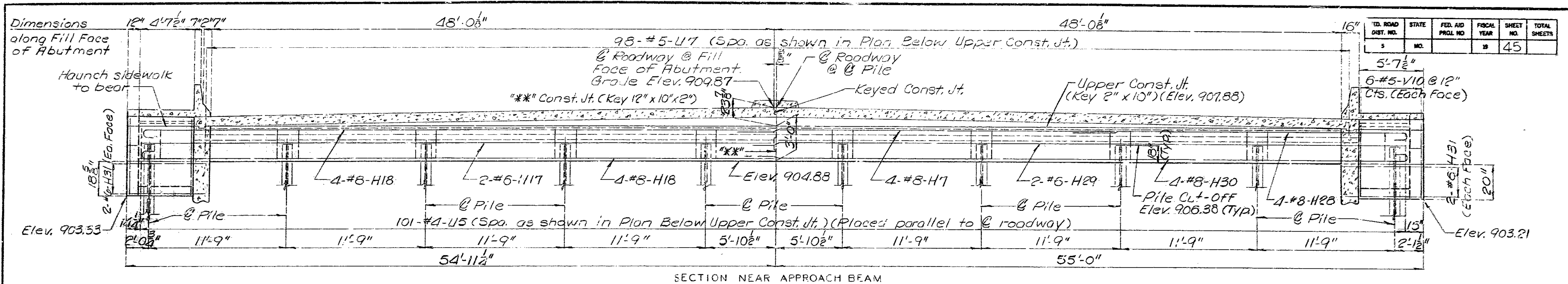
DETAILS OF END ABUTMENT NO. 3

Sheet No. 3 of 23.

JACKSON COUNTY

A-3763





DETAILED July 1980  
CHECKED June 1981

Note: This drawing is not to scale. Follow dimensions.

DETAILS OF END ABUTMENT NO. 3

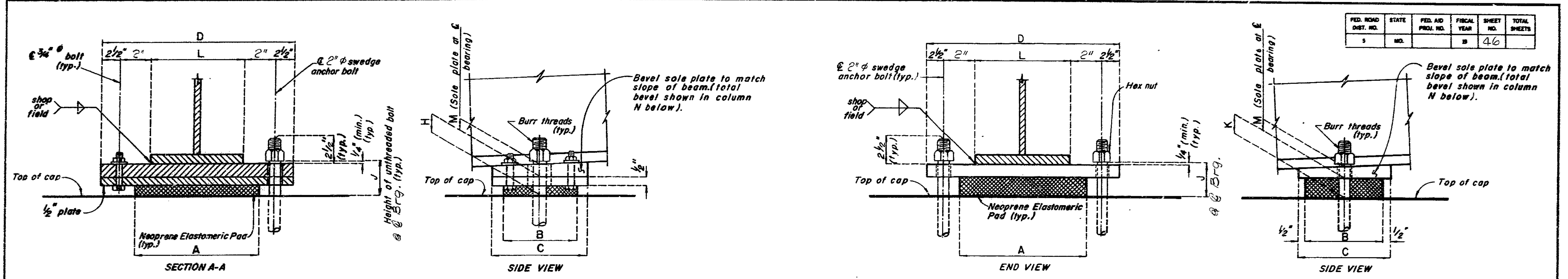
Sheet No. 9 of 23.

JACKSON COUNTY

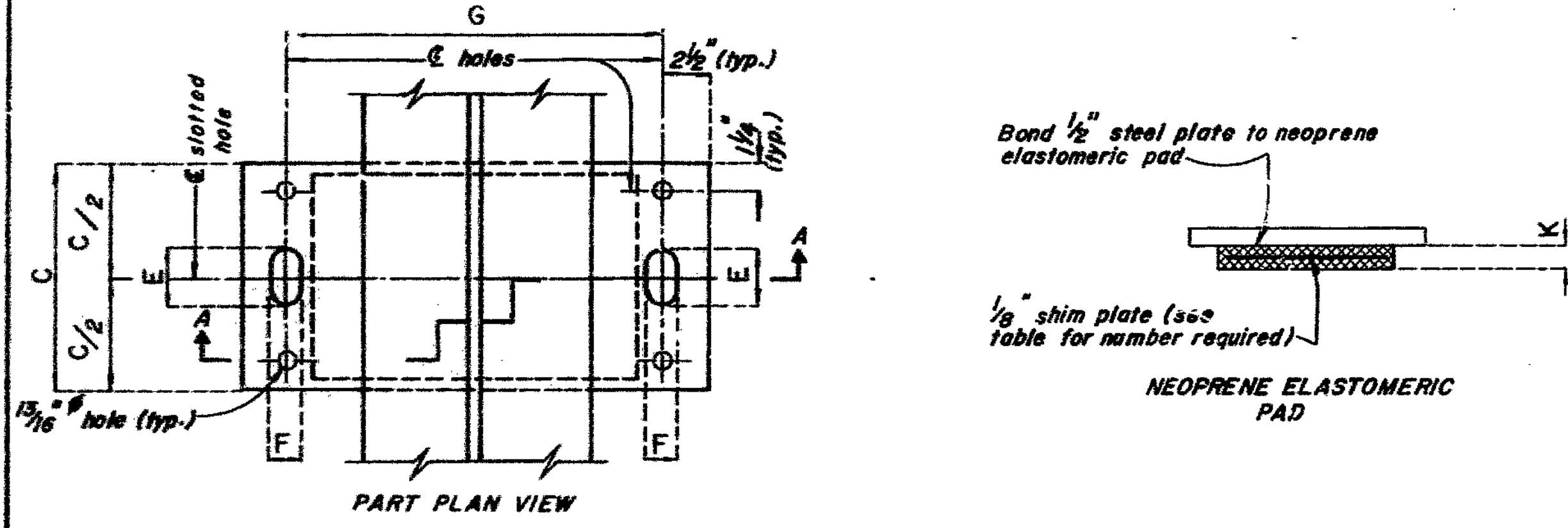
A-3763



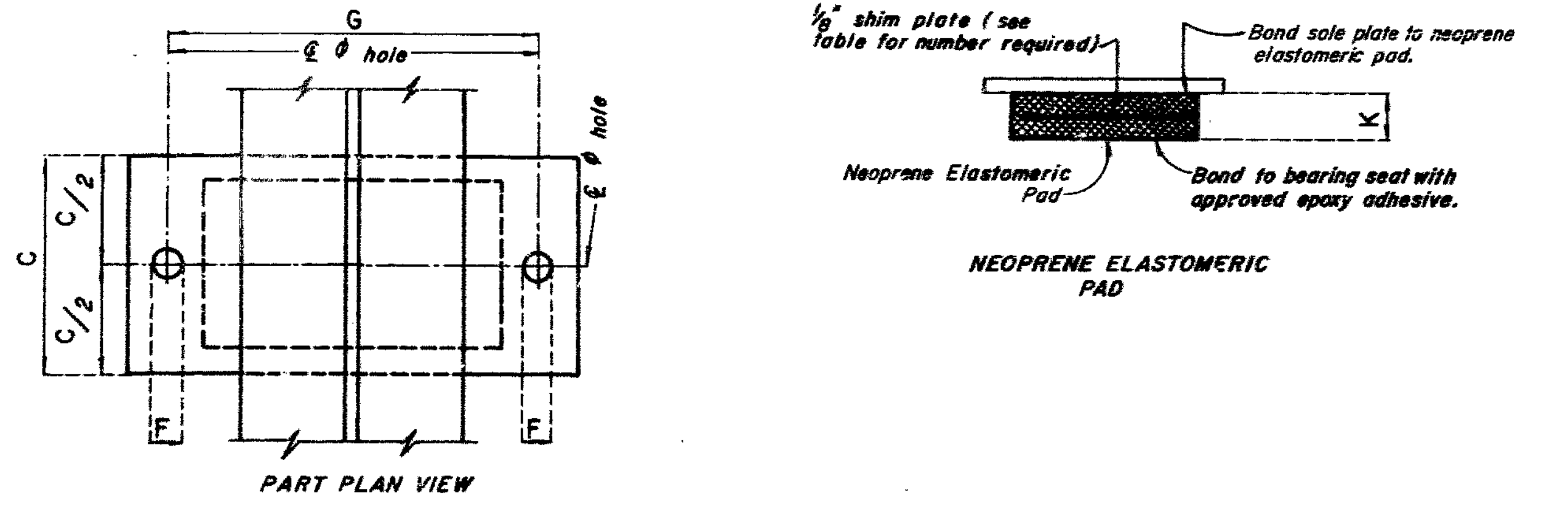
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		88	46	



Note: The location of anchor bolts in relation to the slotted holes in the sole plate shall correspond with the temperature at the time of erection. At 60°F. the slotted holes should center on the anchor bolts.



EXPANSION BEARINGS



FIXED BEARINGS

General Notes:  
 The accepted quantity of elastomeric bearing assemblies, complete in place, will be paid for at the contract unit price for Laminated Neoprene Bearings each.  
 Anchor bolts shall be 2" φ swedger bolts and shall extend 18" into concrete with hexagon nuts.  
 Weight of anchor bolts and hexagon nuts for bearings included in weight of fabricated structural steel.  
 Neoprene elastomeric pads shall be 50 durometers.  
 The sole plate shall be furnished with the bearing and field or shop welded to the stringers or girders.  
 Structural steel for sole plate & 1/2" Bearing R shall be A-36.  
 Payment for the sole plate, 1/2" Bearing R will be included in the cost of the bearing assembly. See special provisions.  
 All anchor bolts shall be A-588 steel with A-563 hexagon nuts.

LAMINATED NEOPRENE BEARINGS

EXPANSION BEARINGS													NUMBER OF SHIM PLATES (*)	
BENT NO.	A	B	C	D	E	F	G	H	J	K	L	M		N
1	16"	11"	12"	23"	4 3/8"	2 3/8"	18"	3 1/2"	4 1/8"	3"	14"	1 3/8"	1 1/8"	4
3	16"	11"	12"	24"	4 3/8"	2 3/8"	19"	3 1/2"	4 1/8"	3"	15"	1 3/8"	1 1/8"	4

NUMBER REQUIRED: 24

(\*) The required shim plates shall be placed between equal layers of elastomer and milled together to form an integral unit.

FIXED BEARINGS													NUMBER OF SHIM PLATES (*)
BENT NO.	A	B	C	D	F	G	J	K	L	M	N		
2	17"	28"	20"	25"	2 1/8"	20"	4 3/8"	3"	16"	1 1/2"	1"	4	

NUMBER REQUIRED: 12

(\*) The required shim plate shall be placed between equal layers of elastomer and milled together to form an integral unit.

45  
 SPS - LNB  
 MARCH 1979  
 REVISIONS  
 MARCH 1980

DETAILED Aug. 1980  
 CHECKED June 1981

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 10 of 23.



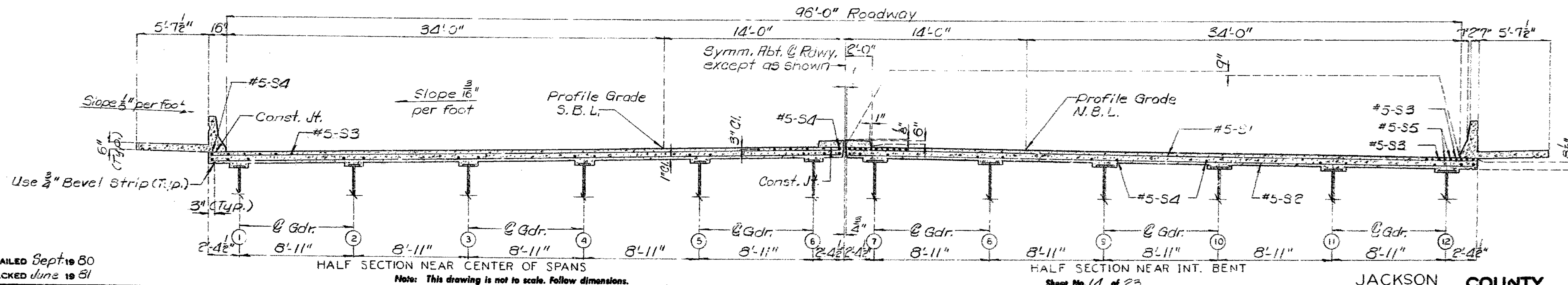
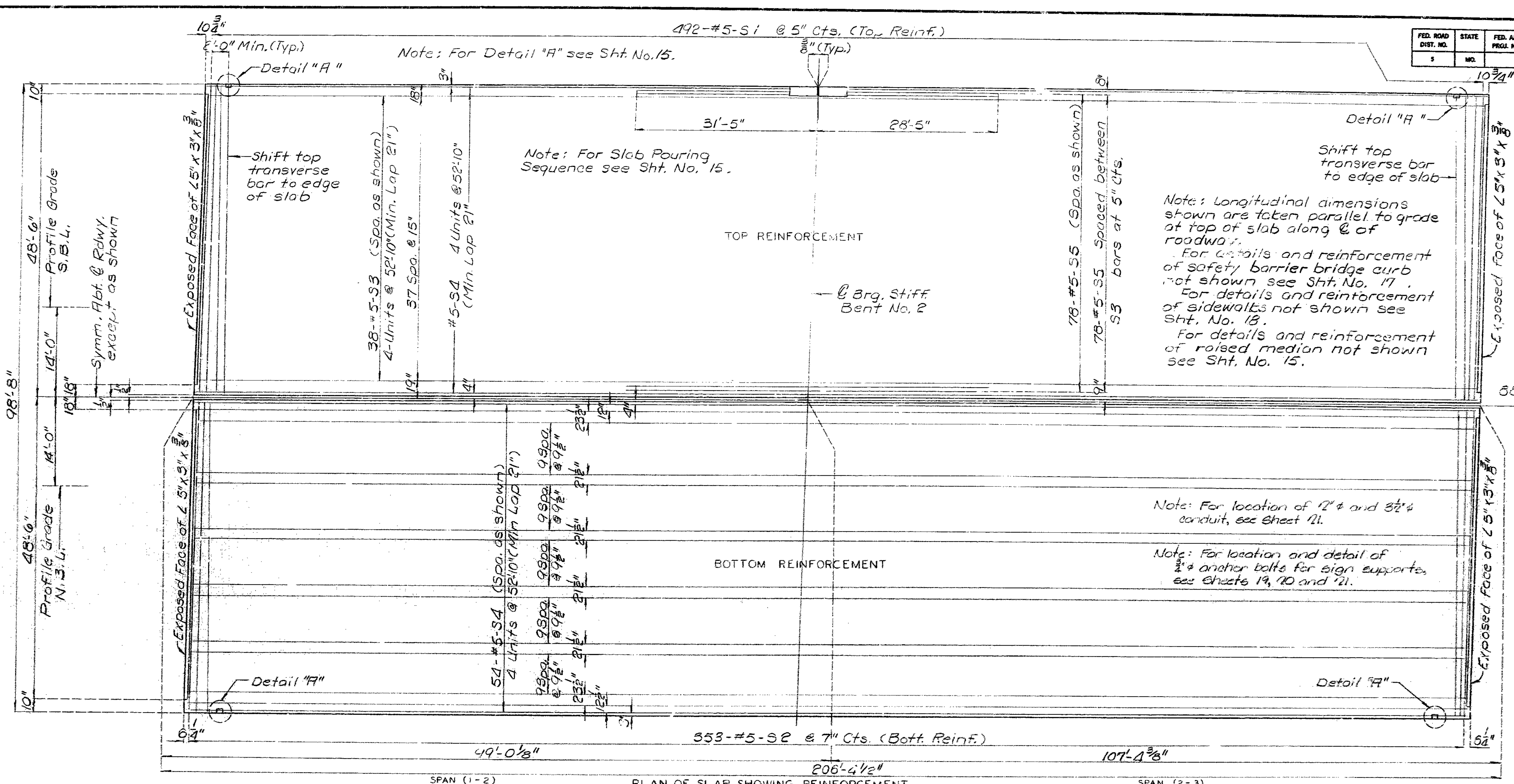








FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	50	



49  
 DETAILED Sept. 19 80  
 CHECKED June 19 81

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 14 of 23.

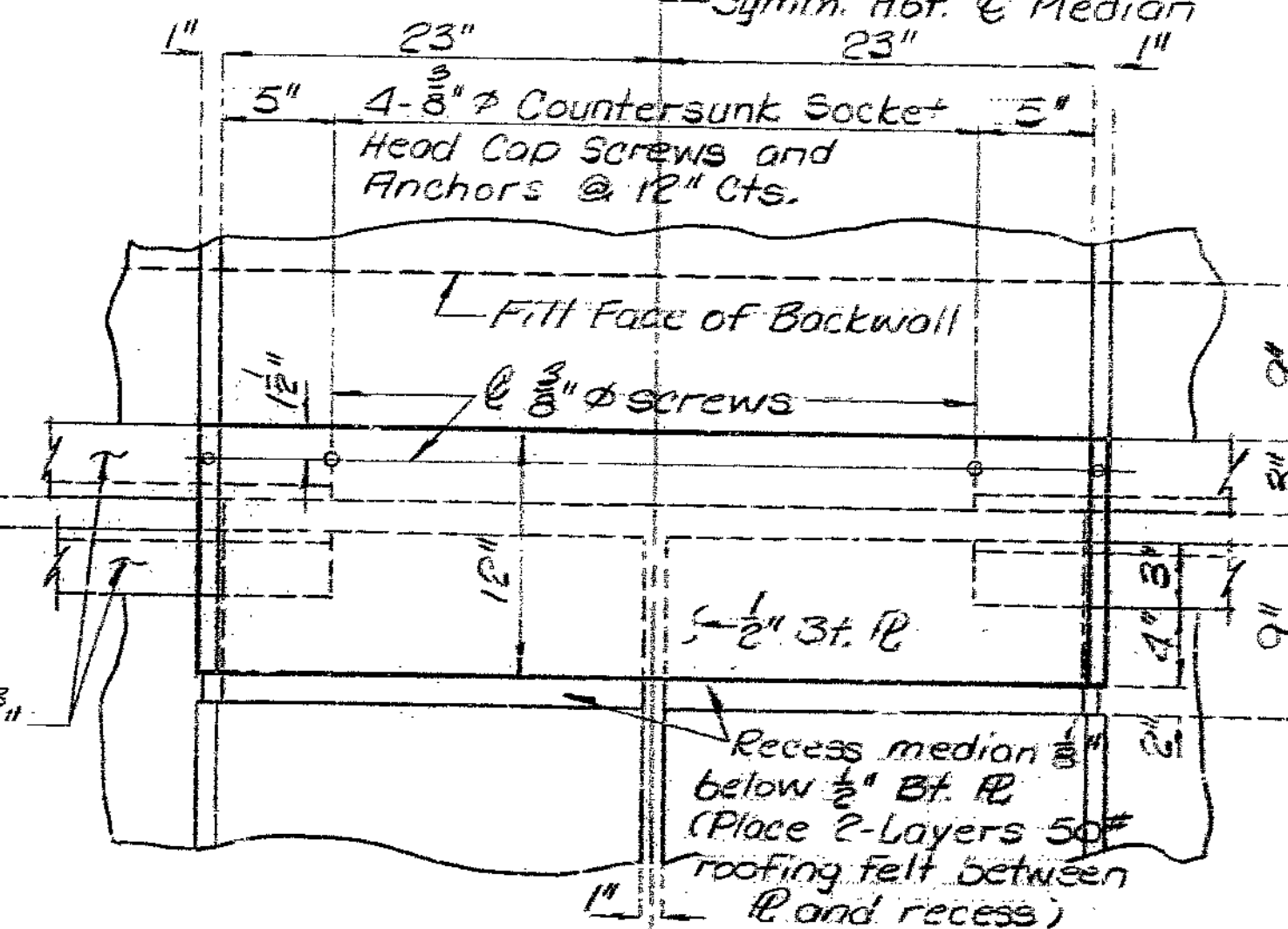
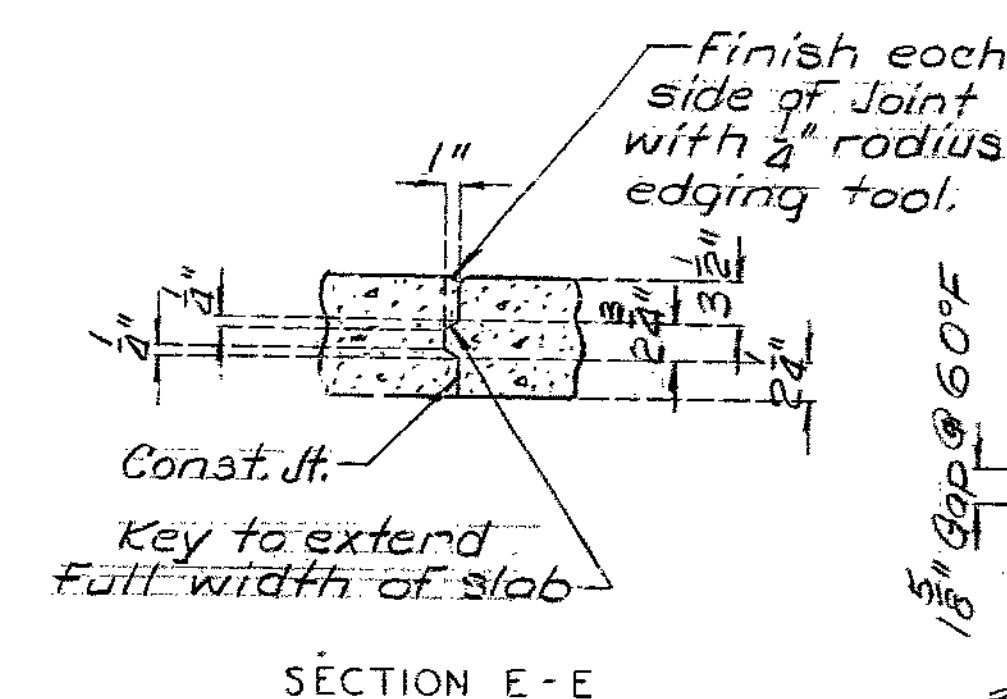
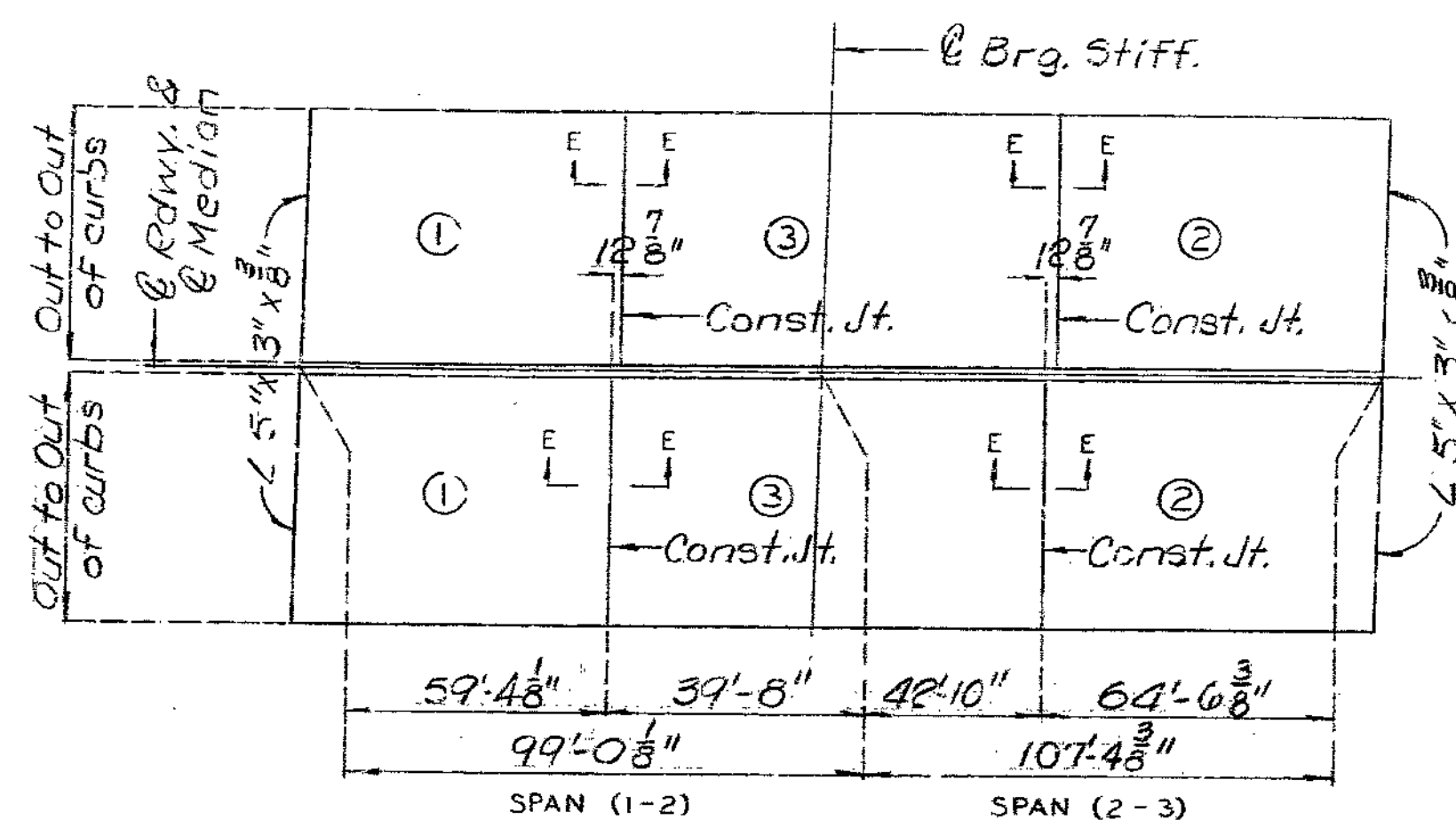
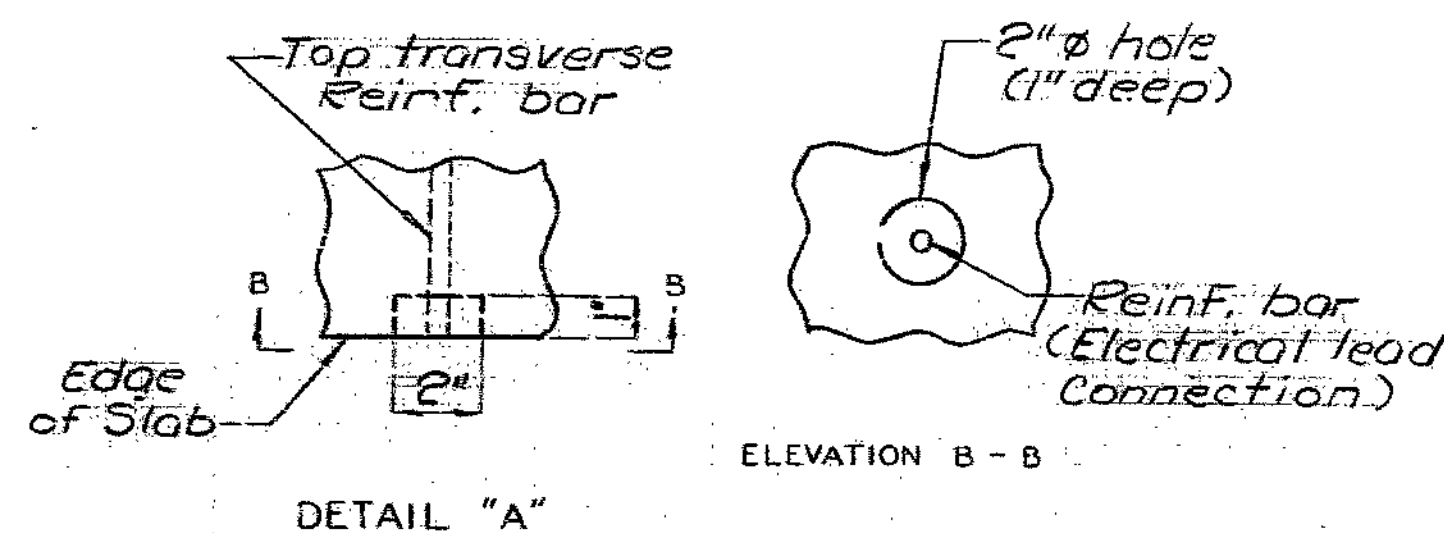
JACKSON COUNTY

A-3763



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		51	51	

Note: For location of Detail "A" at End Abutment No. 1 see sheet No. 4.  
 For location of Detail "A" at End Abutment No. 3 see sheet No. 8.  
 For location of Detail "A" on Slab see sheet No. 14.



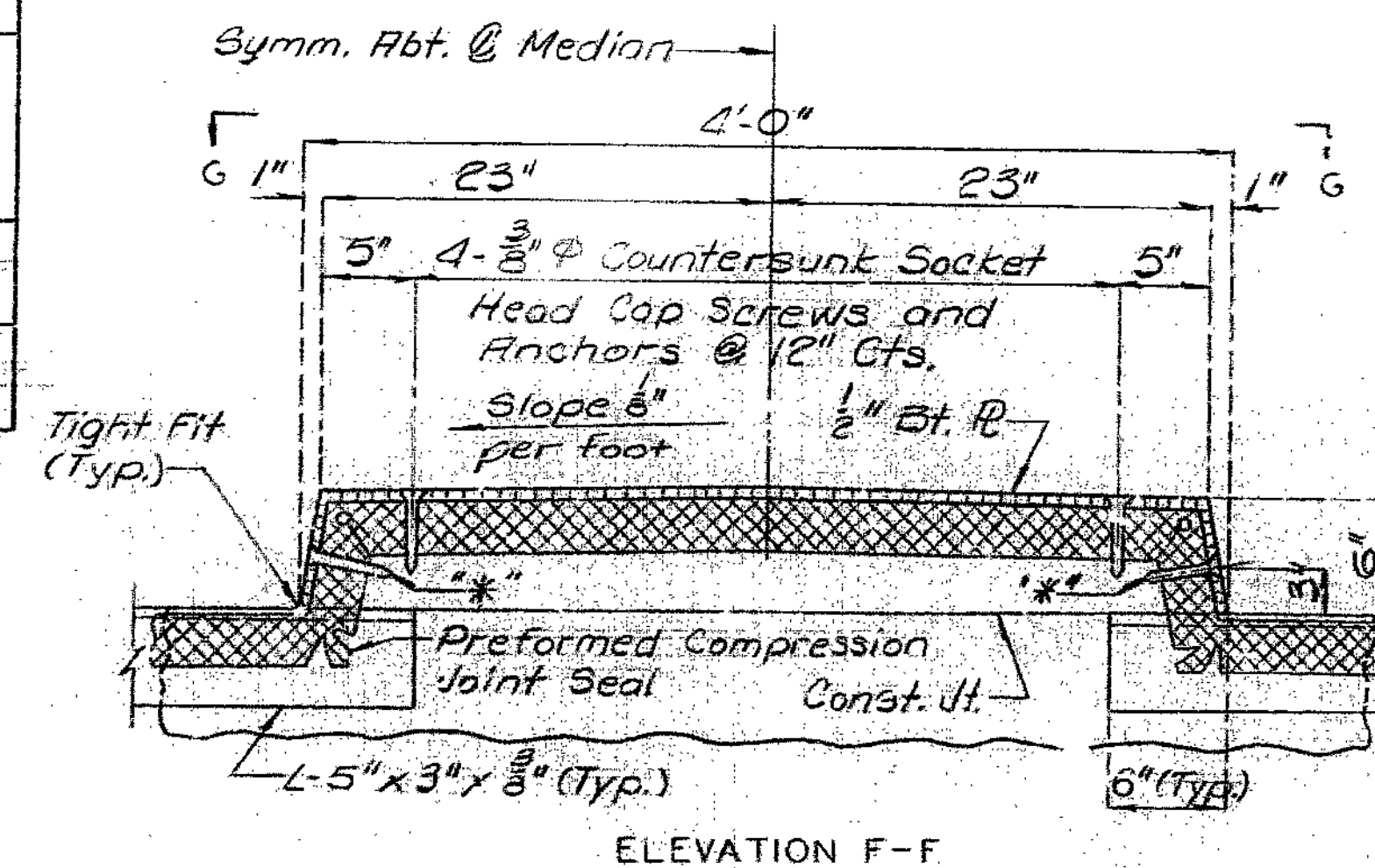
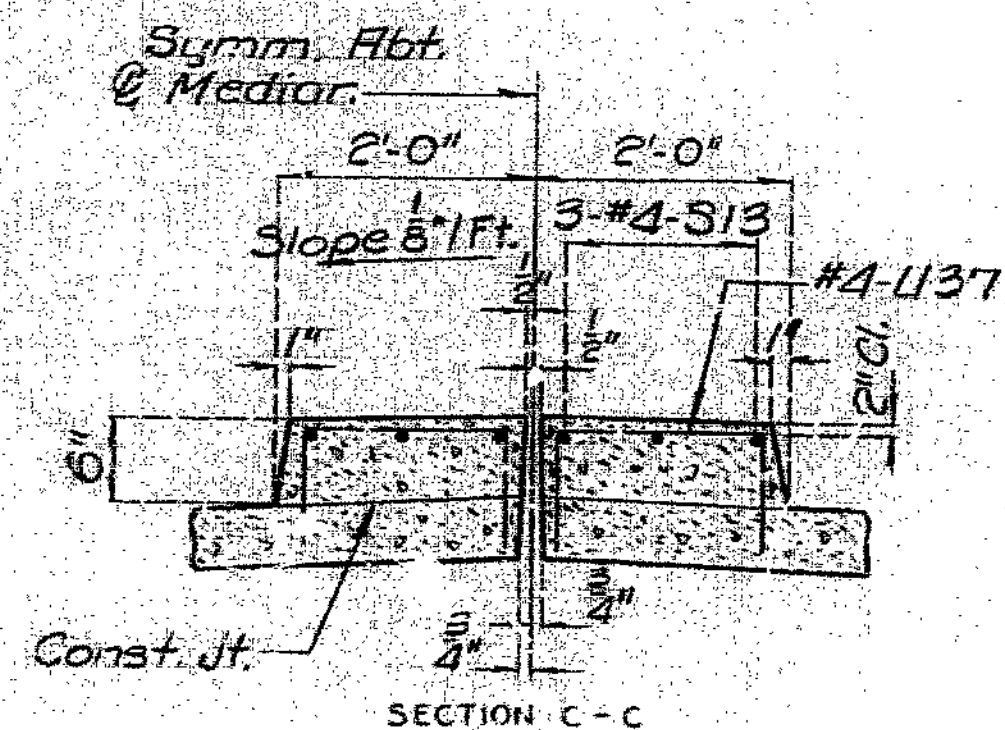
Note: Two Electrical Lead Connections are required at End Abut. No. 1 and End Abut. No. 3.  
 If Electrical Lead Connections are required on Slab (two on each outside edge of slab) Actual location of all Electrical Lead Connections to be designated by the Engineer as part of the test system.

BASIC SEQUENCE	SEQUENCE OF POURS			MIN. RATE OF POUR CU. YDS. / HR.	
	DIRECTION			WITH RETARDER	WITHOUT RETARDER
EITHER DIRECTION	1	2	3	25	25
	ALTERNATE "A" POURS			32	53
ALTERNATE "B" POURS			32	53	

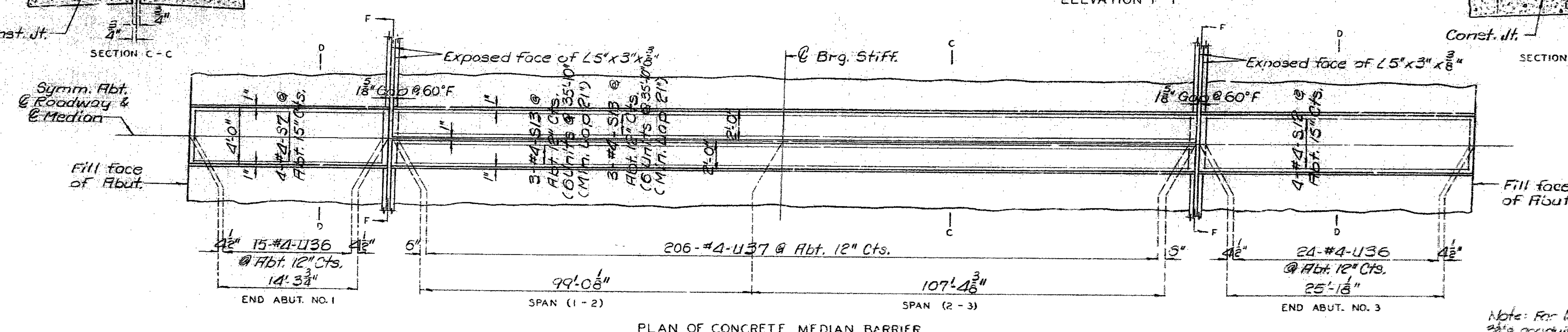
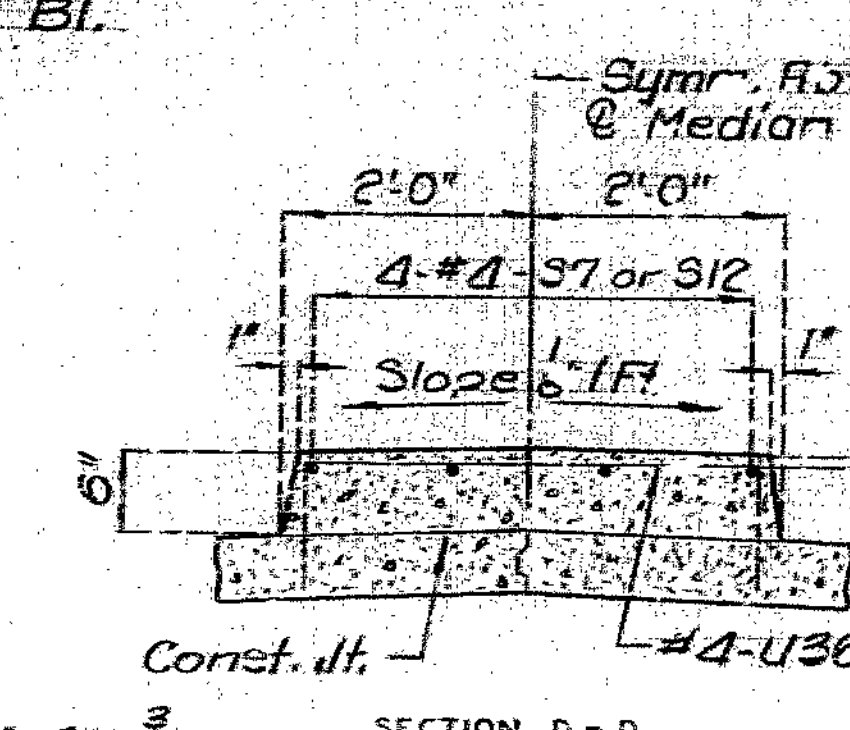
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with section 703.3.12.4 of Missouri Standard Specifications.

Note: The contractor shall pour and satisfactorily finish the slab pours at the rate given. Retarder, if used, shall be an approved type and retard the set of the concrete to 2.5 hours.

SLAB POURING SEQUENCE



Note: For details of Preformed Compression Joint Seal not shown see Sht. No. 16.  
 Note: The contract unit price for raised median barrier shall include the cost of all concrete and reinforcement. Concrete in the raised median barrier shall be Class B1.



Note: For location of 1 1/2" and 3/4" conduit, see sheet 21.  
 Note: For location and details of 3/4" anchor bolts for sign supports, see sheets 19, 20 and 21.

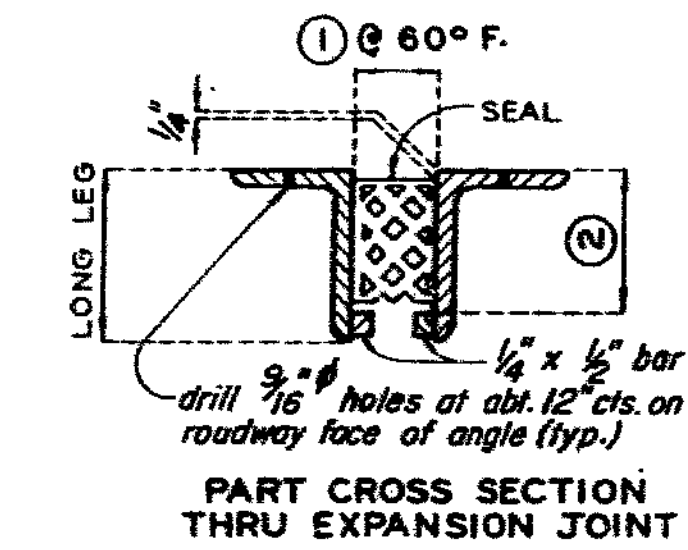
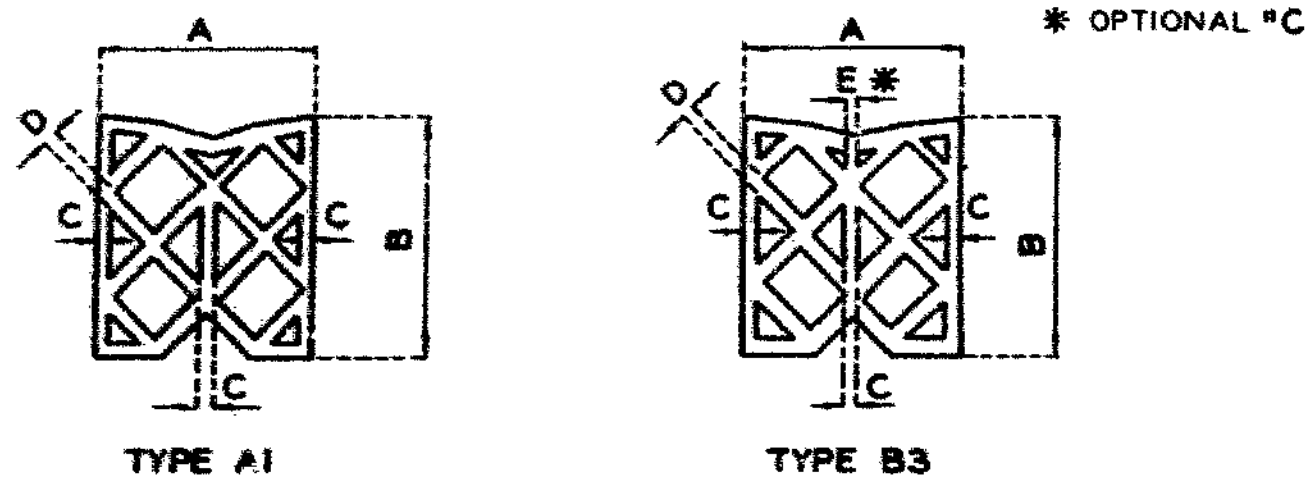
50  
 DETAILED Sept. 15 80  
 CHECKED June 19 81

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 15 of 23.



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.			52	



**NOTES FOR PREFORMED COMPRESSION JOINT SEAL:**  
 STRUCTURAL STEEL FOR EXPANSION DEVICE SHALL BE FABRICATED IN ONE SECTION EXCEPT THAT WHEN THE LENGTH IS OVER 50 FEET, SPLICING IS PERMISSIBLE.  
 EXPANSION DEVICE SHALL BE BENT TO CORRESPOND TO CROWN AND GRADE OF ROADWAY.  
 NO. 5 BARS FOR EXPANSION DEVICE SHALL BE STRUCTURAL GRADE.  
 APPROVED STUD WELDED ANCHORS OR DEFORMED BAR ANCHORS (ASTM A496) MAY BE USED IN LIEU OF #5 BARS SHOWN.

PLAN DIMENSIONS ARE BASED ON INSTALLATION AT 60°F EXPANSION JOINT WIDTH SHALL BE ADJUSTED DURING INSTALLATION FOR COMPLIANCE WITH TABLES.  
 SEE SPECIAL PROVISIONS FOR THE REQUIREMENTS OF COMPRESSION JOINT SEAL.

**TABLE OF TRANSVERSE SEAL TOLERANCES (INCHES)**

TYPE	"A" (WIDTH)	"B" (HEIGHT)	"C" (SHELL)	"D" (WEBS)	"E" (B3 ONLY) (SMALL WEBS)
AI OR B3	2.500 +.250 -.000	2.750 +.125 -.125	0.187 +.046 -.015	0.093 +.031 -.015	0.062 +.031 -.031
AI OR B3	3.000 +.250 -.000	3.406 +.187 -.187	0.187 +.046 -.015	0.125 +.046 -.015	0.075 +.046 -.031
AI OR B3	3.500 +.250 -.000	3.500 +.187 -.187	0.187 +.046 -.015	0.125 +.046 -.015	0.097 +.046 -.031
AI OR B3	4.000 +.312 -.000	4.718 +.250 -.250	0.250 +.046 -.031	0.187 +.046 -.015	0.111 +.046 -.031
AI OR B3	4.500 +.312 -.000	4.500 +.250 -.250	0.250 +.046 -.031	0.187 +.046 -.015	0.111 +.046 -.031

**TABLE OF TRANSVERSE SEALS & ARMOR ANGLES**

TYPE	GROOVE SIZE AT 60°F		SEAL SIZE		ANGLE SIZE
	①	②	WIDTH	HEIGHT	
AI OR B3	1-5/8"	3-5/8"	2-1/2"	2-3/4"	5 X 3 X 3/8
AI OR B3	1-7/8"	4-1/2"	3"	3-13/32"	6 X 3-1/2 X 3/8
AI OR B3	2-1/4"	5-5/8"	3-1/2"	3-1/2"	6 X 3-1/2 X 3/8
AI OR B3	2-5/8"	6-3/4"	4"	4-23/32"	7 X 4 X 7/16
AI OR B3	2-3/4"	5-7/8"	4-1/2"	4-1/2"	8 X 4 X 7/16

**TABLE OF GROOVE SIZE "1" (INSTALLATION DIMENSIONS)**

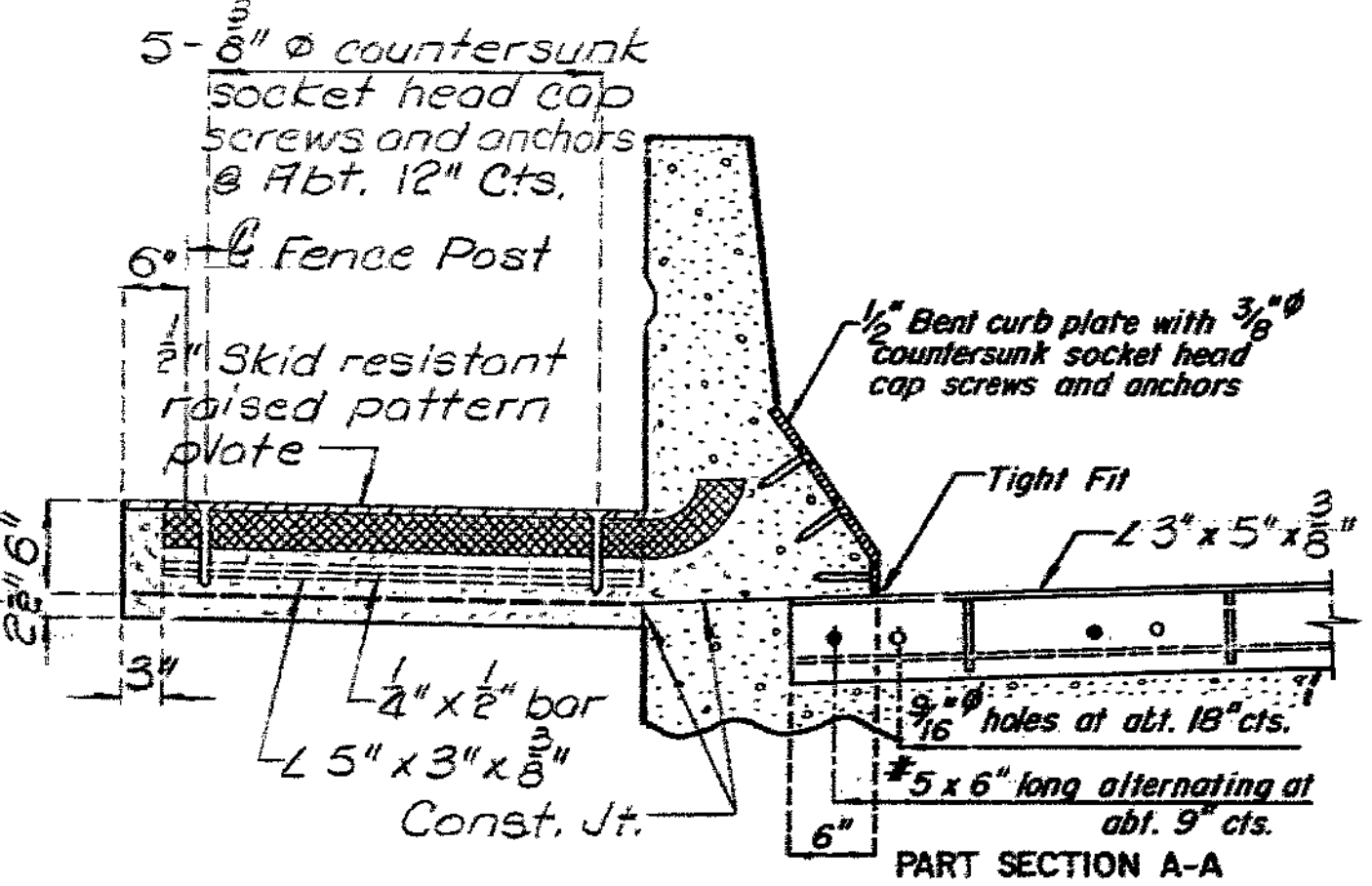
TEMP. (°F.)	CONCRETE STRUCTURES					STEEL STRUCTURES				
	2 1/2"	3"	3 1/2"	4"	4 1/2"	2 1/2"	3"	3 1/2"	4"	4 1/2"
-10°	-	-	-	-	-	2-1/8"	2-5/8"	3"	3-1/2"	3-3/4"
0°	2-1/8"	2-3/8"	3"	3-1/4"	3-3/4"	2"	2-1/2"	2-7/8"	3-1/4"	3-5/8"
+20°	2"	2-3/8"	2-3/4"	3-1/8"	3-3/8"	1-7/8"	2-1/4"	2-3/8"	3"	3-3/8"
+40°	1-3/4"	2-1/8"	2-1/2"	2-7/8"	3-1/8"	1-3/4"	2"	2-3/8"	2-3/4"	3"
+60°	1-5/8"	1-7/8"	2-1/4"	2-3/8"	2-3/4"	1-5/8"	1-7/8"	2-1/4"	2-5/8"	2-3/4"
+80°	1-3/8"	1-5/8"	1-7/8"	2-1/4"	2-3/8"	1-3/8"	1-5/8"	2"	2-1/4"	2-3/8"
+100°	1-1/4"	-3/8"	1-5/8"	2"	2"	1-1/4"	1-1/2"	1-3/4"	2"	2-1/8"
+110°	1-1/8"	1-1/4"	1-1/2"	1-3/4"	1-7/8"	1-1/4"	1-3/8"	1-5/8"	1-3/4"	2"
+120°	-	-	-	-	-	1-1/8"	1-1/4"	1-1/2"	1-5/8"	1-7/8"

**TABLE OF LONGITUDINAL SEALS**

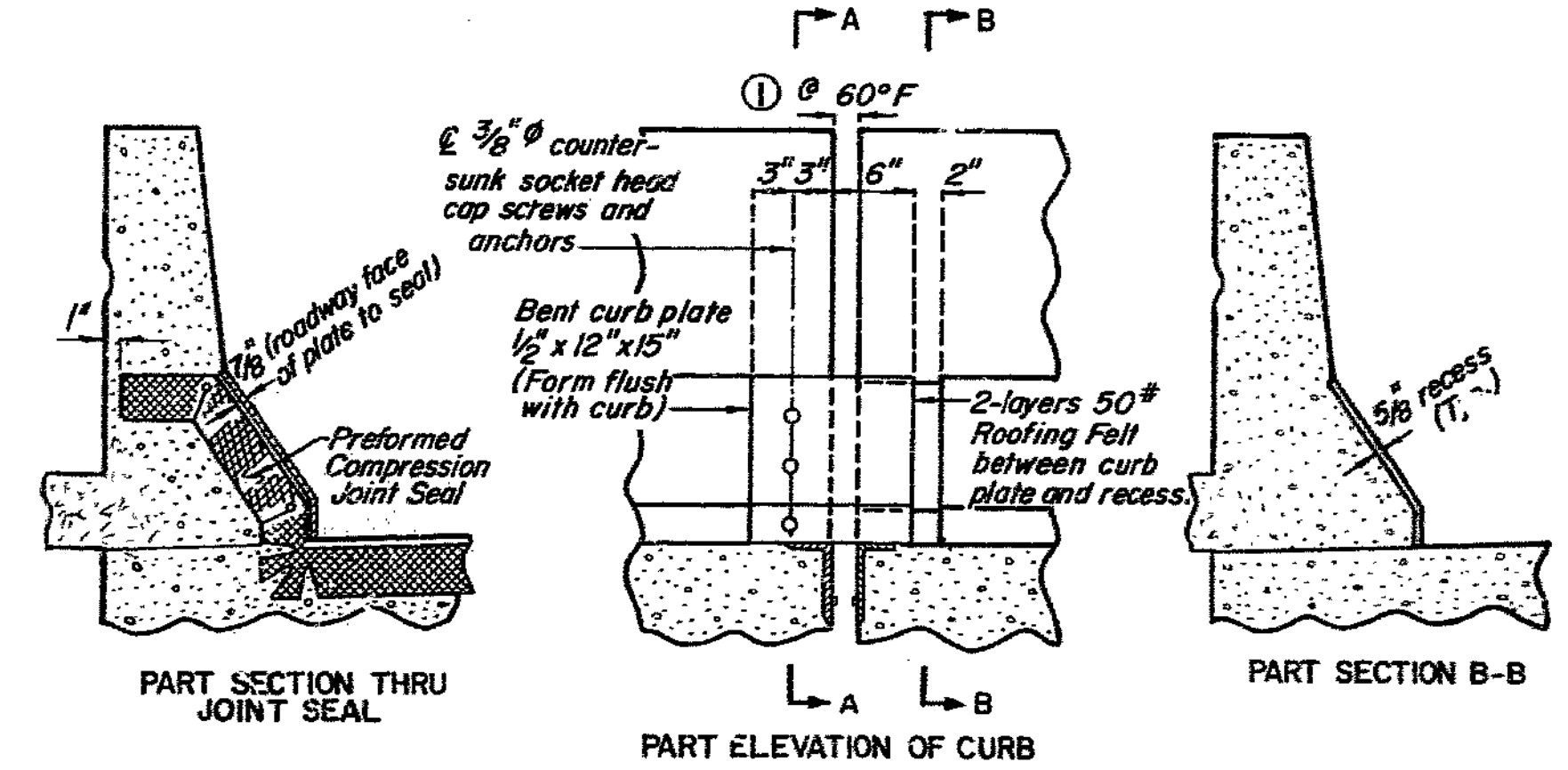
TYPE	GROOVE SIZE AT 60°F		SEAL SIZE	
	WIDTH	HEIGHT	WIDTH	HEIGHT
AI OR B3	1-5/16"	2-3/4"	2"	2-1/16"

**TABLE OF LONGITUDINAL SEAL TOLERANCES (INCHES)**

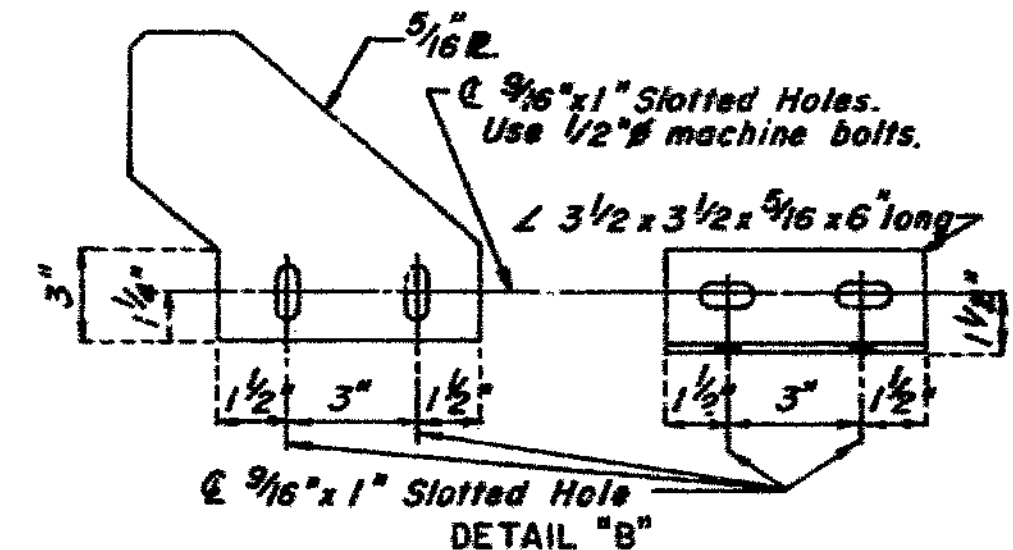
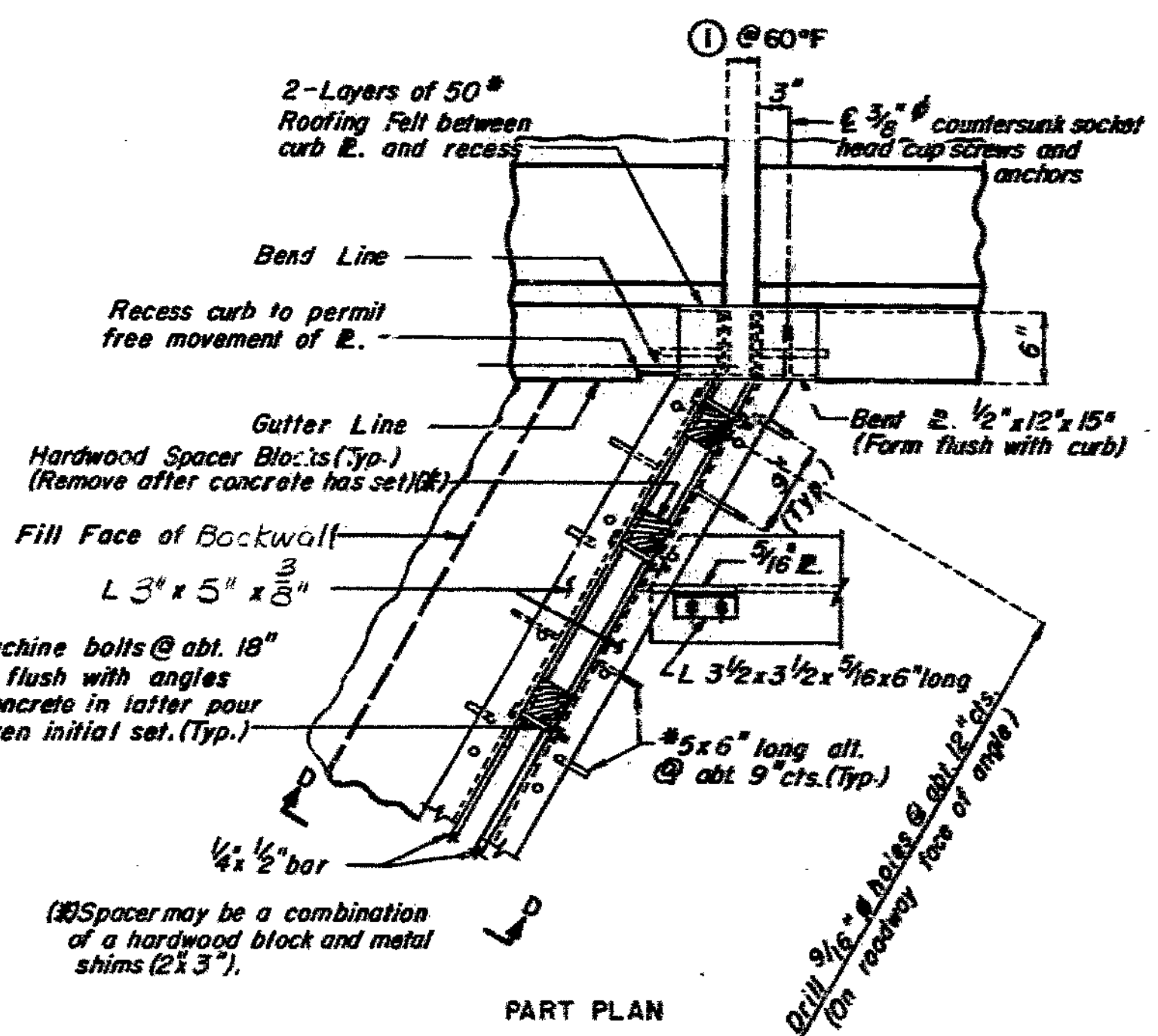
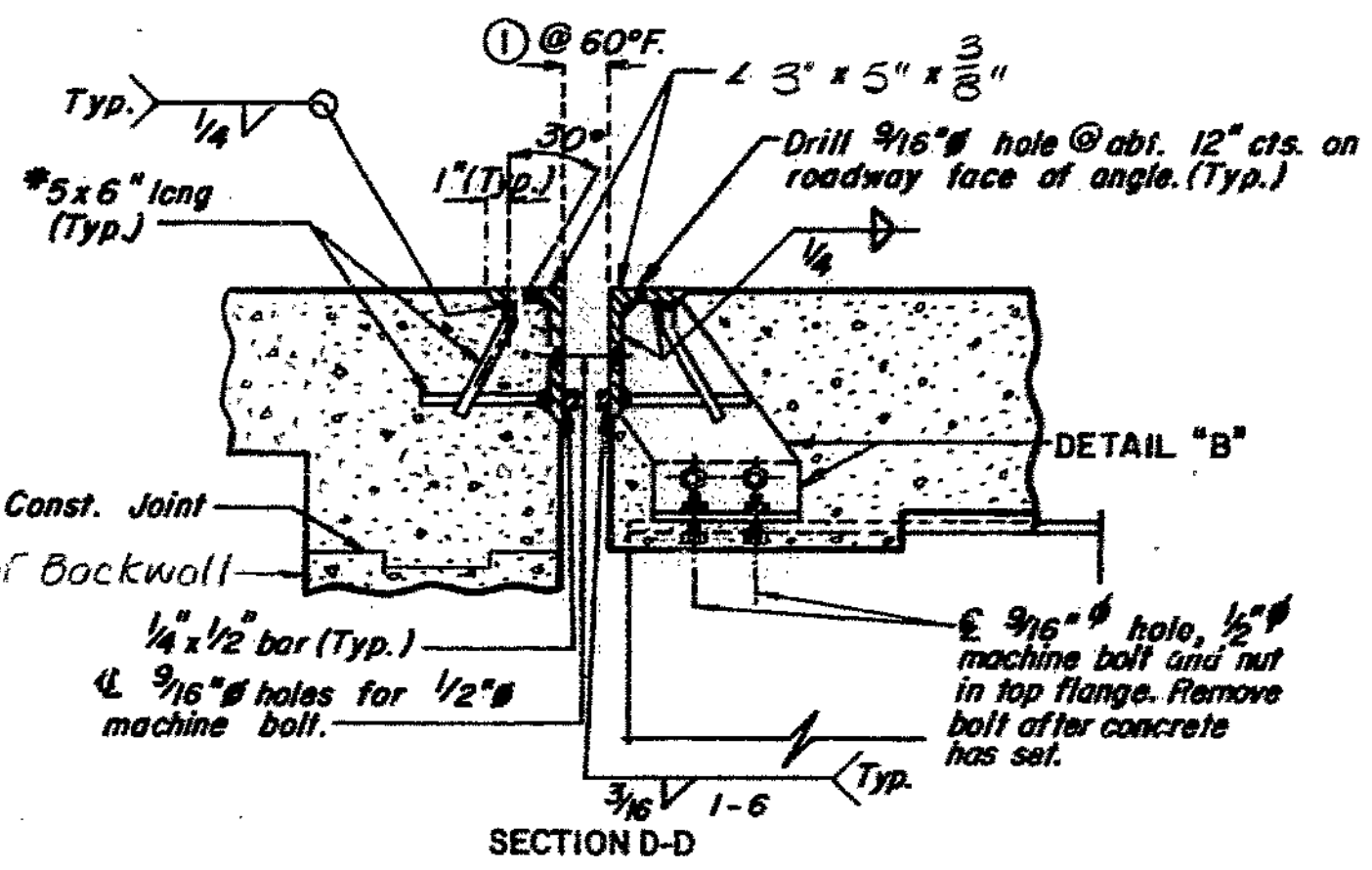
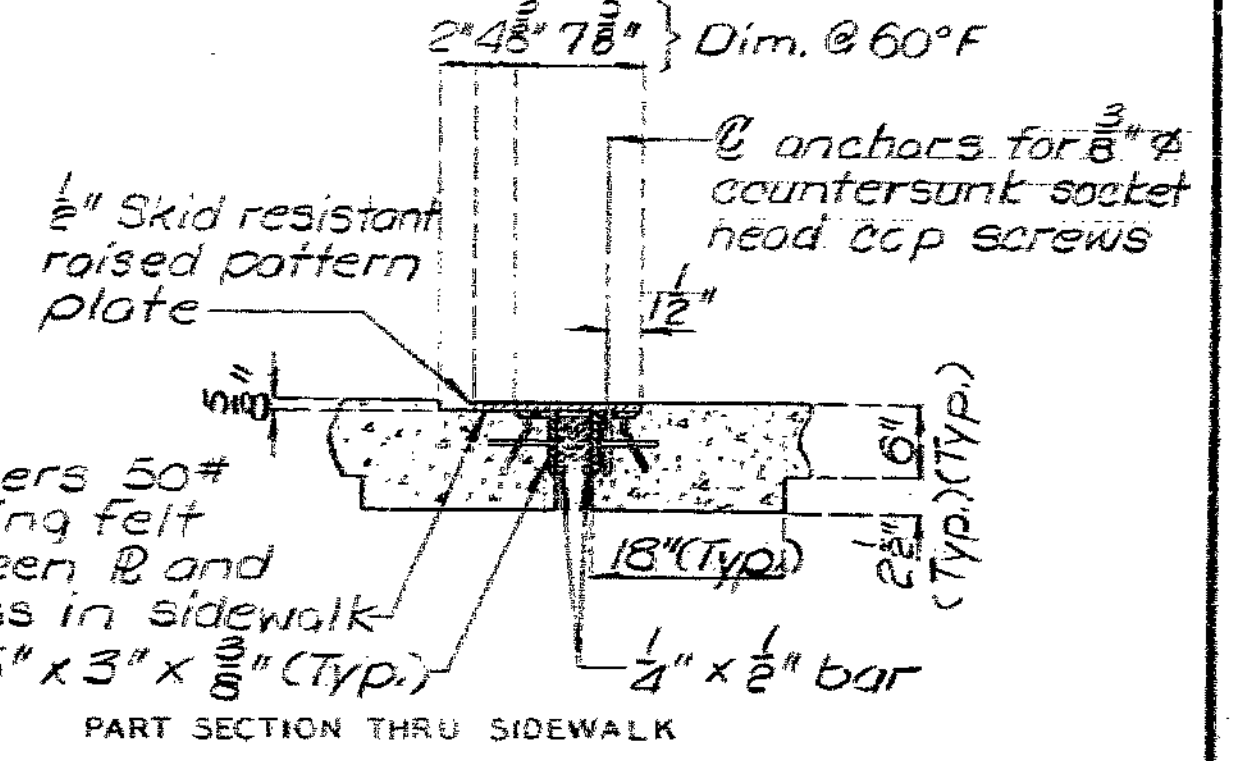
TYPE	"A" (WIDTH)	"B" (HEIGHT)	"C" (SHELL)	"D" (WEBS)
AI OR B3	2.000 +.187 -.000	2.0625 +.125 -.125	0.125 +.030 -.015	0.094 +.030 -.015



Note: No direct payment will be made for the preformed Compression Joint Seal in sidewalk.



Note: For details of Preformed Compression Joint Seal of Median Barrier Curb see Sht. No 15.



**DETAILS OF PREFORMED COMPRESSION JOINT SEAL AT ABUT. NO. 1 AND 3**

Note: This drawing is not to scale. Follow dimensions.

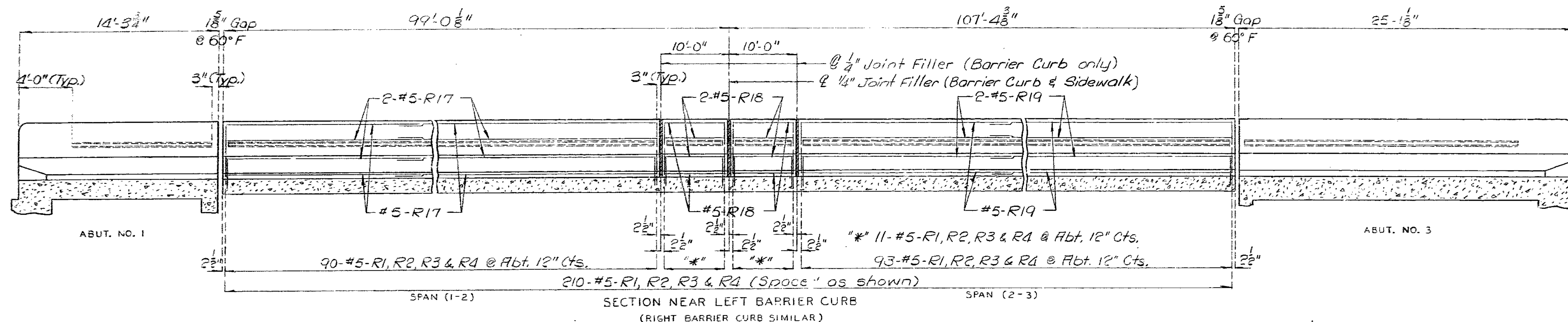
Sheet No. 16 of 23.

STD. PCJS REVISED AUG. 1990  
 OCT. 1973

DETAILED Sept. 80  
 CHECKED June 19 81



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	33	

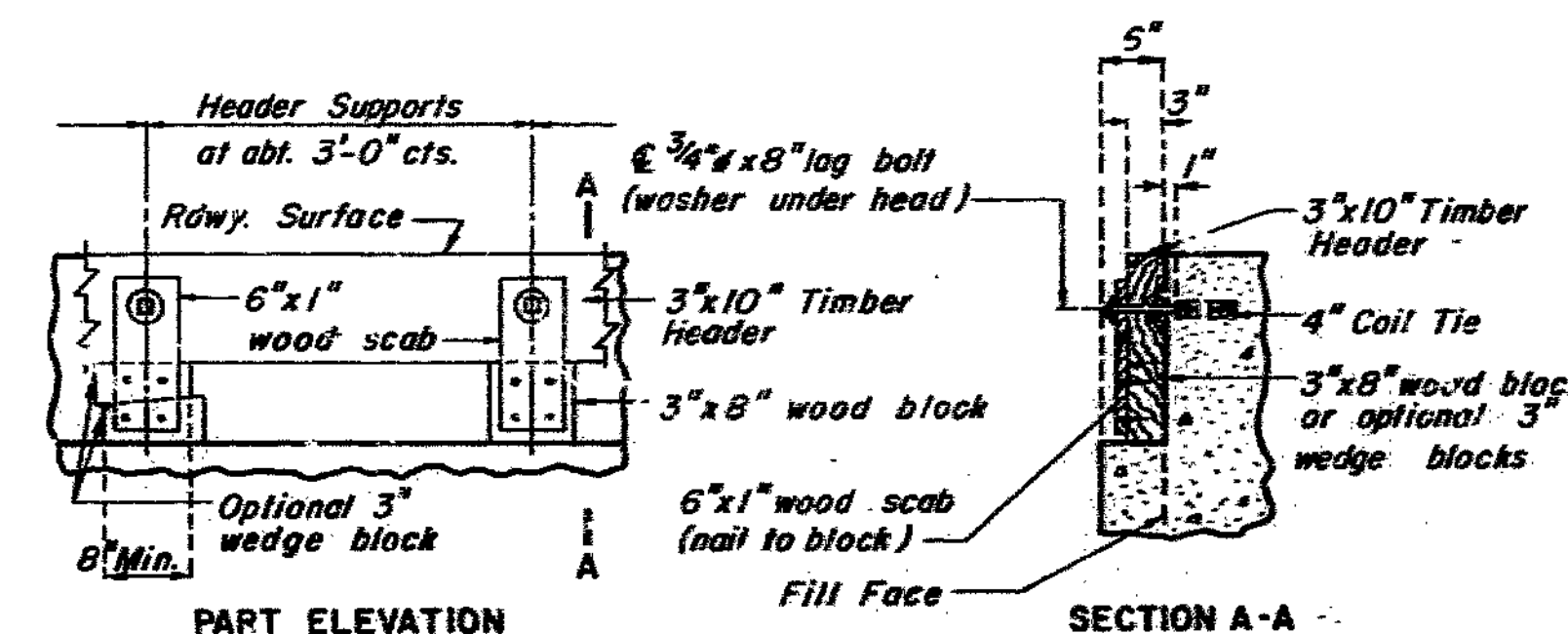


Note: For section thru barrier curb in span (1-2) & (2-3), see Typ. Section Thru Sidewalk, sheet No. 18. Longitudinal dimensions shown are taken parallel to grade at top of slab.

Note: For location of 12" and 3/2" conduit, see sheet 11.

For location and details of 3/4" anchor bolts for sign supports, see sheets 19, 20 and 21.

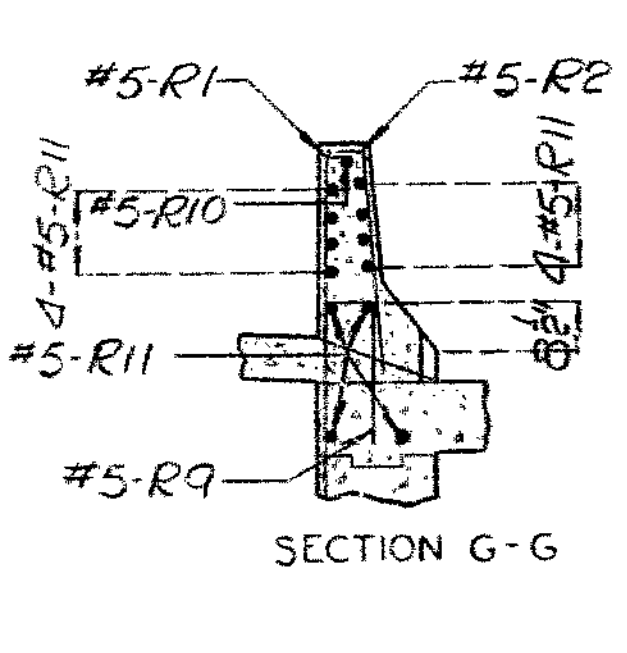
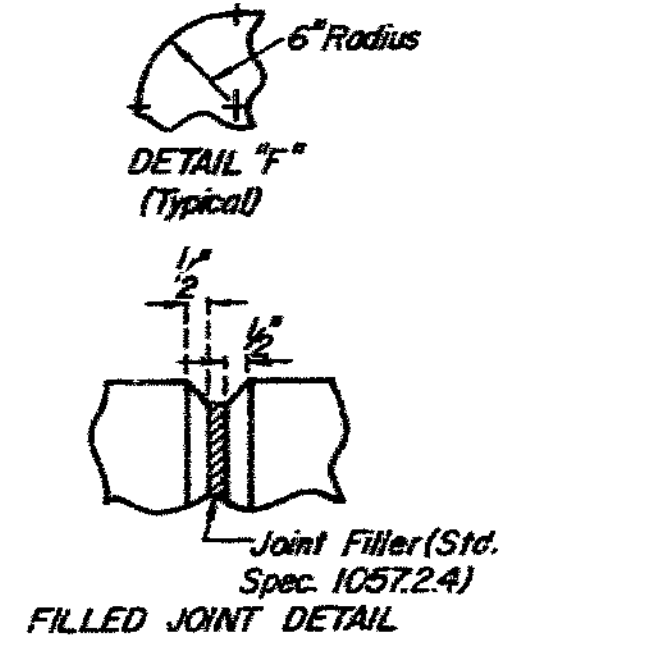
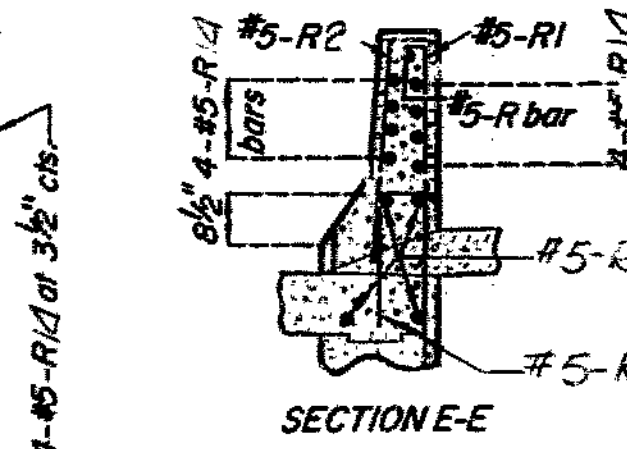
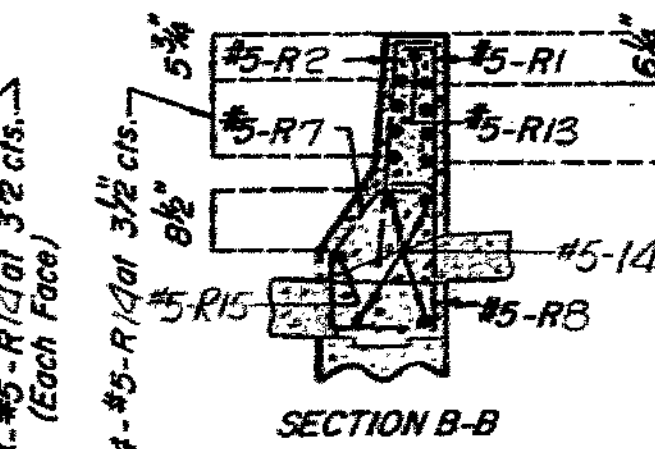
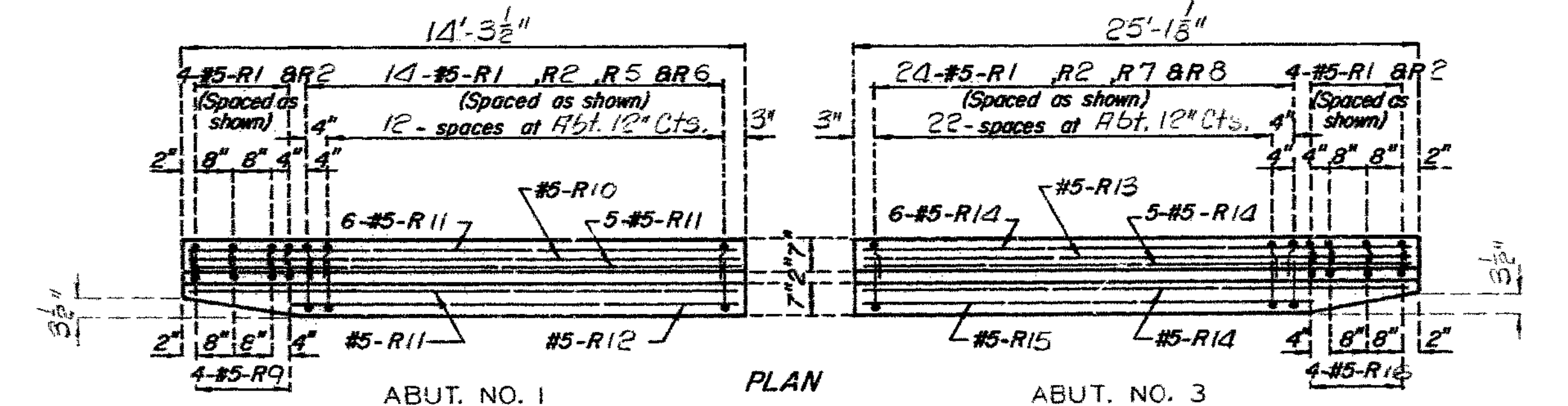
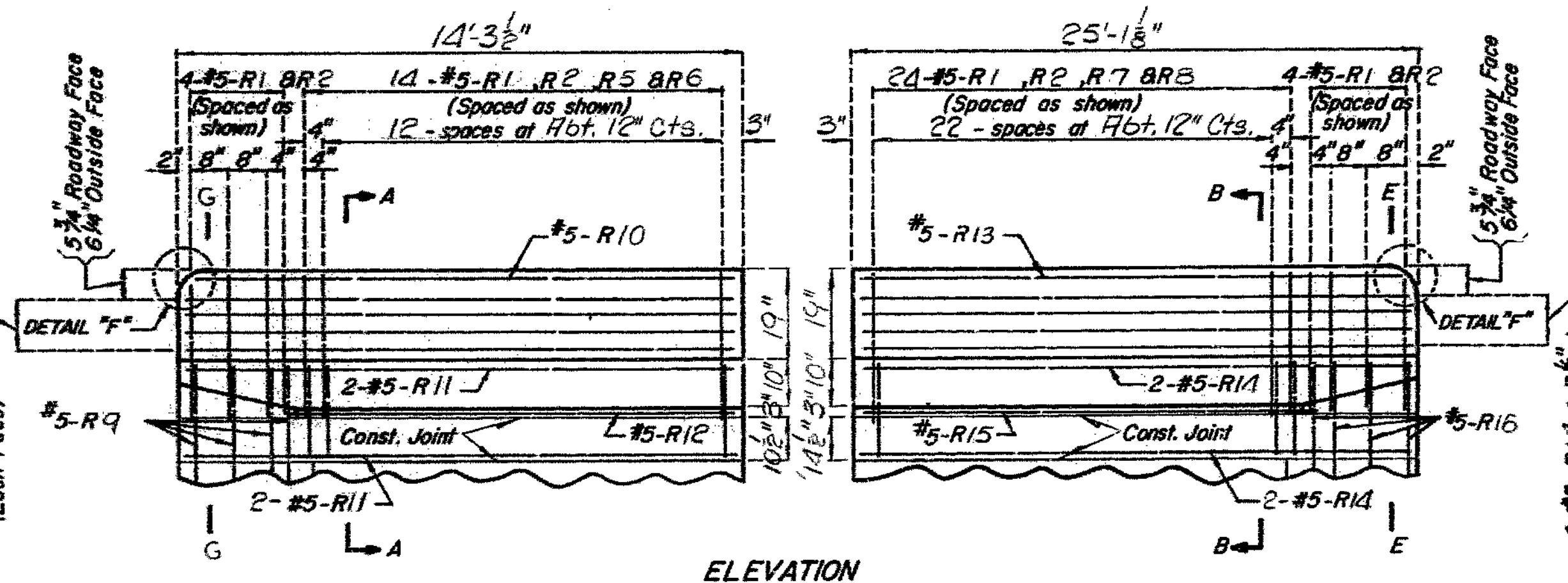
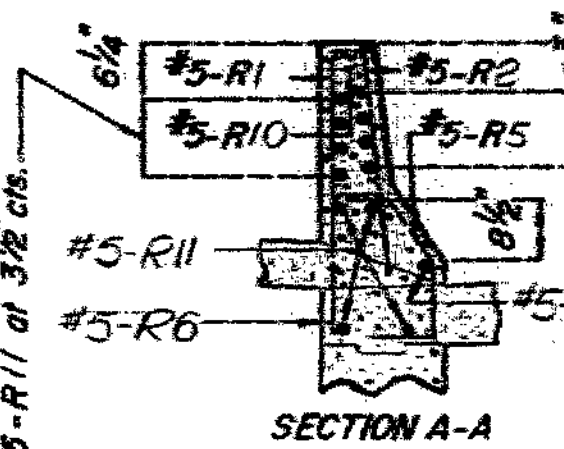
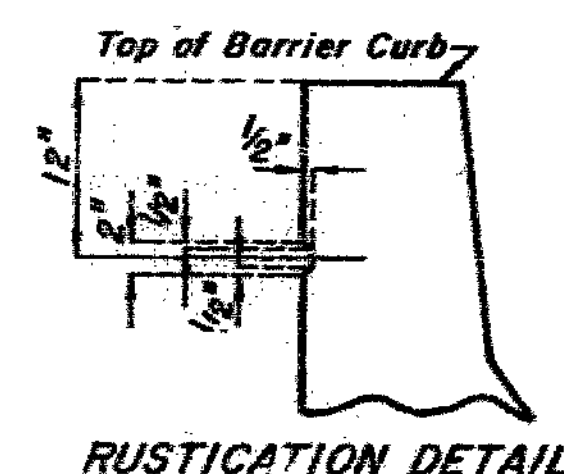
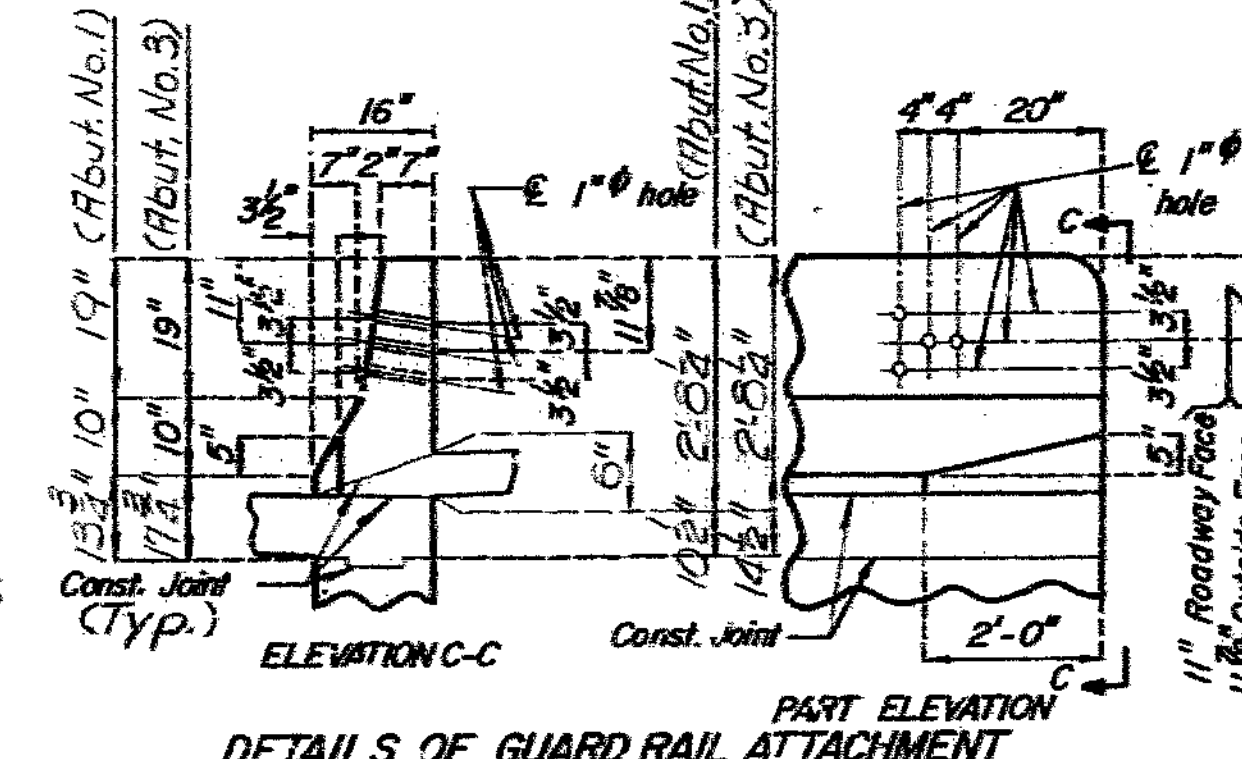
Note: The contract unit price for safety barrier curb shall include the cost of all concrete and reinforcement. Concrete in the safety barrier curb shall be Class B1.



Note: Cost of timber headers complete in place to be included in price bid for concrete.

DETAILS OF TIMBER HEADER AT END ABUTMENTS

NOTES: TOP OF BARRIER CURB TO BE BUILT PARALLEL TO GRADE WITH BARRIER CURB JOINTS (EXCEPT AT END BENTS) NORMAL TO GRADE. ALL EXPOSED EDGES OF BARRIER CURB SHALL HAVE 1/2" RADIUS OR 3/8" BEVEL UNLESS OTHERWISE NOTED.



DETAILS OF BARRIER CURB AT END ABUT. NO. 1 & 3

Note: This drawing is not to scale. Follow dimensions.

SPS LZT/N/ REVISED APRIL 1980 AUG. 1979

DETAILED Sept. 1980 CHECKED June 1981

Sheet No. 17 of 23.

JACKSON COUNTY

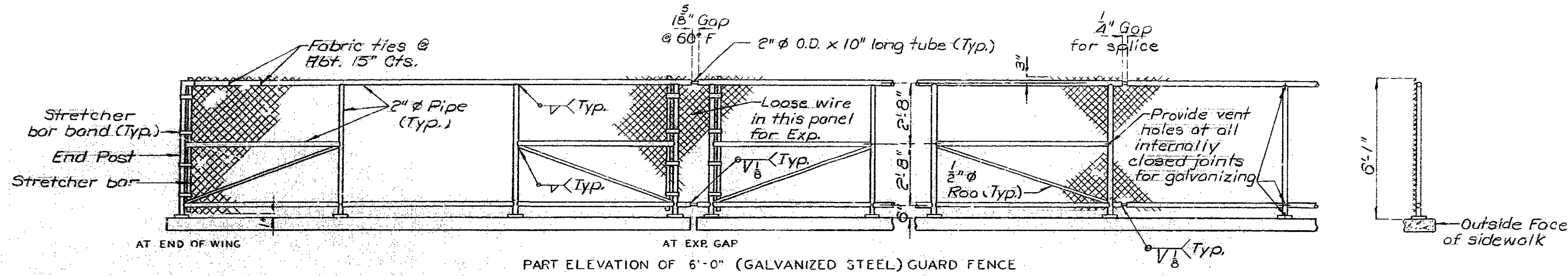
A-3763



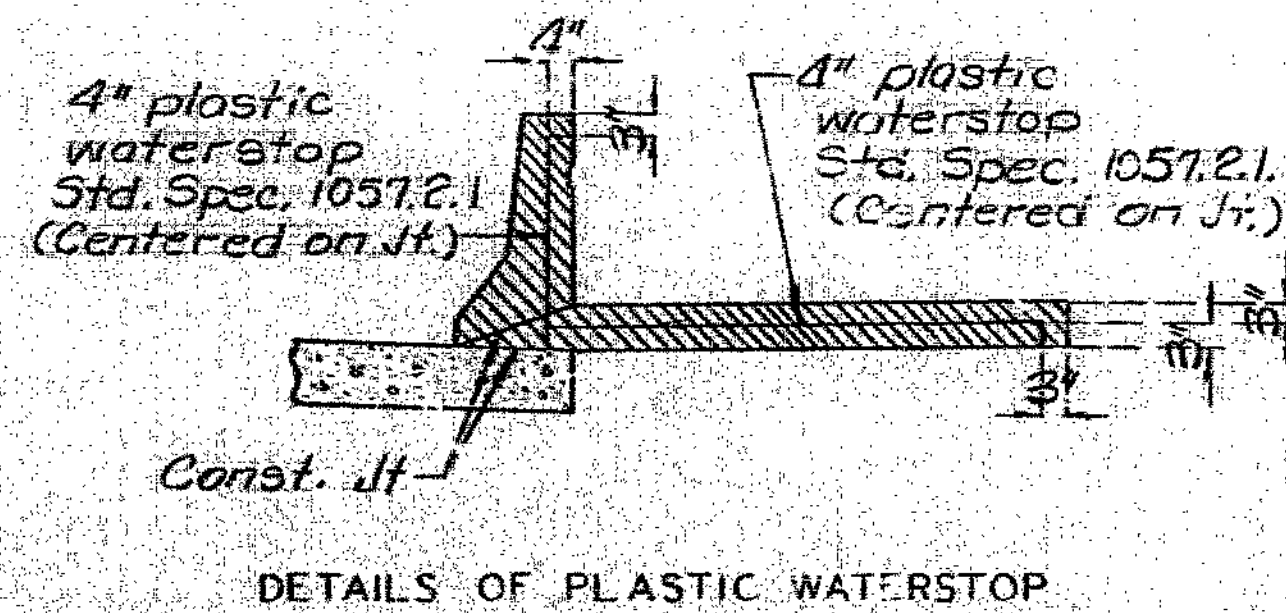
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		75	54	

General Notes:

Pedestrian guard fence (chain link type) shall be in accordance with Section 1043 of the Std. Spec., except all fabric shall have top and bottom edges knuckled.  
 All fence post shall be vertical. Grout of  $\frac{1}{2}$ " minimum thickness shall be placed under floor plates to provide for vertical alignment of fence posts.  
 The contract unit price per linear foot for pedestrian guard fence (galvanized) shall include furnishing and erecting the fence complete with U-bolts, hex nuts and washers.  
 Measurement of pedestrian guard fence shall be taken parallel to grade through the centerline of post.

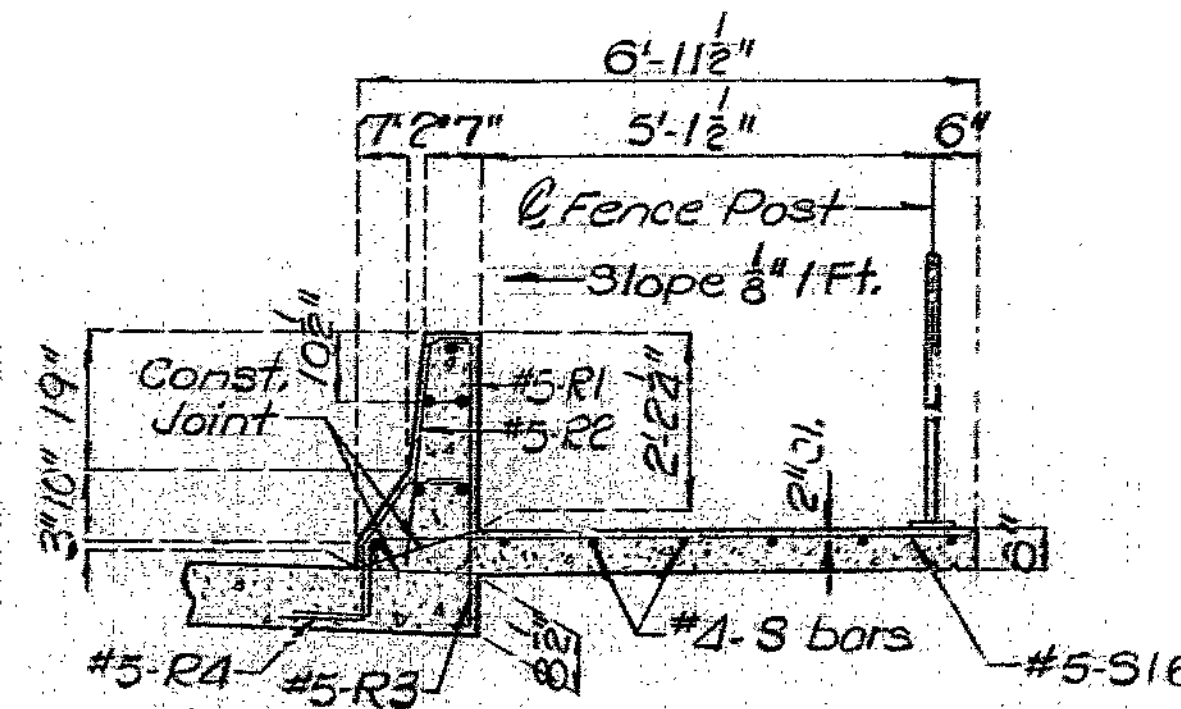


Note: Plastic waterstop shall be placed in all safety barrier curb and sidewalk filled joints.  
 Cost of plastic waterstop complete in place to be included in unit price bid for concrete.

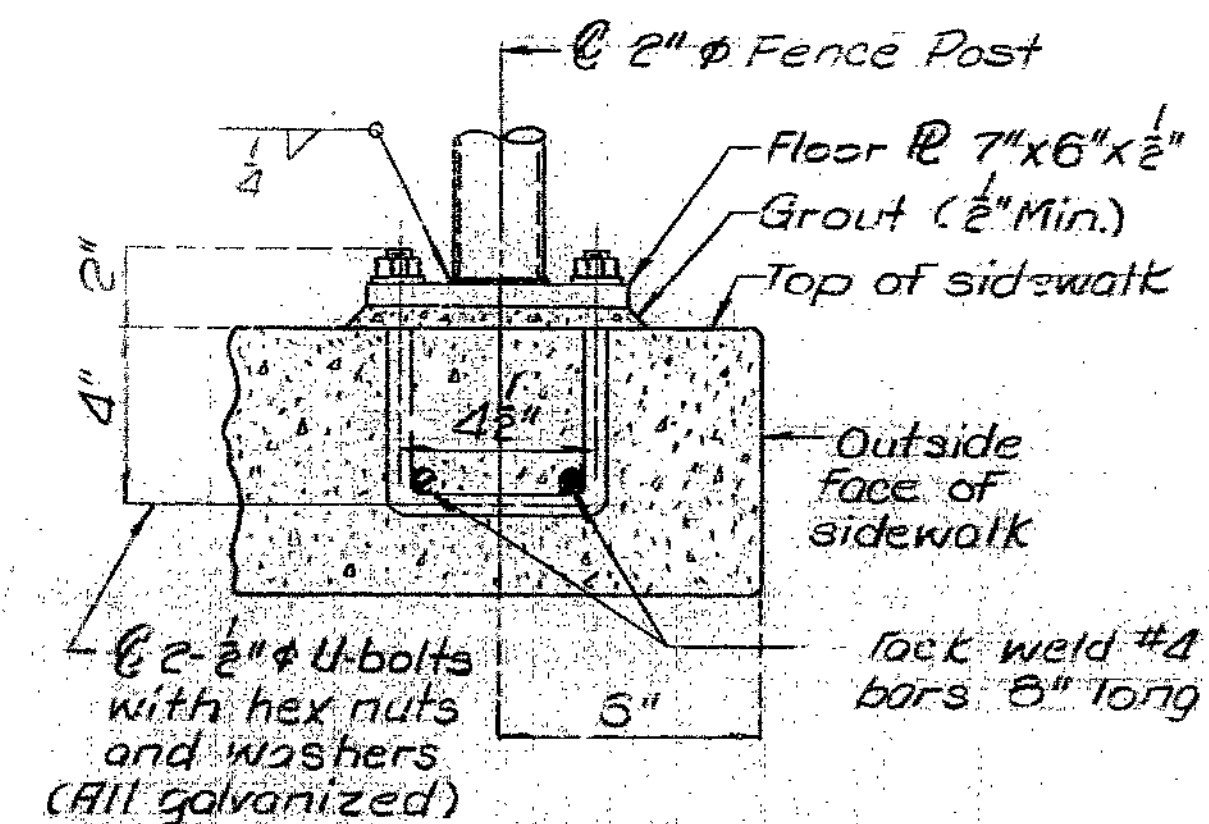


Note: For location of 2" and 3/2" conduit, see sheet 21.

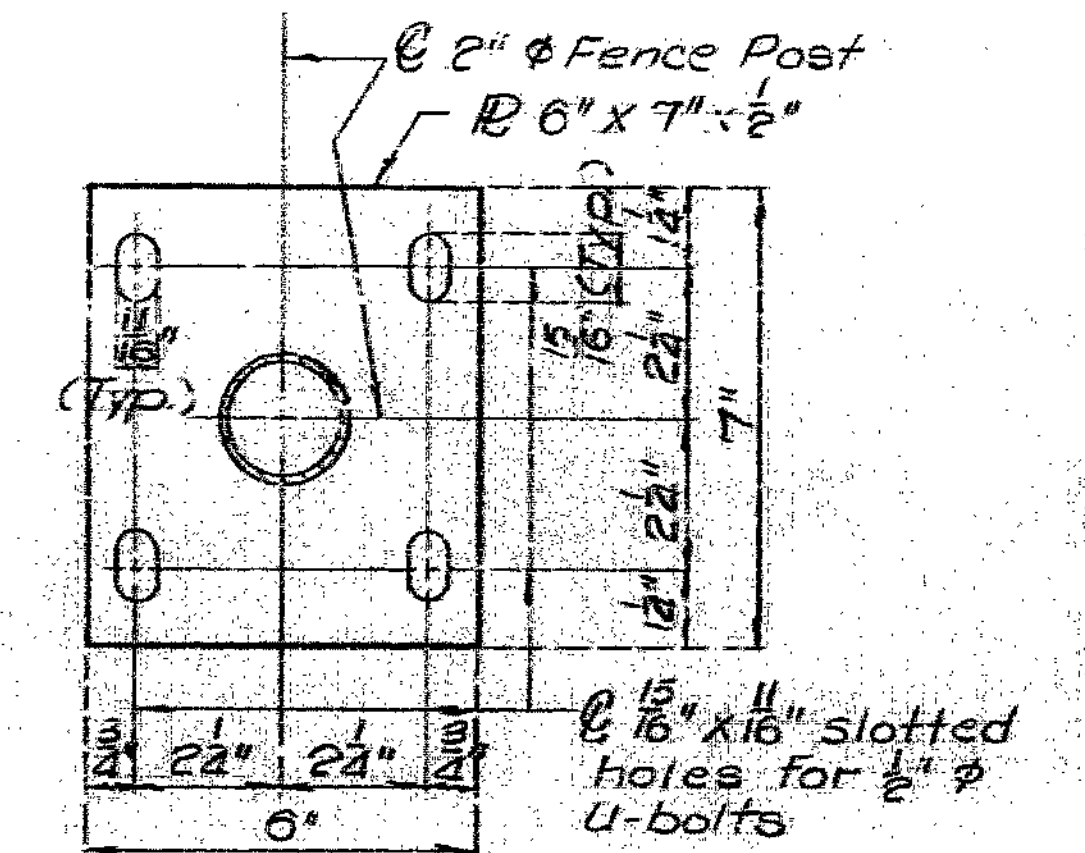
For location and details of 3/4" anchor bolts for sign supports, see sheets 19, 20 and 21.



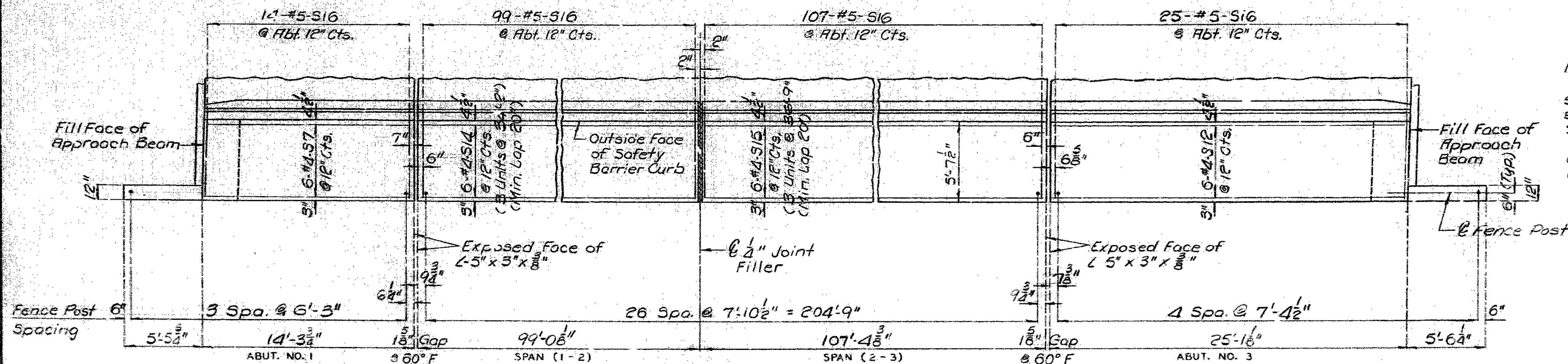
TYP. SECTION THRU SIDEWALK



FENCE POST CONNECTION (TYP.)



PLAN OF FLOOR PLATE



PLAN OF RIGHT SIDEWALK SHOWING REINFORCEMENT (LEFT SIDEWALK SIMILAR)

Note: Longitudinal reinforcing steel shall be placed so that ends shall not be more than 1"± from 5" leg of L-5" x 3" x 3/8".  
 Longitudinal dimensions are along top of slab parallel to grade.

53  
 DETAILED Sept. 19 80  
 CHECKED June 19 81

Note: This drawing is not to scale. Follow dimensions.

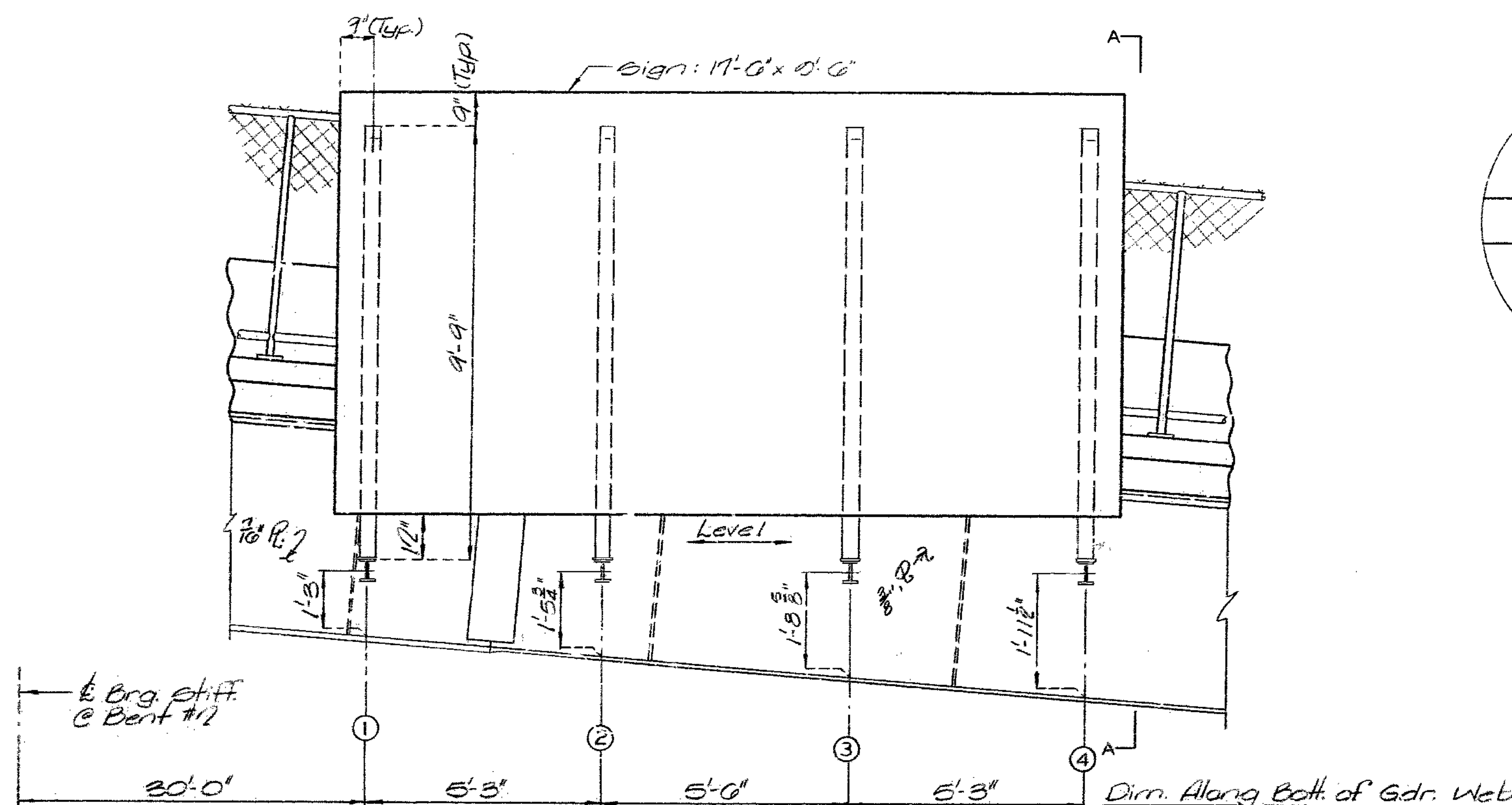
Sheet No. 18 of 23.

JACKSON COUNTY

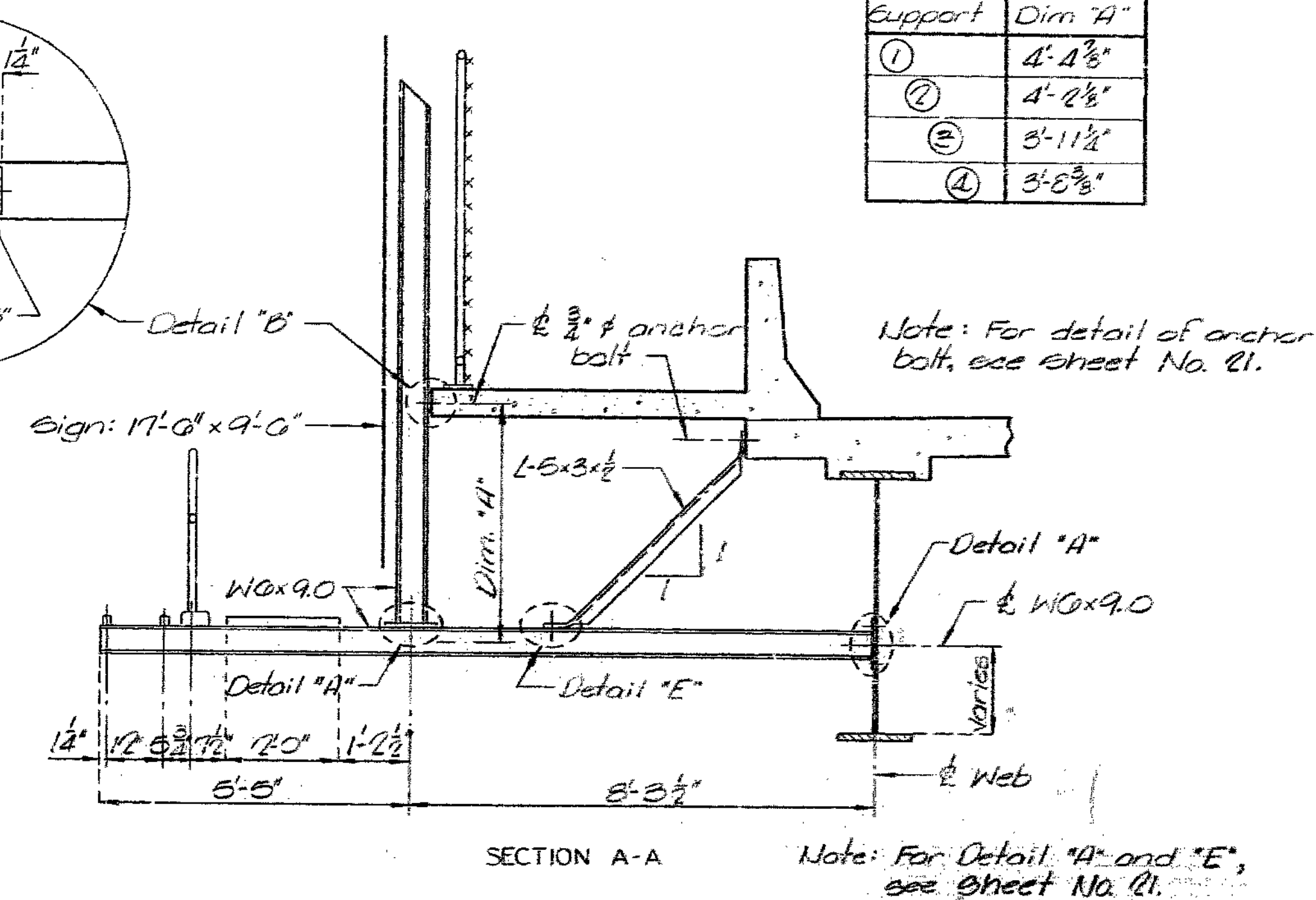
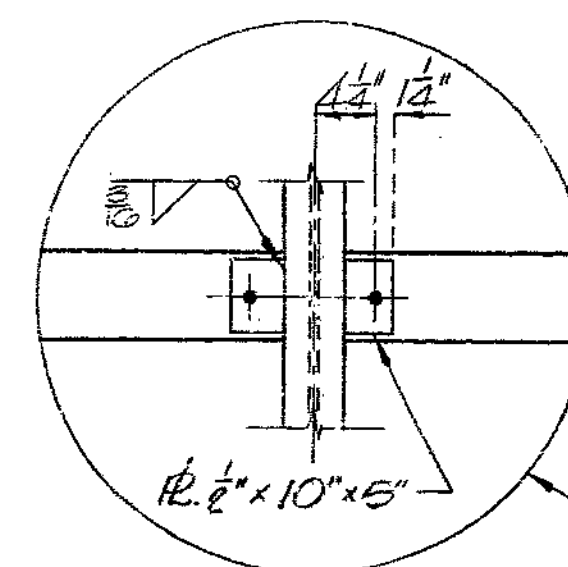
A-3763



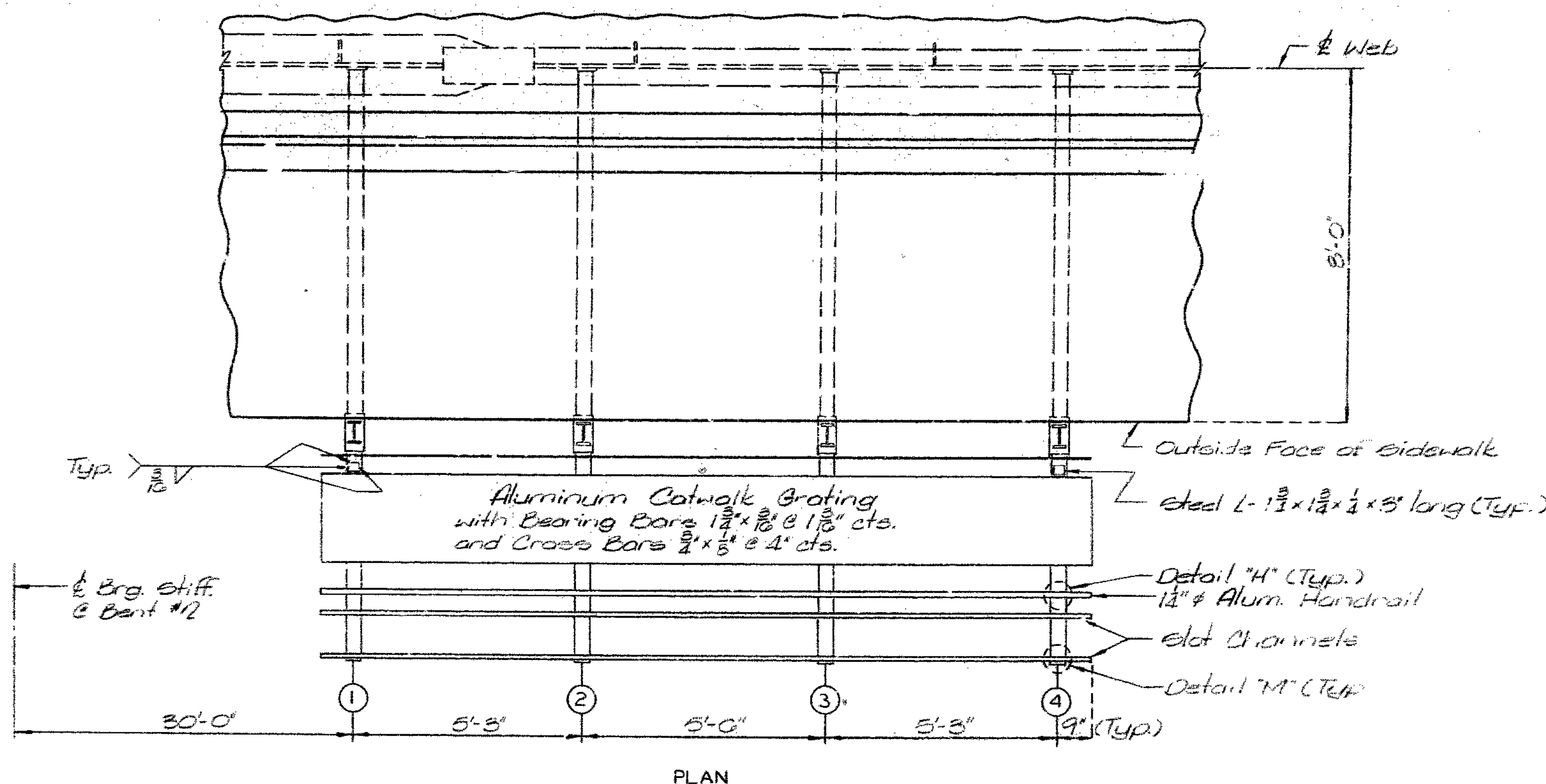
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		68	55	



ELEVATION OF SIGN SUPPORTS OVER E.B.L. I-70

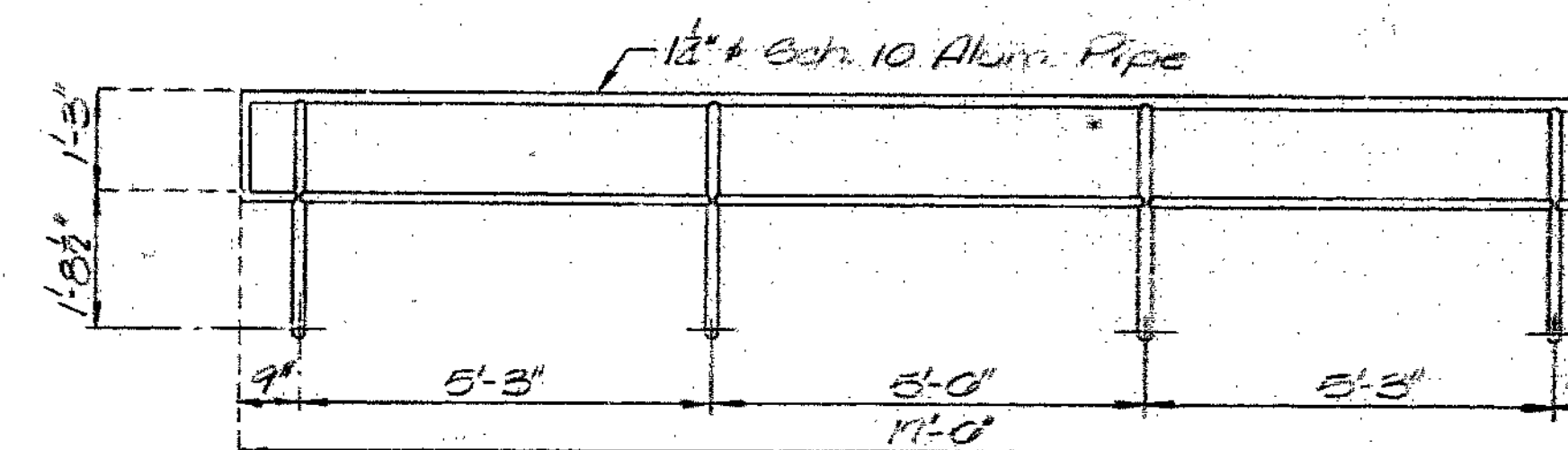


Support	Dim. "A"
①	4'-4 3/8"
②	4'-2 3/8"
③	3'-11 1/2"
④	3'-8 3/8"



PLAN

Note: For Detail "H" and "M", see sheet No. 21.



ELEVATION OF HANDRAIL

Note: Continuous welded joints or welding type fittings may be used in construction of the handrail.

GENERAL NOTES:

- All structural steel shall be A.S.T.M. A36, galvanized.
- All aluminum shall be Alloy 6061-T6 or 6063-T6.
- Field connections: High strength bolts 5/8", holes 3/4" except as noted. All bolts, nuts and washers shall be galvanized. The turn-of-nut method of obtaining bolt tension for high strength bolts may be used. (See Std. Spec. 712.11.2.)
- The cost of furnishing and erecting the sign supports, including the anchor bolts and luminaires complete in place, shall be paid for as Fabricated Sign Support Brackets, Lump Sum.
- The cost of furnishing and installing the conduit, including junction boxes, expansion fittings and all necessary couplings complete in place, shall be paid for as Conduit System on Structure, Lump Sum.
- Signs and wiring to be furnished and installed by others.
- Center and level signs on brackets.

SIGN SUPPORTS OVER E.B.L. I-70

DETAILED Mar. 19 81  
CHECKED JULY 19 81

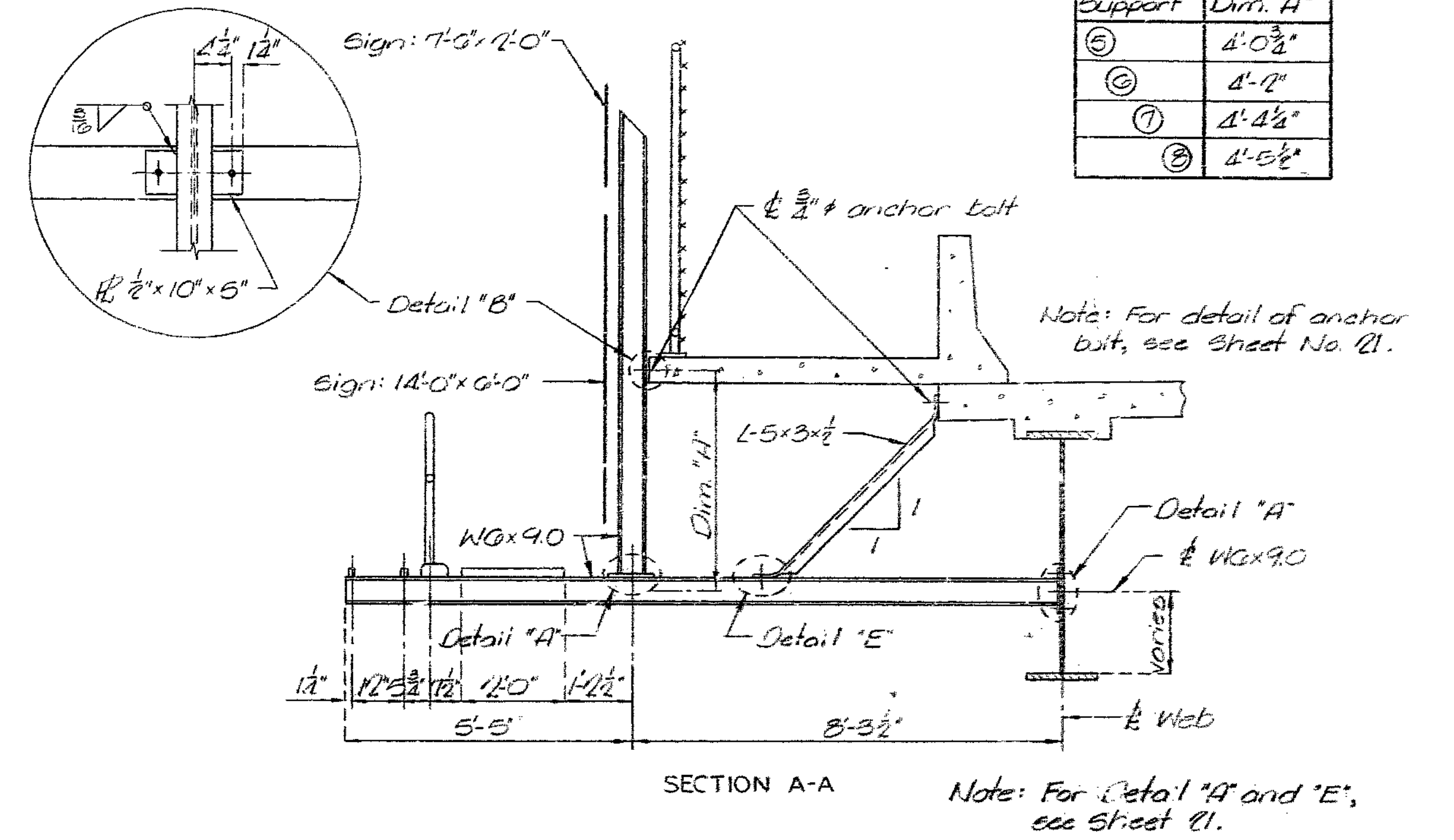
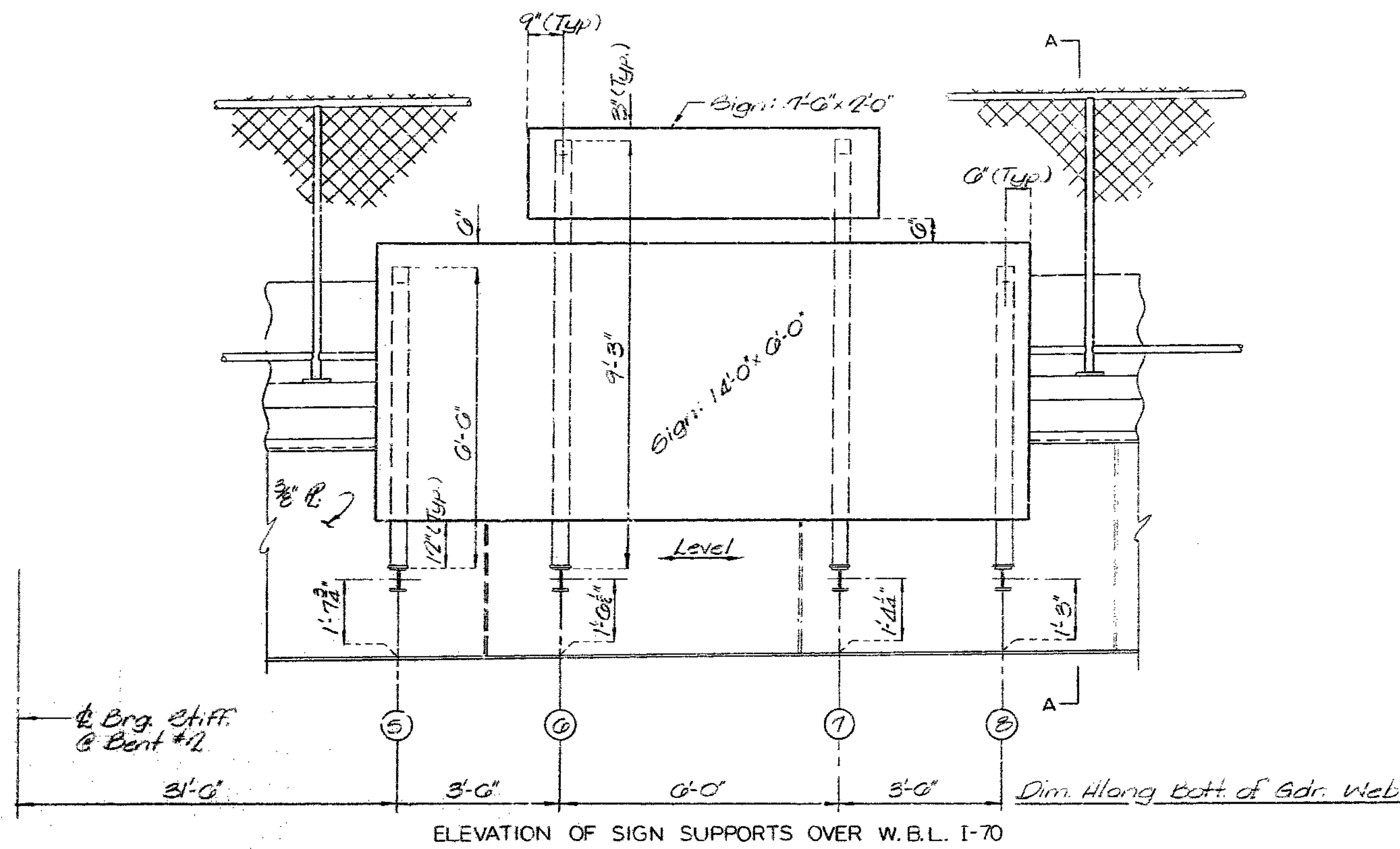
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 19 of 23.

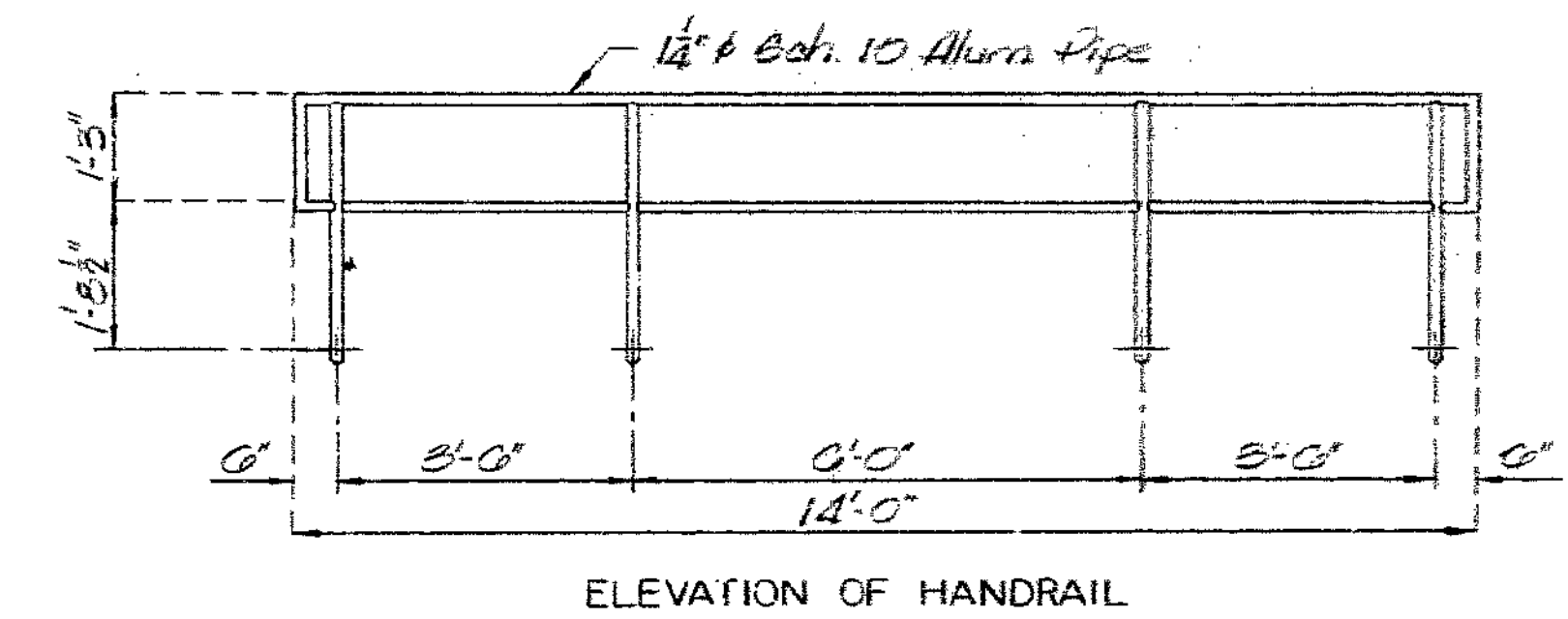
JACKSON COUNTY

A-3763

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		15	56	

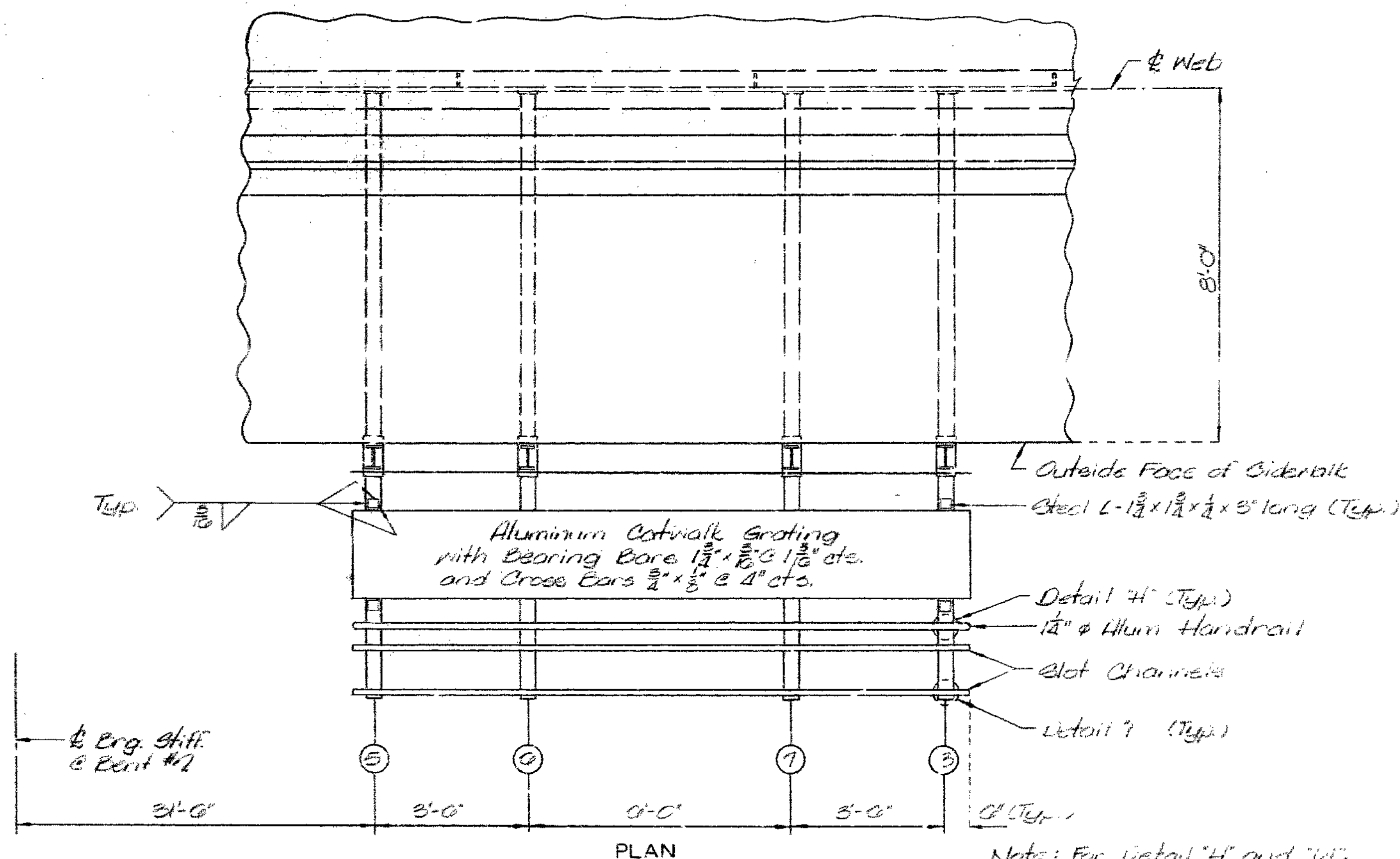


Support	Dim. H'
⑤	4'-0 1/2"
⑥	4'-0"
⑦	4'-4 1/2"
⑧	4'-5 1/2"



Note: Continuous welded joints or welding type fittings may be used in construction of the handrail.

Note: For 'General Notes', see sheet No. 19.



Note: For Detail 'H' and 'W', see sheet No. 21.

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 20 of 23.

SIGN SUPPORTS OVER W.B.L. I 70

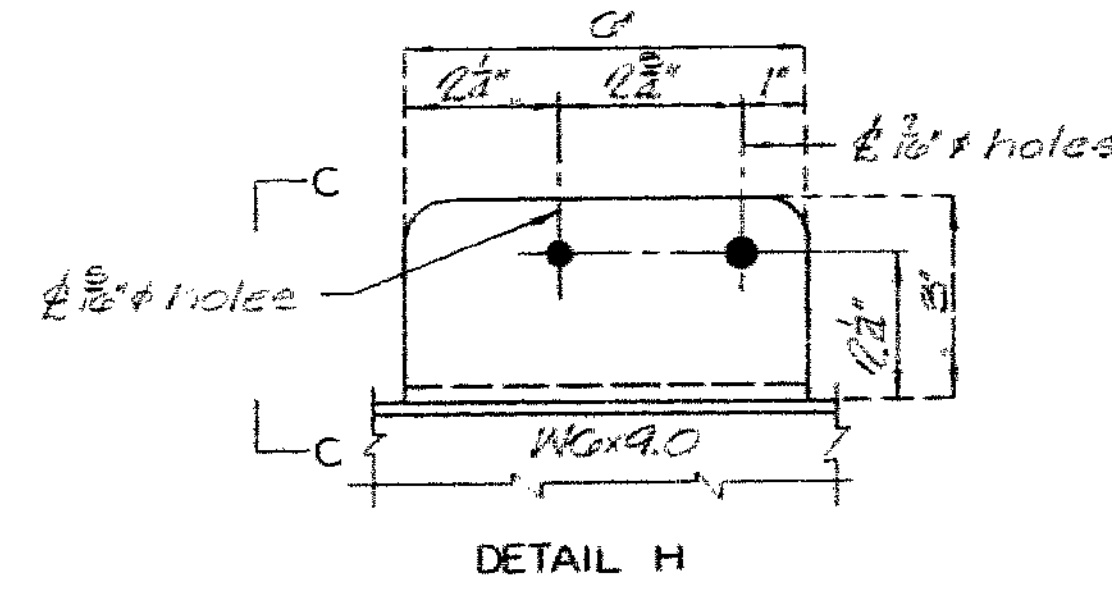
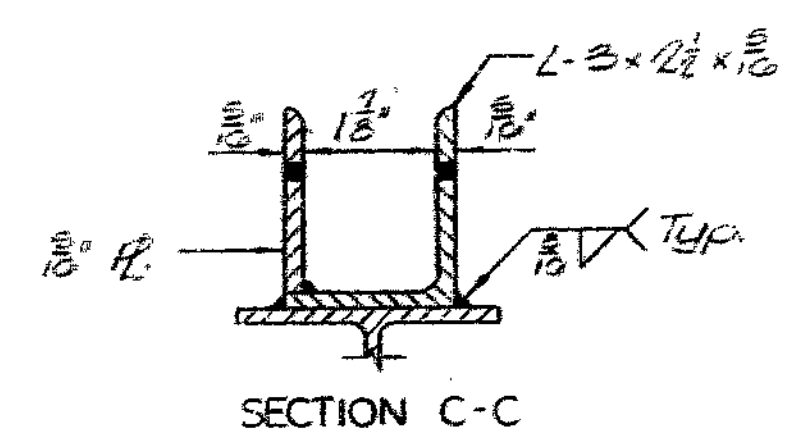
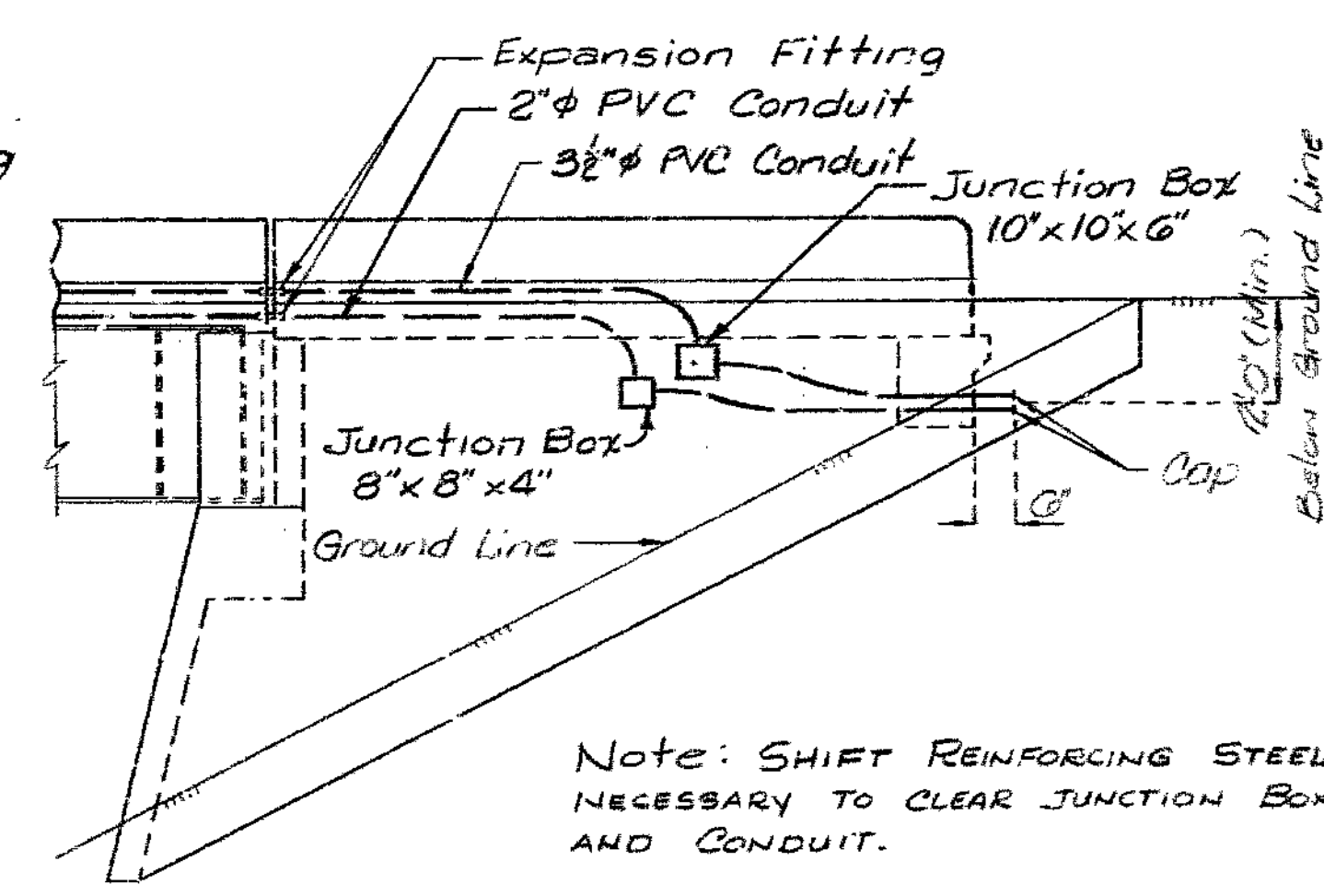
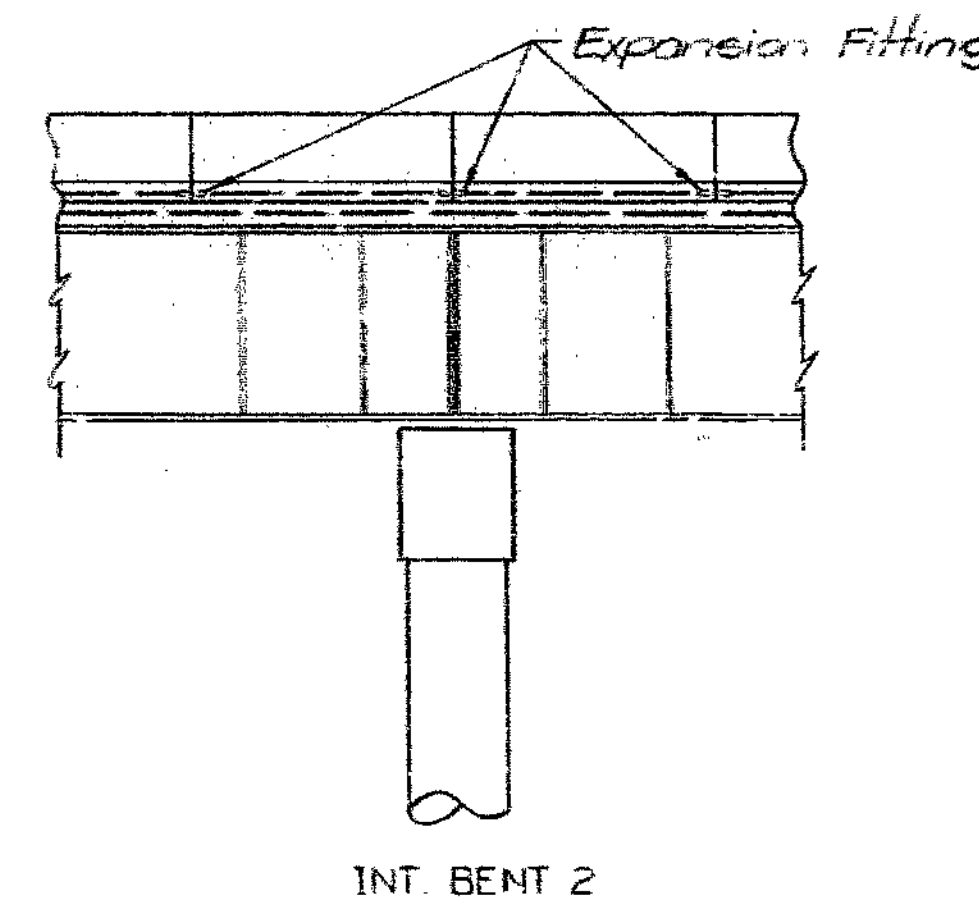
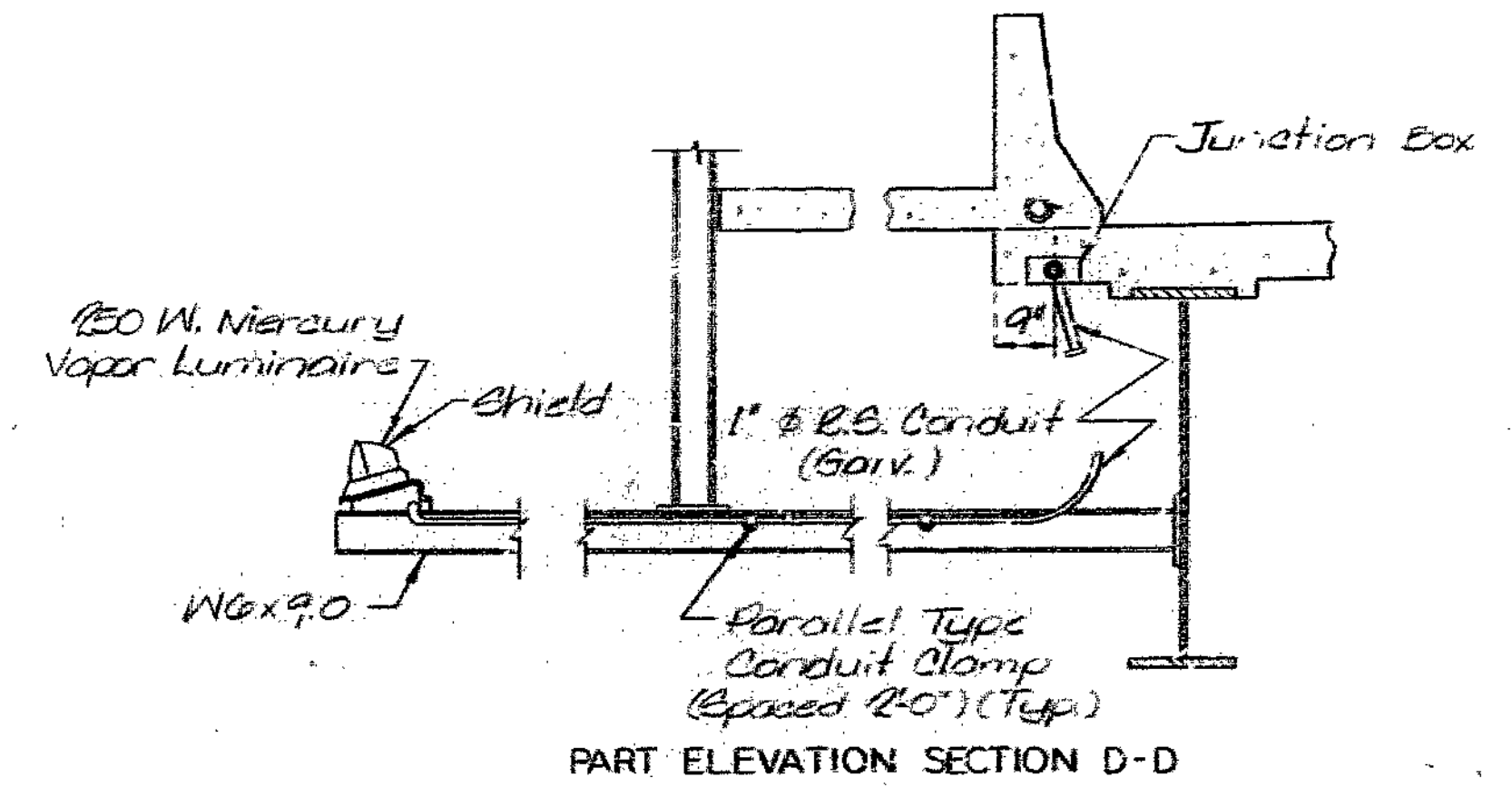
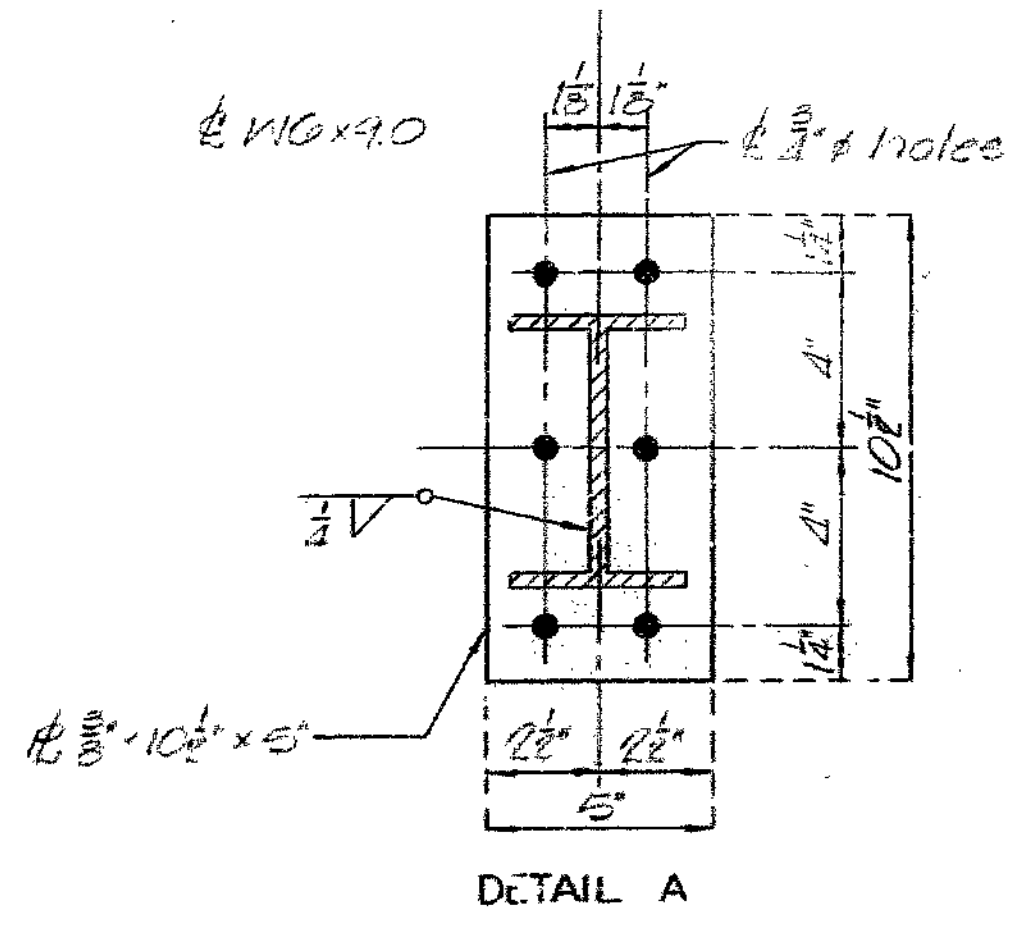
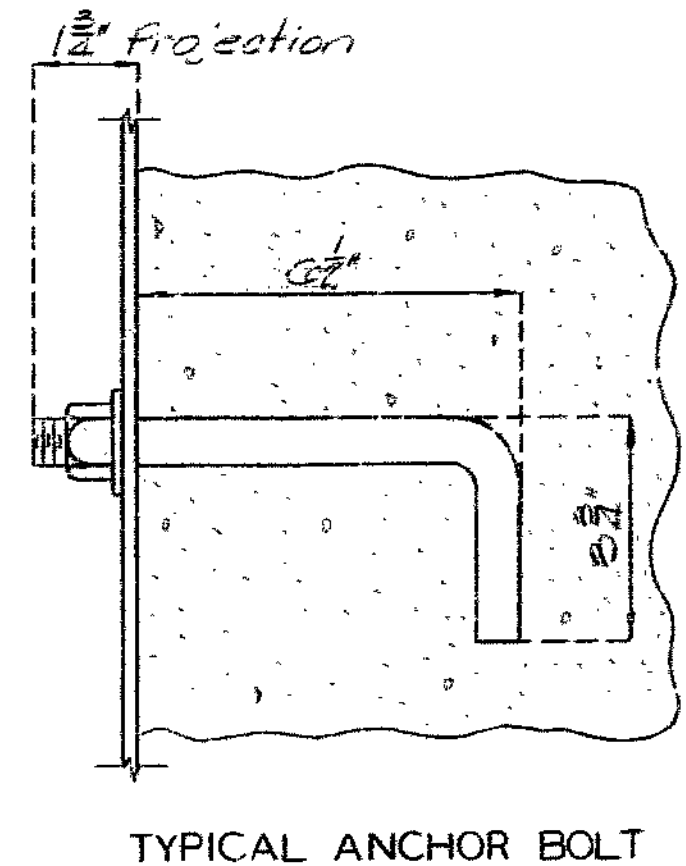
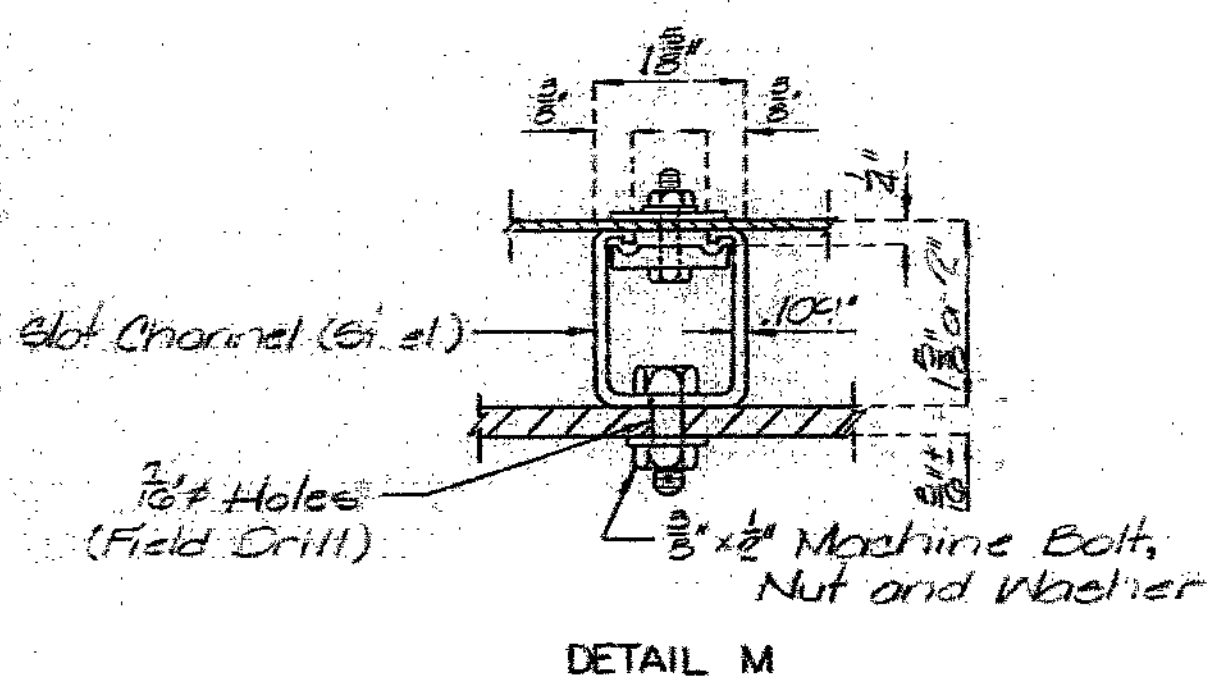
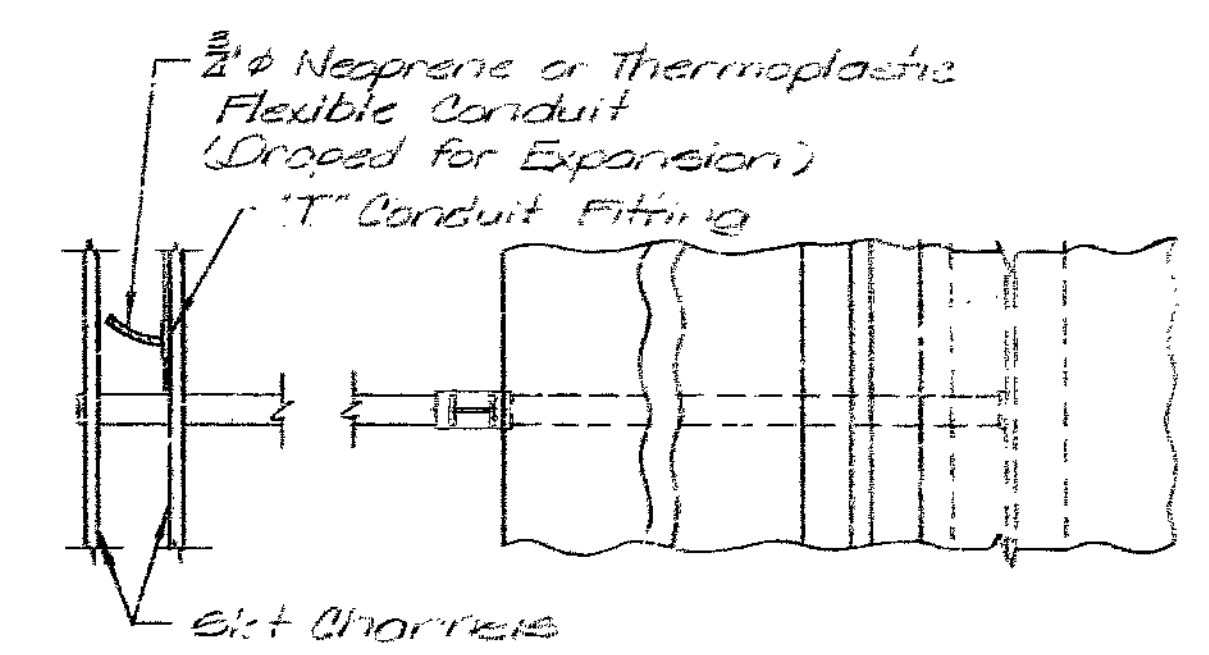
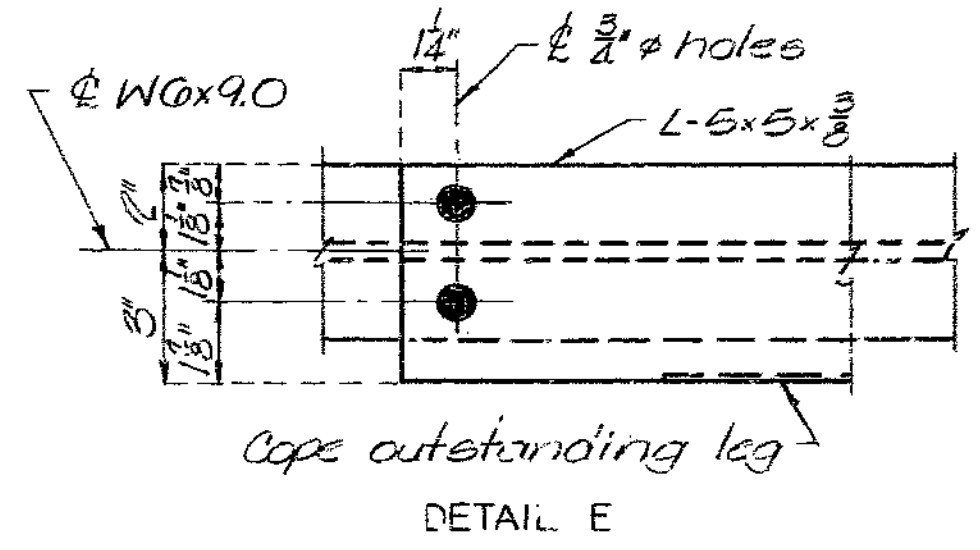
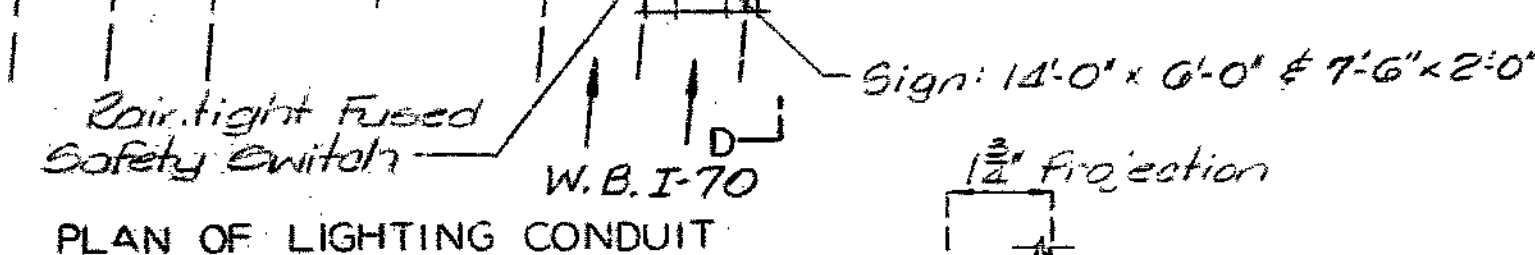
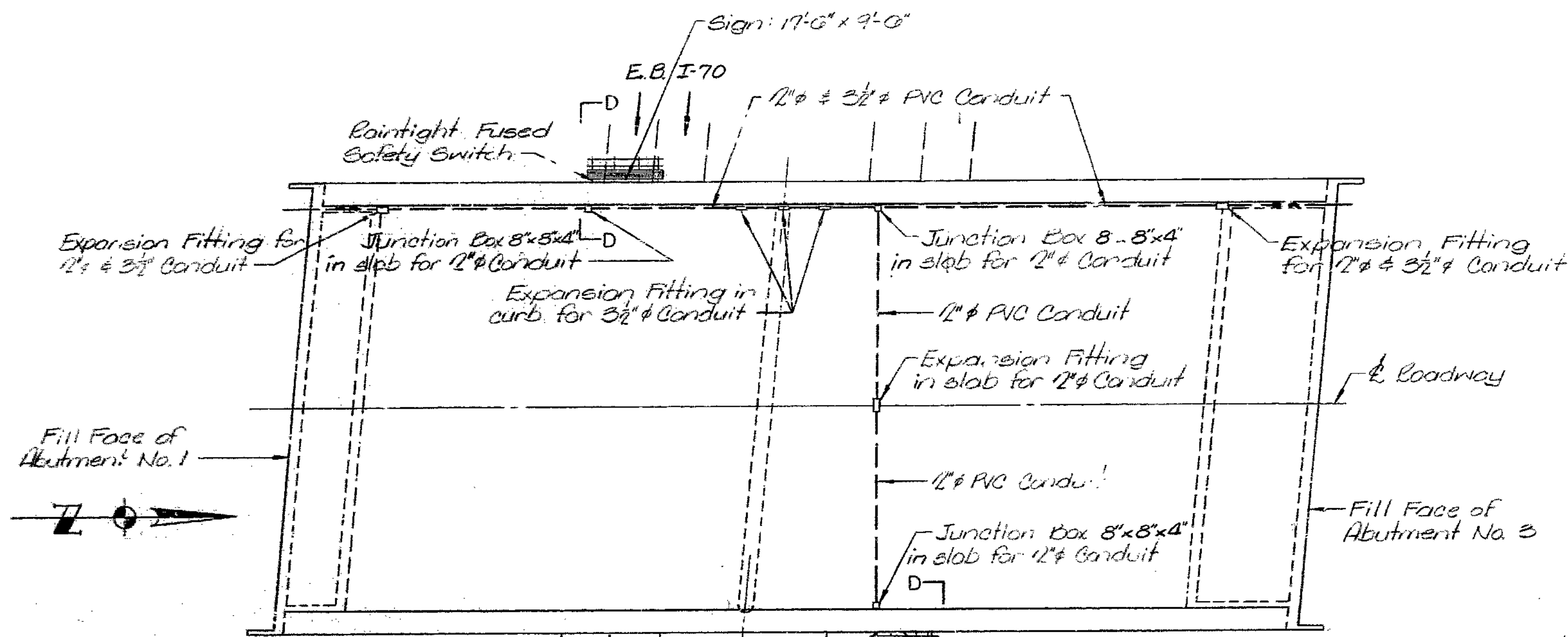
JACKSON COUNTY

A-3763

55  
 DETAILED Mar. 1931  
 CHECKED July 1931



FED. ROAD DIST. NO.	STATE	FED. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	57	



Note: SHIFT REINFORCING STEEL WHERE NECESSARY TO CLEAR JUNCTION BOXES AND CONDUIT.

**NOTES:**  
 All 2" and 3 1/2" conduit shall be Schedule 40-Heavy Wall PVC (Polyvinyl Chloride Plastic) or HDPE (High Density Polyethylene) with 3" minimum cover in concrete.  
 Expansion fittings shall provide a minimum movement in either direction of 4" at open joints (End Bents #1 and #3) and at the median.  
 Junction boxes shall be sizes as shown. They shall be flush mounted and equal to O.Z. Godney Co. Type "YR" or Spring City Electric Co. Type "ER". Wall thickness to be sufficient to provide 5 full threads for watertight conduit joint at terminal adapters.  
 Provide a total of 6 luminaires.  
 For additional information on catwalk, handrails and slot channels, see Std. Drawing 903.60.

56  
 DETAILED Mar. 1981  
 CHECKED JULY 1981

PART ELEVATION SHOWING CONDUIT

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 21 of 25.

SIGN SUPPORTS

JACKSON COUNTY

A-3763



COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTITUTE (V)	VARIES (V)	NO. EACH	DIMENSIONS										NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT					
									B	C	D	E	F	H	K	FT.	IN.	FT.				IN.				
		Substructure																								
		ABUTMENT NO. 1																								
4	6F1	APP. BM. WING		15	X				14.000	4	4.500				9.875	9.875	5	7	5	6	33					
8	7H1	BEARING BEAM		17	X				22	11.000							23	9	23	9	388					
8	7H2	BEARING BEAM		20	X				22	0.000							22	0	22	0	360					
4	7H3	BEARING BEAM		20	X				25	3.000							25	3	25	3	206					
4	7H4	BEARING BEAM		17	X				49	1.000							49	11	49	11	408					
2	6H5	BEARING BEAM		20	X				49	1.600							49	1	49	1	147					
2	6H6	BEARING BEAM		20	X				51	4.000							51	4	51	4	154					
4	8H7	APP. BEAM		20	X				33	0.000							33	0	33	0	352					
4	7H9	BEARING BEAM		17	X				52	4.000							52	2	52	2	435					
10	6H10	BEAM APRON		20	X				49	1.000							49	1	49	1	737					
10	6H11	BEAM APRON		20	X				51	2.000							51	2	51	2	769					
12	4H12	BACKWALL		20	X				34	0.000							34	0	34	0	273					
2	6H15	BACKWALL		20	X				49	1.000							49	1	49	1	147					
2	6H16	BACKWALL		20	X				52	10.000							52	10	52	10	159					
2	6H17	APP. BEAM		20	X				54	8.000							54	8	54	8	164					
8	8H18	APP. BEAM		17	X				55	7.500							55	7	55	7	1187					
4	8H28	APP. BEAM		17	X				33	11.000							33	11	33	11	362					
2	6H29	APP. BEAM		20	X				57	9.000							57	9	57	9	173					
4	8H30	APP. BEAM		17	X				59	7.500							59	7	59	7	636					
8	6H31	APP. BM. APRON		20	X				6	8.000							6	8	6	8	80					
8	4H32	CURTAIN WALL		20	X				3	5.000							3	5	3	5	18					
16	5H33	BRG. BM. WING		20	X				14	0.000							14	0	14	0	234					
4	5H34	BRG. BM. WING		20	X				12	4.000							12	4	12	4	51					
4	4H35	BRG. BM. WING		20	X				11	4.000							11	4	11	4	30					
4	4H36	BRG. BM. WING		20	X				8	5.000							8	5	8	5	22					
16	4H37	BRG. BM. WING		20	X				3	4.000							3	4	3	4	71					
		INCR = 26.375 IN							9	11.000							9	11	9	11	14					
4	4H38	BRG. BM. WING		20	X				5	4.000							5	4	5	4	14					
4	4H39	BRG. BM. WING		20	X				5	9.000							5	9	5	9	15					
4	5H40	APP. BM. WING		20	X				5	4.000							5	4	5	4	22					
20	5H41	APP. BM. WING		20	X				2	7.000							2	7	2	7	76					
		INCR = 6.500 IN							4	9.000							4	9	4	9	22					
4	5H42	APP. BM. WING		20	X				5	3.000							5	3	5	3	22					
4	5H43	APP. BM. WING		20	X				7	9.000							7	9	7	9	32					
12	5H44	APP. BM. WING		20	X				2	0.000							2	0	2	0	50					
		INCR = 24.000 IN							6	0.000							6	0	6	0	24					
4	5H45	APP. BM. WING		20	X				5	10.000							5	10	5	10	28					
10	6T1	BEAM APRON		19	S				12.000	12.000							2	0	22		28					
2	7T2	APP. BM. WING		15	X				8	7.375	22.750	5	2.375	5	2.250	3.750	7	8.500	3	10.250	15	9	15	6	63	
2	7T3	APP. BM. WING		15	X				8	8.750	7	1.750	5	2.875	5	2.750	3.625	7	9.750	3	10.750	16	1	15	10	65
4	4T4	CURTAIN WALL		21	S				3	9.375	5	11.750					3	9.375	2.375	9	9	8	26			
4	7T5	BRG. BM. WING		15	X				5	5.250	12	6.000					2	5.125	4	10.375	17	11	17	11	146	
4	7T6	BRG. BM. WING		15	X				8	2.000	13.250						3	7.750	7	3.625	9	3	9	3	76	
30	4T7	BEAM APRON		10	S				22.625	15.000							5	0	4	10	97					
17	6U1	BEARING BEAM		13	S				3	3.000	2	10.125	3	11.625	2	9.000		14	0	13	6	345				
17	6U2	BEARING BEAM		13	S				3	2.500	3	1.750	3	11.625	3	0.625		16	7	14	1	360				
25	6U3	BEARING BEAM		13	S				2	11.500	3	6.000	3	11.625	3	4.250		14	11	14	5	541				
24	4U4	BEARING BEAM		10	S				6.000	3	3.000						4	3	4	1	65					
101	4U5	APPROACH BEAM		13	S				2	3.000	2	9.000	2	3.000	2	9.000		10	9	10	6	708				
98	5U6	APPROACH BEAM		10	S				2	6.000	2	3.000					7	3	7	1	724					
17	6U43	BEARING BEAM		13	S				3	1.500	3	2.875	3	11.625	3	1.500		14	8	14	2	362				
17	6U44	BEARING BEAM		13	S				3	3.000	2	11.500	3	11.625	2	10.375		14	3	13	8	349				
132	5V1	BEAM APRON		20	X				7	4.000							7	4	7	4	1010					
196	5V2	BEARING BEAM		20	X				7	9.000							7	9	7	9	1584					
24	5V3	APP. BM. APRON		20	X				6	0.000							6	0	6	0	150					

COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTITUTE (V)	VARIES (V)	NO. EACH	DIMENSIONS										NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
									B	C	D	E	F	H	K	FT.	IN.	FT.			
4	4V4	CURTAIN WALL		20	X				6	6.000							6	6	6	6	17
4	4V5	BRG. BM. WING		20	X				6	5.000							6	5	6	5	17
28	4V6	BRG. BM. WING		20	X				6	0.000							6	0	6	0	
		INCR = 9.125 IN							10	7.000							10	7	10	7	155
4	4V7	BRG. BM. WING		20	X				7	1.000							7	1	7	1	19
4	4V15	BRG. BM. WING		20	X				7	10.000							7	10	7	10	21
24	2W1	A B WELL		22	X				18.000	9.125							26	1	26	1	105
		INT. BT. NO. 2																			
48	10D1	FOOTINGS		17	X				7	10.000							9	3	9	3	1911
8	9H20	BEAM		20	X				51	11.000							51	11	51	11	1412
8	9H21	BEAM		20	X				50	7.500							50	8	50	8	1378
4	6H22	BEAM		20	X				46	5.000							46	5	46	5	279
4	6H23	BEAM		20	X				51	11.000							51	11	51	11	312
14	9H24	BEAM		17	X				25	6.000							26	9	26	9	1273
14	9H25	BEAM		20	X				23	11.000							23	11	23	11	1138
7	9H26	BEAM		20	X				28	1.000							28	1	28	1	668
8	7H27	BEAM		7					4	2.000	3	1.500					10	0	10	0	164
114	4P1	COLUMN		16	X				2	9.000							9	6	9	6	723
2	6U27	BEAM		13	S	X			3	0.625	3	10.000	3	0.625	3	10.000		1			

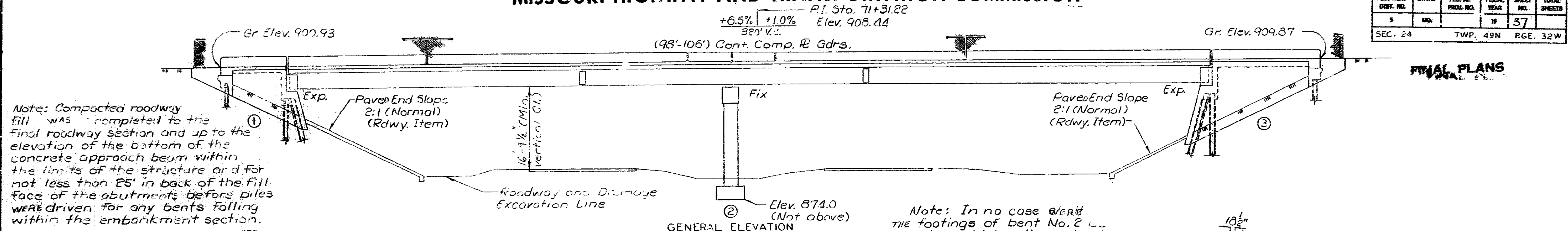






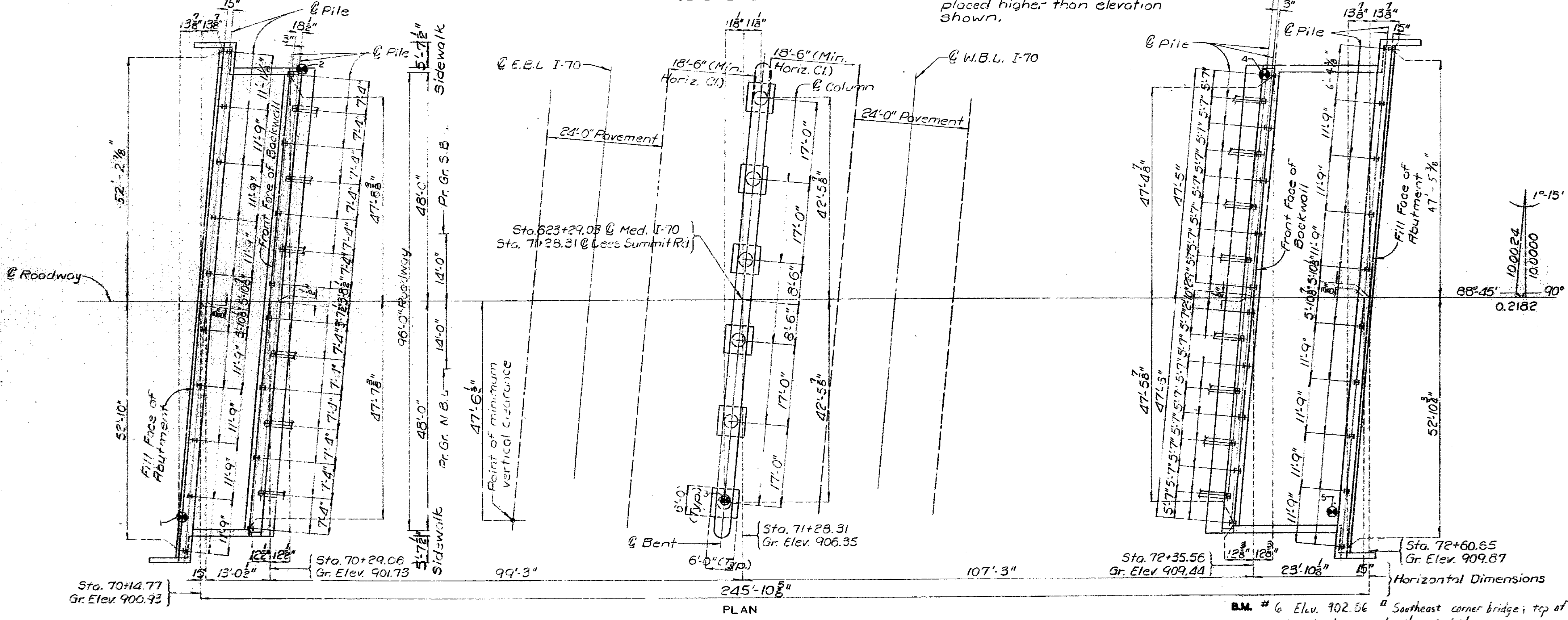
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.			37	
SEC. 24		TWP. 49N		RGE. 32W	



Notes: Compacted roadway fill was completed to the final roadway section and up to the elevation of the bottom of the concrete approach beam within the limits of the structure and for not less than 25' in back of the fill face of the abutments before piles WERE driven for any bents falling within the embankment section.

Note: In no case shall the footings of bent No. 2 be placed higher than elevation shown.



59

Note:  
 "⊙" Indicates location of Boring.  
 For Boring Data see Sht. No. 3.  
 For General Notes see Sht. No. 2.  
 For Estimated Quantities see Sht. No. 2.  
 For Pile and Footing Data see Sht. No. 2.

B.M. # 6 Elev. 902.86 Southeast corner bridge; top of barrier curb where guard rail meets bridge

BRIDGE: LEE'S SUMMIT ROAD UNDERPASS

STATE ROAD FROM RTE. 1-435 TO RTE. 1-470  
 ABOUT 5.8 MILES EAST OF RTE. 1-435  
 PROJECT NO. IRIRG-70-1(94) STA. 623+29.03  
 JOB NO. 4-I-70-183 RTE 1-70  
 JACKSON COUNTY

STD. 903.60
STD. 611.60
STD. 706.35
A-3763

DESIGNED MAR. 19 80  
 DETAILED OCT. 19 80  
 CHECKED JUNE 19 81

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1A of 23.

DATE 5/20/83



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.			38	

FINAL PLANS

GENERAL NOTES:

Design Specifications:  
R.F.S.H.T.C.-1977 Load Factor Design

Design Loading:

H320-4d  
15#13q.Ft. Future Wearing Surface  
Modified 24,000# Tandem Axle  
Earth 120#, Equivalent Fluid  
Pressure 30#  
Fatigue Stress - Case II

Design Unit Stresses:

Class B Concrete (Substructure)  $f'_c = 3,000$  psi  
Class B1 Concrete (Safety Barrier and Median Barrier Curb)  $f'_c = 4,000$  psi  
Class B2 Concrete (Superstructure except Safety Barrier and Median Barrier Curb)  $f'_c = 4,000$  psi  
Reinforcing Steel (Grade 60)  
 $f_y = 60,000$  psi  
Structural Carbon Steel  
 $f_y = 36,000$  psi  
Structural Steel (A.S.T.M. A-572 Grade 50)  
 $f_y = 50,000$  psi  
Steel Pile  $F_b = 9,000$  psi

Joint Filler:

All joint filler did meet the requirements of Std. Spec. 1057.2.4.

Fabricated Steel:

Field connections, High Strength Bolts  $\frac{3}{4}$ "  $\phi$ , holes  $\frac{1}{2}$ "  $\phi$  except as noted.

Paint:

System B, by contractor in accordance with Std. Spec. 712.12. (Color of the Final Field coat was green)

Construction Clearance:

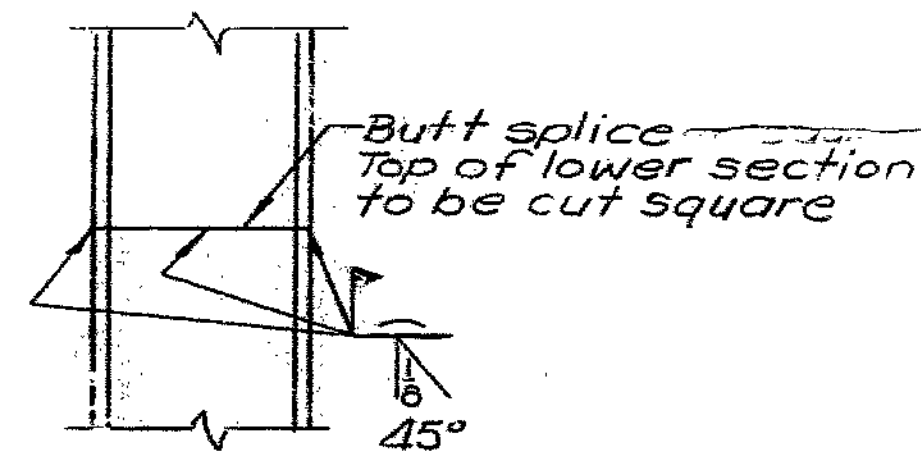
A minimum vertical clearance of 14'-0" from crown of existing lanes and a minimum lateral clearance of 28'-0" centered on existing lanes was maintained during construction.

Reinforcing Steel:

Minimum clearance to reinf. steel was  $\frac{1}{2}$ " unless otherwise shown. All reinforcing bars in tops of substructure beams or caps were spaced to clear anchor bolts for bearings by at least  $\frac{1}{2}$ ".

PILE AND FOOTING DATA					
BENT NO.		1	2	3	3
PILE TYPE AND SIZE		APPR. BM. HPI0X42	BRG. BM. HPI0X42	BRG. BM. HPI0X42	APPR. BM. HPI0X42
BEARING PILE	NUMBER	10	14	18	10
	APPROXIMATE LENGTH FT.	15	15	17	22
	DESIGN BEARING TONS	19	54	52	25
	HAMMER ENERGY REQUIRED FT. LBS.	7,000	13,700	13,400	7,000
SPREAD FOOTINGS	FOUNDATION MATERIAL			ROCK	
	DESIGN BEARING VALUE TONS/SQ. FT.			9.8	

Minimum energy requirement of hammer based on plan length and design bearing value of piles. All pile shall be driven to practical refusal.



DETAILS OF STEEL PILE SPLICE

FINAL QUANTITIES			
ITEM	SUBSTR.	SUPERSTR.	TOTAL
REMOVAL OF BRIDGES	LUMP SUM		1
CLASS I EXCAVATION	CU. YD.	385	385
PEDESTRIAN FENCE (72 IN.)	LIN. FT.	513	513
STRUCTURAL STEEL PILE (HPI0 X 42)	LIN. FT.	1015	1015
CLASS B CONCRETE	CU. YD.	412.4	412.4
(CLASS B-2) SLAB ON STEEL *	SQ. YD.	2261	2261
LAMINATED NEOPRENE BRG. PADS (STEEL STRUCTURES) EACH		36	36
PERFORMED COMPRESSION EXP. JT. SEAL (2.5 IN) LIN. FT.		184	184
REINFORCING STEEL (GRADE 60)	POUND	49692	49692
SAFETY BARRIER CURB	LIN. FT.	492	492
CONDUIT SYSTEM ON STRUCTURE	LUMP SUM		1
FABRICATED STRUCTURAL CARBON STEEL	POUND	287910	287910
FABRICATED SIGN SUPPORT BRACKETS	LUMP SUM		1
FABRICATED STRUCT. LOW ALLOY STEEL A-572	POUND	203360	203360
PAINTING (SYSTEM B) GREEN	TON	244.4	244.4
SLAB ON SEMI-DEEP ABUTMENT	SQ. YD.	432	432
RAISED MEDIAN BARRIER	SQ. FT.	966	966
SIDEWALK (BRIDGES)	SQ. FT.	2,768	2,768
CONTINGENT ITEMS			
TEST HOLES	L.F.T.	24	24

505.01

\* See Special Provisions

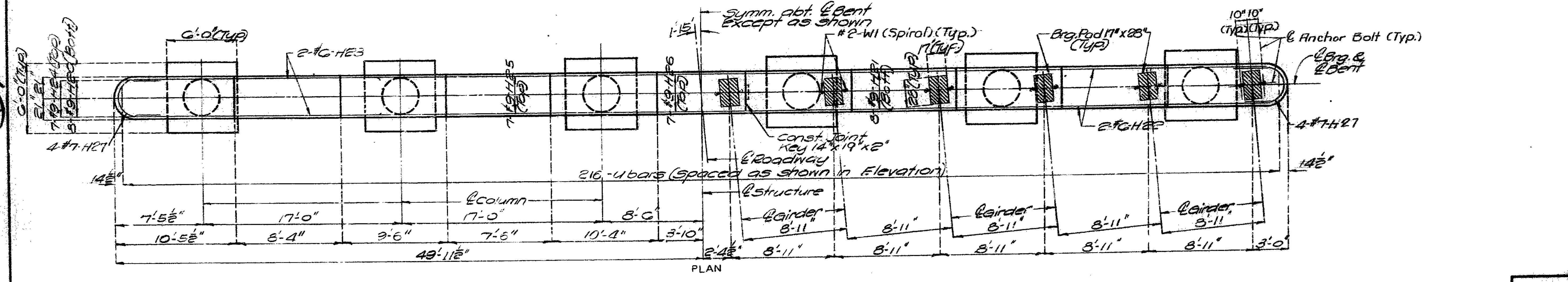
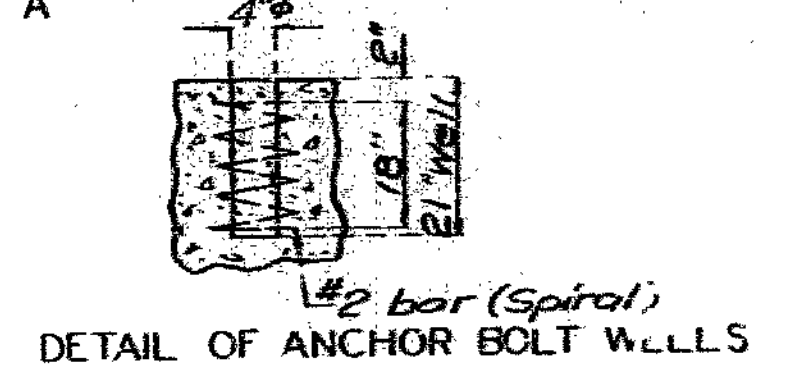
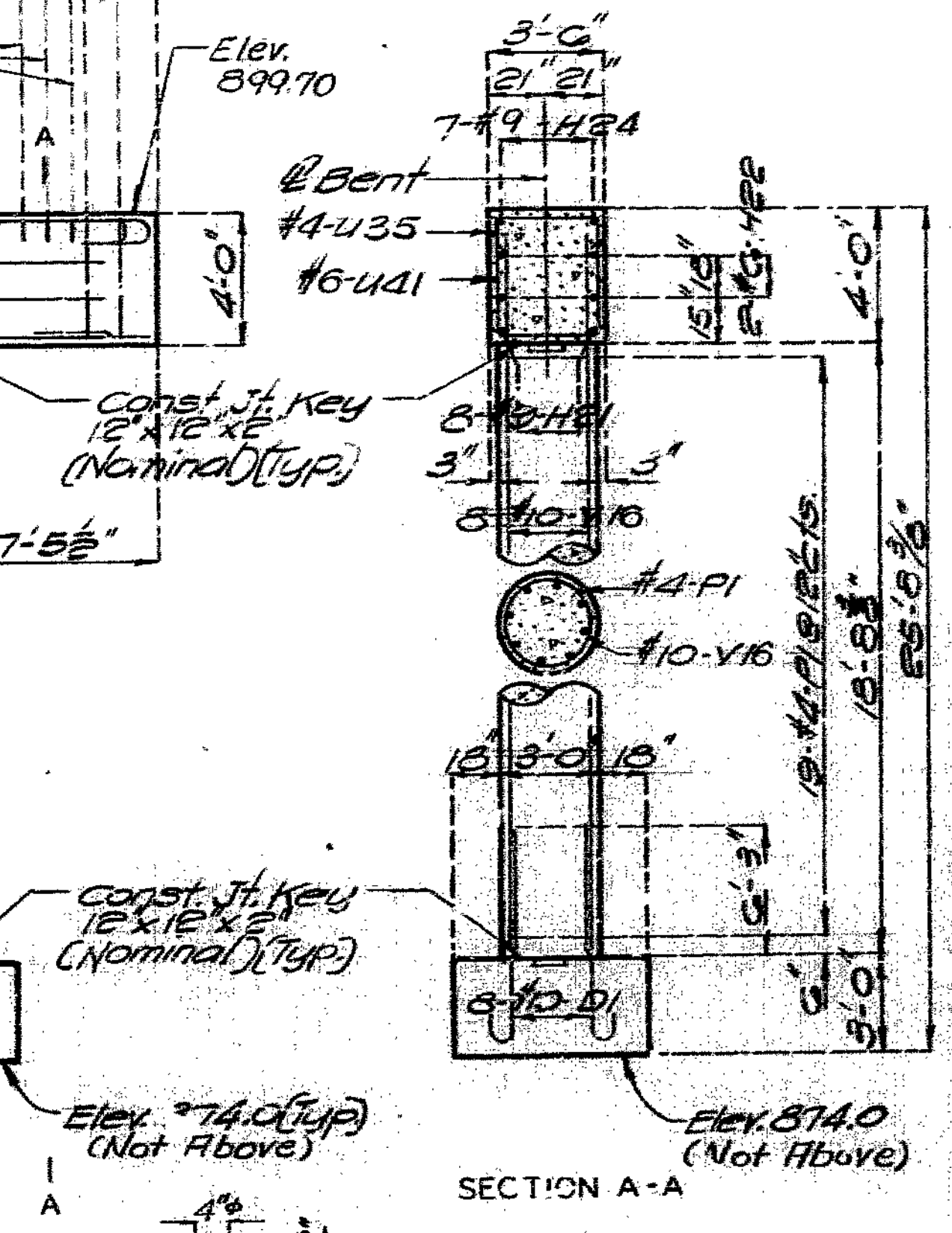
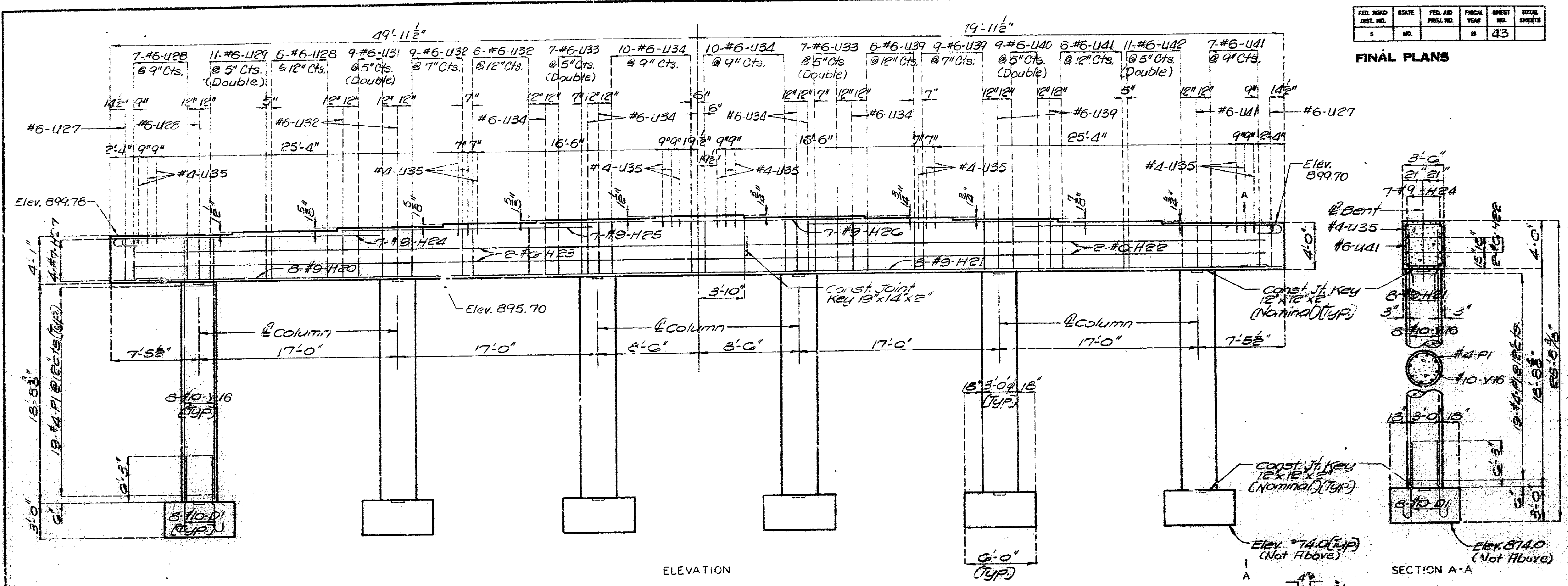
FINAL QUANTITIES FOR ALTERNATE SLABS			
TYPE OF SLABS	SLAB ON STEEL		
	REINF. (LBS.)		CONC.
	EPOXY	PLAIN	CU. YD.
STAY-IN-PLACE FORMS ** C.O. No. 6	76,770	60,770	550.1

\*\* Does not include concrete required to fill corrugation of S.I.P. forms

Note: All concrete and reinforcing steel above Const. Joint under slab in Semi-Deep Abutments are included in superstructure quantities. The table of Estimated Quantities for Alternate Slabs represents the quantities used by the state in preparing the cost estimate for concrete slabs. Variations may be encountered in these estimated quantities but these variations cannot be used for an adjustment in the Contract Unit Price per square yard of Alternate Slab used.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		89	43	

FINAL PLANS



DETAILED July 19 80  
CHECKED June 19 81

Note: This drawing is not to scale. Follow dimensions.

DETAILS OF INTERMEDIATE BENT NO. 2

Sheet No. 7A of 23.

JACKSON COUNTY

A-3763