

**I - 55 OVER MISSISSIPPI RIVER
BRIDGE NO. 79I00550101**

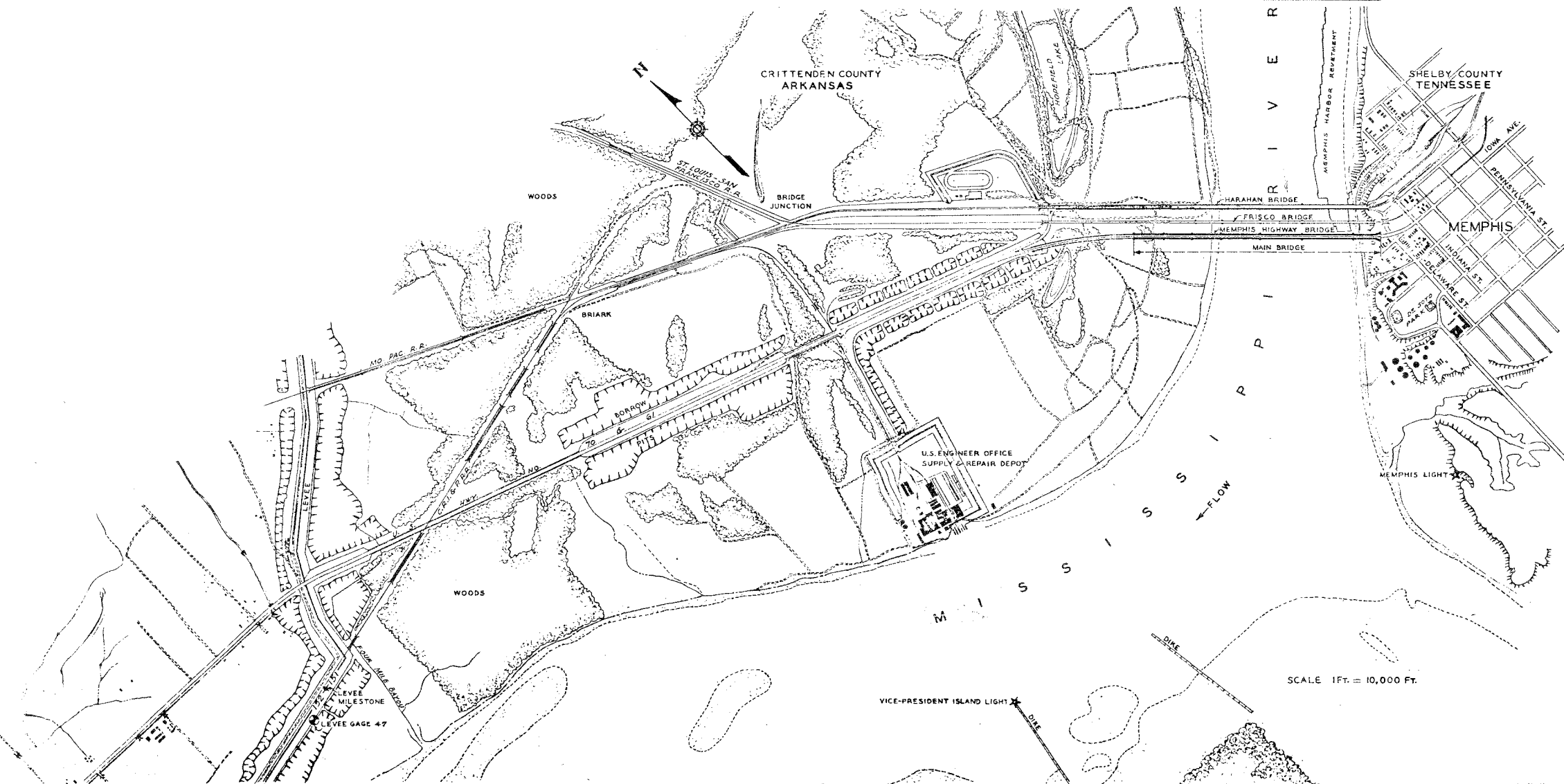
INDEX OF SHEETS

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- 1A TABULATION OF QUANTITIES
- 2 TYPICAL MATTRESS DETAILS
- 3 PNEUMATIC CAISSON PIER I
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- 5 OPEN DREDGED CAISSON PIERS VII-VIII
- 6 PIER SHAFTS I-VII INCL.
- 7 MEMPHIS ABUTMENT
- 8 GRILLAGE DETAILS

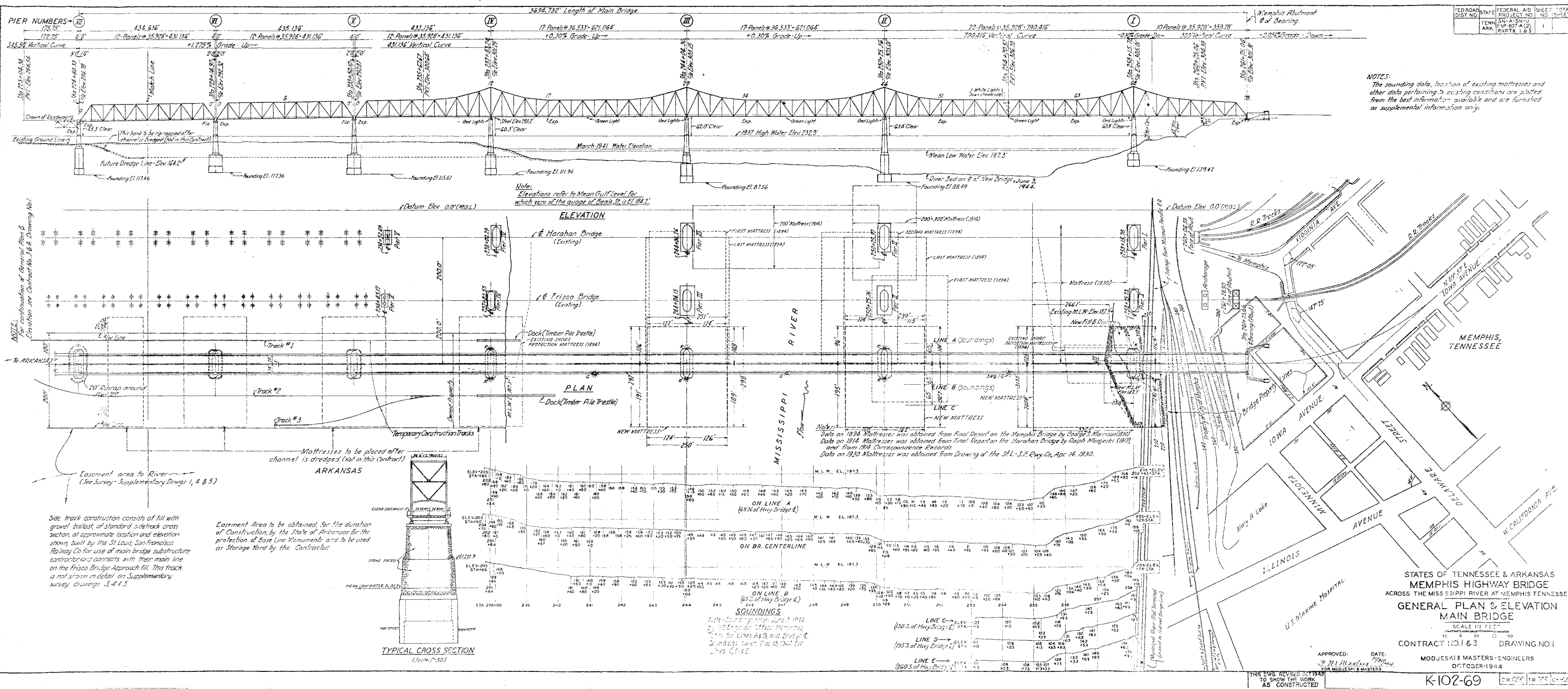
STATES OF TENNESSEE AND ARKANSAS

PLAN OF PROPOSED MAIN BRIDGE SUBSTRUCTURE OF MEMPHIS HIGHWAY BRIDGE OVER MISSISSIPPI RIVER

TENNESSEE — ARKANSAS
PROJECT NO. SN-A-SN-U-FAP-607-A(2), PART 1
SHELBY COUNTY, TENN. — CRITTENDEN COUNTY, ARK.



DESIGNED AND RECOMMENDED BY MODJESKI & MASTERS		
FOR M. JESKI & MASTERS	DATE	
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS, TENNESSEE	ARKANSAS STATE HIGHWAY COMMISSION	FEDERAL WORKS AGENCY PUBLIC ROADS ADMINISTRATION
APPROVED: <i>[Signature]</i> 11/14/44 DATE	APPROVED: <i>[Signature]</i> 11/14/44 DATE	RECOMMENDED FOR APPROVAL:
APPROVED: <i>[Signature]</i> 11/14/44 DATE	APPROVED: <i>[Signature]</i> 11/14/44 DATE	DISTRICT ENGINEER PUBLIC ROADS ADMINISTRATION FEDERAL WORKS AGENCY
APPROVED: <i>[Signature]</i> 11/14/44 DATE	APPROVED: <i>[Signature]</i> 11/14/44 DATE	APPROVED:
APPROVED: <i>[Signature]</i> 11/14/44 DATE	APPROVED: <i>[Signature]</i> 11/14/44 DATE	COMMISSIONER PUBLIC ROADS ADMINISTRATION FEDERAL WORKS AGENCY
APPROVED: <i>[Signature]</i> 11/14/44 DATE	APPROVED: <i>[Signature]</i> 11/14/44 DATE	DATE



NOTES:
The sounding data, location of existing mattresses and other data pertaining to existing conditions are plotted from the best information available and are furnished as supplemental information only.

NOTE:
For continuation of General Plan & Elevation see Contract No. 36 & Drawing No. 1

Side track construction consists of fill with gravel ballast, of standard sidetrack cross section, at approximate location and elevation shown, built by the St. Louis, San Francisco Railway Co. for use of main bridge substructure contractor and connects with their main line on the Frisco Bridge Approach fill. This track is not shown in detail on Supplementary survey drawings 3, 4 & 5.

Easement Area to be obtained for the duration of Construction by the State of Arkansas for the protection of Base Line Monuments and to be used as Storage Yard by the Contractor.

TYPICAL CROSS SECTION
(Scale 1"=50')

STATES OF TENNESSEE & ARKANSAS
MEMPHIS HIGHWAY BRIDGE
ACROSS THE MISSISSIPPI RIVER AT MEMPHIS, TENNESSEE
GENERAL PLAN & ELEVATION
MAIN BRIDGE
SCALE IN FEET
CONTRACT NO. 163 DRAWING NO. 1
APPROVED: DATE: 7/21/1944
MODJESKI & MASTERS-ENGINEERS
OCTOBER 1944
THIS DWG. REVISED 3/1949
TO SHOW THE WORK
AS CONSTRUCTED
K-102-69

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	TENN. ARK.	SN-A-SN-U FA-607-A(2) PART 1	1A	8

ITEM NO.	WORK	ESTIMATED QUANTITY	FINAL QUANTITY		
1	Underwater Fill in Place Adjacent to Pier I.				
2	Willow Mattresses in Place at Sites of Piers I, II and III.	2,450 squares	2,450 Squares		
3	Stone for Ballasting and Sinking Mattresses.	1,900 cu yds.	2,497 cu yds.		
4	Heavy Deposited Riprap for Mattresses at Piers I, II and III.	18,000 cu yds.	20,156 cu yds.		
5	Riprap Paving on Memphis Bank and around Pier VII.	400 squares	384 Squares		
6	Piles in Place under Memphis Abutment, if Required.	5,640 lin. ft.	6,856 lin. ft.		
7	Concrete in Footings of Retaining Walls and Anchorage Pier of Memphis Abutment.	445 cu yds.	454 cu yds.		
8	Stone Masonry Facing of Memphis Abutment and Retaining Walls. Granite. Limestone. Bid only one type of stonework. Strike out word not applicable.	2,800 cu. ft.	2,800 cu. ft.		
9	Concrete behind Stone Facing and above Tops of Footings in Memphis Abutment and Retaining Walls.	430 cu yds.	430 cu yds.		
10	Mass Volume in Pier I between Average Founding Elevation and Bottom of Distributing Block.	4,970 cu yds.	5,023.6 cu yds.		
11	Mass Volume in Piers II, III and IV between Average Founding Elevations and Bottoms of Distributing Blocks.	25,200 cu yds.	25,053.3 cu yds.		
12	Mass Volume in Piers V, VI and VII, Open Dredged Tremie Sealed, between Average Elevations of Exterior Cutting Edges and Bottoms of Distributing Blocks. only one method may bid. Strike out Item 12a or 12b, whichever is not applicable.	23,800 cu yds.	23,814 cu yds.		
13	Concrete in Distributing Blocks between Tops of Caissons and Bottoms of Stone Facing, Piers I to VII, inclusive.	3,300 cu yds.	3,306.5 cu yds.		
14	Stone Facing of all Piers I to VII, inclusive. Granite. Limestone Facing and Granite Noses. Bid only one type of stonework. Strike out line not applicable.	163,000 cu. ft.	163,000 cu. ft.		
15	Concrete behind Stone Masonry Facing, Piers I to VII, inclusive.	23,400 cu yds.	23,400 cu yds.		
16	Reinforcing Steel in Place in Distributing Blocks, Pier Shafts and Memphis Abutment and Retaining Walls.	371,000 lbs.	368,375 lbs.		
17	Structural Metalwork and Anchor Bolts in Place.	251,000 lbs.	259,351 lbs.		

STATES OF TENNESSEE & ARKANSAS

MEMPHIS HIGHWAY BRIDGE

ACROSS THE MISSISSIPPI RIVER AT MEMPHIS TENNESSEE

MAIN BRIDGE SUBSTRUCTURE

TABULATION OF QUANTITIES

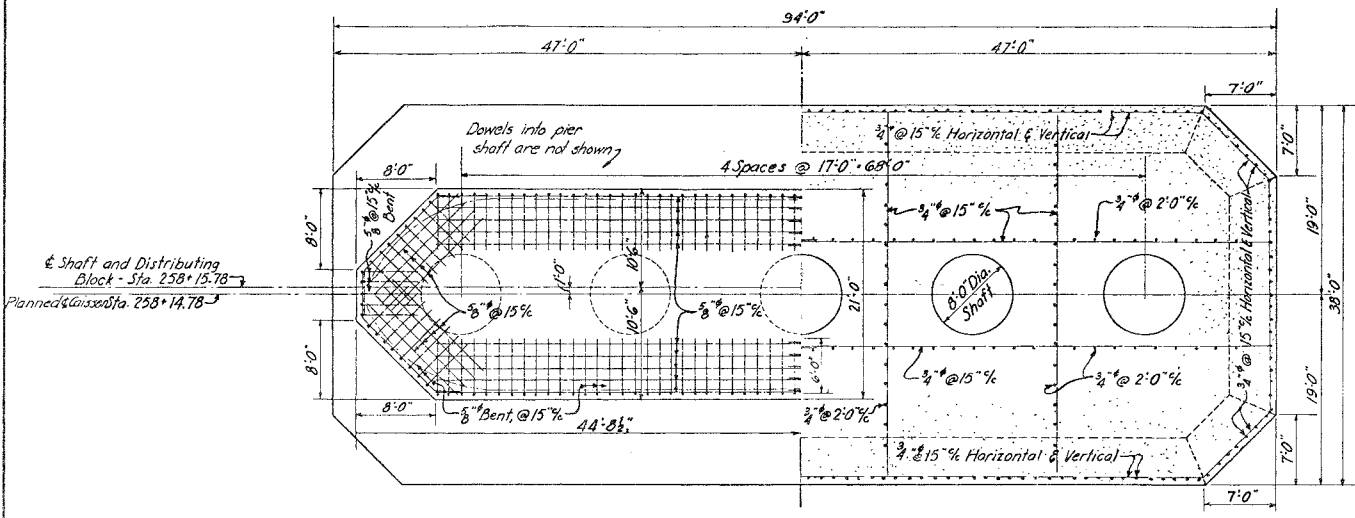
NOTES:-
Minimum clear distance from reinforcing steel to face of concrete shall be 4 inches.
Reinforcing bars shall be of deformed type, topped 40 dia. at splices.
All construction joints shall be adequately keyed.

CAISSON DESIGN DATA

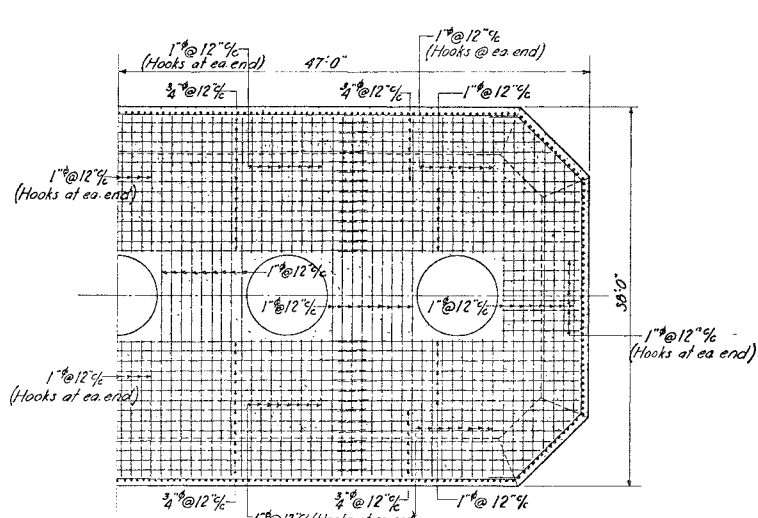
The following are based on a water elevation of 187.3 with buoyant weight of concrete equal to 87.5 lbs. per cu.ft. and of earth equal to 62.5 lbs. per cu.ft. For pier weights, the seals are assumed as shown on the contract drawings. Dry earth above elevation 187.3 is assumed to weigh 100 lbs. per cu.ft. Concrete in pier shaft is assumed to weigh 150 lbs. per cu.ft. and rock facing 172 lbs. per cu.ft.

	Dead Load Reaction From Span	Gross Buoyant Dead Load Weight of Pier Shaft	Gross Buoyant Dead Load Weight of Distributing Block, Caisson & Seal	Elevation of Earth Overburden	Gross Buoyant Dead Load Weight of Earth on Projections Outside of Shaft	Total Gross Buoyant Dead Load	Area of Caisson Base	Gross Buoyant Dead Load Pressure on Caisson Base	Elevation of Existing Earth	Present Pressure	Net Additional Dead Load Pressure
	Kips	Kips	Kips	Ft.	Kips	Kips	Sq. Ft.	Kips/sq.	Ft.	Kips/sq.	Kips/sq.
Pier I	9150	19277	12249	198.0	3290	43974	3474	12.66	184.0	2.81	4.93
Pier II	8995	20200	17246	118.0	336	46777	4038	11.58	118.0	1.81	4.89
Pier III	6430	19780	18642	150.0	943	45795	3474	13.18	150.0	3.88	4.65
Pier IV	7620	19320	14963	164.0	491	42394	3286	12.90	164.0	3.32	4.79
Pier V (Pneumatic)	3455	18847	14147	164.0	497	36946	3098	11.93	164.0	3.38	4.28
Pier I (Open Dredged)	3455	18847	19588	164.0	455	42345	3991	10.61	164.0	3.38	3.61
Pier II (Pneumatic)	4675	17504	13202	164.0	424	35805	3098	11.56	164.0	3.06	4.25
Pier III (Open Dredged)	4675	17504	18230	164.0	376	40785	3991	10.22	164.0	3.06	3.58
Pier IV (Pneumatic)	3190	10908	18042	210.0	2642	34782	2722	12.78	210.0	7.26	2.76
Pier V (Open Dredged)	3190	10908	18086	210.0	2572	34756	2722	12.77	210.0	7.26	2.76

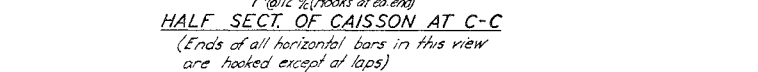
- a. If eccentricity in caisson location for Pier I is calculated to balance moment of earth pressure in slope. Pressures shown are therefore for purely concentric loads.
b. Future dredged channel elevation.



HALF PLAN OF CAISSON AT A-A

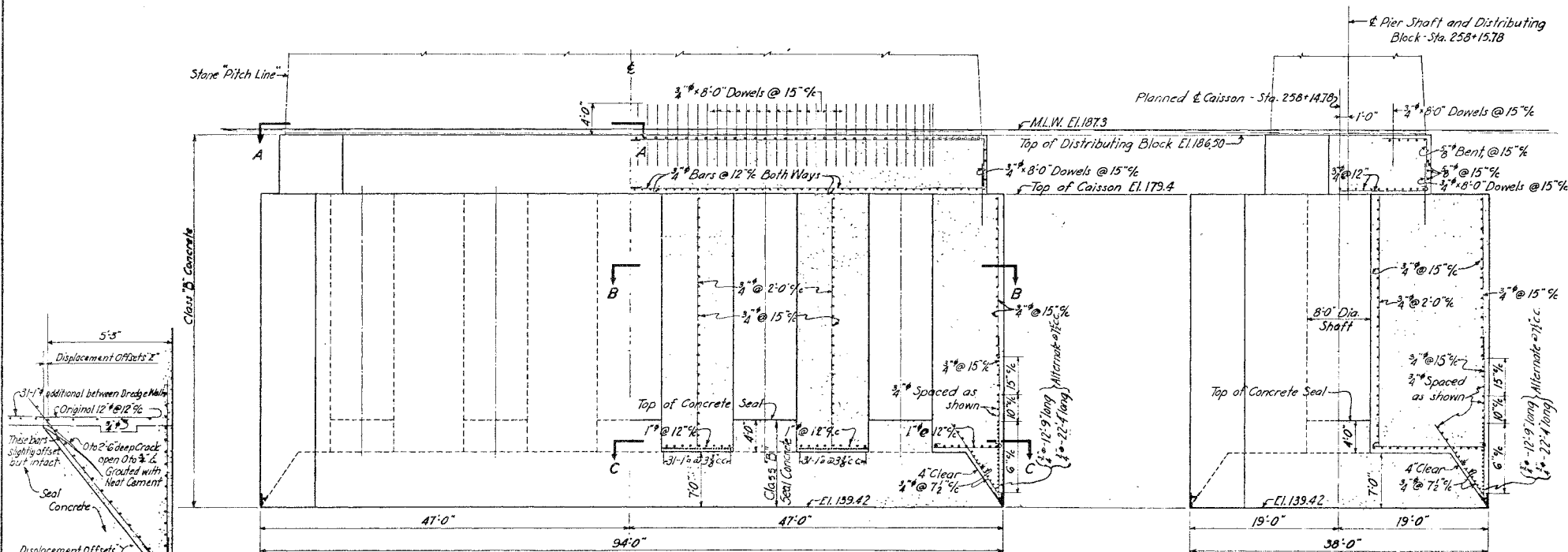


HALF SECT. OF CAISSON AT B-B



HALF SECT. OF CAISSON AT C-C

(Ends of all horizontal bars in this view are hooked except at laps)



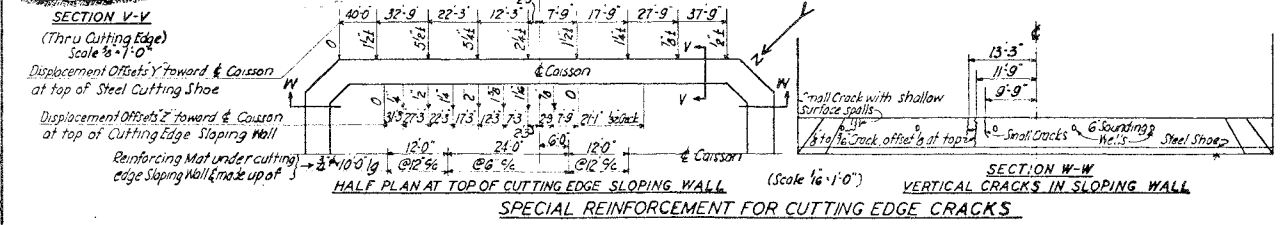
HALF SIDE ELEVATION OF CAISSON

HALF LONGITUDINAL SECTION THRU CAISSON

HALF END ELEVATION OF CAISSON

HALF TRANSVERSE SECT. THRU CAISSON

NOTES CONTINUED:-
For final position of Caisson, see Report Drawing.
For Cutting Edge details, see Pigeon Thomas Co. Drawings 1377-7-8.
For Reinforcing Steel details, see LaCade Steel Co. Sheets R-11 & R-12.
For sheet pile protection remaining in place at Pier I, see Report Drawing showing Matress location.

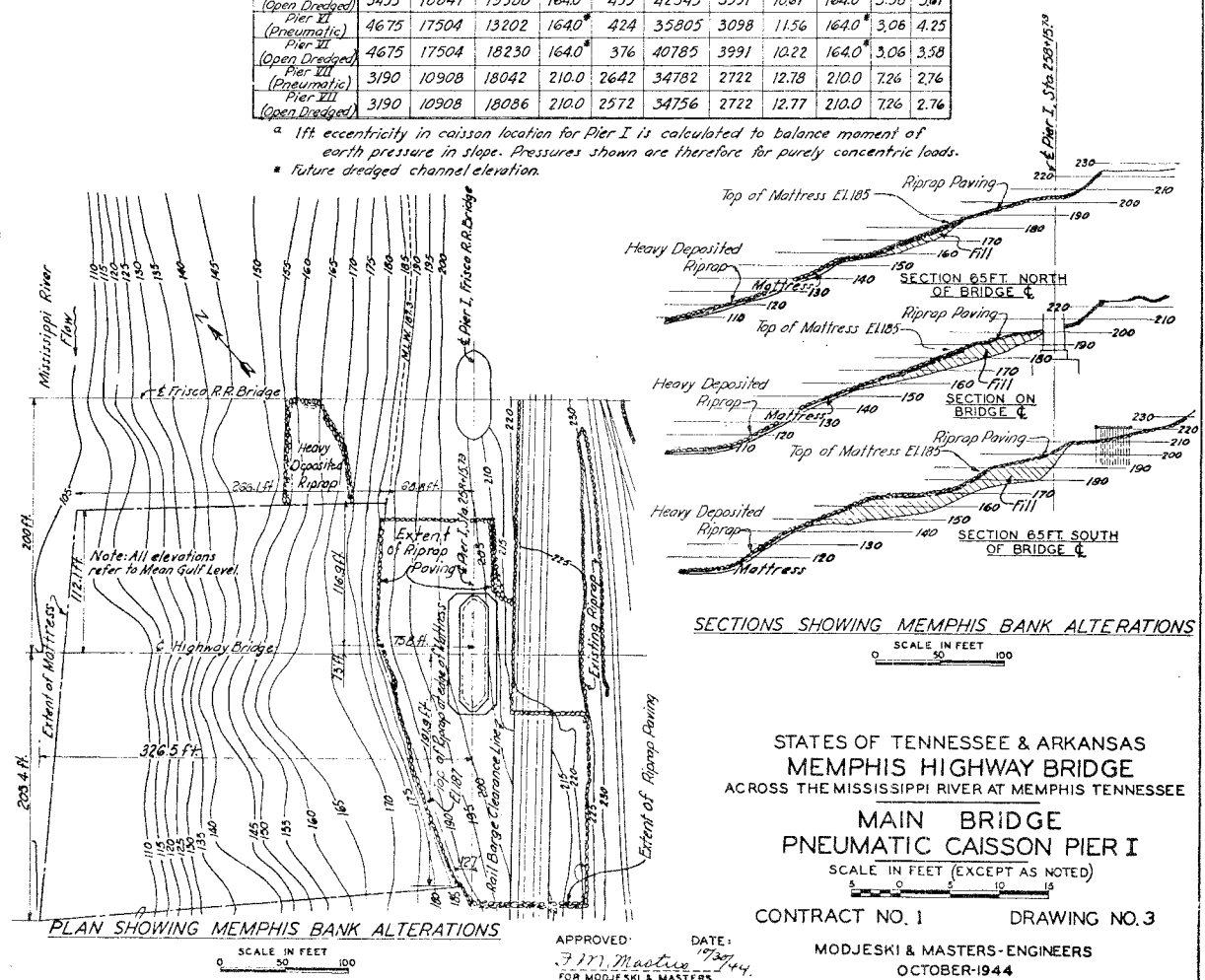


SECTION V-V (Thru Cutting Edge)

SECTION W-W (Vertical Cracks in Sloping Wall)

HALF PLAN AT TOP OF CUTTING EDGE SLOPING WALL

SPECIAL REINFORCEMENT FOR CUTTING EDGE CRACKS



PLAN SHOWING MEMPHIS BANK ALTERATIONS

STATES OF TENNESSEE & ARKANSAS
MEMPHIS HIGHWAY BRIDGE
ACROSS THE MISSISSIPPI RIVER AT MEMPHIS TENNESSEE

MAIN BRIDGE
PNEUMATIC CAISSON PIER I

SCALE IN FEET (EXCEPT AS NOTED)

CONTRACT NO. 1 DRAWING NO. 3

MODJESKI & MASTERS-ENGINEERS

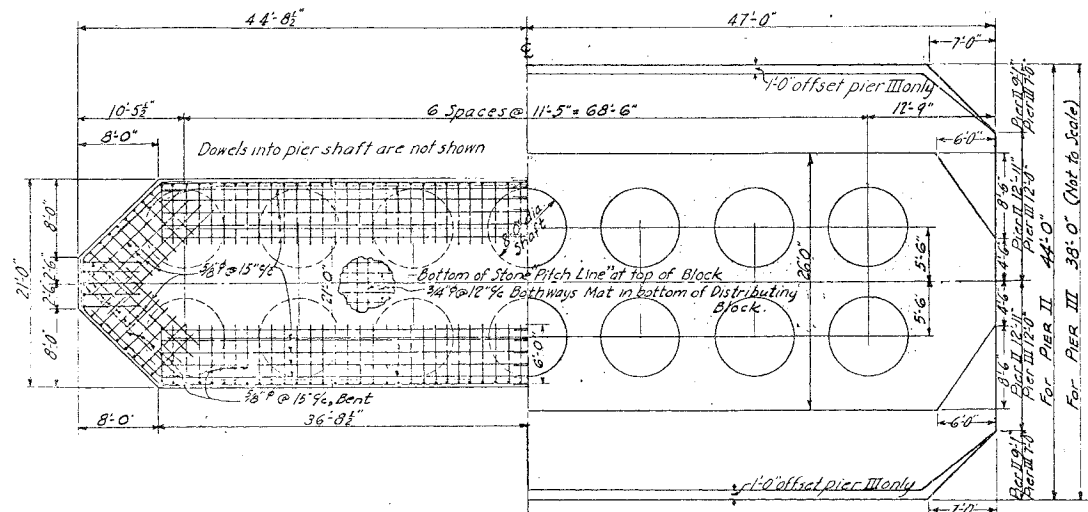
OCTOBER-1944

APPROVED: DATE: 7/27/44 FOR MODJESKI & MASTERS

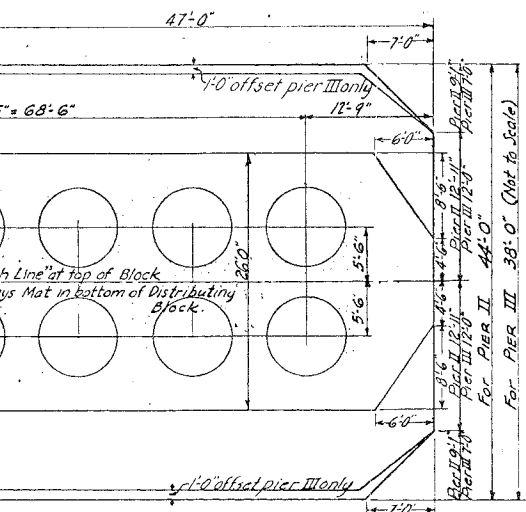
K-102-72

THIS DRAWING REVISED OCT 1947 TO SHOW THE WORK AS CONSTRUCTED

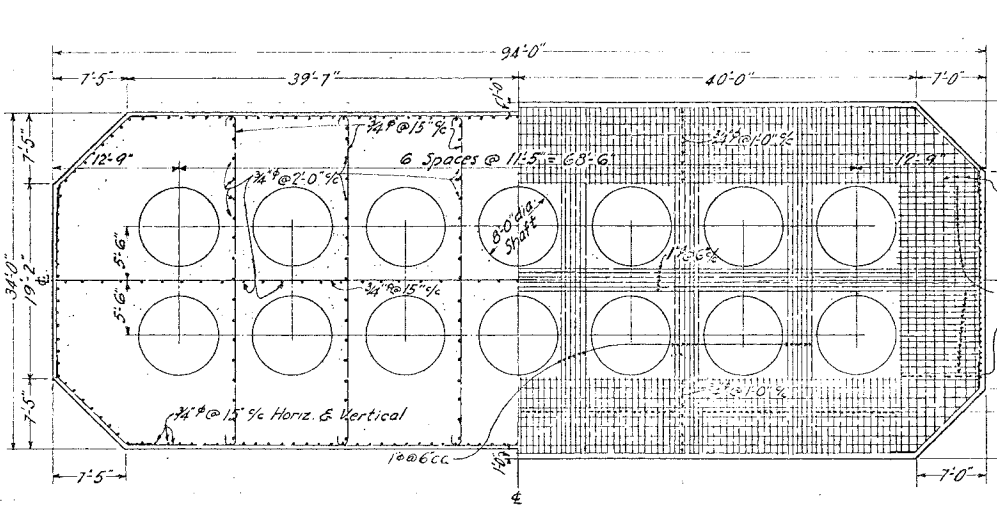
DR. G. C. TR. G. C. CK. G. C.



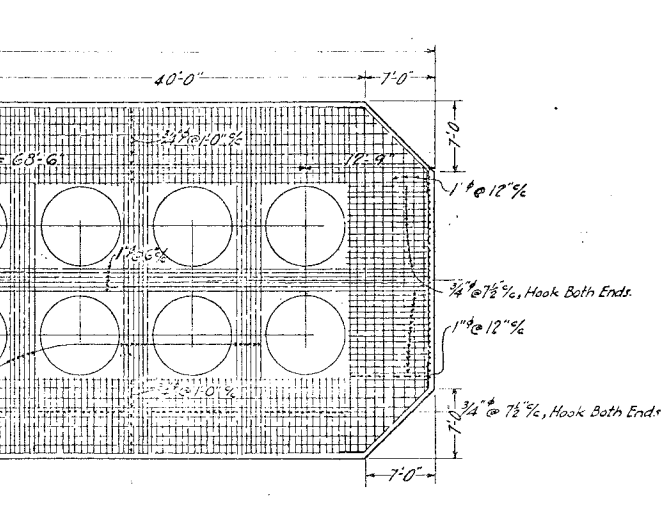
HALF PLAN OF DISTRIBUTING BLOCK AT A-A
PIER II, III, IV



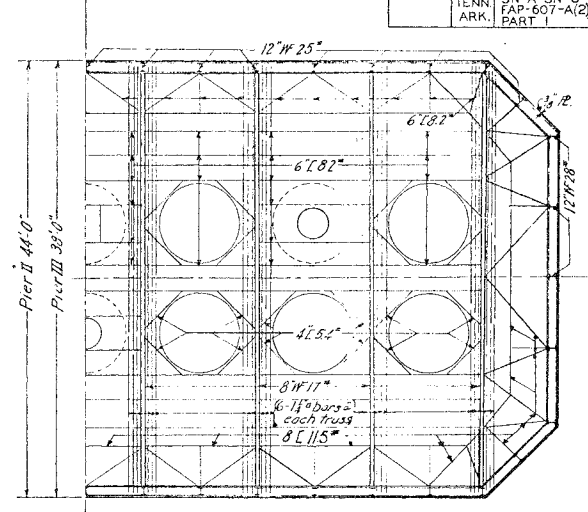
HALF SECT. OF CAISSON AT B-B
PIER II, III



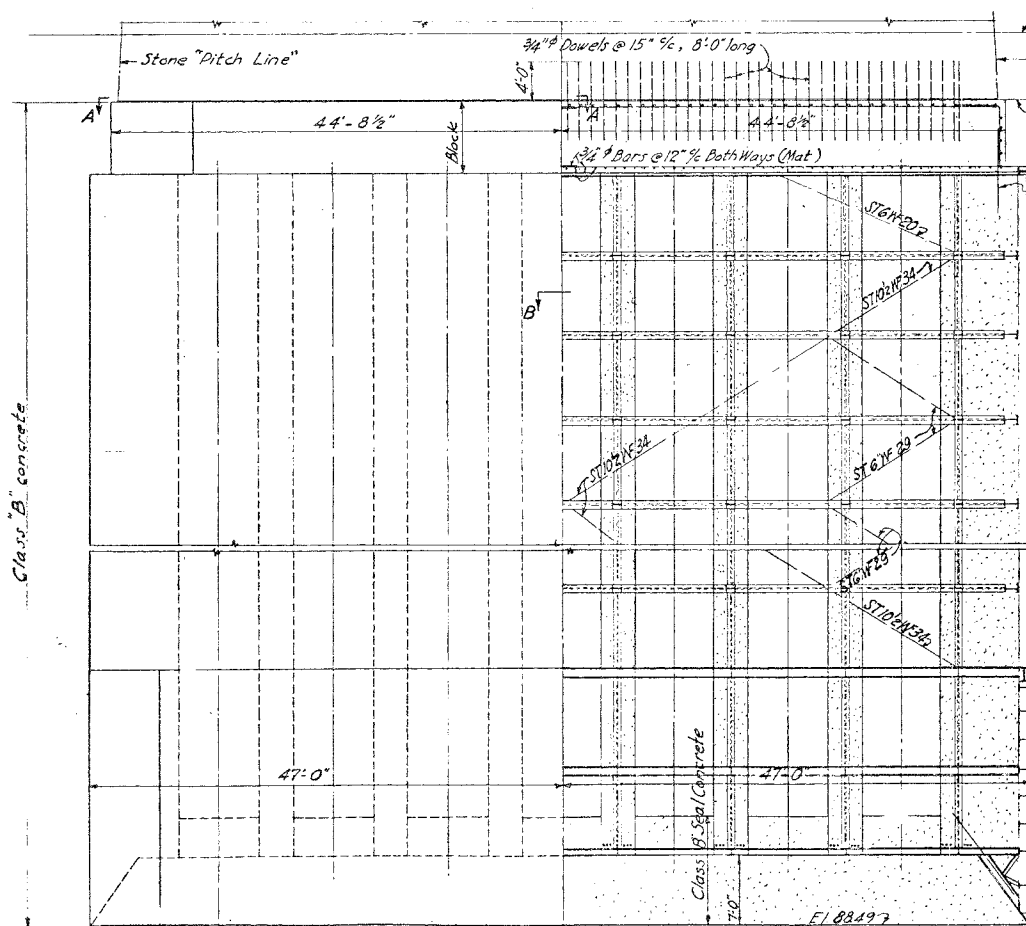
HALF SECTION OF CAISSON AT C-C
PIER IV



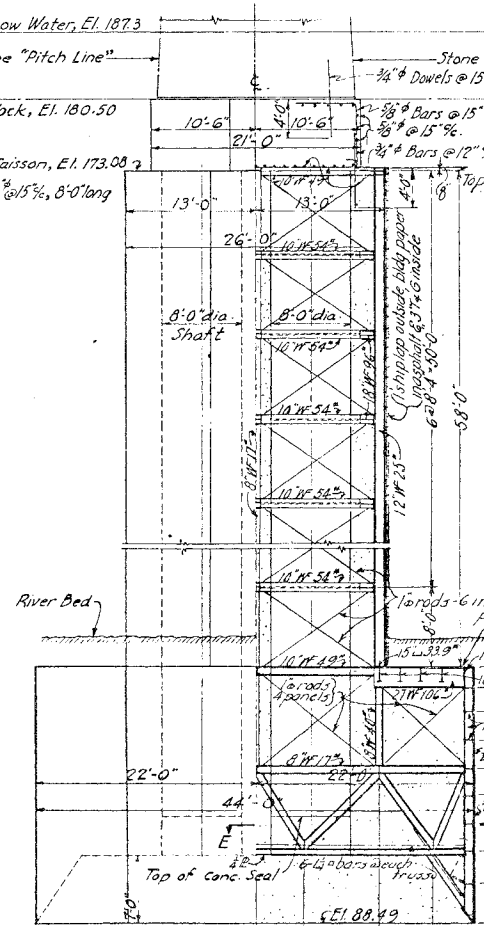
HALF SECTION OF CAISSON AT D-D
PIER IV



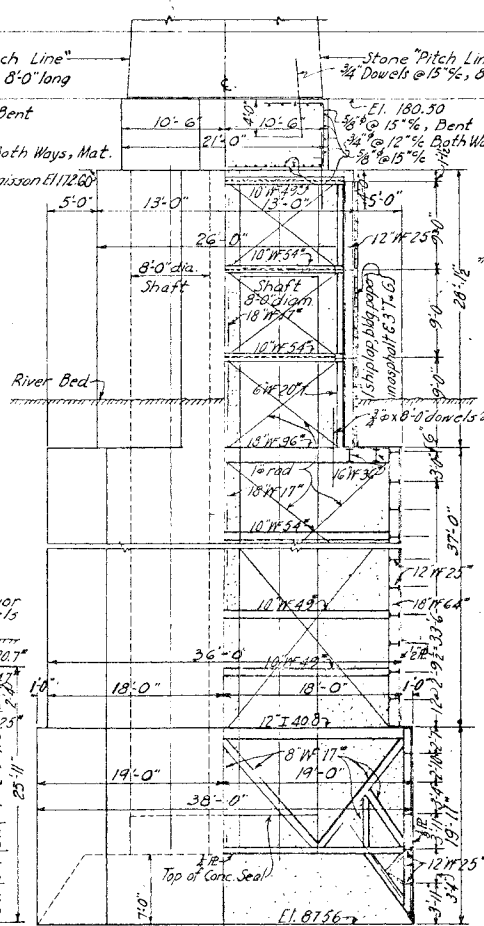
HALF PLAN E-E
PIER II



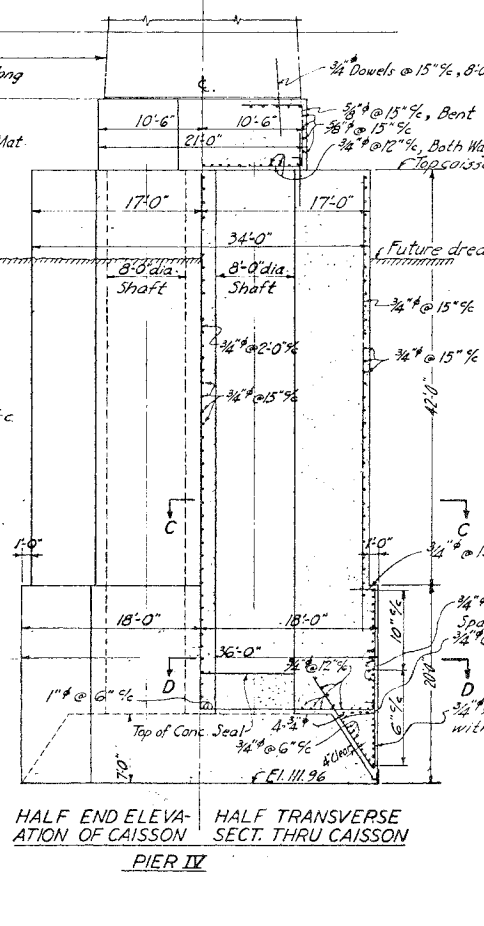
HALF SIDE ELEVATION OF CAISSON
PIER II - As Shown



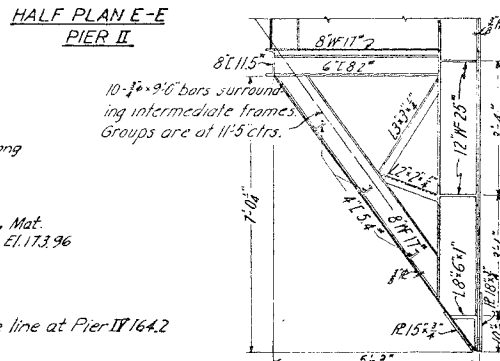
HALF LONGITUDINAL SECT. THRU CAISSON
PIER II



HALF END ELEVATION OF CAISSON
PIER II



HALF TRANSVERSE SECT. THRU CAISSON
PIER II



NOTES
Minimum clear distance from reinforcing steel to face of concrete shall be 4\"/>
Reinforcing bars shall be of deformed type, lapped 40 diameters at splices.
All construction joints shall be adequately keyed.
For further caisson details, see Merritt Chapman & Scott drawings 4335-2-2, 3 and 25, Virginia Bridge Co. Sheets E-1 to E-9 and 1-47 incl. show details of Caissons & Cofferdams for Piers II & III.
For Cutting Edge details, see Pier IV, see Pidgeon Thomas Co. Drwg. 1377-2.
For Reinforcing Steel details, see LaCade Steel Co. Sheets R-5 & R-6.
For final position of Caissons, see Report Drwg.

STATES OF TENNESSEE & ARKANSAS
MEMPHIS HIGHWAY BRIDGE
ACROSS THE MISSISSIPPI RIVER AT MEMPHIS TENNESSEE
MAIN BRIDGE
PNEUMATIC CAISSON PIERS II, III, IV
SCALE IN FEET

APPROVED
J. M. Maslow
FOR MODJESKI & MASTERS

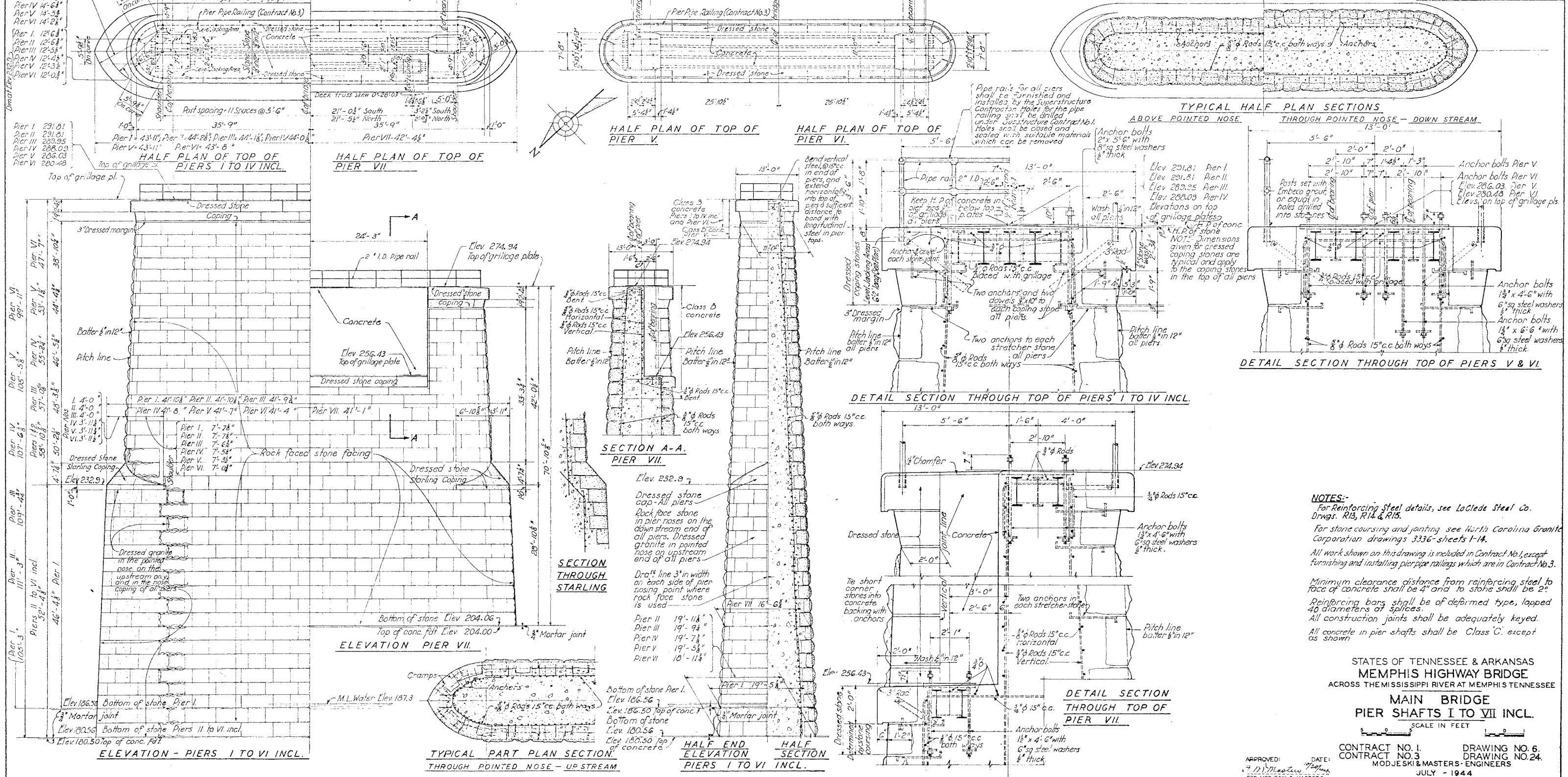
DATE
10/27/44
MODJESKI & MASTERS, ENGINEERS
OCTOBER - 1944

CONTRACT NO. 1 DRAWING NO. 4

K-102-73

THIS DRWG. REVISED OCT. 1947 TO SHOW THE WORK AS CONSTRUCTED

DR. J. M. MASLOW, C.E.



NOTES:-

For Reinforcing Steel details, see LaClude Steel Co. Drawgs. R13, R14 & R15.

For stone coursing and jointing see North Carolina Granite Corporation drawings 3336-sheets 1-14.

All work shown on this drawing is included in Contract No. 1, except furnishing and installing pier-pipe railings which are in Contract No. 3.

Minimum clearance distance from reinforcing steel to face of concrete shall be 4" and to stone shall be 2".

Reinforcing bars shall be of deformed type, lapped 40 diameters at splices.

All construction joints shall be adequately keyed.

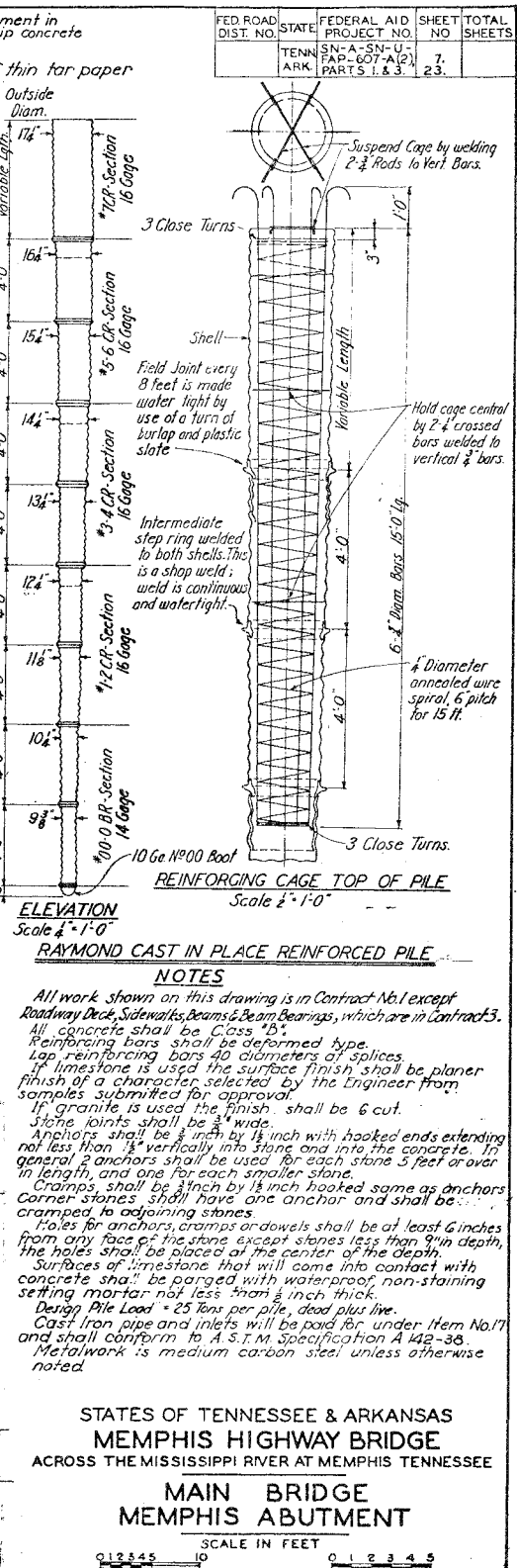
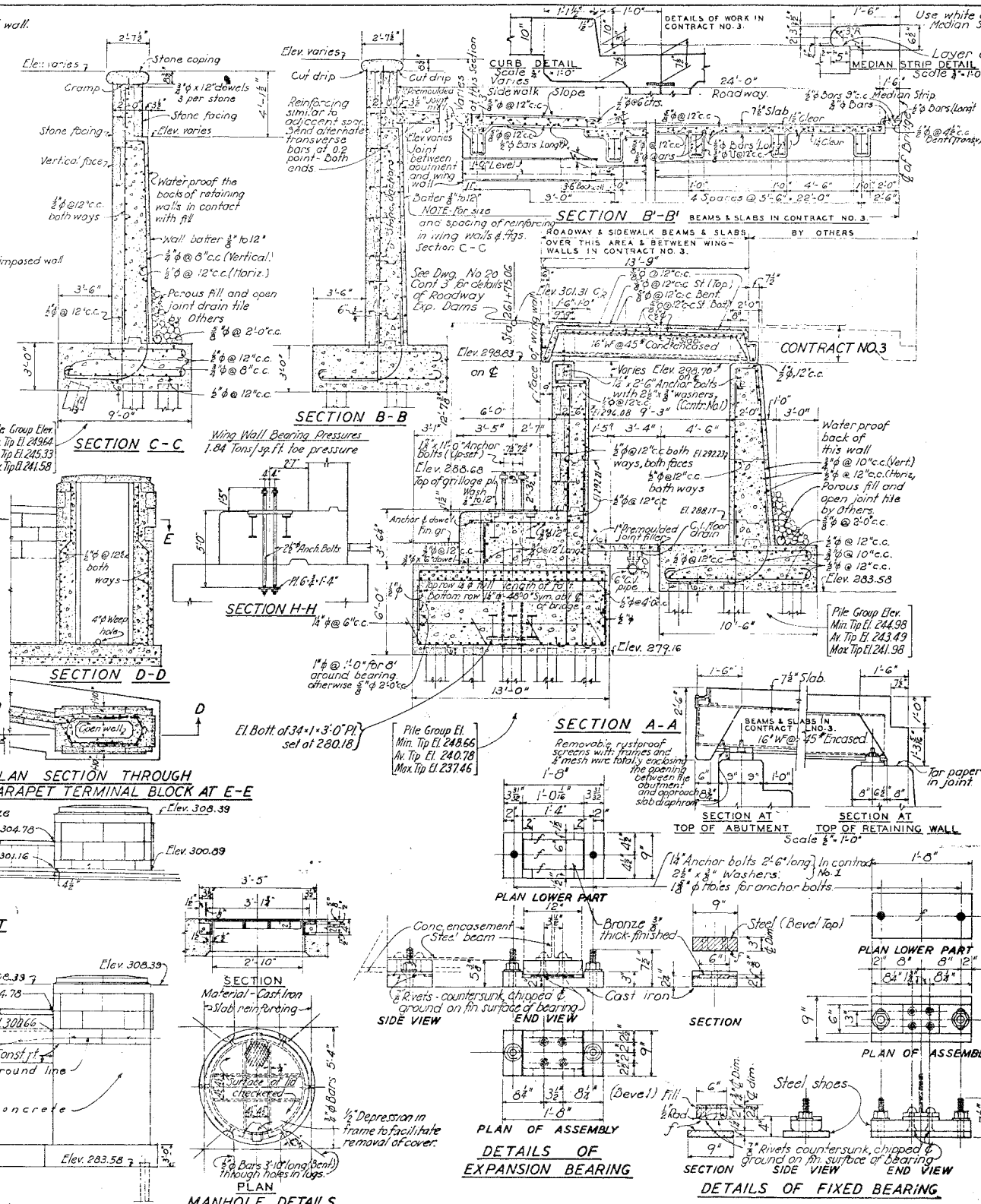
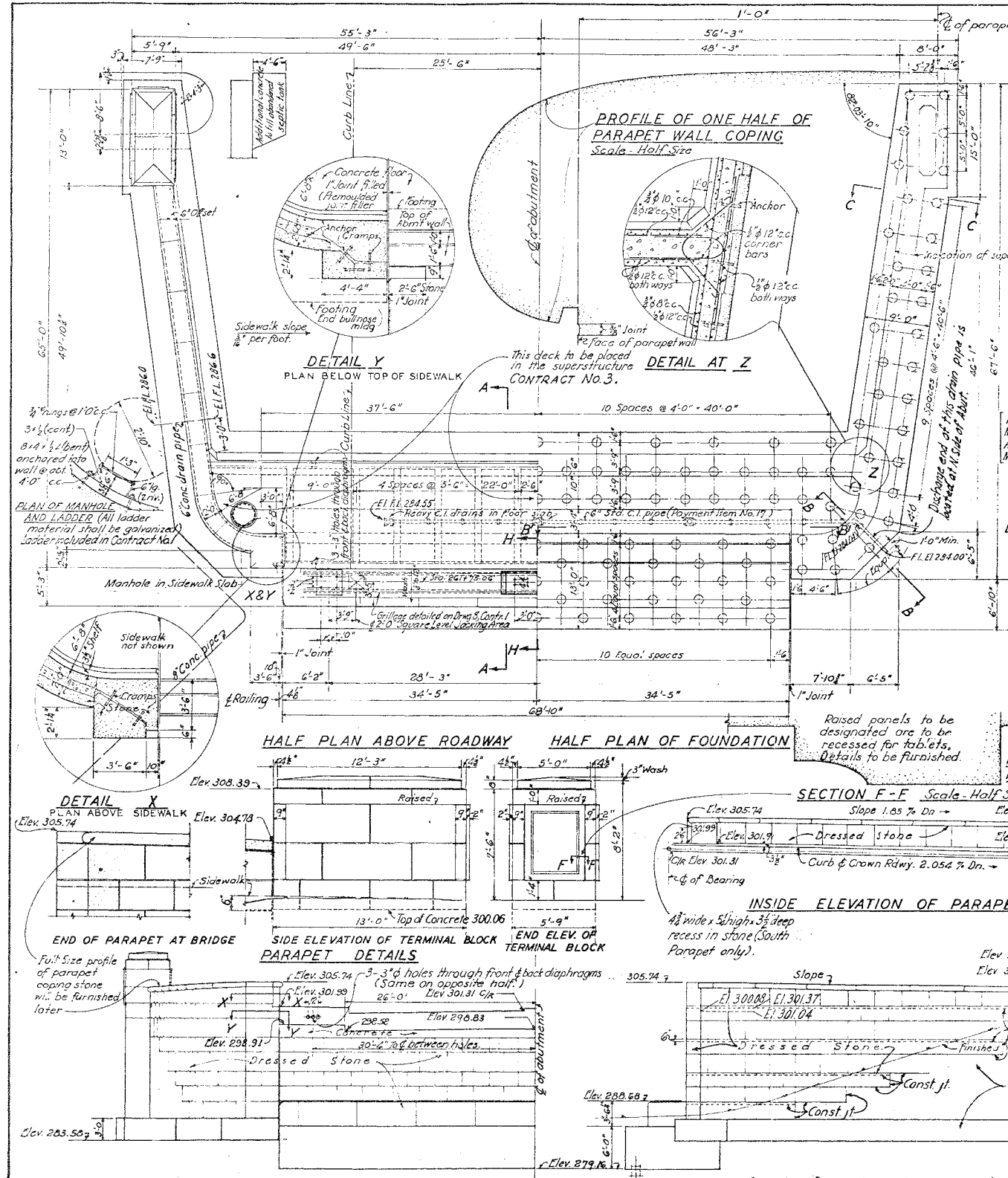
All concrete in pier shafts shall be Class C, except as shown.

STATES OF TENNESSEE & ARKANSAS
MEMPHIS HIGHWAY BRIDGE
ACROSS THE MISSISSIPPI RIVER AT MEMPHIS TENNESSEE

MAIN BRIDGE
PIER SHAFTS I TO VII INCL.

CONTRACT NO. 1
CONTRACT NO. 3
MODJESKI & MASTERS - ENGINEERS
JULY - 1944

DRAWING NO. 6
DRAWING NO. 24



NOTES CONTINUED:
 For details of Limestone, see Ingalls Stone Co. Dwg. 485-1-2 & 100.
 For Reinforcing Steel details, see LaCade Steel Co. Sheets R9 & R10.

NOTES:
 ALL WORK SHOWN ON THIS DRAWING IN CONTRACT NO. 3.
 EXCEPT AS NOTED OTHERWISE.

CONTRACT NO. 3
 APPROVED: *J. M. Masters* DATE: *11/1/44*
 FOR MODJESKI & MASTERS

STATES OF TENNESSEE & ARKANSAS
MEMPHIS HIGHWAY BRIDGE
 ACROSS THE MISSISSIPPI RIVER AT MEMPHIS TENNESSEE

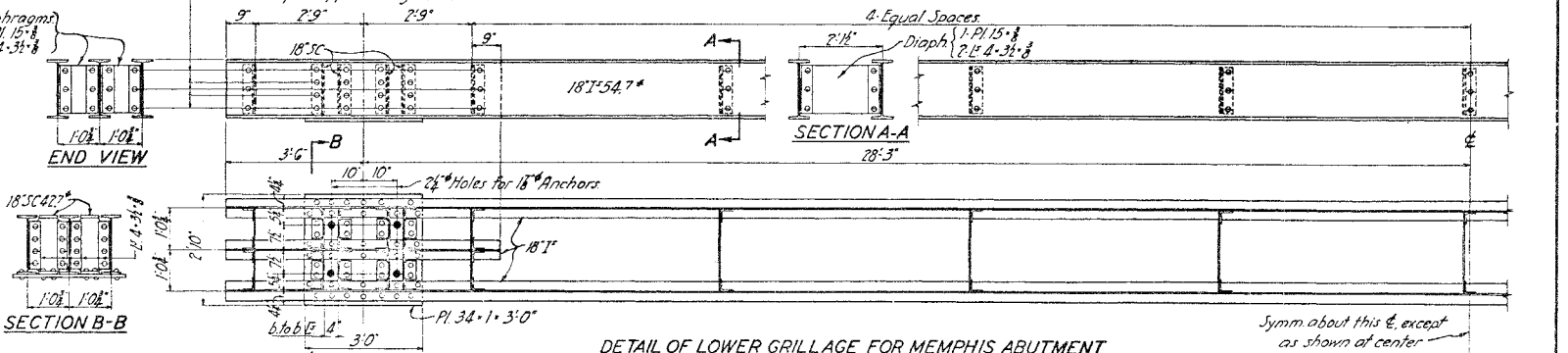
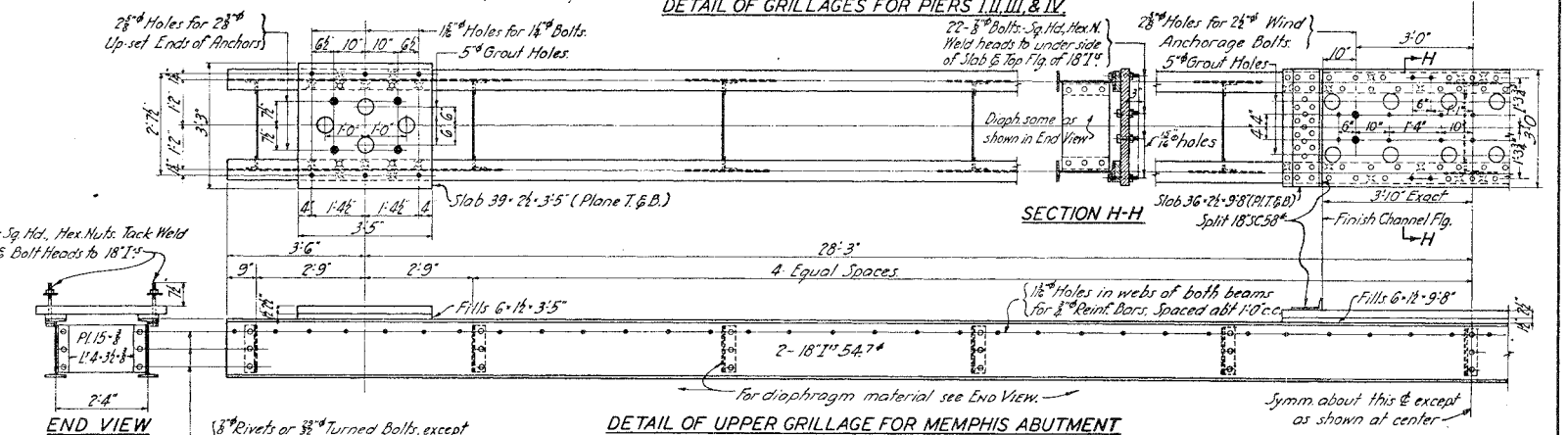
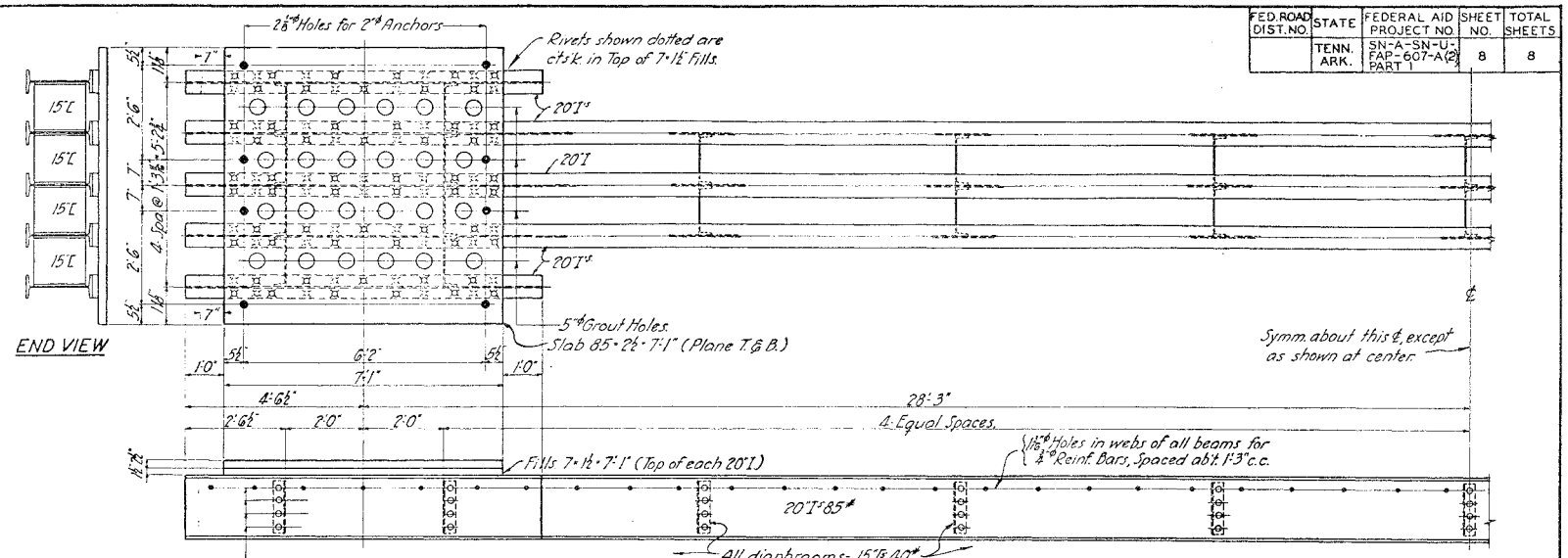
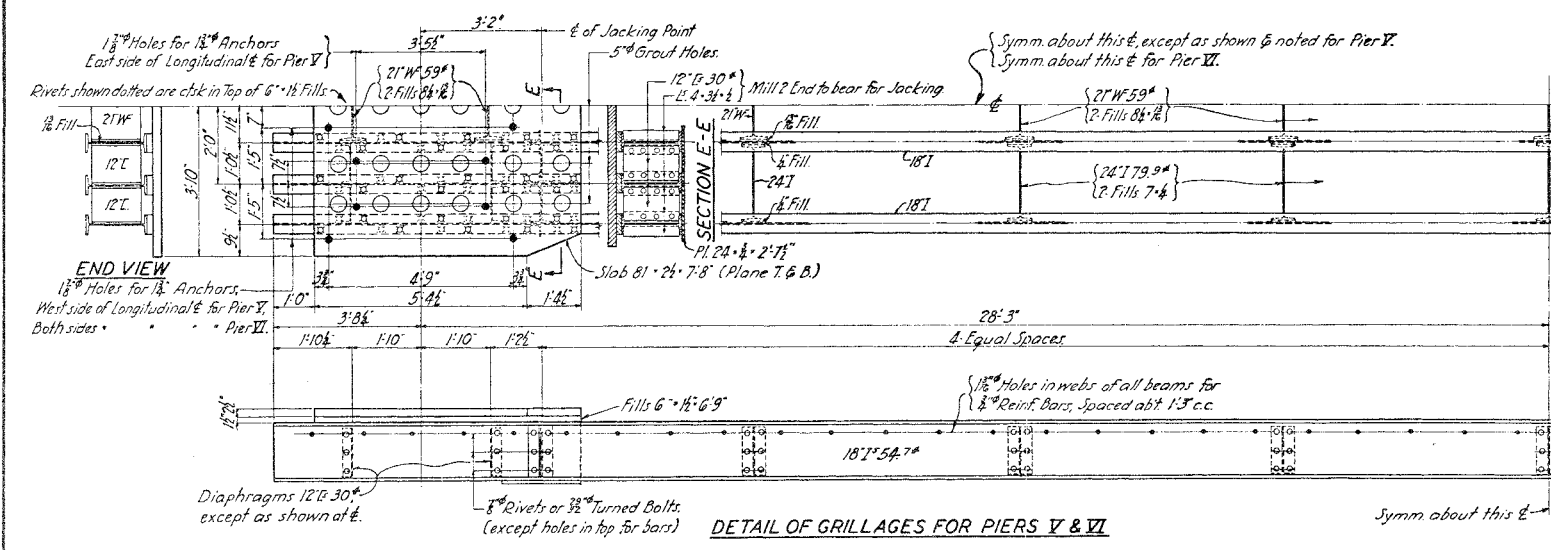
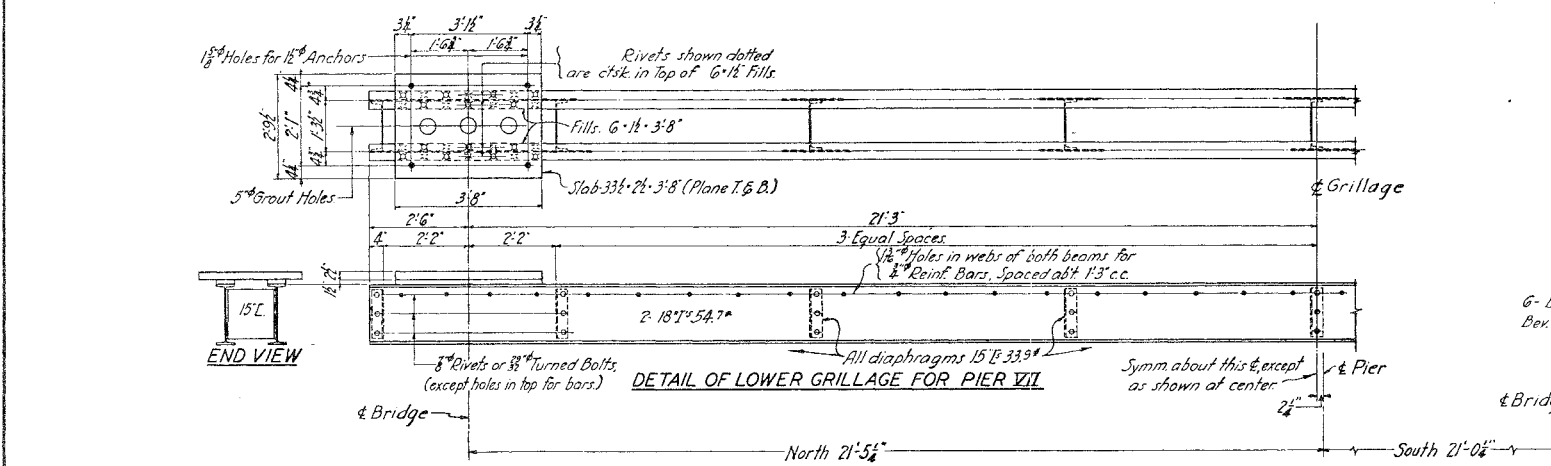
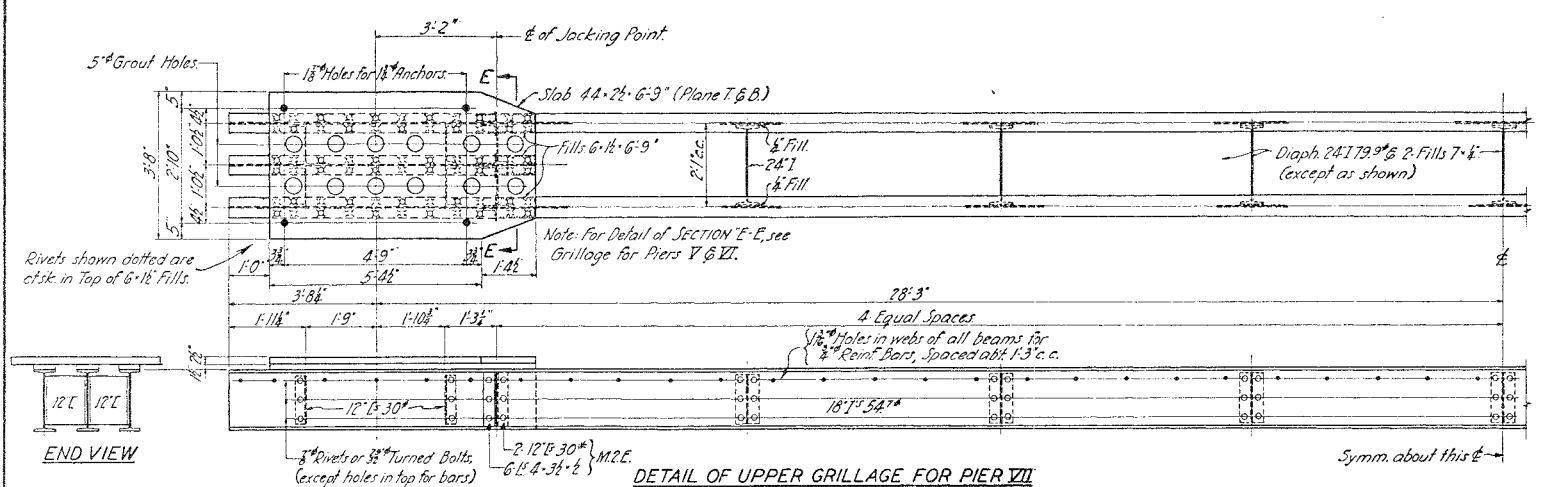
MAIN BRIDGE
MEMPHIS ABUTMENT
 SCALE IN FEET
 0 1 2 3 4 5

CONTRACT NO. 3
CONTRACT NO. 7
MODJESKI & MASTERS-ENGINEERS
OCTOBER-1944

DRAWING NO. 7
DRAWING NO. 23

K-102-76

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	TENN. ARK.	SN-A-SN-U- FAP-607-A(2) PART 1	8	8



NOTES:
 Grillages to be completely shop assembled to insure true and level bearing areas. Top of fills between slabs and top flanges of beams, to be planed after the beams are rigidly riveted or bolted together.
 Should Grillages be dismantled for shipping or erection purposes, the connected parts shall be match-marked.
 Center Lines shall be scribed, both directions, on top of slabs, and Anchor Bolt Templates furnished the Superstructure Contractor.
 All Anchor Bolt holes shall be drilled.
 All Material Medium Carbon Steel of A.S.T.M. designation A7-42.
 Rivets 8" Open Holes 8" except as noted.
 No Paint on Grillages except on top surface of bearing slabs.
 For shop details of these Grillages, see American Bldg. Co. Sheets 1, 2, 3, 4 & C3 of order H7730.

STATES OF TENNESSEE & ARKANSAS
MEMPHIS HIGHWAY BRIDGE
 ACROSS THE MISSISSIPPI RIVER AT MEMPHIS, TENNESSEE.
MAIN BRIDGE
GRILLAGE DETAILS
 SCALE IN FEET
 CONTRACT NO. 1 DRAWING NO. 8

APPROVED DATE
 J. M. Modjeski
 FOR MODJESKI & MASTERS
 MODJESKI & MASTERS-ENGINEERS
 OCTOBER 1944
 K-102-77
 THIS DRAWING REVISED OCT. 1947 TO SHOW THE WORK AS CONSTRUCTED
 D.R.C.R. TRUCKER WELLS

INDEX OF SHEETS

- 1 GENERAL PLAN & ELEVATION-ARKANSAS APPROACH
- 1A TABULATION OF QUANTITIES
- 2 PIERS A1 TO A9
- 3 PLAN OF REINFORCED CONCRETE TRESTLE
- 3A COMPL. OF REINF. CONC. TRESTLE ABOVE GR. LINE
- 4 CONCRETE TRESTLE-TYPICAL SECTIONS & DETAILS
- 5 PIER A10 & MISCELLANEOUS DETAILS

STATES OF TENNESSEE AND ARKANSAS

PLAN OF PROPOSED

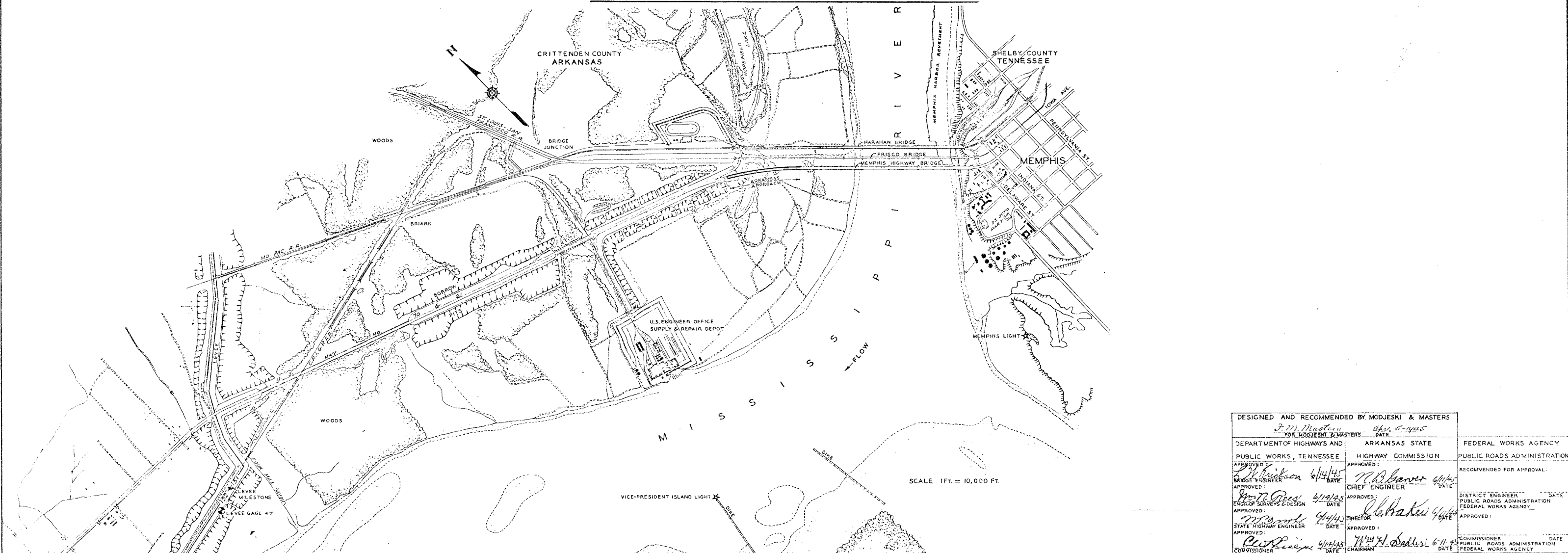
ARKANSAS APPROACH SUBSTRUCTURE

OF

MEMPHIS HIGHWAY BRIDGE

OVER MISSISSIPPI RIVER

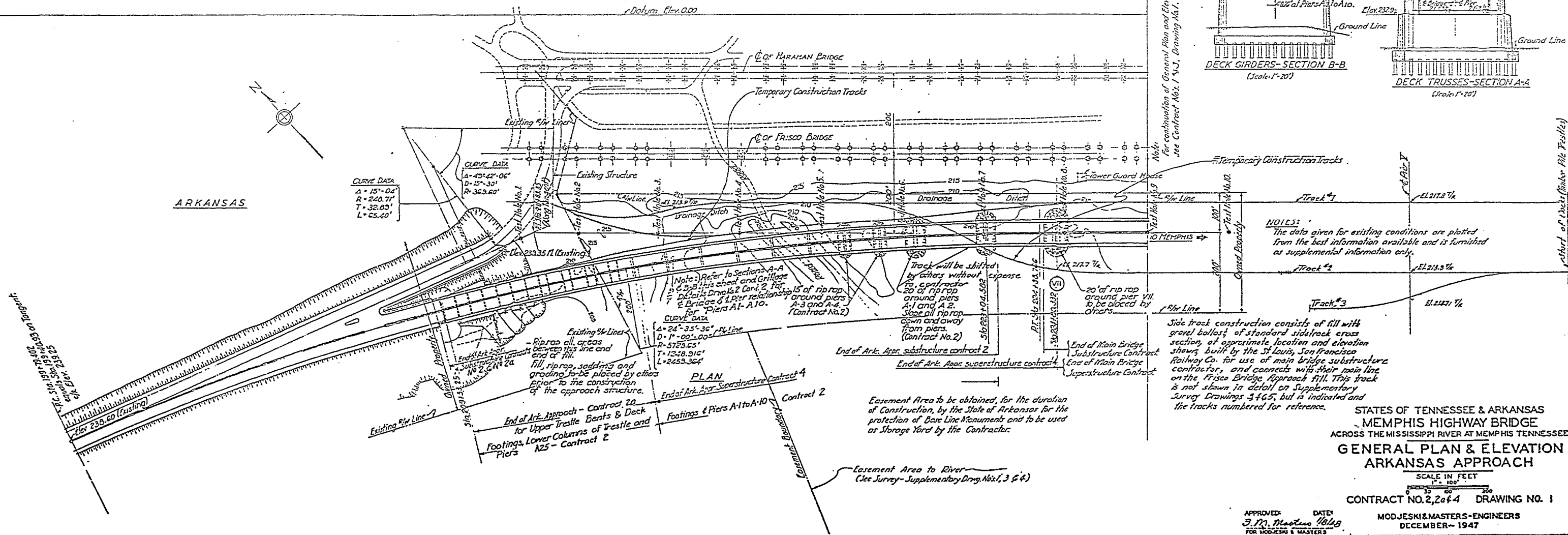
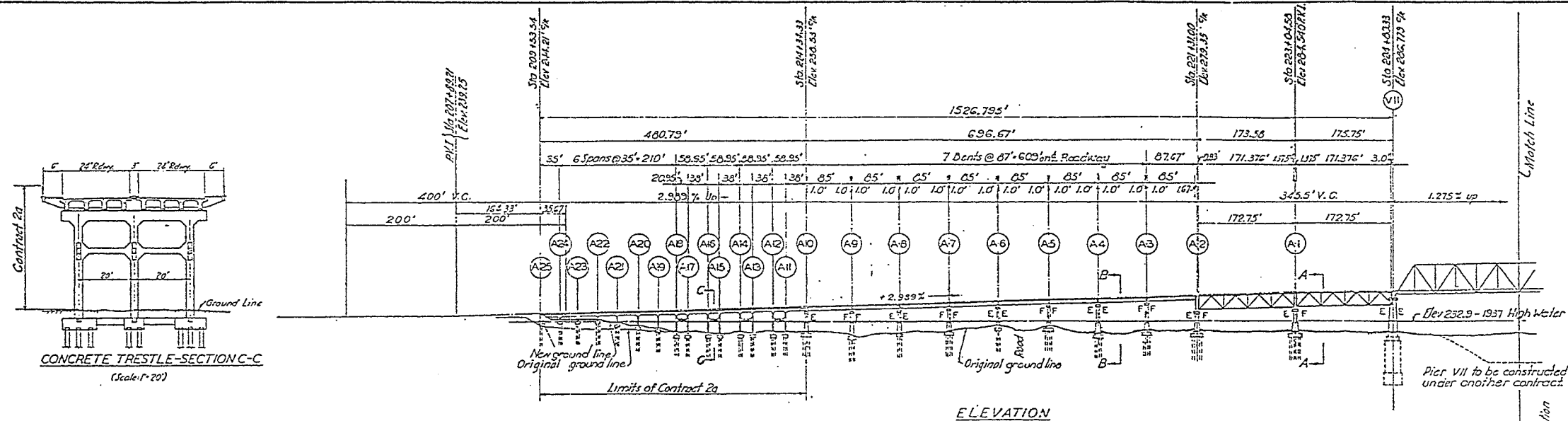
TENNESSEE—ARKANSAS
PROJECT NO. SN-A-SN-U-FAP-607-A(2), PARTS 2 & 2A
SHELBY COUNTY, TENN. - CRITTENDEN COUNTY, ARK.



DESIGNED AND RECOMMENDED BY MODJESKI & MASTERS			
FOR MODJESKI & MASTERS		DATE	
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS, TENNESSEE	ARKANSAS STATE HIGHWAY COMMISSION	FEDERAL WORKS AGENCY	PUBLIC ROADS ADMINISTRATION
APPROVED: <i>[Signature]</i> 6/14/45	APPROVED: <i>[Signature]</i> 6/14/45	RECOMMENDED FOR APPROVAL:	
BRIDGE ENGINEER	CHIEF ENGINEER	DISTRICT ENGINEER	DATE
APPROVED: <i>[Signature]</i> 6/14/45	APPROVED: <i>[Signature]</i> 6/14/45	PUBLIC ROADS ADMINISTRATION	DATE
ENGINEER SURVEYS & DESIGN	DIRECTOR	FEDERAL WORKS AGENCY	DATE
APPROVED: <i>[Signature]</i> 6/14/45	APPROVED: <i>[Signature]</i> 6/11/45	APPROVED:	
STATE HIGHWAY ENGINEER	CHAIRMAN	COMMISSIONER	DATE
APPROVED: <i>[Signature]</i> 6/14/45	APPROVED: <i>[Signature]</i> 6/11/45	PUBLIC ROADS ADMINISTRATION	DATE
COMMISSIONER	CHAIRMAN	FEDERAL WORKS AGENCY	DATE

K-102-78

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	TENN. ARK.	SN-A-SN-U- FAP-007-A(2) PARTS 2,2a,6d	1	5



FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	TENN. ARK.	SN-A-SN-U- FAP-607-A(2) PART 2 of 2a	1A	5

ITEM NO.		WORK	ESTIMATED QUANTITIES			FINAL QUNTITIES	
CONTRACT 2	CONTRACT 2a		CONTRACT 2	CONTRACT 2a	TOTAL - CONTRACT 2 & 2a	CONTRACT 2	CONTRACT 2a
1		Preparation and Cleaning Up of Site.					
2		Piles in Place.	33,000 lin. ft.		33,000 lin. ft.	21350.1 lin. ft. 11975.8 lin. ft.	
3		Concrete in Footings, Piers A1 to A10 inclusive.	1600 cu. yds.		1600 cu. yds.	1600.5 cu. yds.	
4		Concrete in Footings, Trestle Bents All to A25.	720 cu. yds.		720 cu. yds.	716.1 cu. yds.	
5		Concrete in Shafts above top of Footings, Piers A1 to A10 inclusive.	3680 cu. yds.		3680 cu. yds.	3752.5 cu. yds.	
6		Concrete Trestle above tops of Footings, A10 through A25 except Median Strip.	146 cu. yds.		146 cu. yds.	146 cu. yds.	
	1	Concrete in Trestle above Ground Line, A10 through A25, except Median Strip.		2062 cu. yds.	2208 cu. yds.		2062 cu. yds.
7	2	White Cement Concrete in Median Strip, A10 through A25	0 cu. yds.	26 cu. yds.	26 cu. yds.		26 cu. yds.
8	3	Reinforcing Steel in place except Pile Reinforcement.	276,000 pounds	424,000 pounds	700,000 pounds	278,023 pounds	424,178 pounds
9	4	Metalwork and Anchor Bolts in Place.	25,000 pounds	175,000 pounds	200,000 pounds	27925 pounds	176,734 pounds
10		Riprap Paving around Piers A1 to A4 inclusive.	120 squares		120 squares	166.8 squares	

STATES OF TENNESSEE & ARKANSAS
MEMPHIS HIGHWAY BRIDGE
ACROSS THE MISSISSIPPI RIVER AT MEMPHIS TENNESSEE
ARKANSAS APPROACH SUBSTRUCTURE
TABULATION OF QUANTITIES

CONTRACTS NO. 2 & 2a DRAWING NO. 1A

APPROVED DATE
M. Masters April 1945
FOR MODJESKI & MASTERS

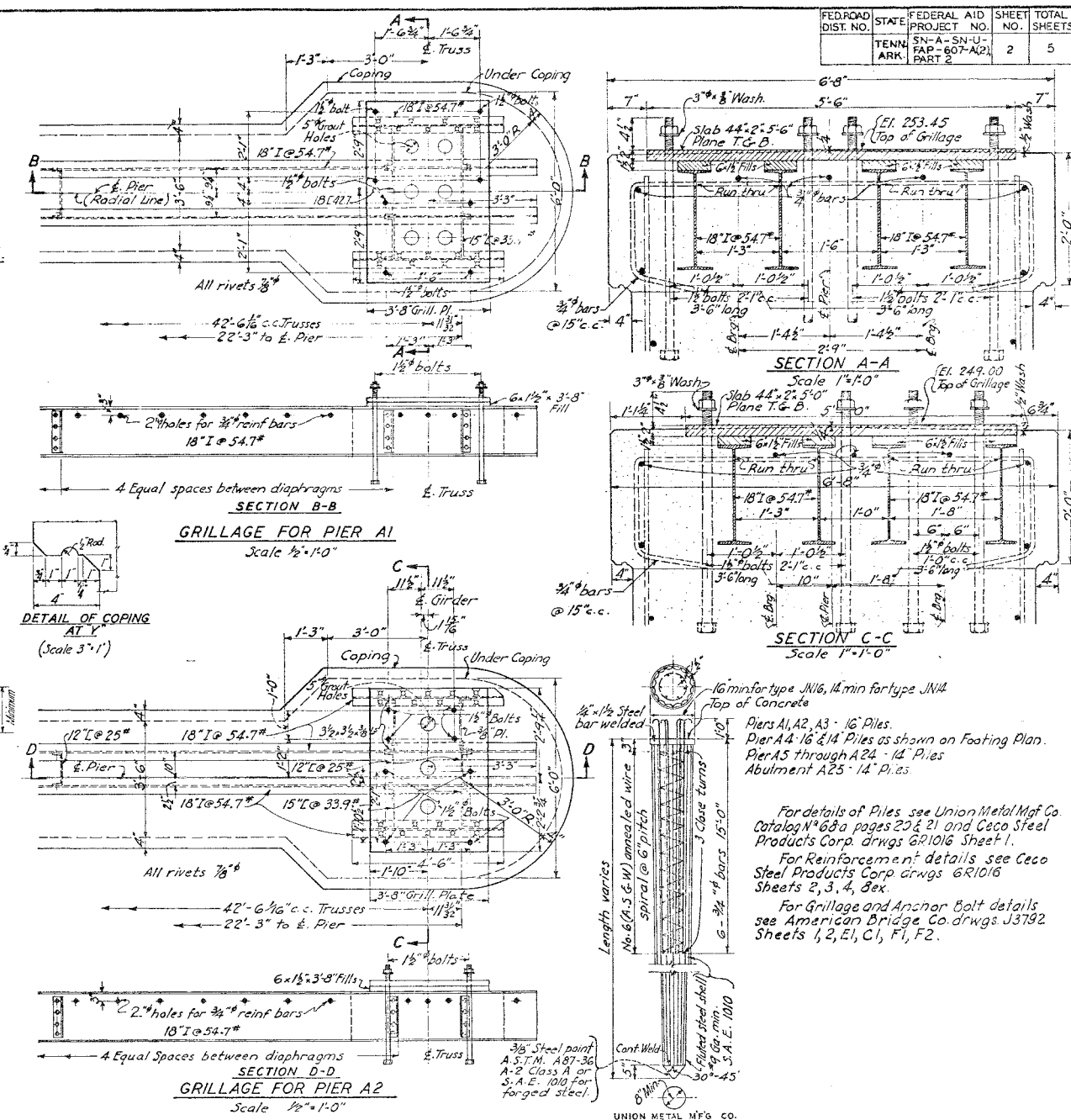
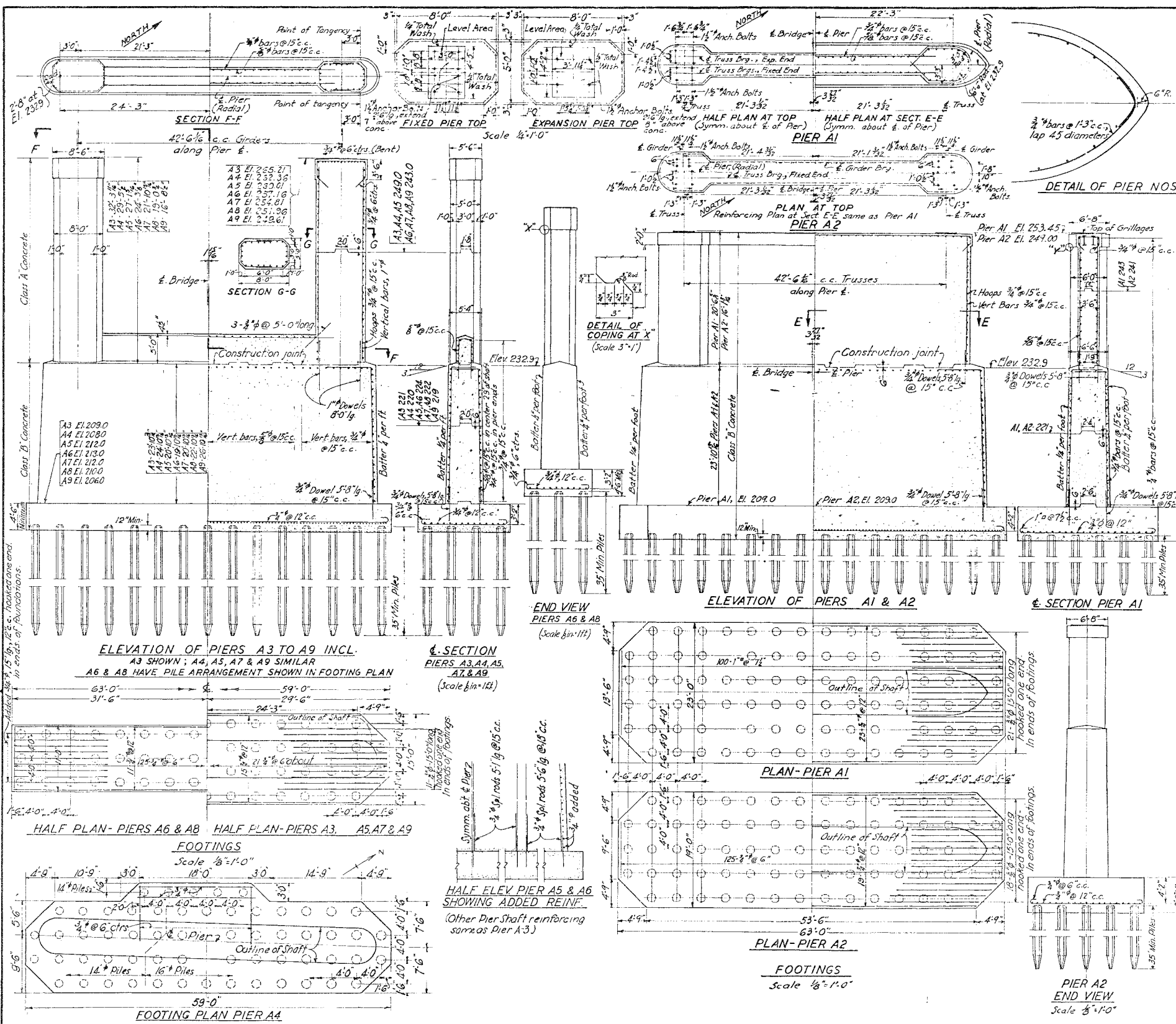
MODJESKI & MASTERS - ENGINEERS
APRIL 1945

THIS DRAWING REVISED OCT. 1945
TO SHOW THE WORK
AS CONSTRUCTED

K-102-80

DR. R.D.K. TR. R.D.K. CK. H.J.E.

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
100	ARK.	100	2	5



Grillages to be completely shop assembled to insure true and level bearing areas. Top of fills, between Slabs and Top Flanges of Beams, to be placed after the beams are rigidly attached together. Should Grillages be dismantled for shipping or erection the connected parts shall be match-marked. Center lines shall be scribed on Slabs and Anchor bolt Template furnished the Superstructure Contractor.

Pile Loads used are Dead Load = 29 tons per pile; Dead plus Live = 32 tons per pile.

Set all piers radially and locate piers at offsets from bridge center line in accordance with sections shown on "General Plan" of Arkansas Approach.

Cast-in-place piles shall be Class "A" conc.

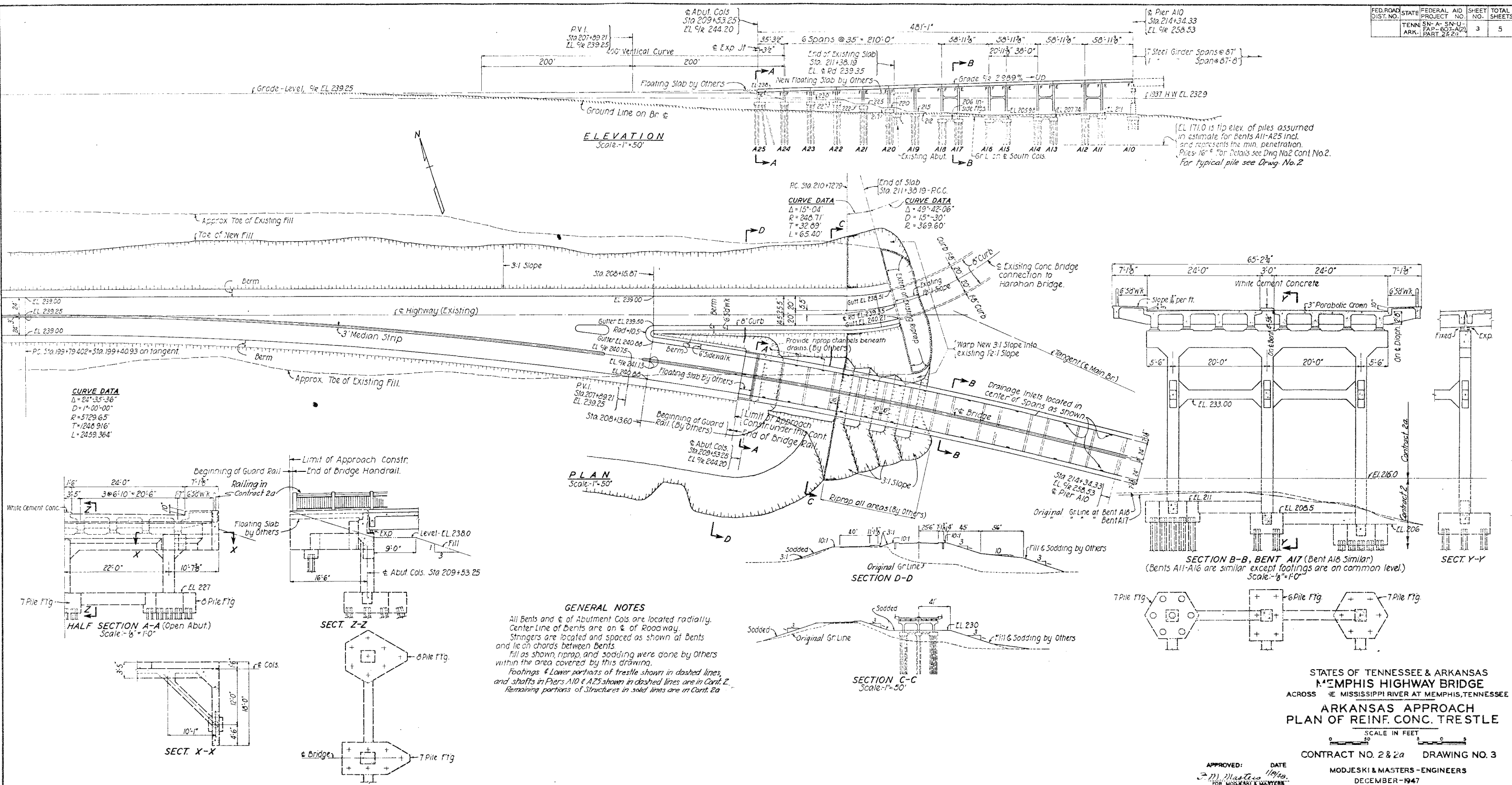
All reinforcing shall be of deformed type, and lapped 40 diameters at splices.

APPROVED: DATE MODJESKI & MASTERS - ENGINEERS APRIL - 1945

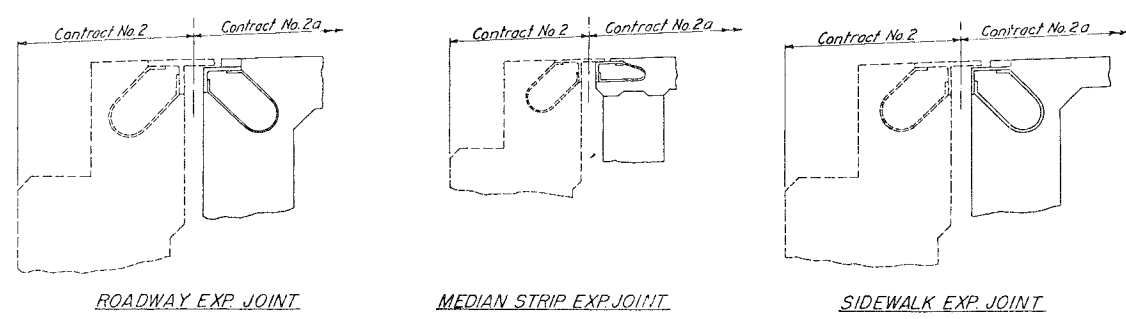
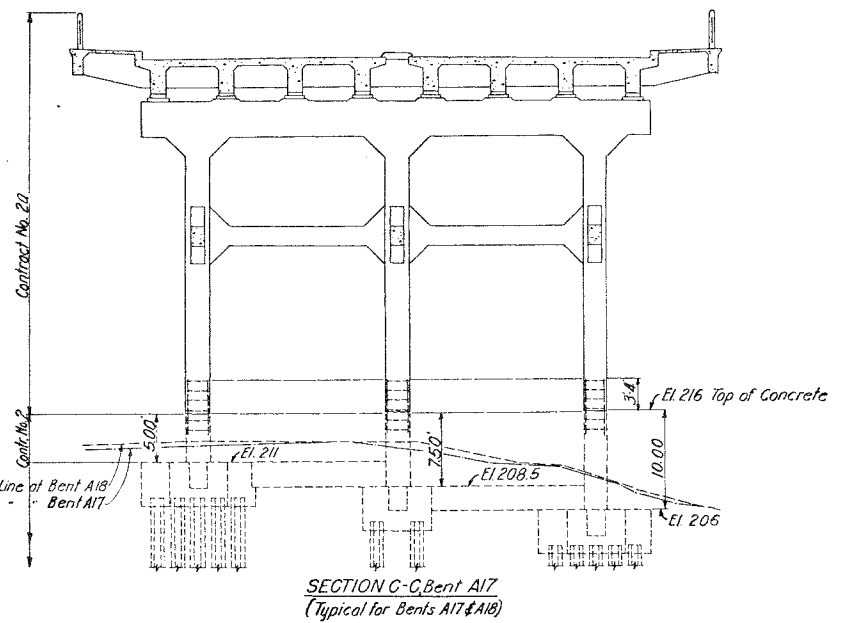
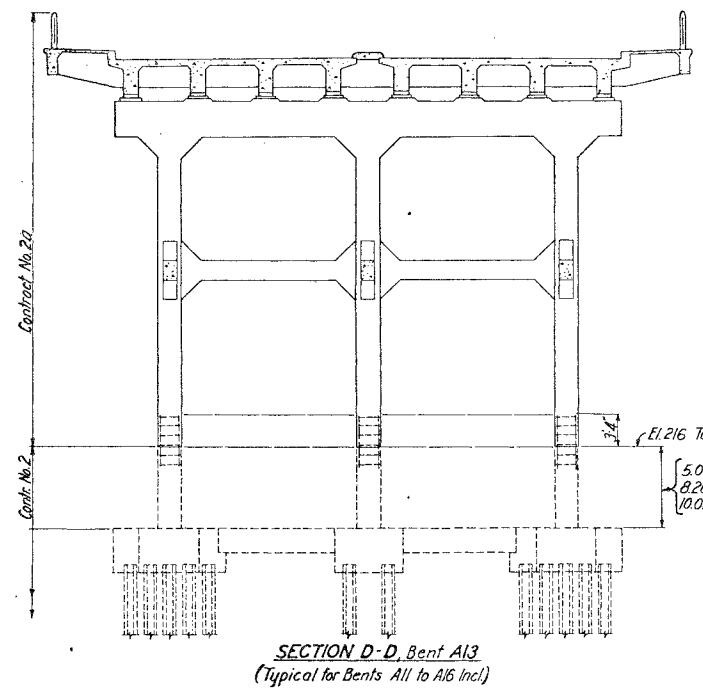
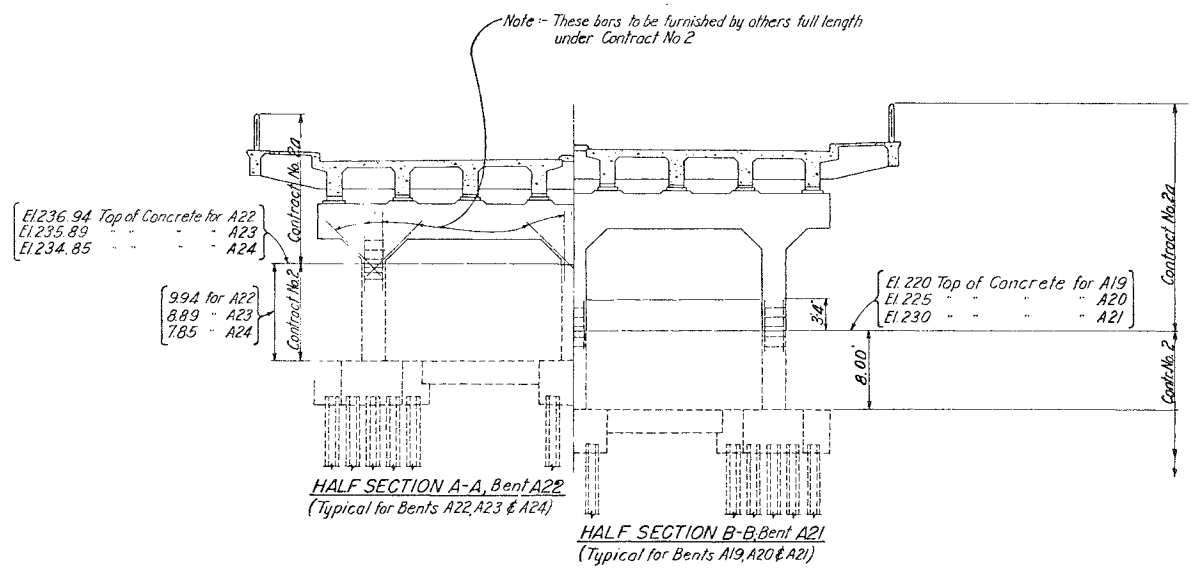
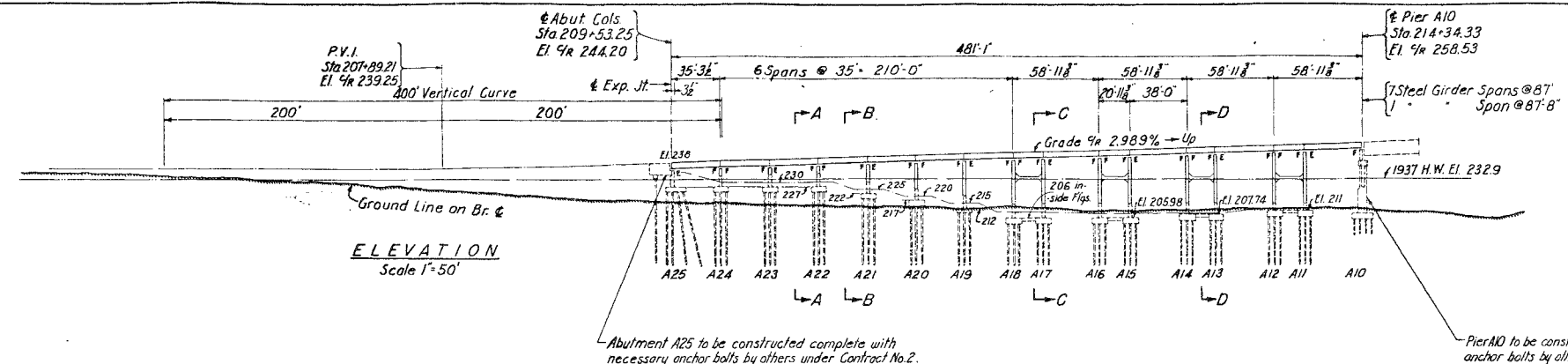
CONTRACT NO. 2 DRAWING NO. 2

STATES OF TENNESSEE & ARKANSAS
MEMPHIS HIGHWAY BRIDGE
ACROSS THE MISSISSIPPI RIVER AT MEMPHIS, TENNESSEE
ARKANSAS APPROACH
PIERS A1 TO A9
SCALES IN FEET

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
10	TENN.	10	3	5
	ARK.	10		



FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	TENN. ARK.	SN-A-SN-U FAP-607-A(2) PART 2a	3A	5



SECTIONS THROUGH EXPANSION DAM AT ABUTMENT - A25
(For details see Dwg Nos. 4 & 5)

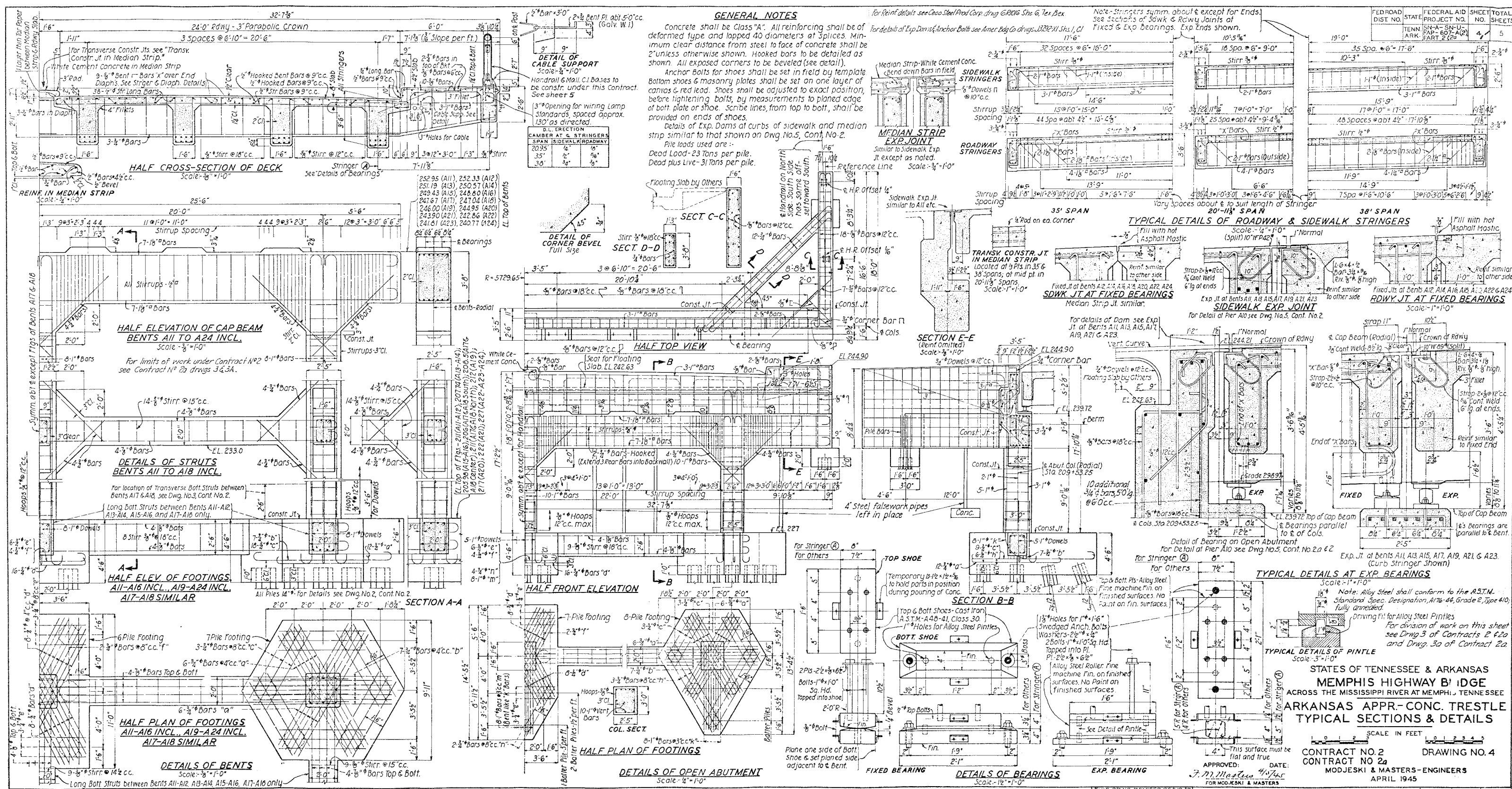
CONTRACT NO. 2 Column Stubs and Abutment A25 as indicated with dotted lines are to be constructed under Supplemental Agreement. Work includes Column Stubs for Bents A11 to A24 inclusive as indicated on this sheet, and Abutment A25 complete including one half end dam and anchor bolts as shown on Drawing No. 4, Contract No. 2, and handrail anchor bolts as shown on Drawing Nos. 4 and 5, Contract No. 2, comprising parts of Items 6, 8, and 9 in the original Contract No. 2. Top edges of Columns to be protected with timber corner strips, and protruding reinforcement to be given cement wash.

CONTRACT NO. 2a Includes all work above Column Stubs from Pier A10 to Abutment A25. Portions of structures shown in dashed lines not included in Contract 2a, including removal of timber corner strips, cleaning of cement coating from reinforcement and all work required to prepare the existing construction for connection with the trestle construction.

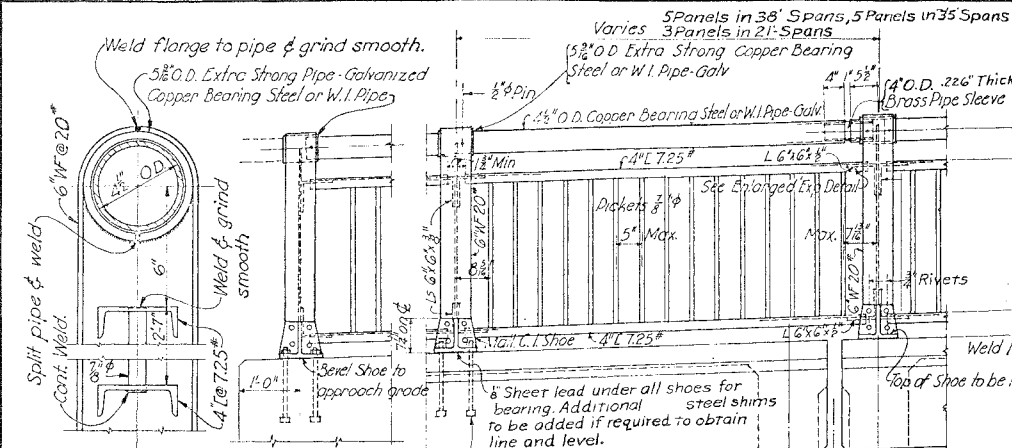
This work under Contract 2 completed prior to the start of work under Contract 2a.

STATES OF TENNESSEE & ARKANSAS
MEMPHIS HIGHWAY BRIDGE
ACROSS THE MISSISSIPPI RIVER AT MEMPHIS, TENNESSEE
ARKANSAS APPROACH
COMPL. OF REINF. CONC. TRETTLE ABOVE GR. LINE

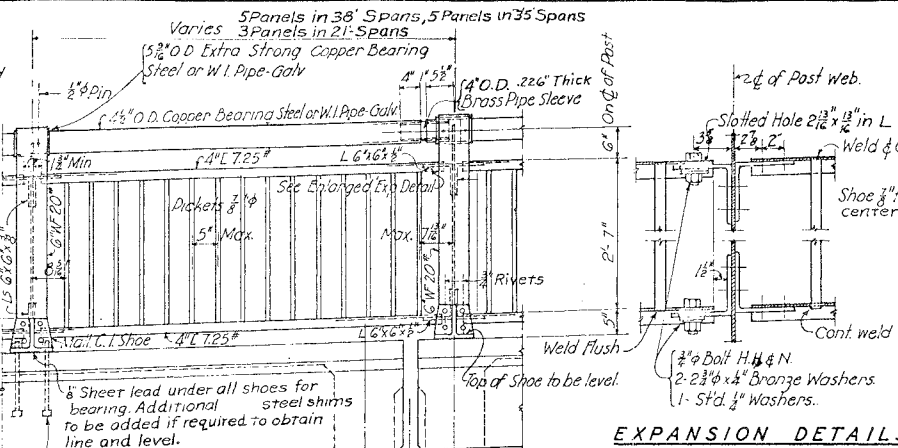
SCALE IN FEET
CONTRACT NO. 2a DRAWING NO. 3A
APPROVED: DATE
F. Fri. Masters 1/8/48.
FOR MODJESKI & MASTERS
MODJESKI & MASTERS - ENGINEERS
DECEMBER - 1947



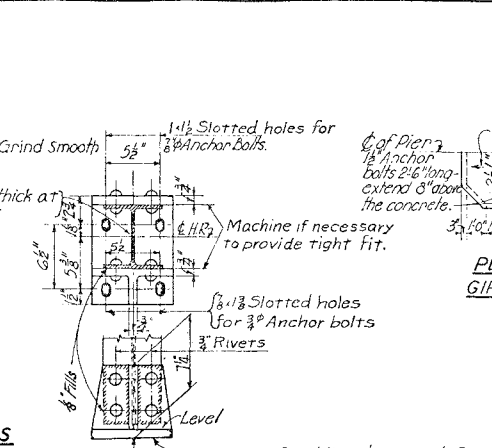
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET TOTAL
ARK. 22	ARK.	SN-A-SN-U-1 PART 2 of 2	5 5



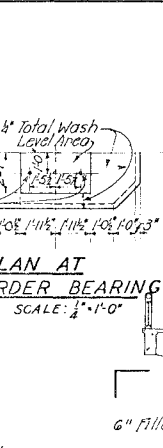
DETAIL OF RAILING & POST
SCALE 3"=1'-0"



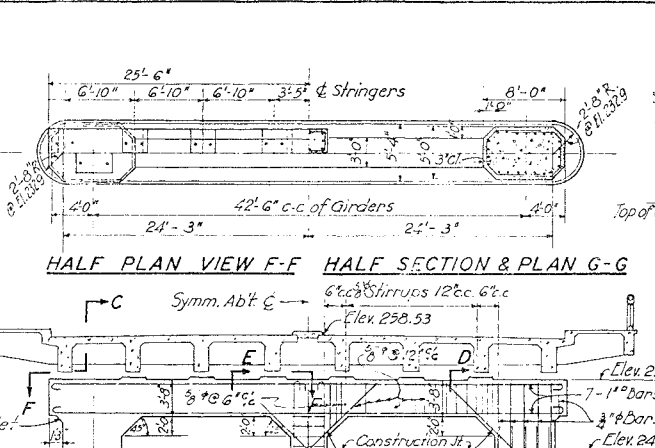
TYPICAL PANEL
SCALE 1"=1'-0"



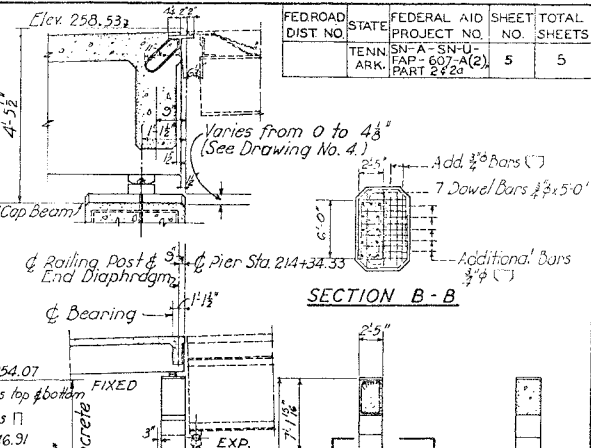
EXPANSION DETAILS
SCALE 1 1/2"=1'-0"



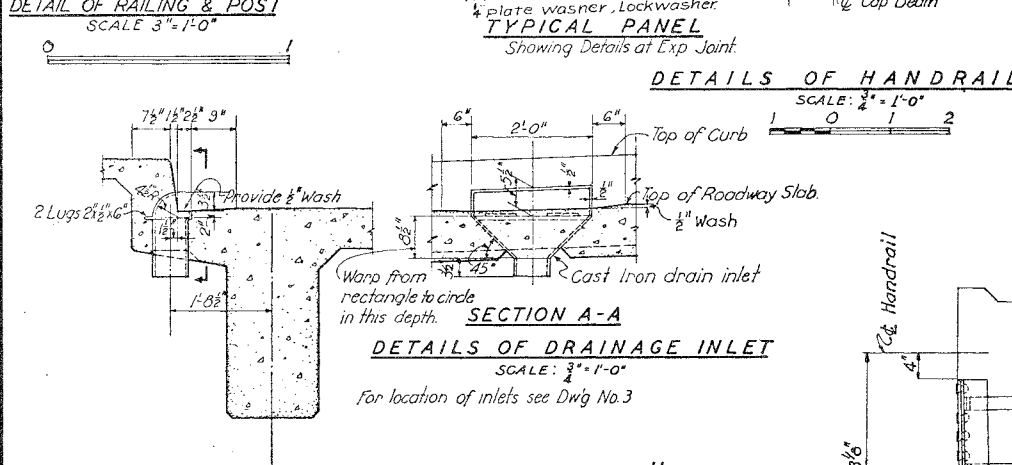
DETAILS OF MALLEABLE C.I. SHOE
SCALE 1 1/2"=1'-0"



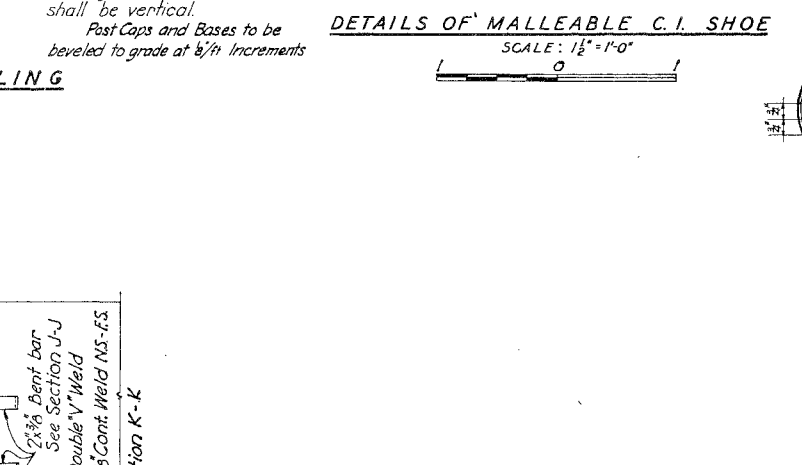
PLAN AT GIRDER BEARING
SCALE 1/2"=1'-0"



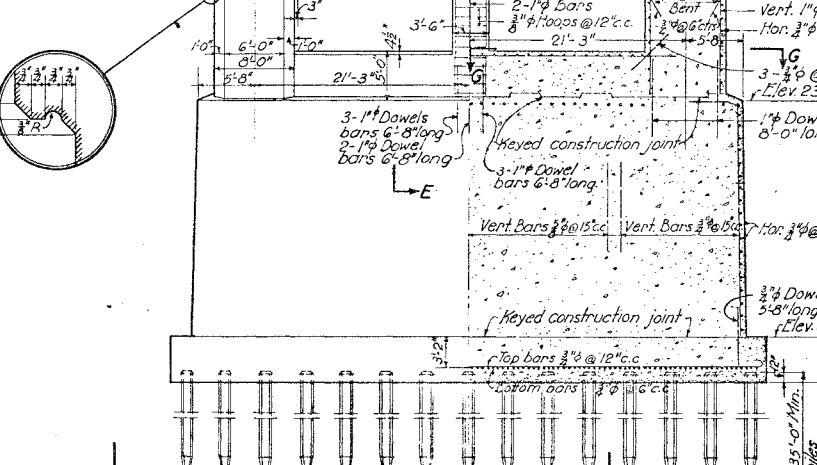
HALF PLAN VIEW F-F
SCALE 1/2"=1'-0"



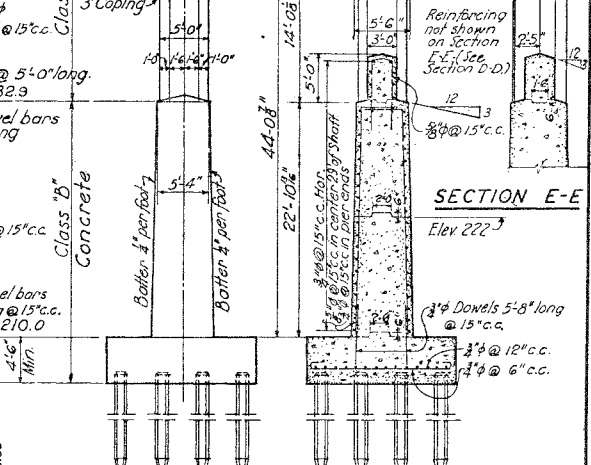
DETAILS OF DRAINAGE INLET
SCALE 3/4"=1'-0"



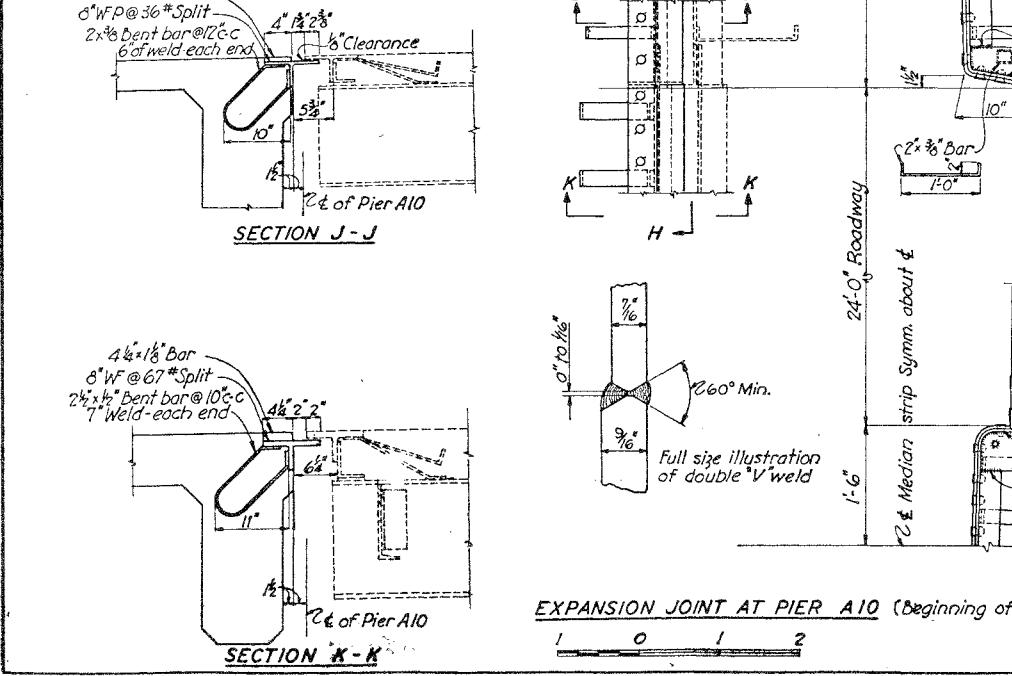
DETAILS OF HANDRAILING
SCALE 1/2"=1'-0"



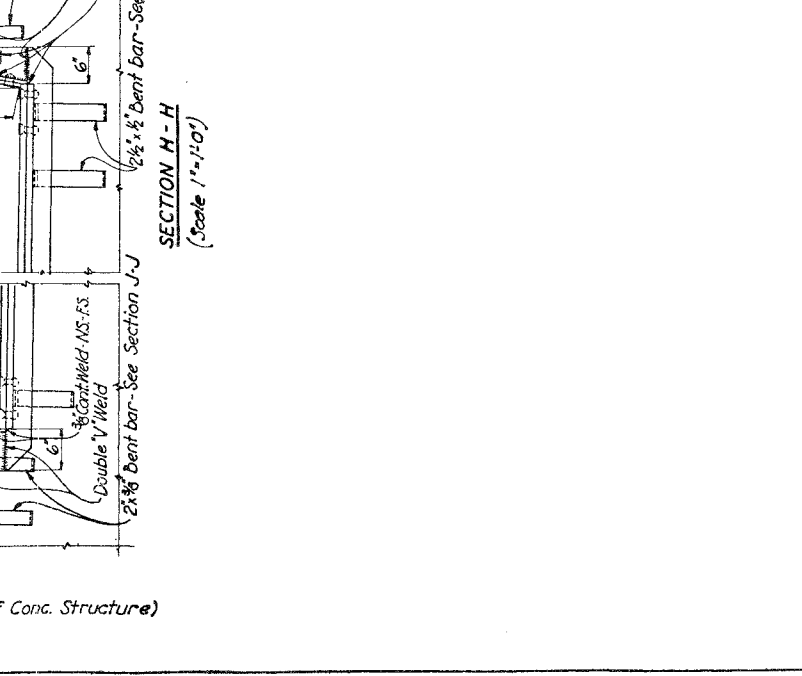
HALF PIER ELEVATION
SCALE 1/2"=1'-0"



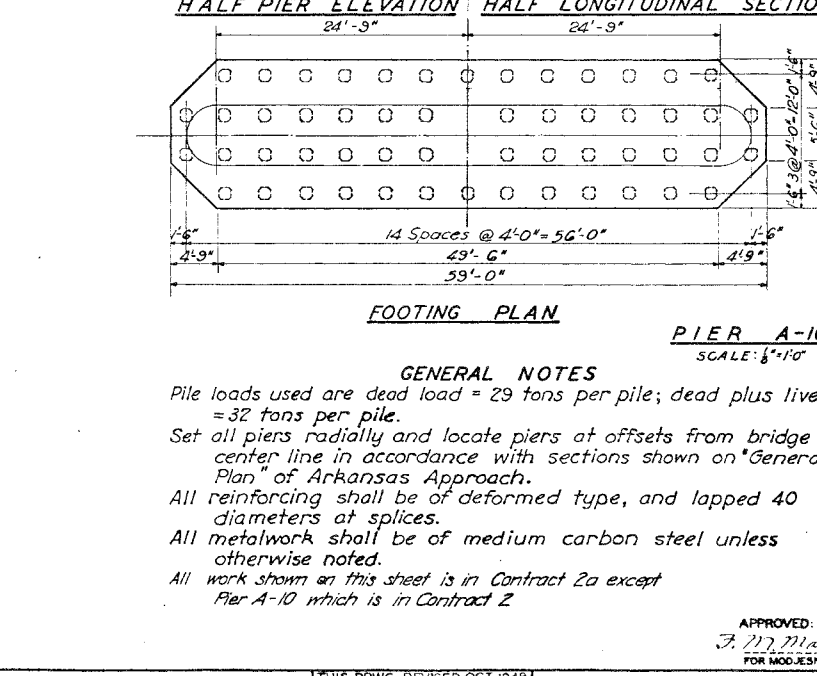
END ELEVATION
SCALE 1/2"=1'-0"



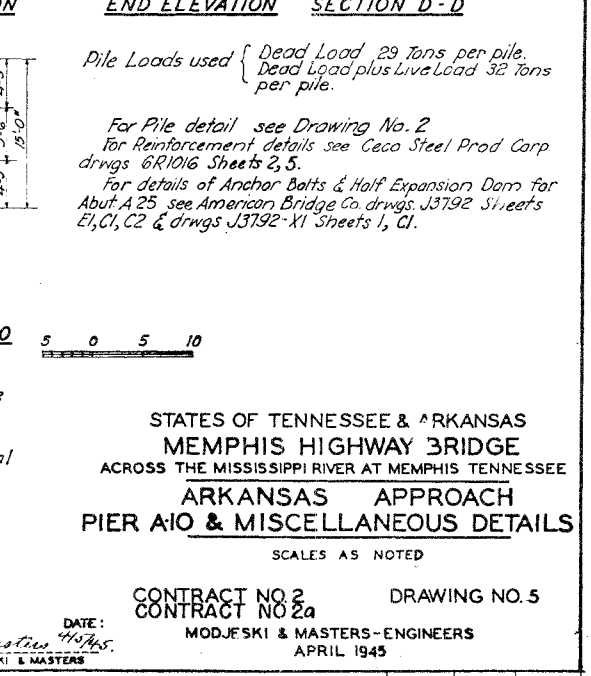
SECTION J-J
SCALE 1/2"=1'-0"



SECTION K-K
SCALE 1/2"=1'-0"



FOOTING PLAN
SCALE 1/2"=1'-0"



PIER A-10
SCALE 1/2"=1'-0"

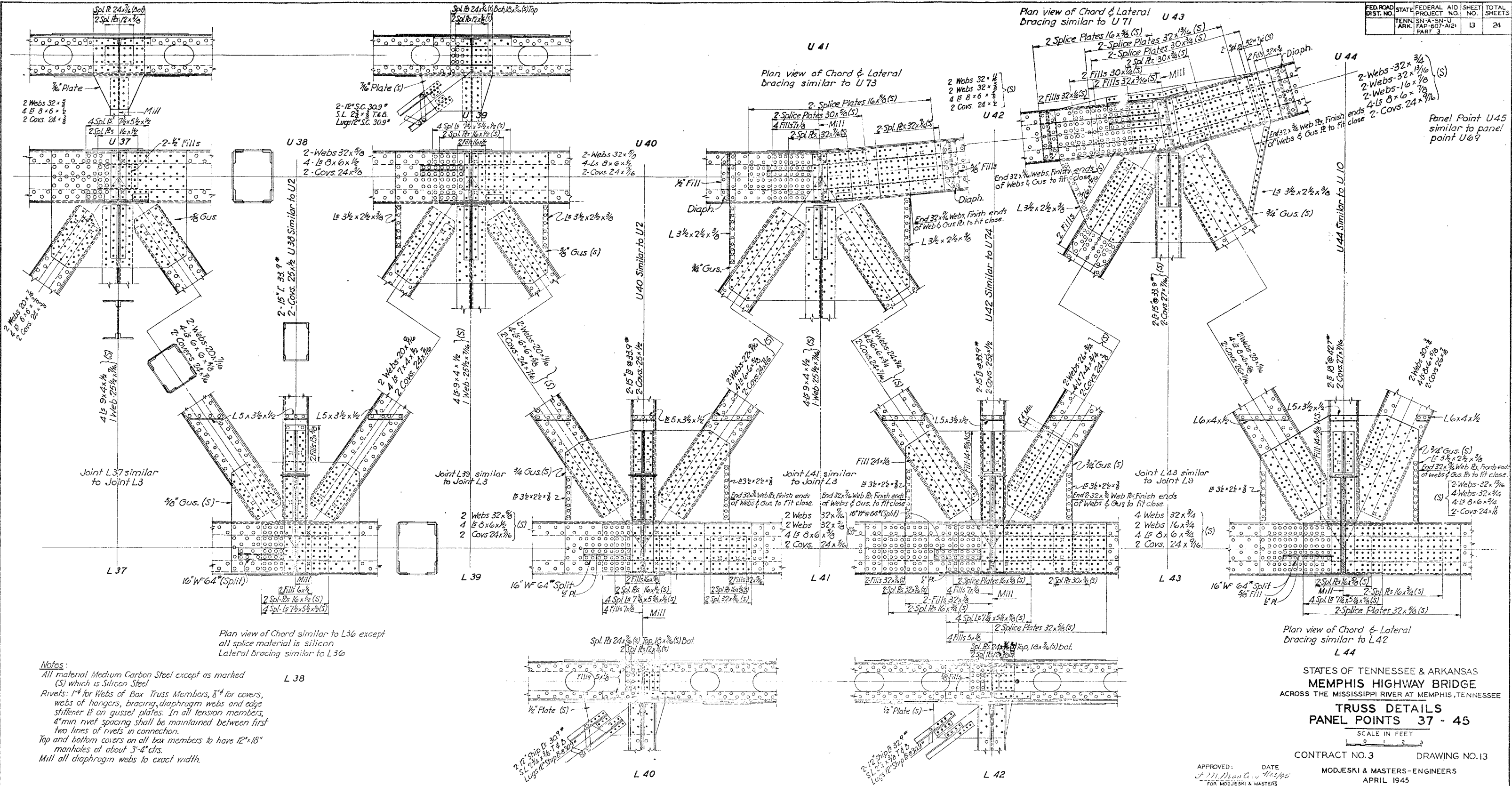
GENERAL NOTES
Pile loads used are dead load = 29 tons per pile; dead plus live = 32 tons per pile.
Set all piers radially and locate piers at offsets from bridge center line in accordance with sections shown on "General Plan" of Arkansas Approach.
All reinforcing shall be of deformed type, and lapped 40 diameters at splices.
All metalwork shall be of medium carbon steel unless otherwise noted.
All work shown on this sheet is in Contract 2a except Pier A-10 which is in Contract 2

STATES OF TENNESSEE & ARKANSAS
MEMPHIS HIGHWAY BRIDGE
ACROSS THE MISSISSIPPI RIVER AT MEMPHIS, TENNESSEE
ARKANSAS APPROACH
PIER A10 & MISCELLANEOUS DETAILS
SCALES AS NOTED

CONTRACT NO. 2
CONTRACT NO. 2a
MOD. JESKI & MASTERS-ENGINEERS
APRIL 1945
DRAWING NO. 5

THIS DRAWING REVISED OCT. 1949
TO SHOW THE WORK
AS CONSTRUCTED

K-102-85



STATES OF TENNESSEE & ARKANSAS
MEMPHIS HIGHWAY BRIDGE
ACROSS THE MISSISSIPPI RIVER AT MEMPHIS, TENNESSEE

TRUSS DETAILS
PANEL POINTS 37 - 45

SCALE IN FEET

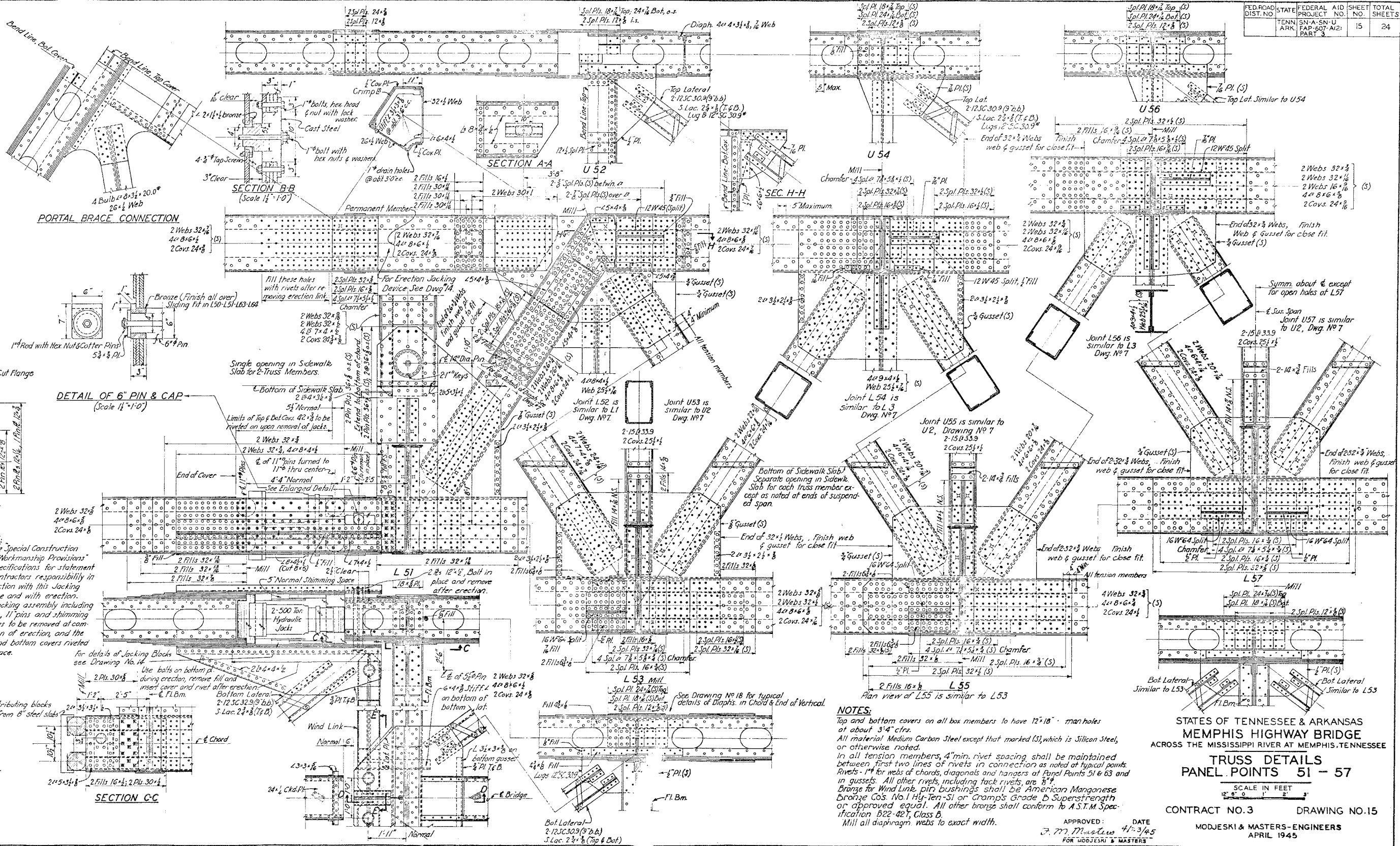
CONTRACT NO. 3 DRAWING NO. 13

MODJESKI & MASTERS-ENGINEERS
APRIL 1945

APPROVED: DATE
J. J. M. C. 4/15/45
FOR MODJESKI & MASTERS

K-102-86

DR. CVK TR. CK



STATES OF TENNESSEE & ARKANSAS
MEMPHIS HIGHWAY BRIDGE
ACROSS THE MISSISSIPPI RIVER AT MEMPHIS, TENNESSEE

TRUSS DETAILS
PANEL POINTS 51 - 57

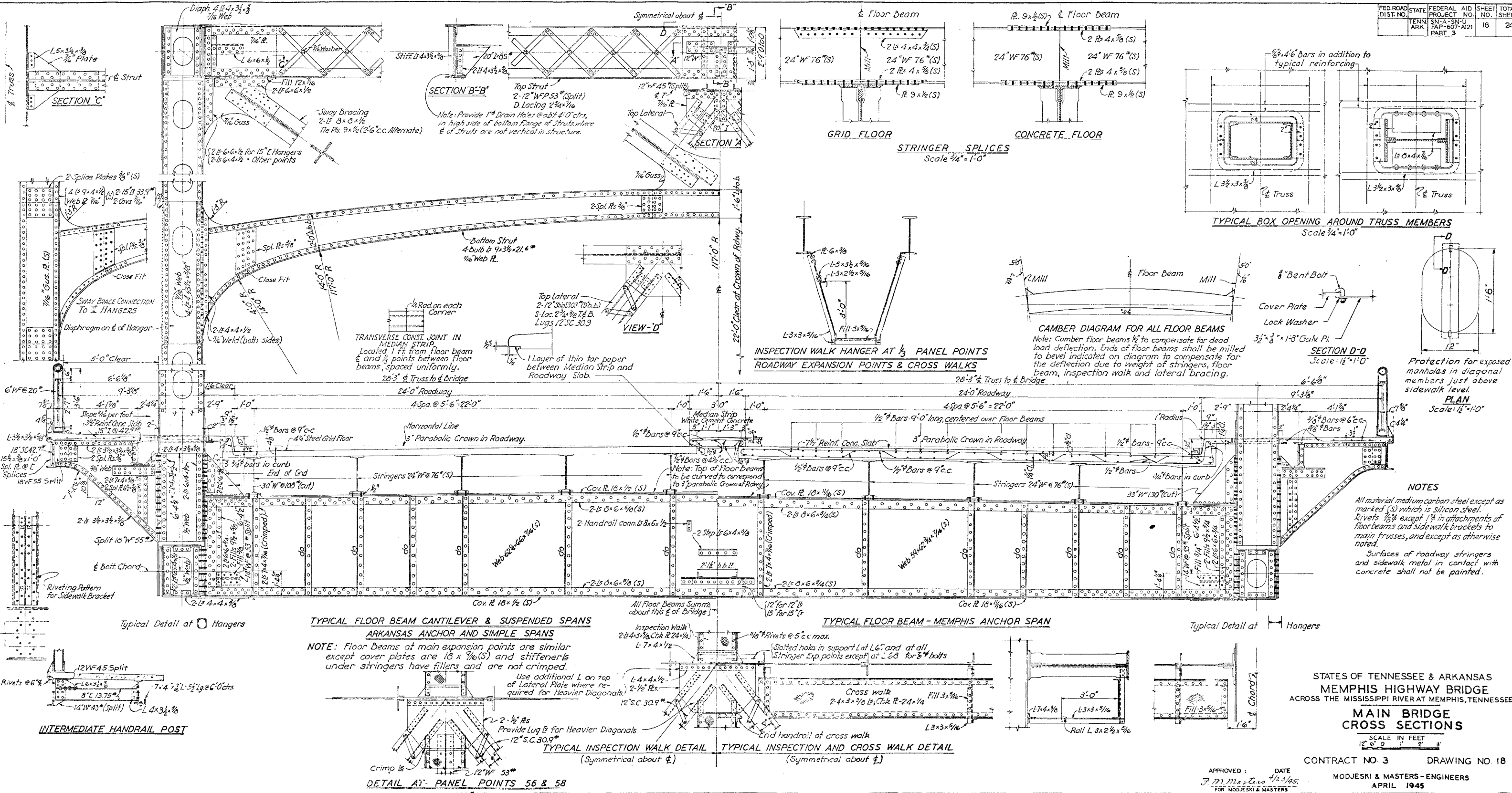
SCALE IN FEET
1" = 1'-0"

CONTRACT NO. 3 DRAWING NO. 15

MODJESKI & MASTERS-ENGINEERS
APRIL 1945

APPROVED: DATE
J. P. Masterson 4/13/45
FOR MODJESKI & MASTERS

THIS DRAWING REVISION 1945 TO SHOW THE WORK AS CONSTRUCTED K102-88 Per 10-2-46 to "close fit" DR. G.C.B. TR. G.C.B. CK. S.R.R.



FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	TENN.	SN-A-SN-U	21	24
	ARK.	FAP-697-A(2)		
		PART 3		

SPECIFICATIONS FOR NAVIGATION LIGHTS

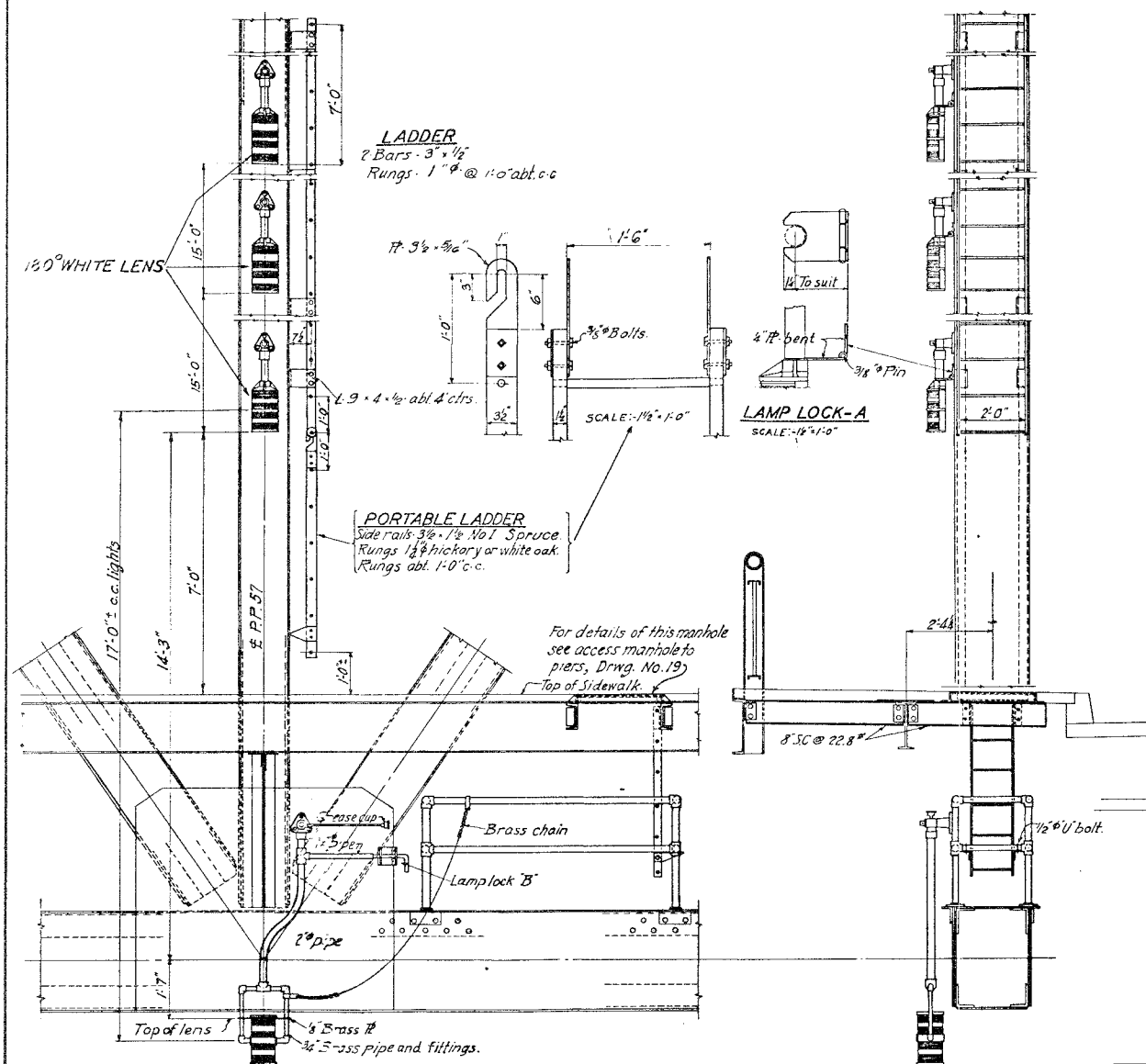
Green Clearance Lights: - One 100 watt inside frosted bulb arranged to show through 360° 200 m.m. green fresnel lens. One light to be placed on the down stream side of the bridge, at the center of each of the two 621.064 foot spans and at the center of the 790.416 foot span.

White Navigation Lights: - One set of three white 40 watt inside frosted lights with appropriate fixtures to show thru 180°, to be placed, as indicated, on the down stream side of the bridge, in a vertical line at the center of the 790.416 foot span, directly above the green clearance light. The first light shall be 7'0" above the top of sidewalk with the other two lights at intervals of 15'0" above.

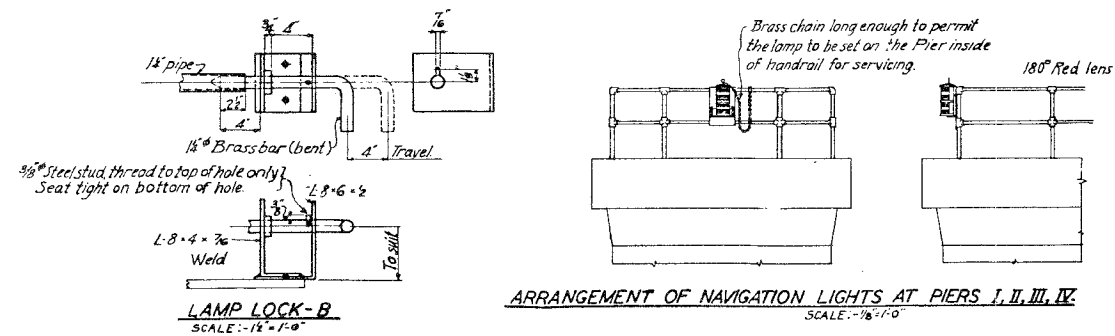
Red Navigation Lights: - One 100 watt clear or inside frosted bulb arranged to show through 180° with 200 m.m. red fresnel lens. One light shall be placed on the up stream end and one on the down stream end of Piers No. I, II, III and IV, supported on the handrail as indicated.

All Navigation and Clearance lights shall be equipped with an extra bulb of specified wattage and a coil in the base so arranged that when one bulb burns out the other will cut in automatically.

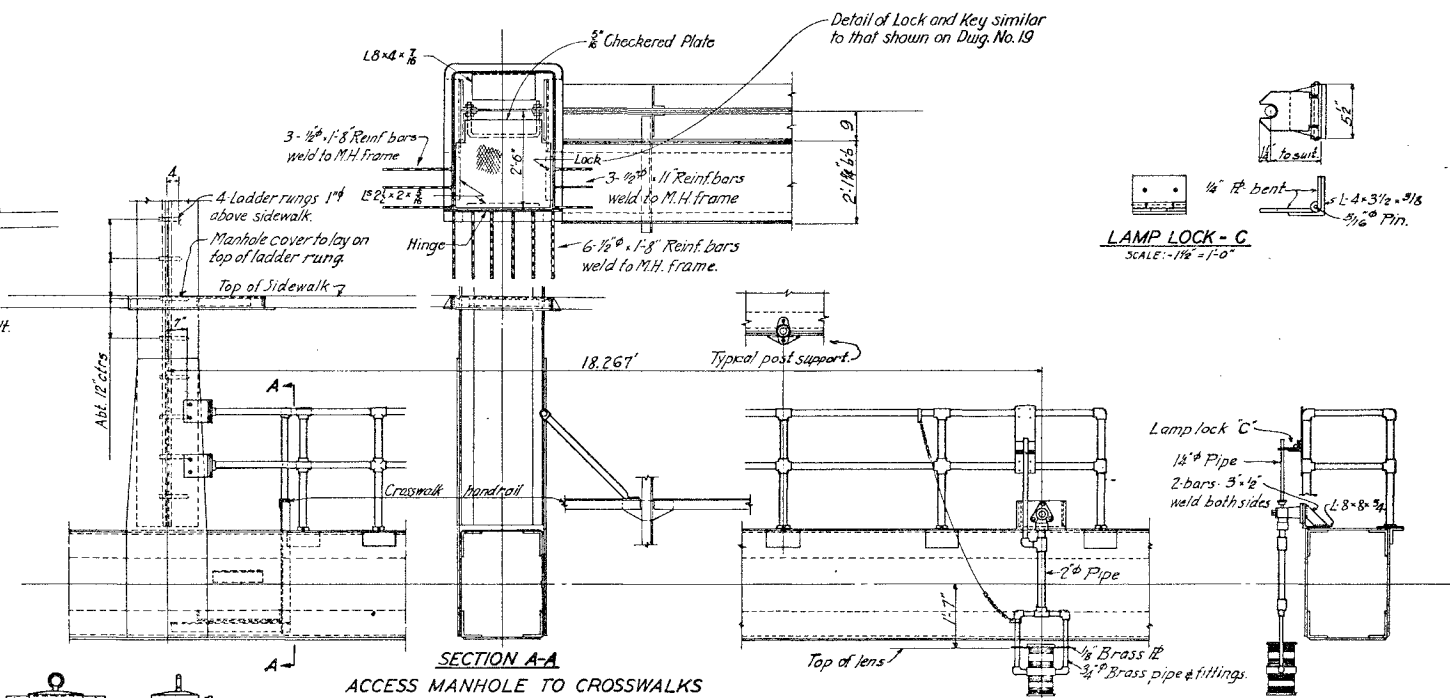
The bottom and body of all lamp fixtures shall be made of #8 B&S gauge sheet copper or cast aluminum. The fixtures shall be fitted with two lamp sockets and water tight connections. Guards shall be of 1/4" hard brass, sweat soldered with 1/4" brass wire clips. All guards shall be removable to permit installation of new lens in the field. Fresnel lens shall be of solid color, as specified, set in sheet cork and fastened top and bottom with heavy brass strips and machine screws. All castings shall be heavy cast brass or aluminum. All trimmings shall be of heavy strip drawn brass, copper riveted. Doors shall be hinged, latched and securely fastened and arranged for convenient access to all renewable parts. Fixtures shall be weatherproof and water proof. All fixtures having 180° lens shall have doors in rear.



ARRANGEMENT OF NAVIGATION LIGHTS AT CENTER OF 790.416 FOOT SPAN - P. P. 57.



ARRANGEMENT OF NAVIGATION LIGHTS AT PIERS I, II, III, IV.



ARRANGEMENT OF NAVIGATION LIGHTS AT CENTER OF 621.064 FOOT SPANS.

NOTES: - For detail of manholes see Sheet No. 19. All pipe shall be galvanized wrought iron, except as noted. Handrail posts shall be 2" pipe, horizontal rails shall be 1 1/2" pipe. All fittings shall be galvanized wrought iron.

STATES OF TENNESSEE & ARKANSAS
MEMPHIS HIGHWAY BRIDGE
ACROSS THE MISSISSIPPI RIVER AT MEMPHIS TENNESSEE

NAVIGATION LIGHTS ACCESS LADDER & RAILINGS

SCALE IN FEET Except as noted.

CONTRACT NO. 3 DRAWING NO. 21

APPROVED: *J. J. Masters* DATE: 4/13/45
FOR MODJESKI & MASTERS

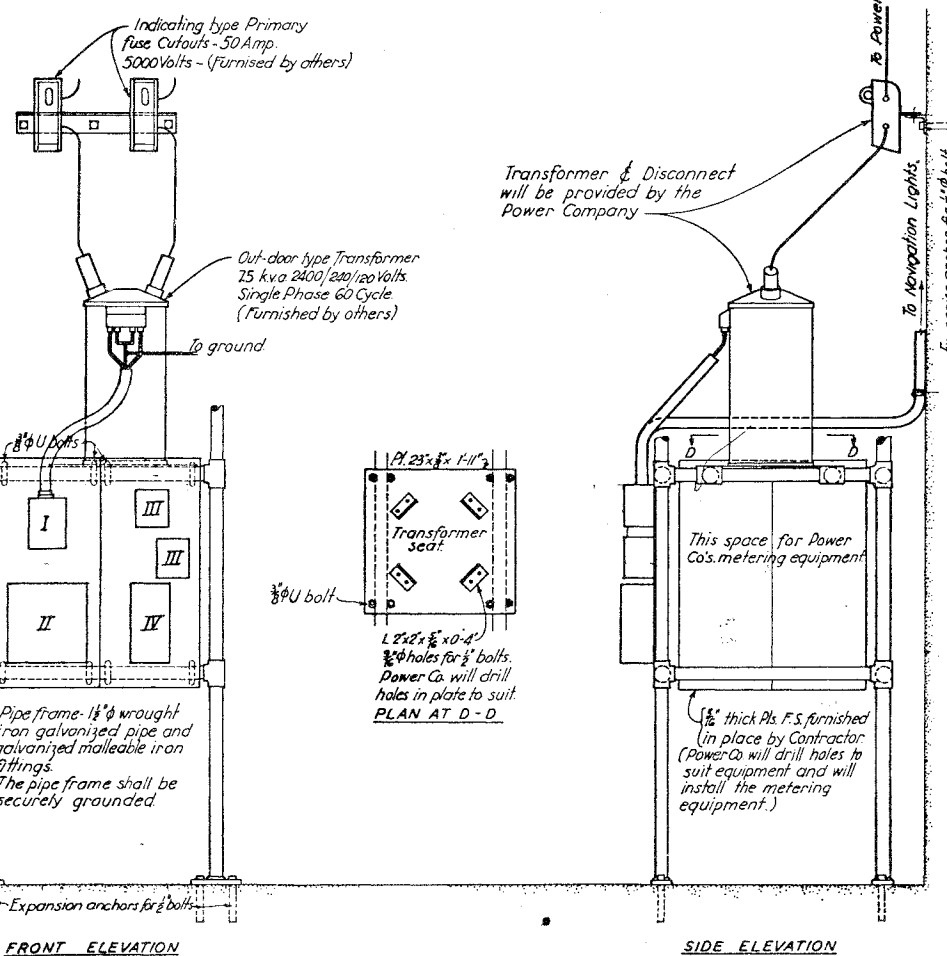
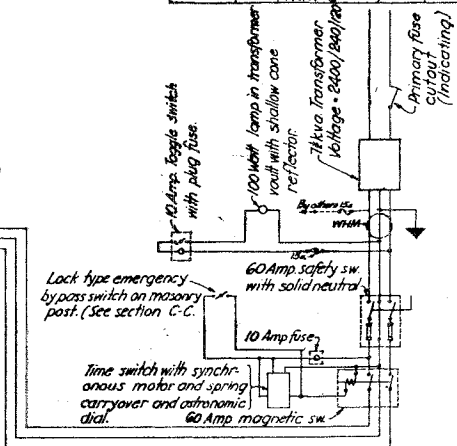
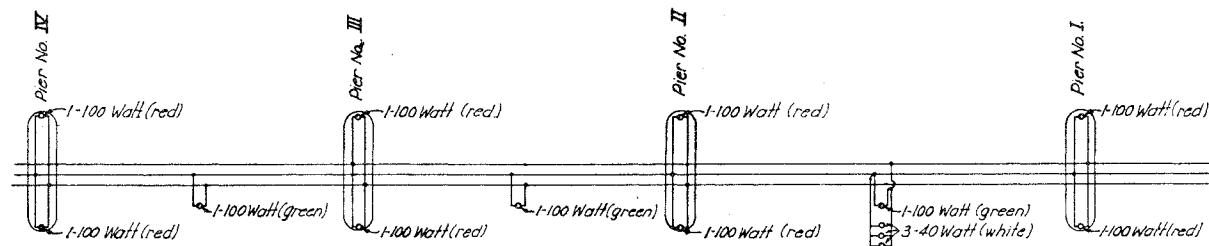
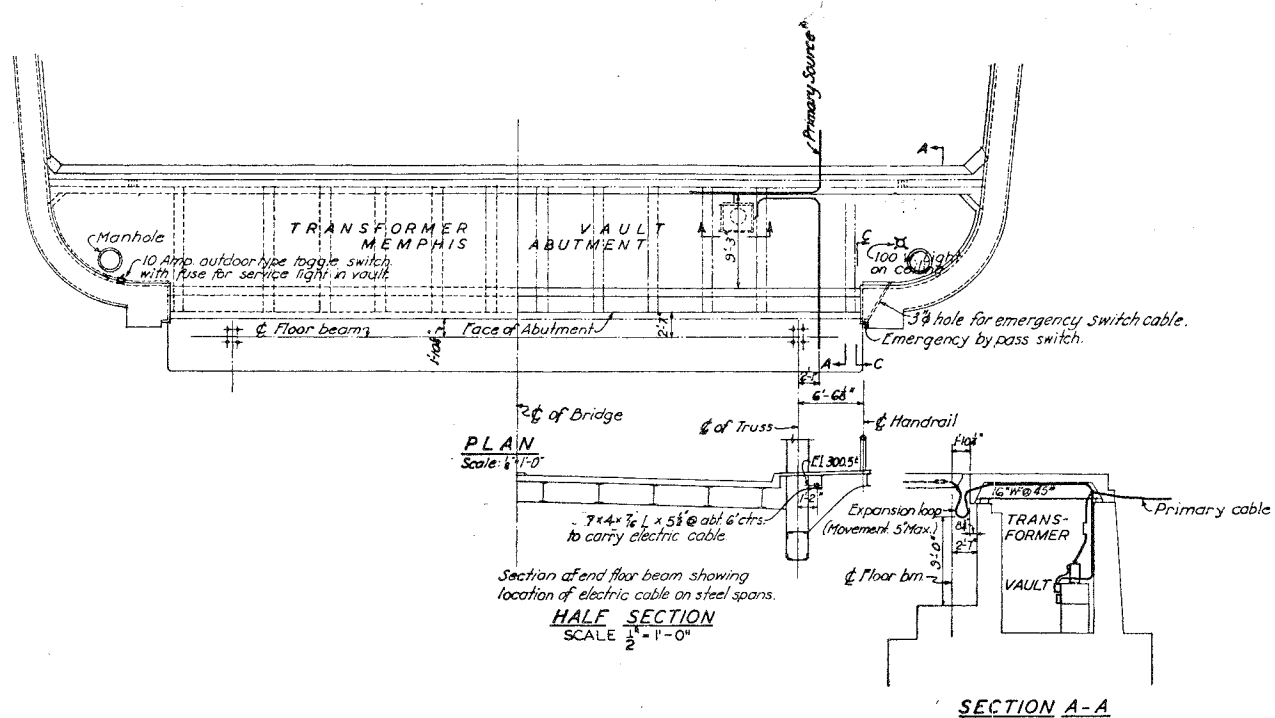
MODJESKI & MASTERS - ENGINEERS
APRIL, 1945

THIS DRAWING REVISED OCT. 1949
TO SHOW THE WORK
AS CONSTRUCTED

K-102-94

DR. P.D.M. TR. P.D.M. C.K. H.J.F.

FED. ROAD DIST. NO.	STATE	FEDERAL PROJECT NO.	AID NO.	SHEET NO.	TOTAL SHEETS
100	ARK.	SN-A-SN-U	FAP-607-A12	22	24



TRANSFORMER AND NAVIGATION LIGHT CONTROL ARRANGEMENT
IN THE MEMPHIS ABUTMENT.
SCALE - 1" = 1'-0" (For Pipe Frame Only.)

- I Out door type Fused Safety Switch 240 Volt, 60 Amp. two pole single throw quick break with solid neutral.
- II Out door type Magnetic Switch 240 Volt, 60 Cycle two pole with solid neutral.
- III Out door type fuse box Contains fuses for Time Switch.
- IV Out door type Time Switches (Relay & Navigation) 120V Single Phase 60 Cycle. Automatic starting synchronous motor operated with spring carry-over and astronomic dial. The above equipment shall be assembled on 1/2" thick steel plates supported on 1 1/2" pipe frame as shown.

Pipe frame 1 1/2" wrought iron galvanized pipe and galvanized malleable iron fittings. The pipe frame shall be securely grounded.

Transformer Seat
L 2' x 1' x 1/2" x 1/2" bolts. Power Co. will drill holes in plate to suit. PLAN AT D-D.

1/2" thick Pls. F.S. furnished (in place by Contractor (Power Co. will drill holes to suit equipment and will install the metering equipment.)

Note: All work detailed on this drawing is included in Contract No. 3 except as otherwise noted. See Drawing 4, Cont. 12 for location of components.

STATES OF TENNESSEE & ARKANSAS
MEMPHIS HIGHWAY BRIDGE
ACROSS THE MISSISSIPPI RIVER AT MEMPHIS TENNESSEE
NAVIGATION LIGHT CONTROL
& WIRING DIAGRAM

SCALE IN FEET (AS NOTED)
CONTRACT NO. 3 DRAWING NO. 22

APPROVED: DATE: 4/23/45
F.M. Masters
FOR MOD. JESKI & MASTERS

MOD. JESKI & MASTERS-ENGINEERS
APRIL 1945

THIS DRAWING REVISED OCT. 1943 TO SHOW THE WORK AS CONSTRUCTED

K-102-95

DR. P.O.M. TR. J.K.B. CK. H.J.E.

INDEX OF SHEETS

- 1 GENERAL PLAN & ELEVATION
- 1A TABULATION OF QUANTITIES
- 2 ARKANSAS APPROACH STRESS SHEET
- 3 DECK TRUSS DETAILS
- 4 DECK TRUSS & EXPANSION DAM DETAILS
- 5 DETAILS OF GIRDER SPANS
- 6 DRAINAGE, HANDRAIL & MISC. DETAILS

STATES OF TENNESSEE AND ARKANSAS

PLAN OF PROPOSED

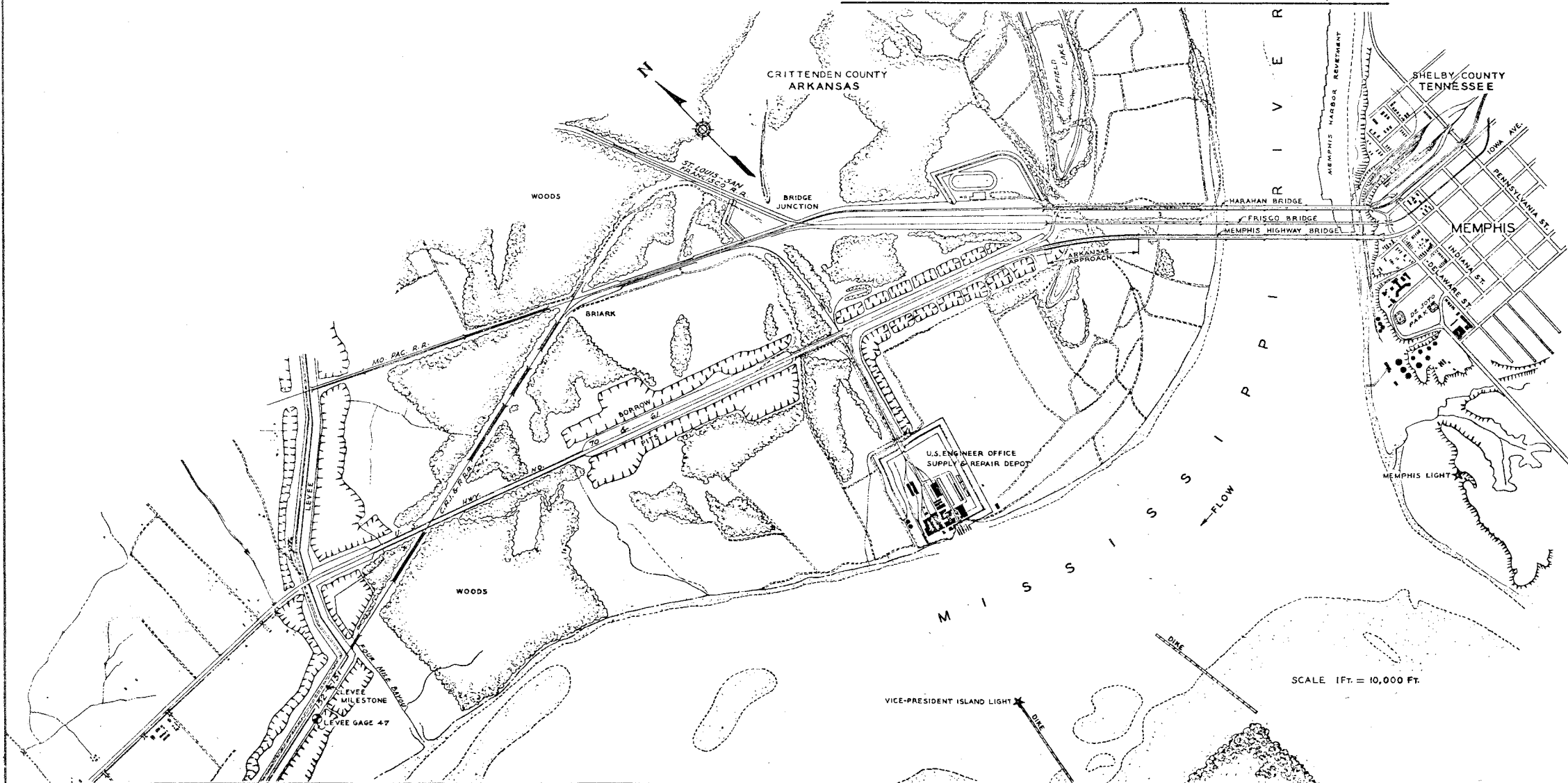
ARKANSAS APPROACH SUPERSTRUCTURE

OF

MEMPHIS HIGHWAY BRIDGE

OVER MISSISSIPPI RIVER

TENNESSEE—ARKANSAS
PROJECT NO. SN-A-SN-U-FAP-607-A(2), PART 4
SHELBY COUNTY, TENN. — CRITTENDEN COUNTY, ARK.



DESIGNED AND RECOMMENDED BY MODJESKI & MASTERS <i>F. M. Masters</i> 4/23/45 FOR MODJESKI & MASTERS DATE		
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS, TENNESSEE	ARKANSAS STATE HIGHWAY COMMISSION	FEDERAL WORKS AGENCY PUBLIC ROADS ADMINISTRATION
APPROVED: <i>[Signature]</i> 4/14/45 BRIDGE ENGINEER DATE	APPROVED: <i>[Signature]</i> 4/14/45 CHIEF ENGINEER DATE	RECOMMENDED FOR APPROVAL:
APPROVED: <i>[Signature]</i> 4/14/45 ENGINEER OF SURVEYS & DESIGN DATE	APPROVED: <i>[Signature]</i> 4/14/45 DIRECTOR DATE	DISTRICT ENGINEER DATE PUBLIC ROADS ADMINISTRATION FEDERAL WORKS AGENCY
APPROVED: <i>[Signature]</i> 4/14/45 STATE HIGHWAY ENGINEER DATE	APPROVED: <i>[Signature]</i> 4/14/45 CHAIRMAN DATE	APPROVED:
APPROVED: <i>[Signature]</i> 4/14/45 COMMISSIONER DATE		COMMISSIONER DATE PUBLIC ROADS ADMINISTRATION FEDERAL WORKS AGENCY

THIS DRWG. REVISED OCT 1949
TO SHOW THE WORK
AS CONSTRUCTED

K-102-96

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	TENN. ARK.	SN-A, SN-U, PAP-607-A(2), PART 4	1A	6

ITEM NO.	WORK	ESTIMATED QUANTITY	FINAL QUANTITY		
1	Metalwork in Place, Pier VII to Pier A10, inclusive	3,280,000 pounds	3,337,533 pounds		
2	Cast Iron Drain Inlets & Drain Pipe	14,600 pounds	17,178 pounds		
3	Reinforcing Steel in Place	275,000 pounds	267,808 pounds		
4	Reinforced Concrete Roadway Slab, Curbs and Sidewalks	1,435 cu. yds.	1,435 cu. yds.		
5	White Concrete in Median Strip	55 cu. yds.	55 cu. yds.		

STATES OF TENNESSEE & ARKANSAS

MEMPHIS HIGHWAY BRIDGE

ACROSS THE MISSISSIPPI RIVER AT MEMPHIS TENNESSEE

ARKANSAS APPROACH SUPERSTRUCTURE

TABULATION OF QUANTITIES

APPROVED:

DATE:

F. M. Masters

FOR MODJESKI & MASTERS

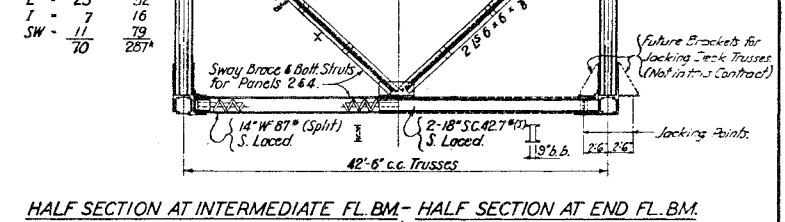
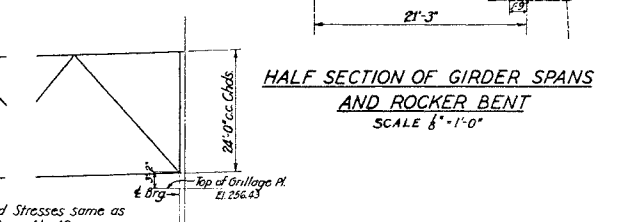
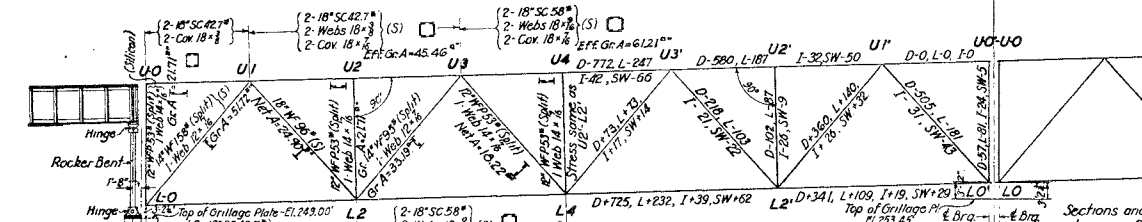
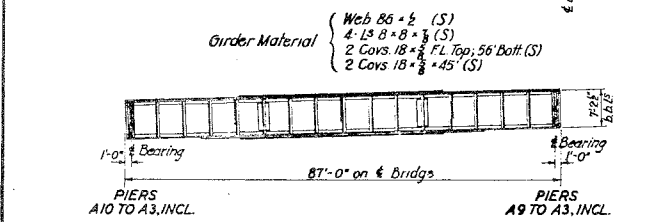
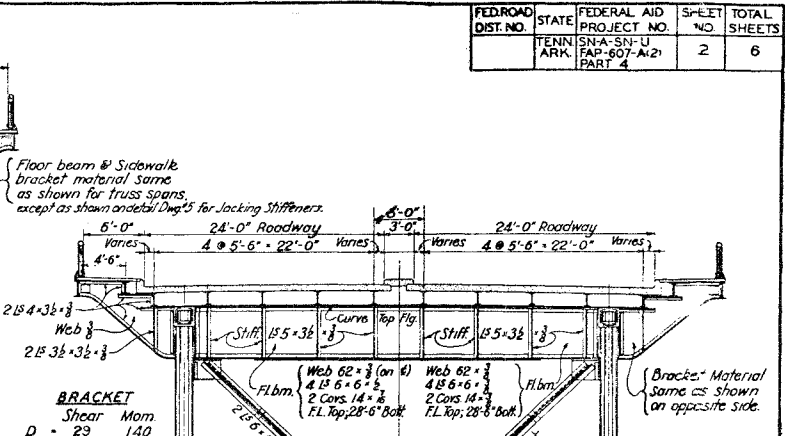
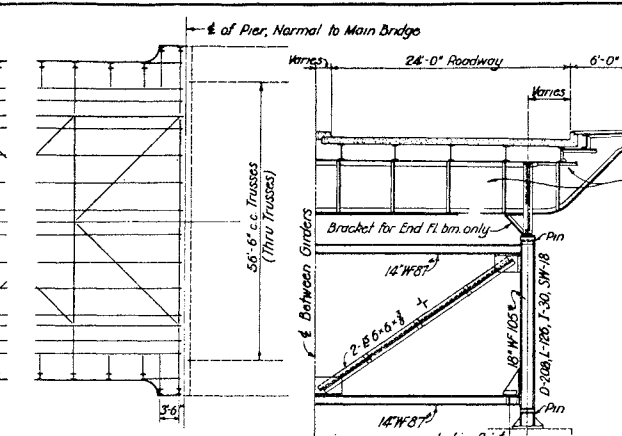
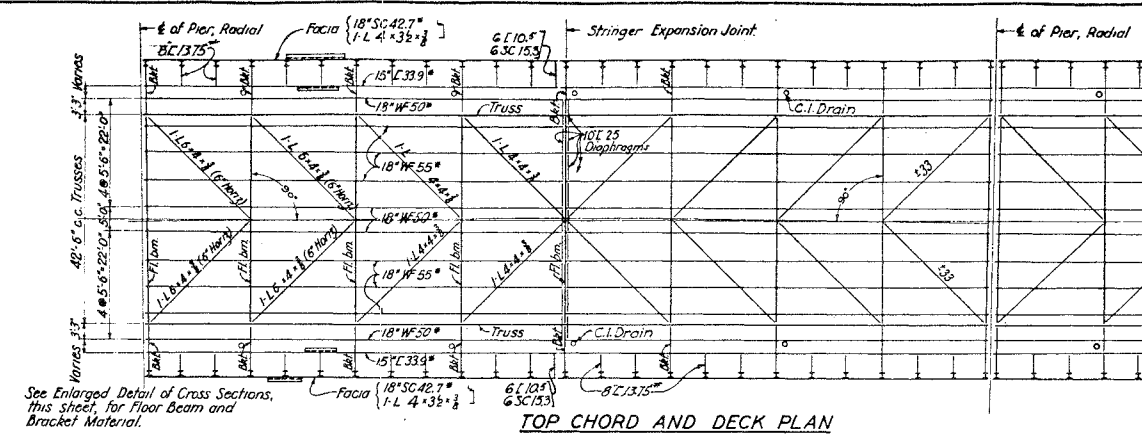
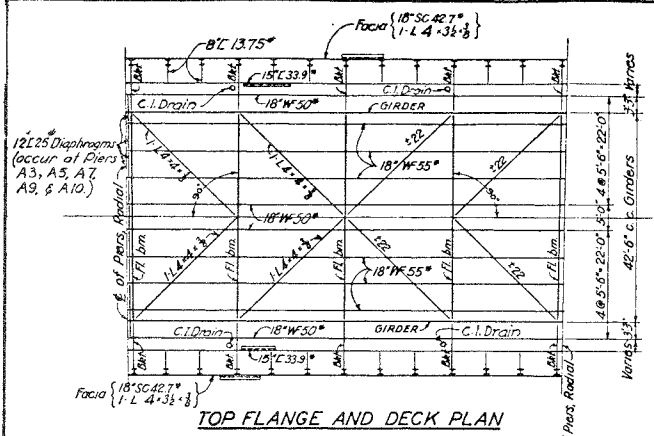
4/2/45

MODJESKI & MASTERS - ENGINEERS

APRIL 1945

CONTRACT NO. 4

DRAWING NO. 1A



DECK GIRDER SPANS - ELEVATION

GIRDERS

	Shoe Reaction	End Shear	End Mom.
D =	206	150	4226
L = (H20-S16)	126	94	2350
I =	30	23	560
SW =	18	14	380
	380*	281*	7516*
	S.M. Req'd = 3758 Sil.		

DECK TRUSS SPANS - ELEVATION

PIERS A3 TO A9	REACTION
D = 824	
L = 287	
SW = 43	
1154*	

SHOE REACTION

Shoe Reaction	Pier A-I Reaction
D = 434	D = 1736
L = 153	L = 408
I = 26	SW = 69
SW = 37	2213*
650*	

OUTSIDE & CENTER STRINGERS - INTERM. STRINGERS - SIDEWALK STRINGERS

OUTSIDE & CENTER STRINGERS	INTERM. STRINGERS	SIDEWALK STRINGERS
D = 37	D = 38	D = 13
L = 70	L = 94	L = 13
I = 21	I = 28	I = 13
S.M. Req'd 18x108.5 Carbon		
Use 18" W 50*		

PIERS A-3 TO A-9

<u>REACTION</u>
D = 824
L = 287
SW = 43
1154*

PIER A2

<u>REACTION</u>
D = 1284
L = 370
SW = 73
1727*

Diagram illustrating the internal bottom struts (Int. Bottom Struts) and end bottom struts (End Bottom Strut) for a truss structure. The struts are labeled as 1/4" W 8" Split & Laced. The diagram also shows a 4" x 6" C channel section.

GENERAL NOTES

D - Dead Load. This is the weight of Structural Steel metalwork, and in addition the following uniform Loads:

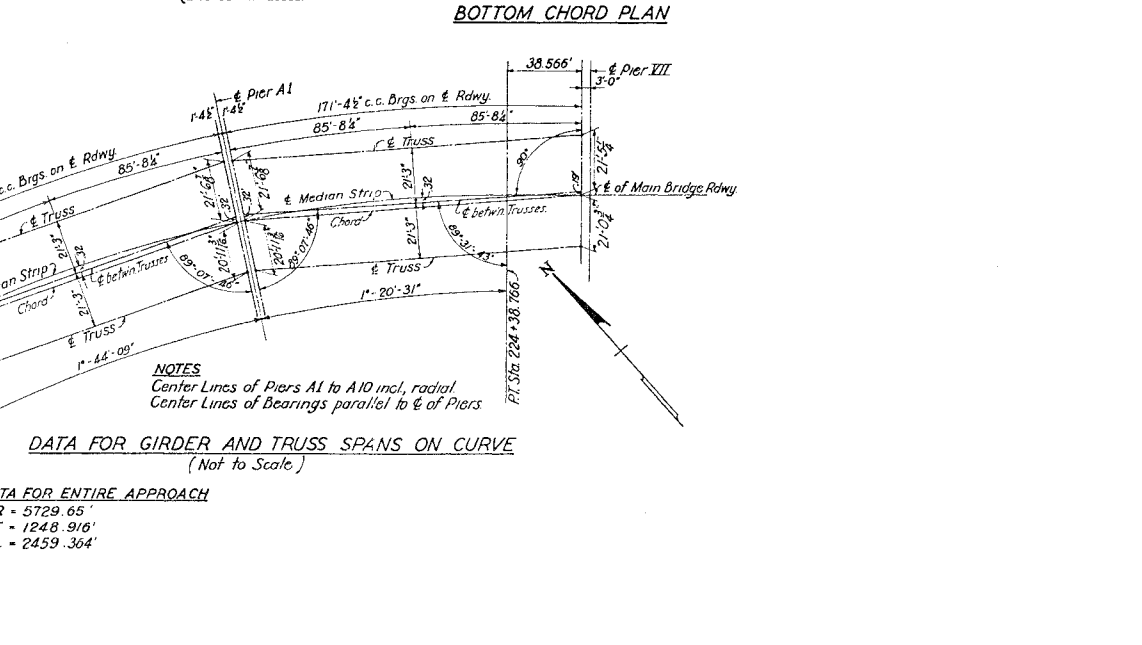
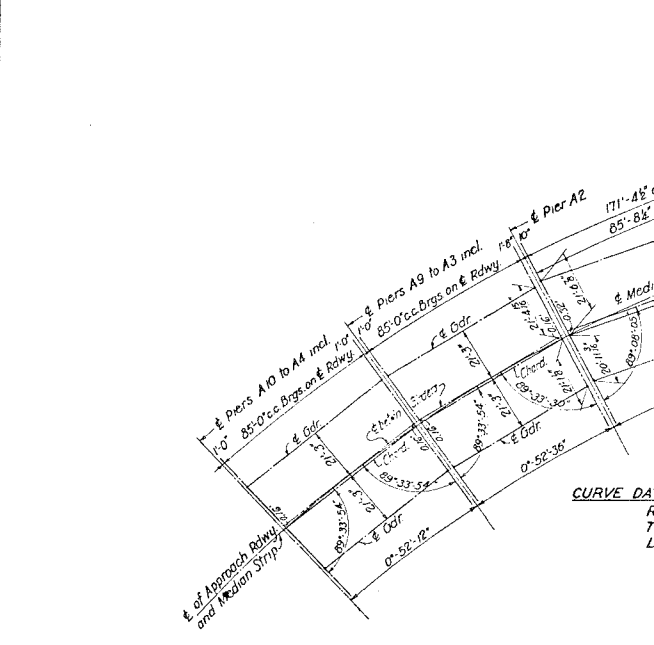
Concrete Deck = 5,860 lbs. per lin. ft.

Allowance for Utilities = 100 " " "

Future Paving = 720 " " "

INTERM. FLOOR BEAM

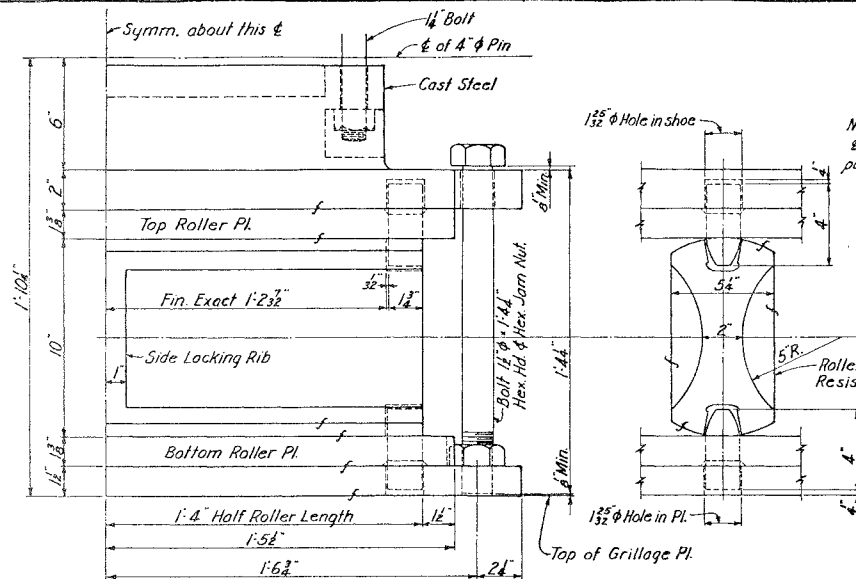
INTERM. FLOOR BEAM	END FLOOR BEAM
D = 60	D = 36
L = 77	L = 73
I = 23	I = 23
S.M. Req'd 12x146.2 Carbon	
Use 12" W 55*	



UNIT STRESSES

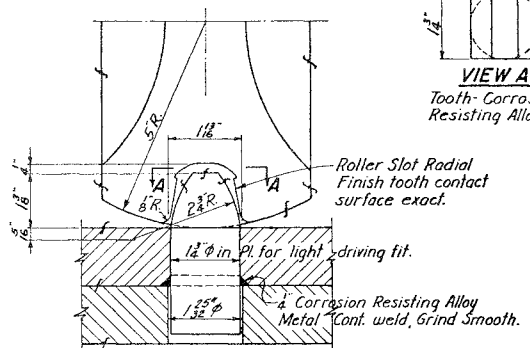
UNIT STRESSES	Carbon	Silicon
Axial Tension, Net Section	18,000 psi	24,000 psi
Axial Compression, Gross Section	15,000 - 25 (1/2) psi	20,000 - 46 (1/2) psi
Stress in Extreme Fibre of Pins	27,000 psi	
Shear in Plate Girder Webs, Gross Section	11,000	14,000 psi
Shear in Power Driven Rivets and Pins	12,000	
Bearing on Power Driven Rivets and Pins	24,000	
Bearing on Milled Shippers & other Steel parts in contact	27,000	
Bearing on Concrete	600 psi	

STATES OF TENNESSEE & ARKANSAS
MEMPHIS HIGHWAY BRIDGE
ACROSS THE MISSISSIPPI RIVER AT MEMPHIS, TENNESSEE
ARKANSAS APPROACH
STRESS SHEET
SCALE IN FEET
EXCEPT AS NOTED
CONTRACT NO. 4 DRAWING NO. 2
MODJESKI & MASTERS - ENGINEERS
APRIL 1945



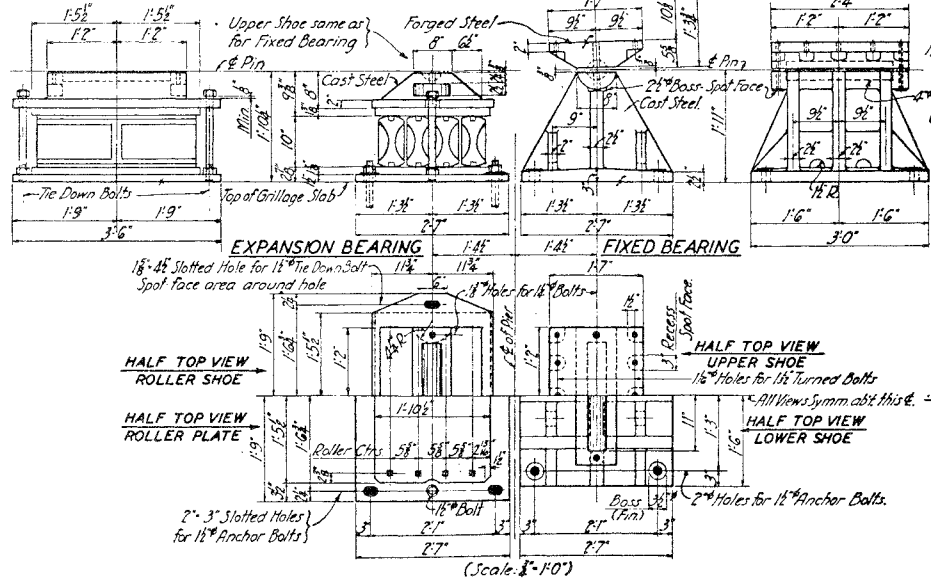
DETAILS OF EXPANSION ROLLERS

Scale 3"=1'-0"



DETAIL OF EXP. ROLLER TOOTH & SLOT

Scale 6"=1'-0"

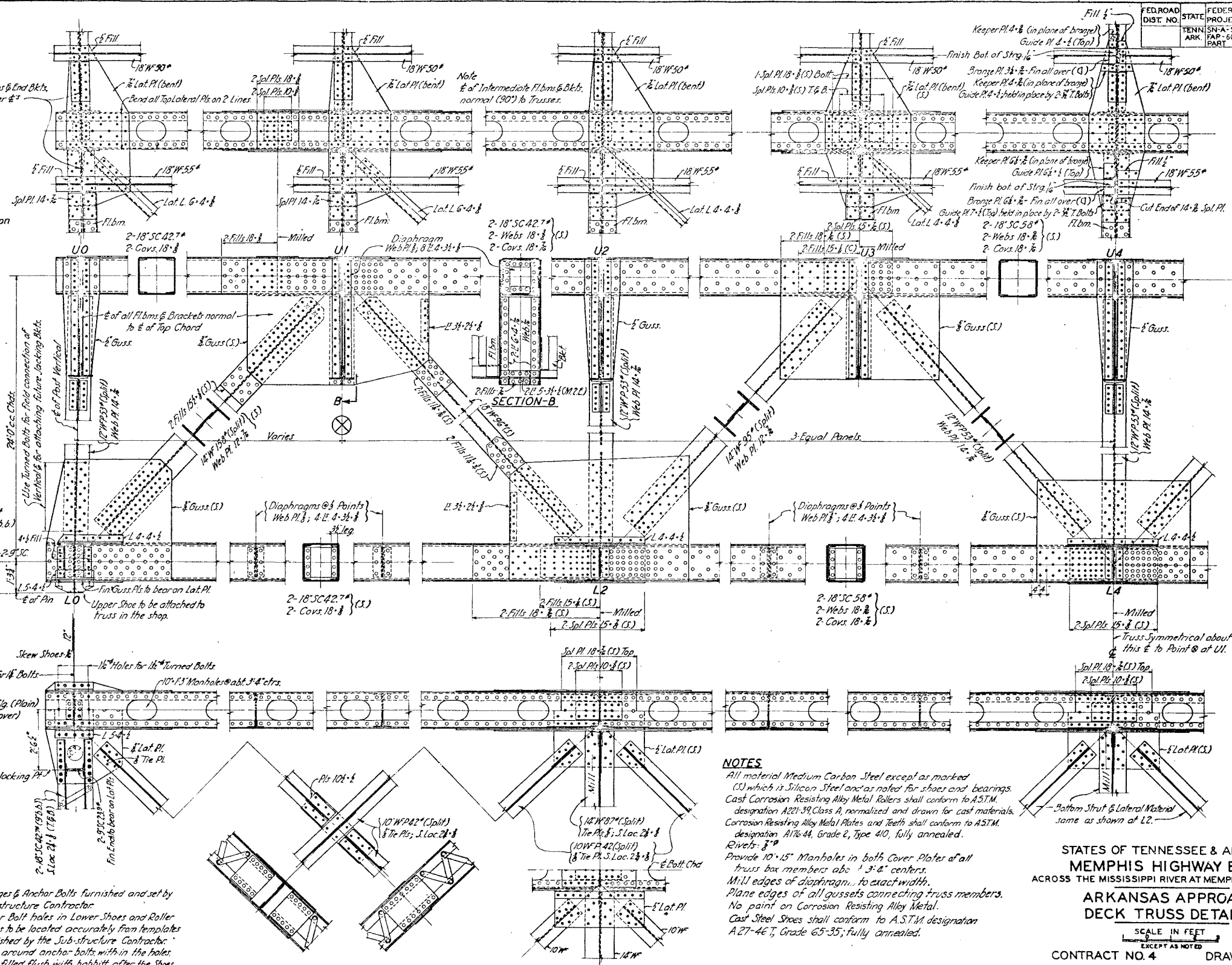


EXPANSION BEARING

FIXED BEARING

Notes:

Grillages & Anchor Bolts furnished and set by Sub-structure Contractor. Anchor Bolt holes in Lower Shoes and Roller Plates to be located accurately from templates furnished by the Sub-structure Contractor. Space around anchor bolts within the holes to be filled flush with babbitt after the shoes and roller plates are set in final position.



NOTES

All material Medium Carbon Steel except as marked (S) which is Silicon Steel and as noted for shoes and bearings. Cast Corrosion Resisting Alloy Metal Rollers shall conform to ASTM designation A221-39, Class A, normalized and drawn for cast materials. Corrosion Resisting Alloy Metal Plates and Teeth shall conform to ASTM designation A176-44, Grade 2, Type 410, fully annealed. Rivets: 3" Provide 10" x 15" Manholes in both Cover Plates of all truss box members also 1" x 3" x 4" centers. Mill edges of diaphragms to exact width. Plane edges of all gussets connecting truss members. No paint on Corrosion Resisting Alloy Metal. Cast Steel Shoes shall conform to A.S.T.M. designation A27-46T, Grade 65-35, fully annealed.

STATES OF TENNESSEE & ARKANSAS
MEMPHIS HIGHWAY BRIDGE
ACROSS THE MISSISSIPPI RIVER AT MEMPHIS TENNESSEE
ARKANSAS APPROACH
DECK TRUSS DETAILS

SCALE IN FEET
EXCEPT AS NOTED
CONTRACT NO. 4 DRAWING NO. 3

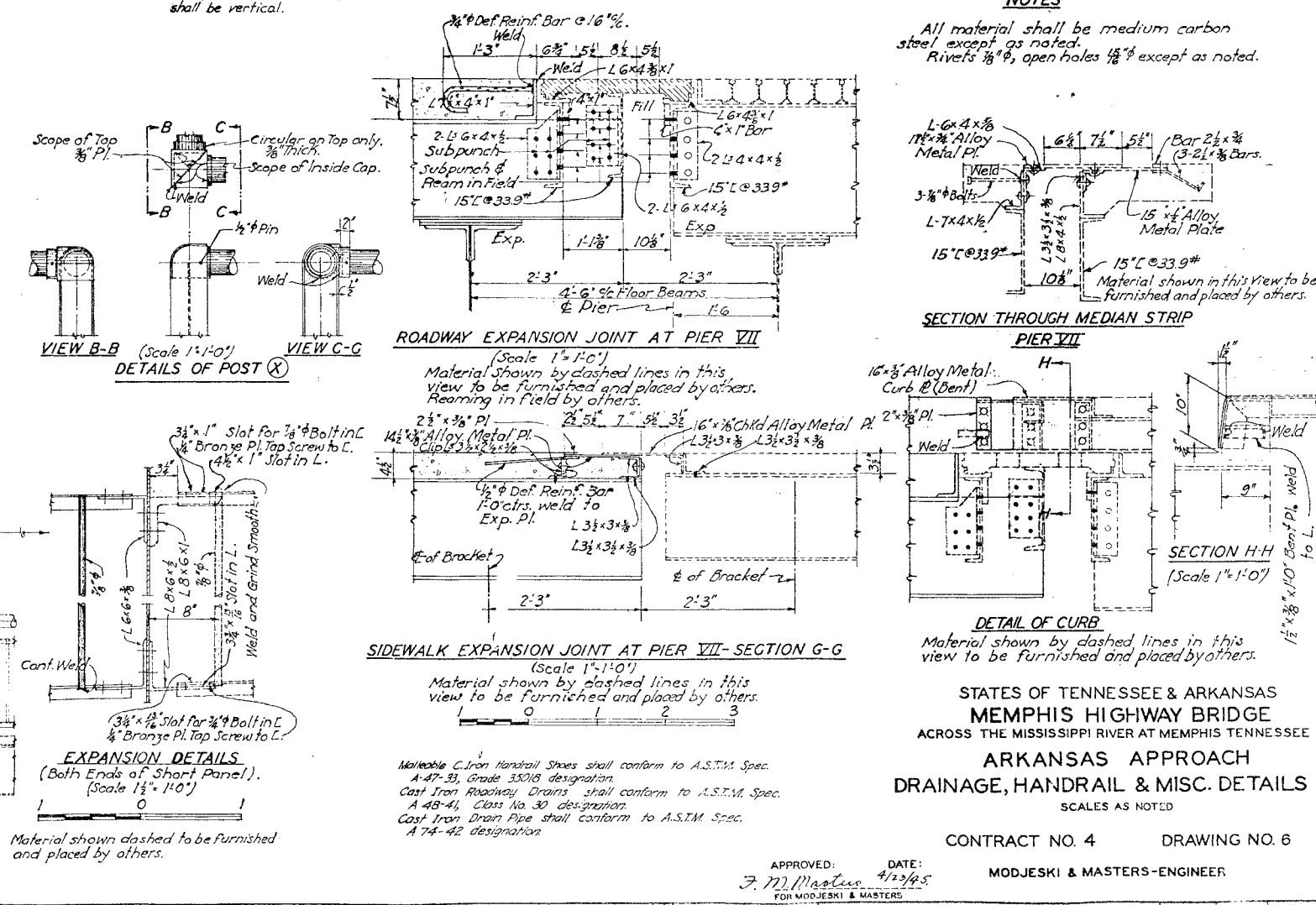
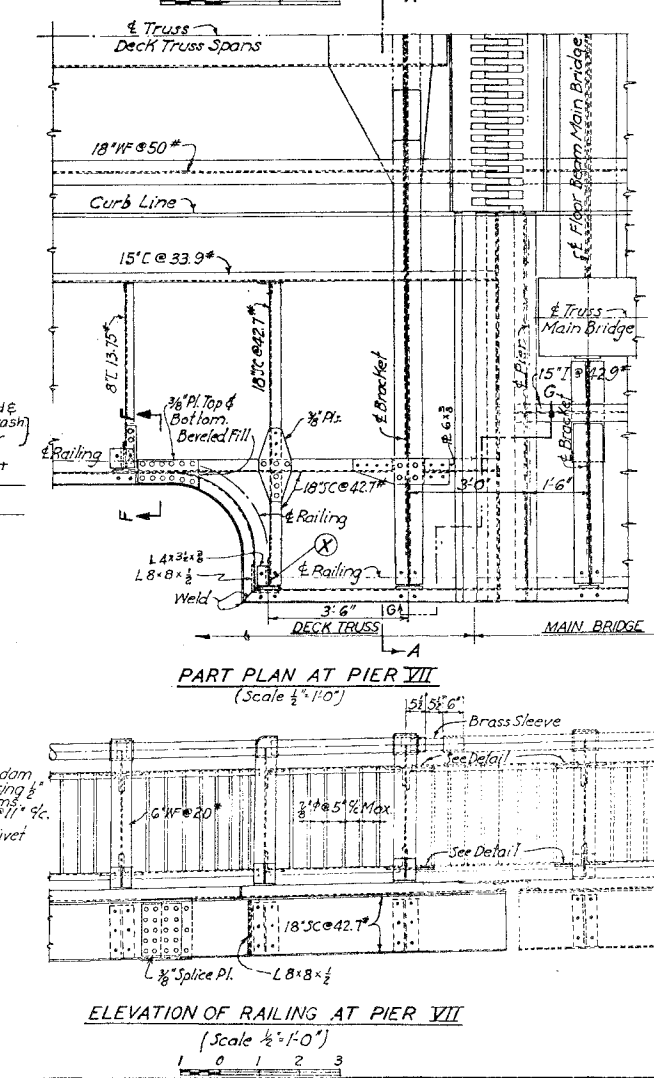
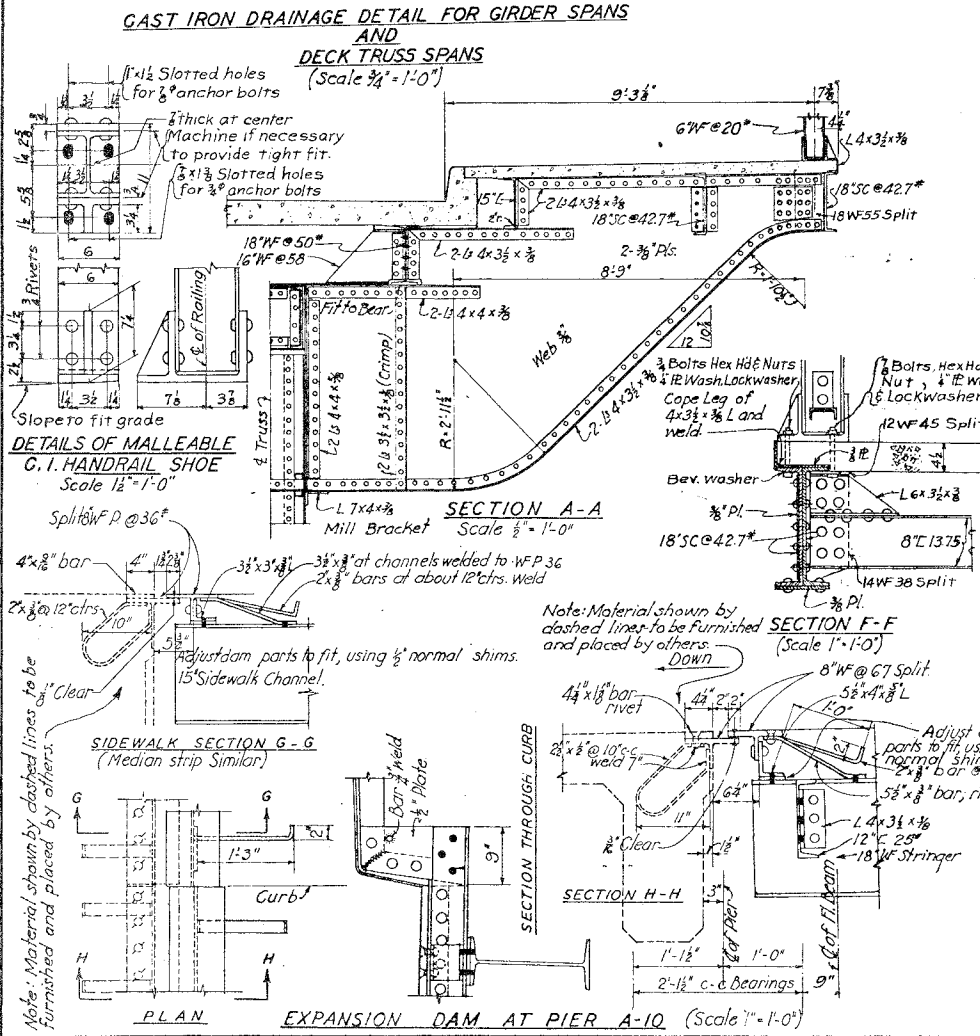
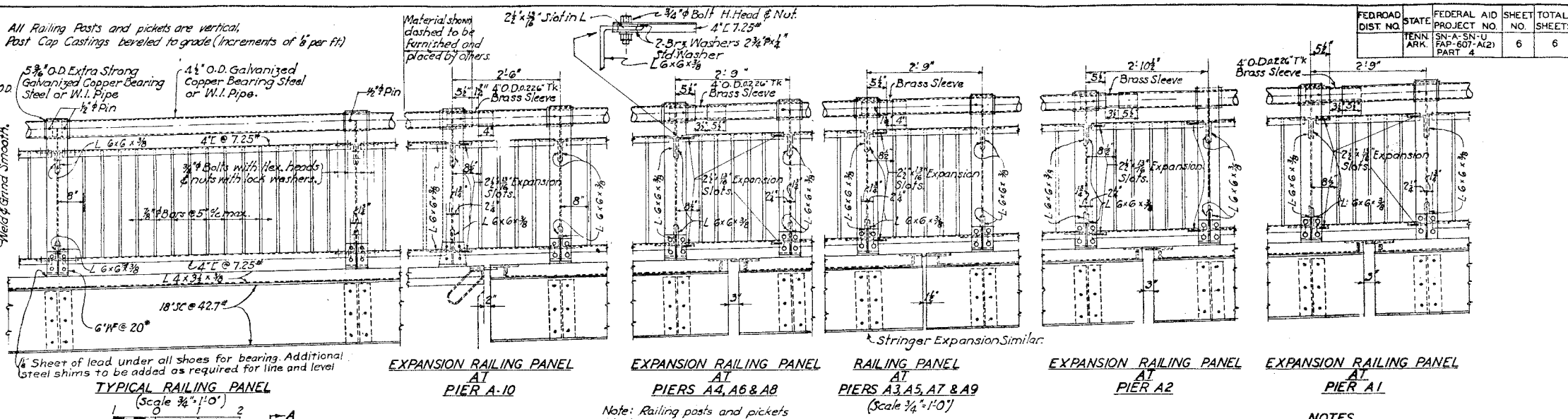
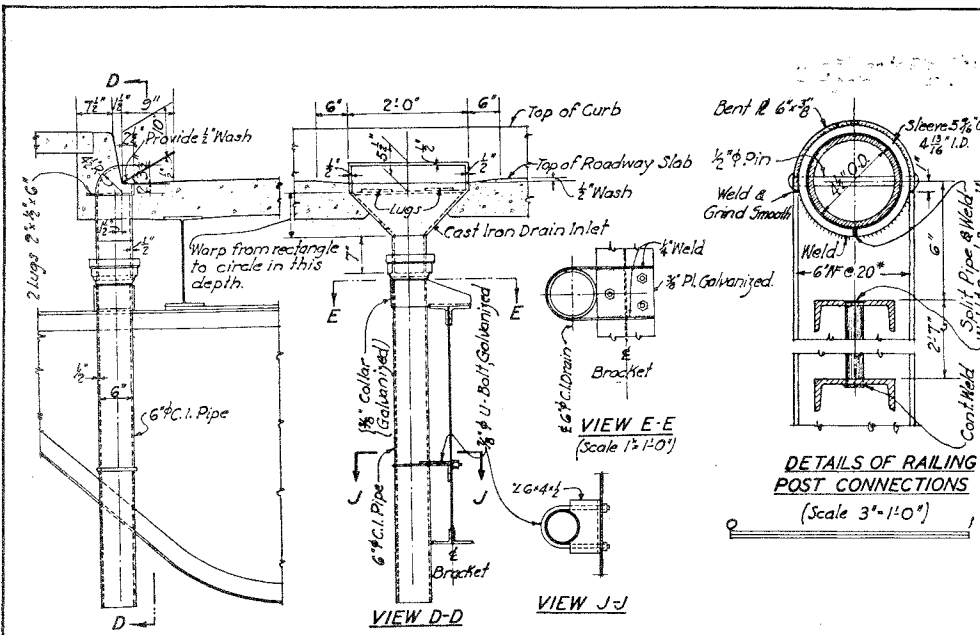
APPROVED: J. M. Masters
DATE: 4/23/45
FOR MODJESKI & MASTERS

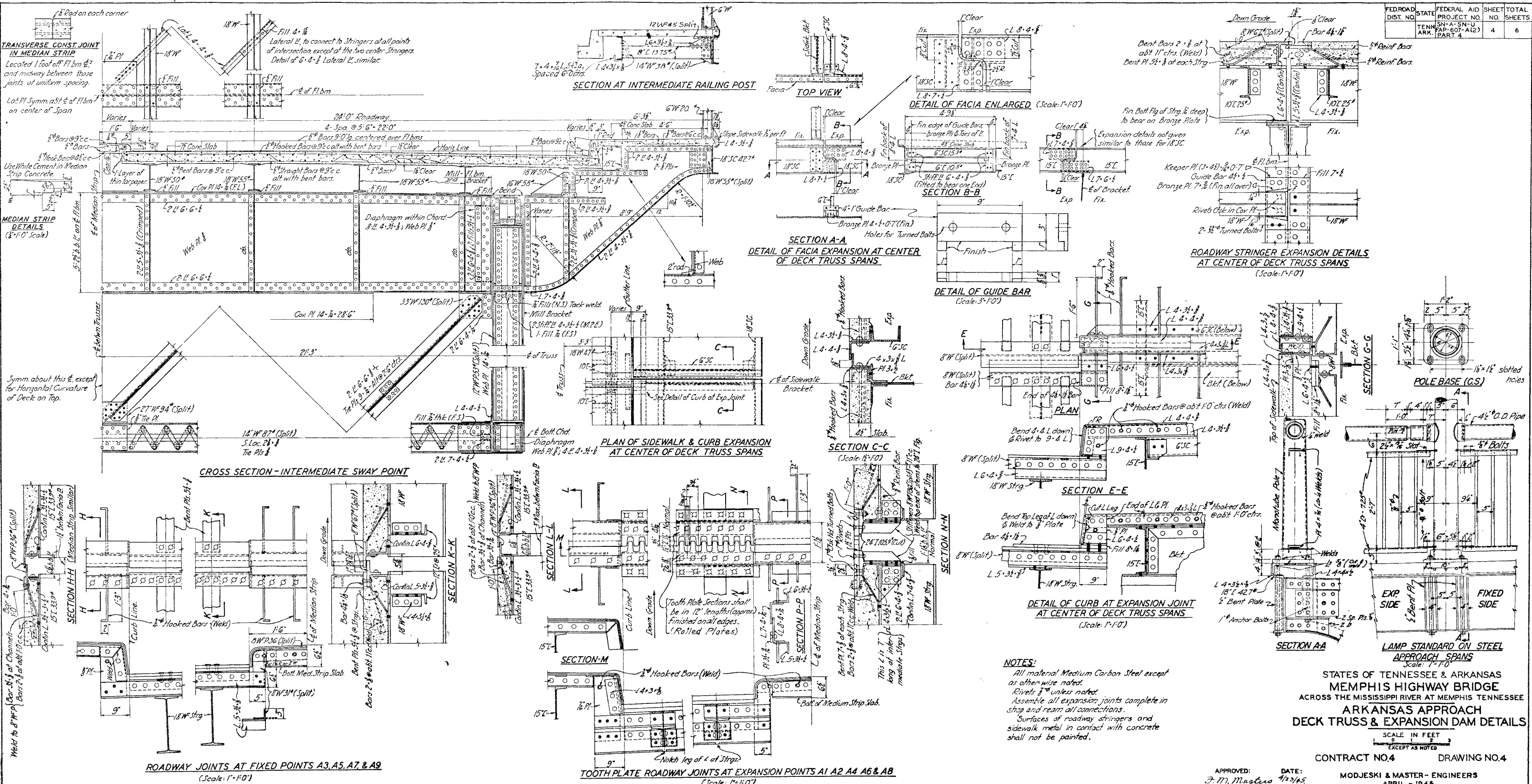
MODJESKI & MASTERS-ENGINEERS
APRIL - 1945

THIS DRAWING REVISED OCTOBER 1945
TO SHOW THE WORK
AS CONSTRUCTED

K-102-99 DR. C. E. TR. C. E. CK. G. G. A.

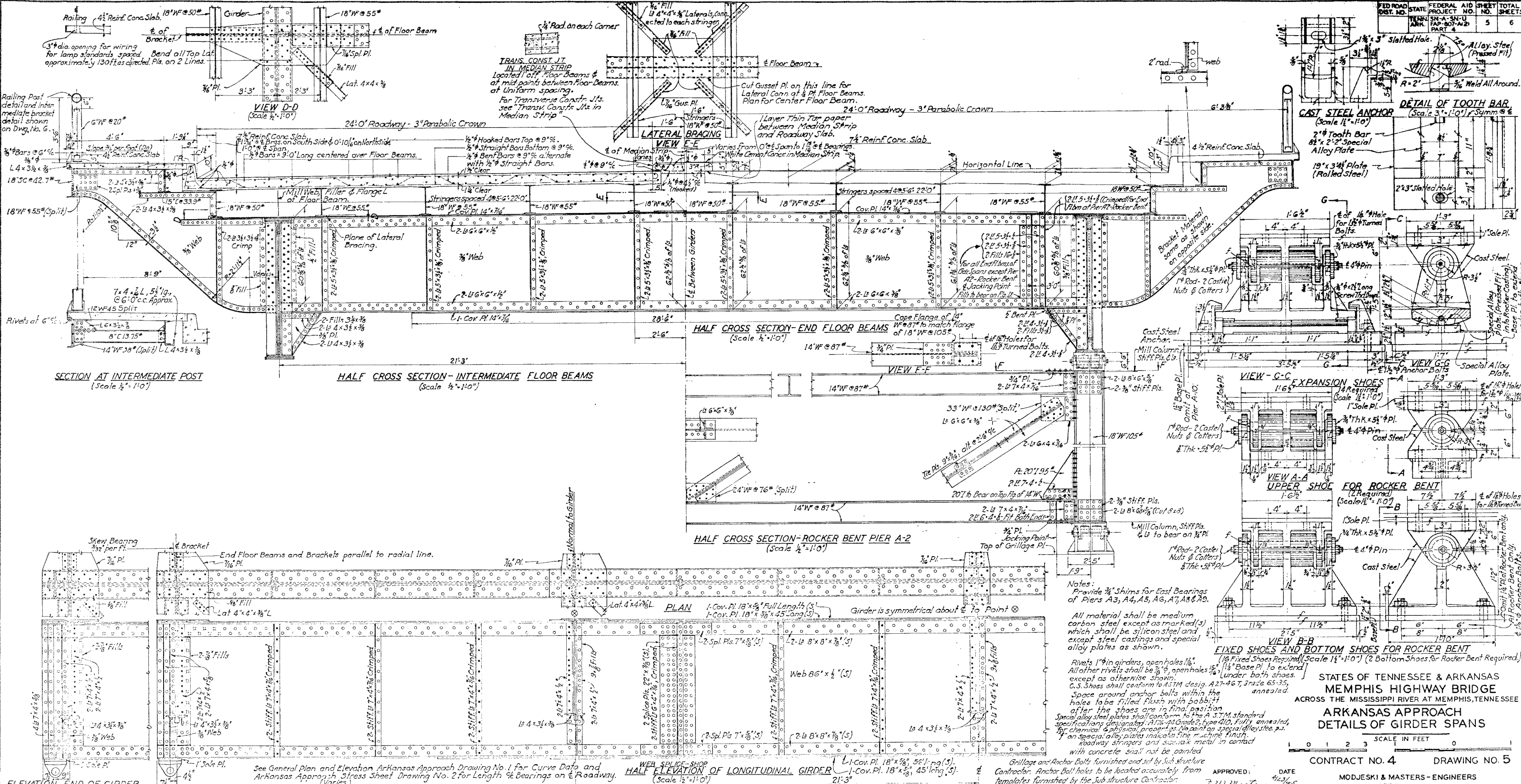
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEET
	TENN. ARK.	SN-A-SN-U FAP-607-A(2) PART 1	6	6





NOTES:
All material Medium Carbon Steel except as otherwise noted.
Rivets $\frac{3}{4}$ " unless noted.
Assemble all expansion joints complete in shop and ream all connections.
Surfaces of roadway stringers and sidewalk metal in contact with concrete shall not be painted.

FED. ROAD DIST. NO.	STATE PROJECT NO.	FEDERAL AID DIST. NO.	SHEET NO.	TOTAL SHEETS
			5	6



Notes:
Provide 3/4" Shims for East Bearings of Piers A3, A4, A5, A6, A7, A8 & A9.

All material shall be medium carbon steel, except as marked (s) which shall be silicon steel and 1/2" except steel castings and special alloy plates as shown.

Rivets 1" in girders, open holes 1/2". All other rivets shall be 3/4" open holes 1/2" under both shoes. G.S. Shoes shall conform to ASTM design. A27-A67, Grade 65-35, annealed. Space around anchor bolts within the holes to be filled flush with babbitt after the shoes are in final position. Special alloy steel plates shall conform to the A.S.T.M. standard specifications designated A136-A137, Grade 2, type 410, fully annealed, top chemical & physical properties. No paint on special alloy steel plates. 1/4" on special alloy plates indicates fine machine finish. Roadway stringers and structural metal in contact with concrete shall not be painted.

Grillage and Anchor Bolts furnished and set by Substructure Contractor. Anchor Bolt holes to be located accurately from templates furnished by the Substructure Contractor.

STATES OF TENNESSEE & ARKANSAS
MEMPHIS HIGHWAY BRIDGE
ACROSS THE MISSISSIPPI RIVER AT MEMPHIS, TENNESSEE
ARKANSAS APPROACH
DETAILS OF GIRDER SPANS

SCALE IN FEET

CONTRACT NO. 4 DRAWING NO. 5

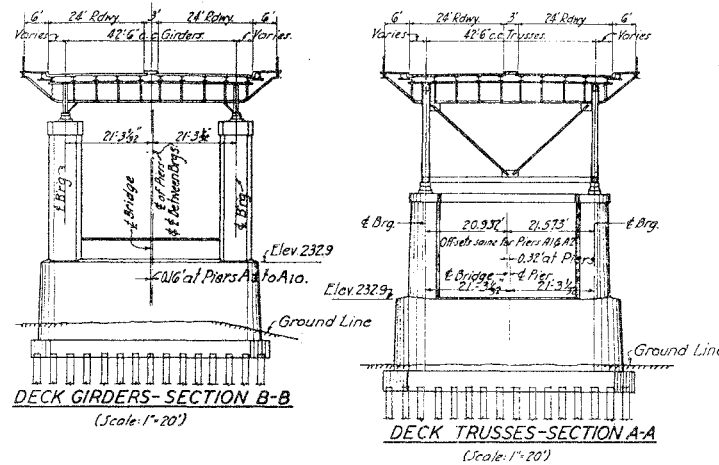
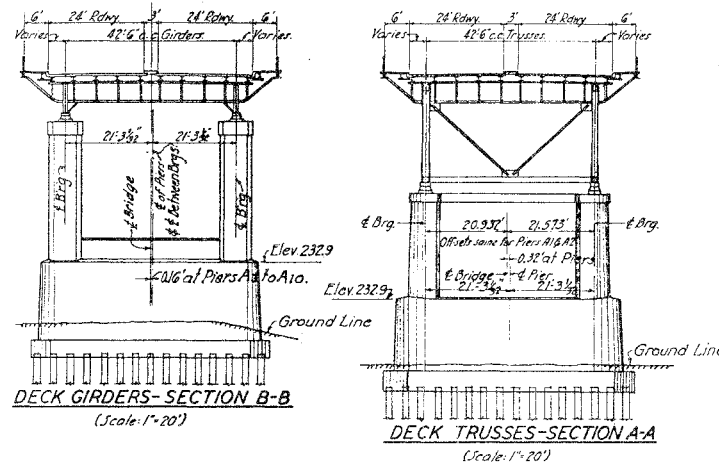
MODJESKI & MASTERS-ENGINEERS
APRIL - 1945

APPROVED: DATE
FOR MODJESKI & MASTERS

THIS DRAWING REVISED OCT 1949 TO SHOW THE WORK AS CONSTRUCTED

K-102-101

DR. W.B. TR. W.B. CK. G.C.B.

[illegible]

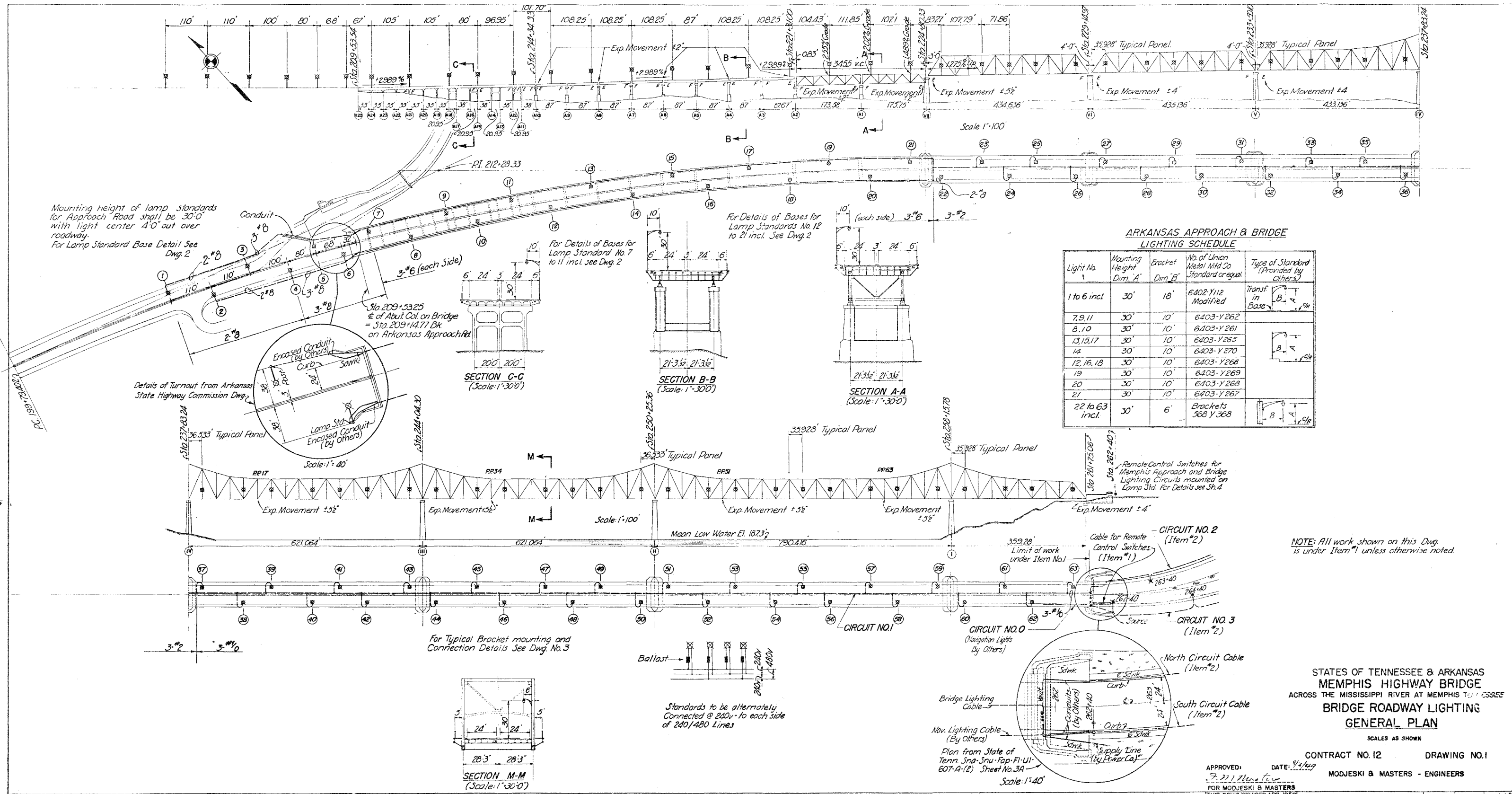
Side track construction consists of fill with gravel ballast of standard sidetrack cross section, of approximate location and elevation shown, built by the City of San Francisco following Co. for use of main box substructure contractor, and connects with their main line on the Frisco Bridge Approach Gill. This track is not shown in detail on Supplementary Survey Drawings #3465, but is indicated and the tracks numbered for reference.

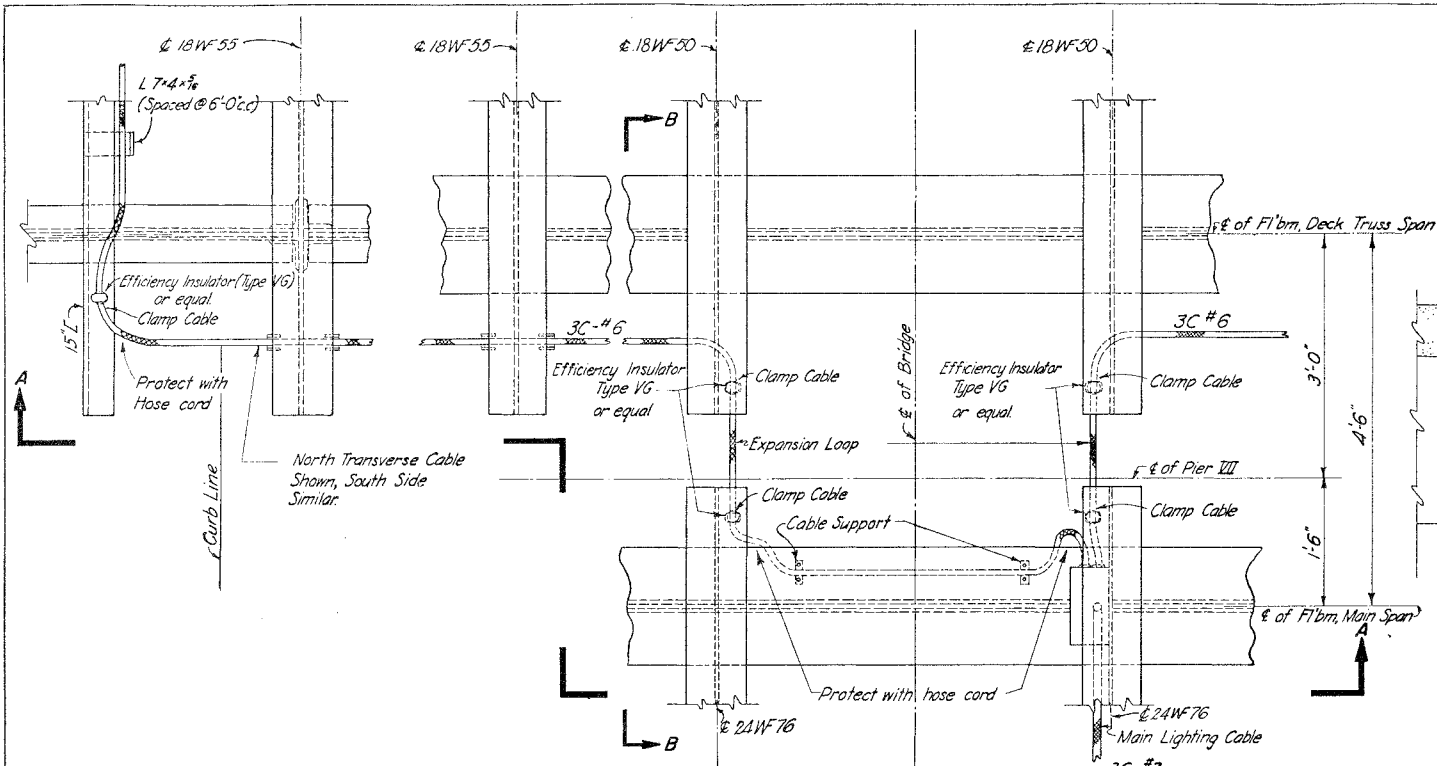
CONTRACT NO. 2,2a44 DRAWING NO. 1

K-107-79

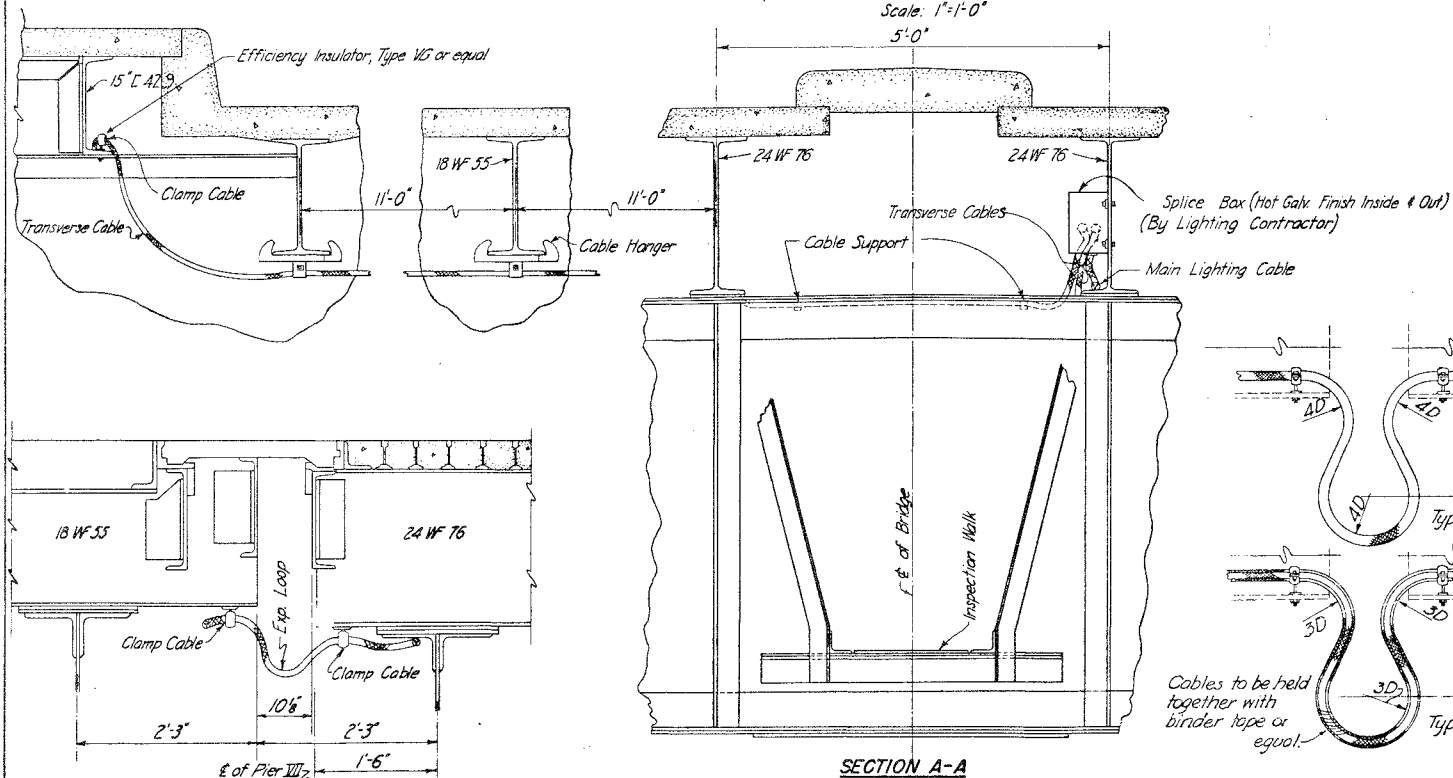
THIS DRWG REVISED OCT:94
TO SHOW THE WORK
AS CONSTRUCTED

DR	1	B	TR	2	K	A	C	K	H	J	E
----	---	---	----	---	---	---	---	---	---	---	---

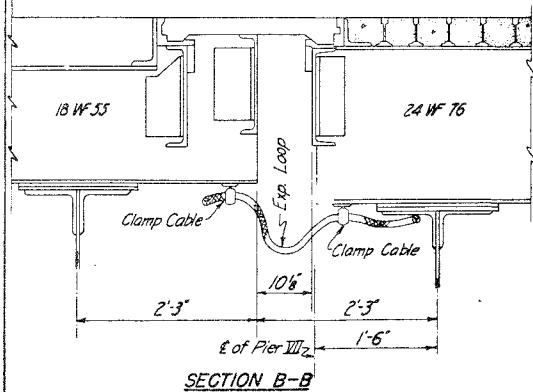




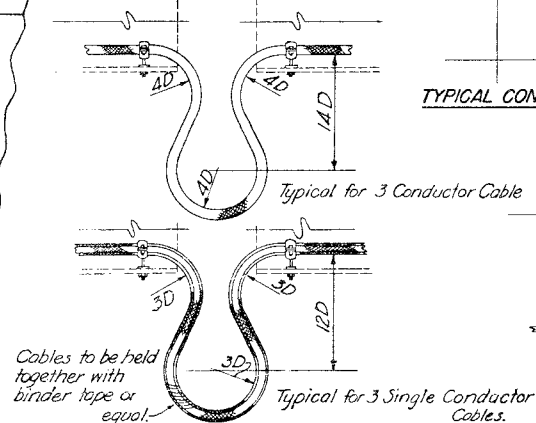
PART PLAN AT PIER VII
Exp. Dam & Strut Details not shown.
Scale: 1"=1'-0"



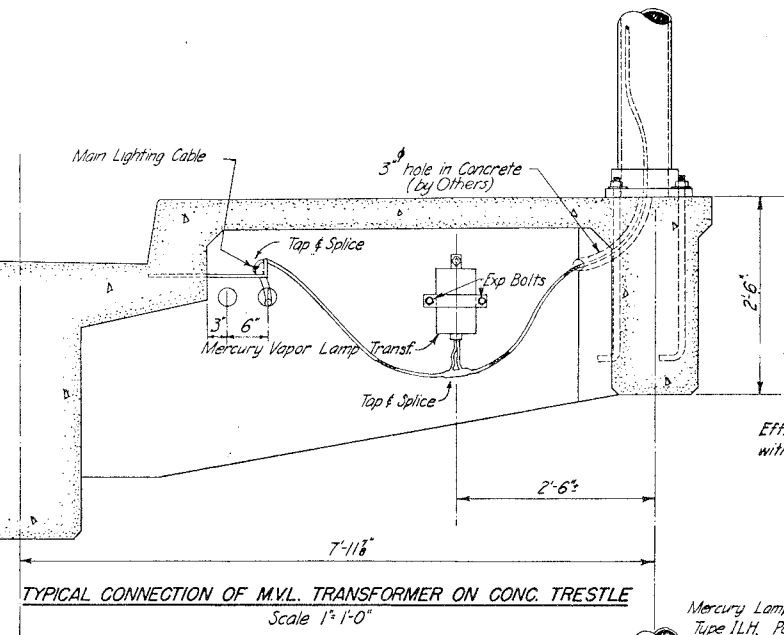
SECTION A-A



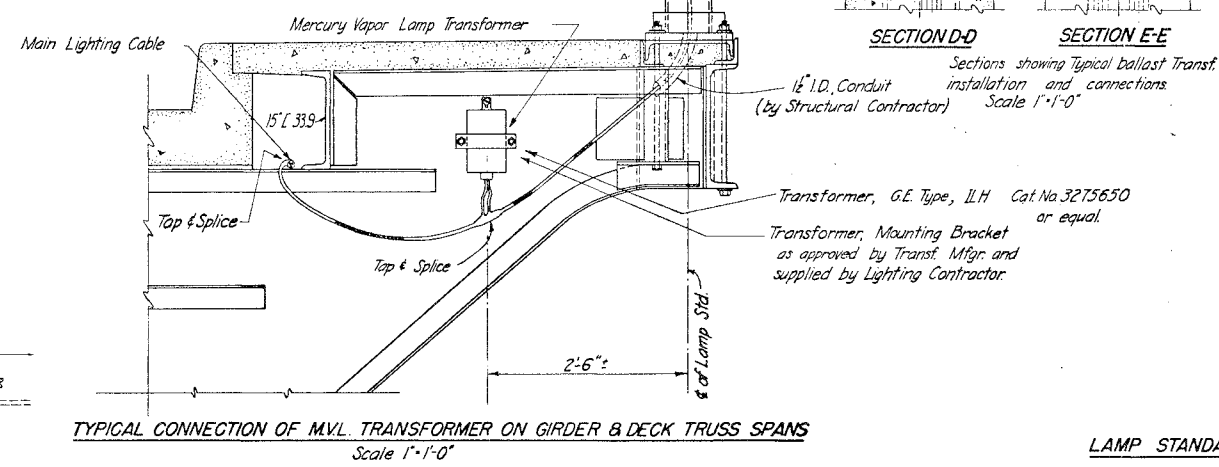
SECTION B-B



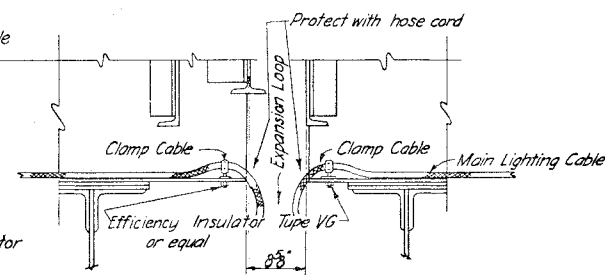
TYPICAL EXP. LOOP DETAILS
D = Outside Dia. of Cable
Scale: 1"=1'-0"



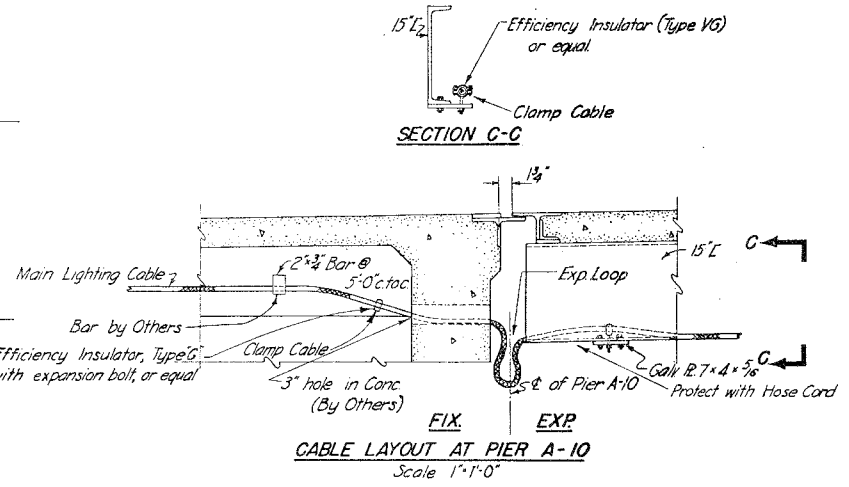
TYPICAL CONNECTION OF M.V.L. TRANSFORMER ON CONC. TRESTLE
Scale 1"=1'-0"



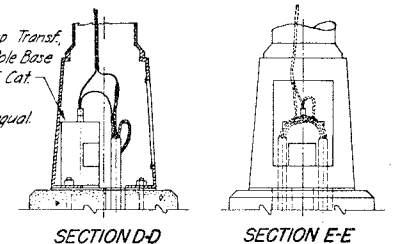
TYPICAL CONNECTION OF M.V.L. TRANSFORMER ON GIRDER & DECK TRUSS SPANS
Scale 1"=1'-0"



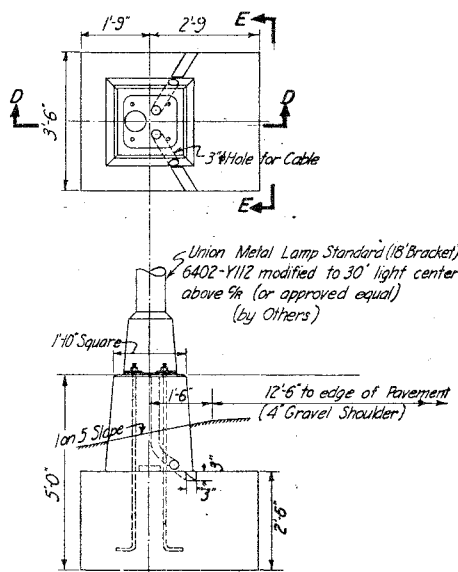
CABLE LAYOUT AT PIERS V & VI
Scale 1"=1'-0"



SECTION C-C
CABLE LAYOUT AT PIER A-10
Scale 1"=1'-0"



SECTION D-D
SECTION E-E
Sections showing typical ballast Transf. installation and connections.
Scale 1"=1'-0"



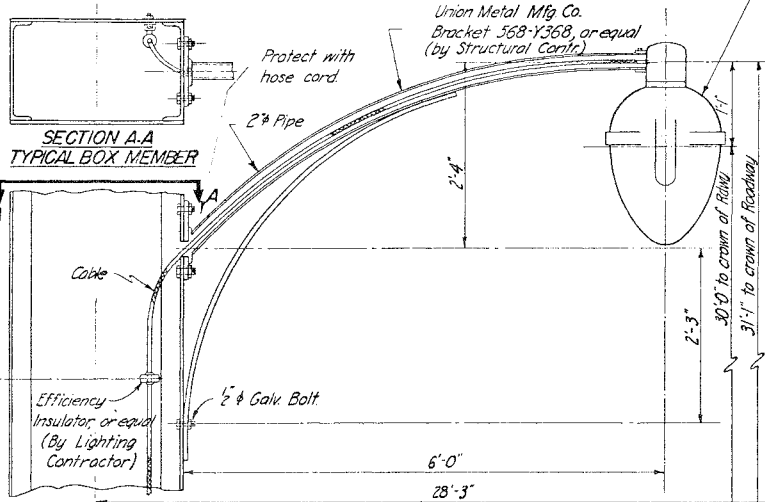
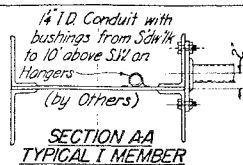
LAMP STANDARD FOUNDATION-ARKANSAS APPROACH ROADS
(Provided by others and shown to indicate Required Path of Cables.)
Scale 1"=1'-0"

NOTE: All Work shown on this Dwg. is under Item #1

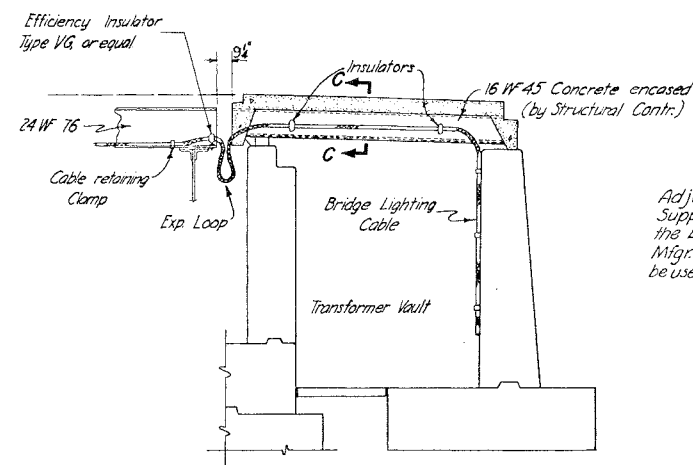
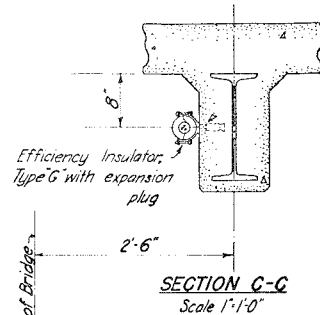
STATES OF TENNESSEE & ARKANSAS
MEMPHIS HIGHWAY BRIDGE
ACROSS THE MISSISSIPPI RIVER AT MEMPHIS TENNESSEE
BRIDGE ROADWAY LIGHTING
ARKANSAS APPROACH TO PIER VII

SCALE IN FEET
CONTRACT NO. 12 DRAWING NO. 2

APPROVED: DATE: 8/2/49
FOR MODJESKI & MASTERS
THIS DRAWING REVISED APR. 1950
TO SHOW THE WORK
AS CONSTRUCTED
MODJESKI & MASTERS-ENGINEERS
K-102-104 DR. DHL TR. DHL CK. HJE



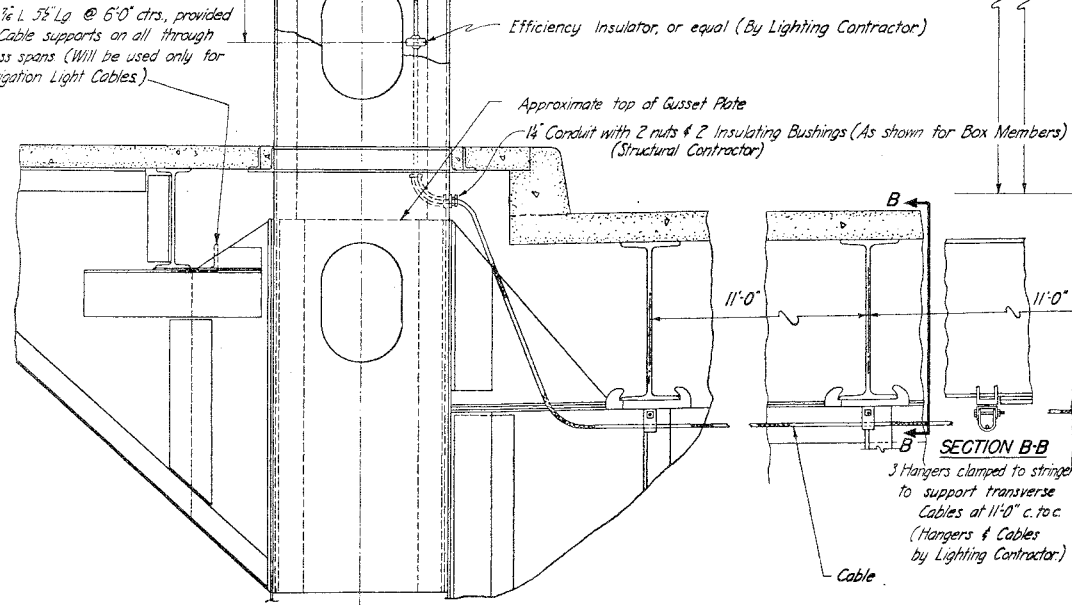
General Electric Co. Form 101 D Cat No. A17650 with 1 1/2" slip fitter connection with Vertical Burning, 16,000 lumens, Mercury Vapor, type FH-1 Lamp



Adjustable Insulator Support as Mfg. by the Efficiency Electric & Mfg. Co. (Cat No. 300) to be used as a Cable Retaining Clamp

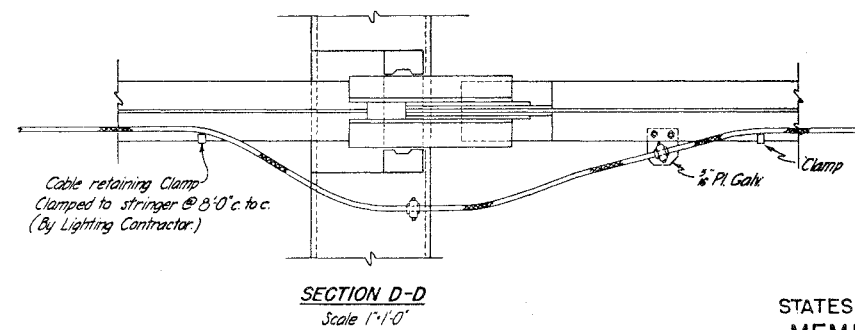
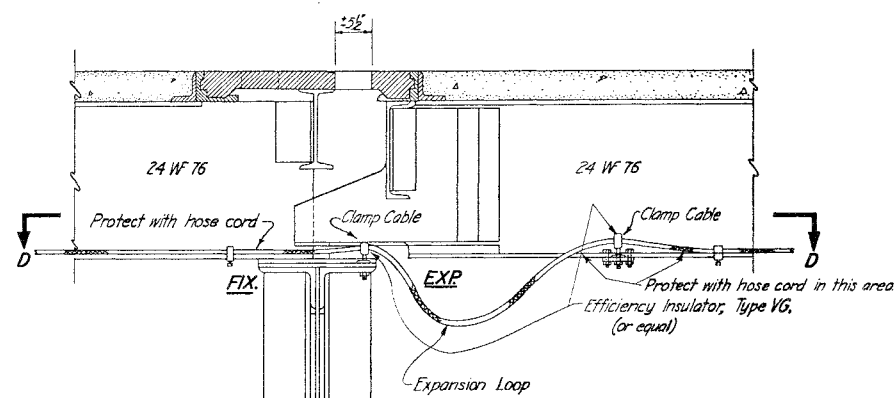
CABLE RETAINING CLAMP DETAIL
Scale 3'-1'-0"

7/4 x 7/8 L 5/8 Lg @ 6'-0" ctrs. provided for Cable supports on all through truss spans (Will be used only for Navigation Light Cables)



Brackets connected to I Members at PP 1, 18, 35, 52, 62, 77 Main Span and PP 1 & 1 Simple Spans.
Brackets connected to Box Members at PP 4, 6, 8, 11, 13, 16, 21, 23, 25, 28, 30, 33, 38, 40, 42, 45, 47, 50, 53, 57, 59, 64, 67, 69, 72 & 74 Main Span and PP 4, 4 & 6 Simple Spans.

TYPICAL PART-SECTION THROUGH MAIN BRIDGE
Scale 1'-1'-0"



NOTE: All Work shown on this Dwg. is under Item #1.

STATES OF TENNESSEE & ARKANSAS
MEMPHIS HIGHWAY BRIDGE
ACROSS THE MISSISSIPPI RIVER AT MEMPHIS TENNESSEE
BRIDGE ROADWAY LIGHTING
MAIN BRIDGE

SCALE IN FEET
CONTRACT NO. 12 DRAWING NO. 3

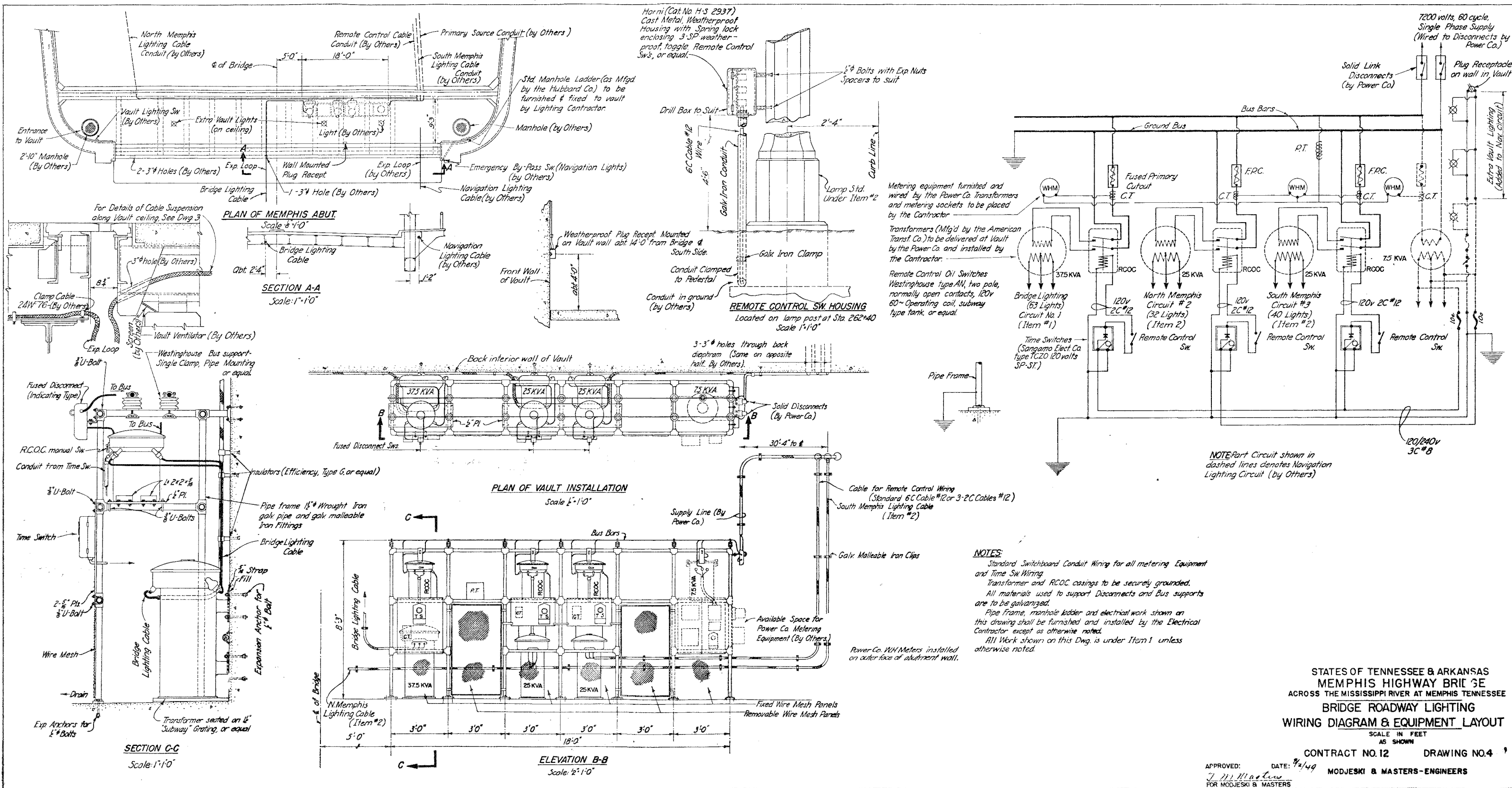
APPROVED: DATE: 9/4/49 MODJESKI & MASTERS-ENGINEERS

J. M. Mastros
FOR MODJESKI & MASTERS
THIS DWG. REVISED APR. 1950
TO SHOW THE WORK
AS CONSTRUCTED

K-102-105

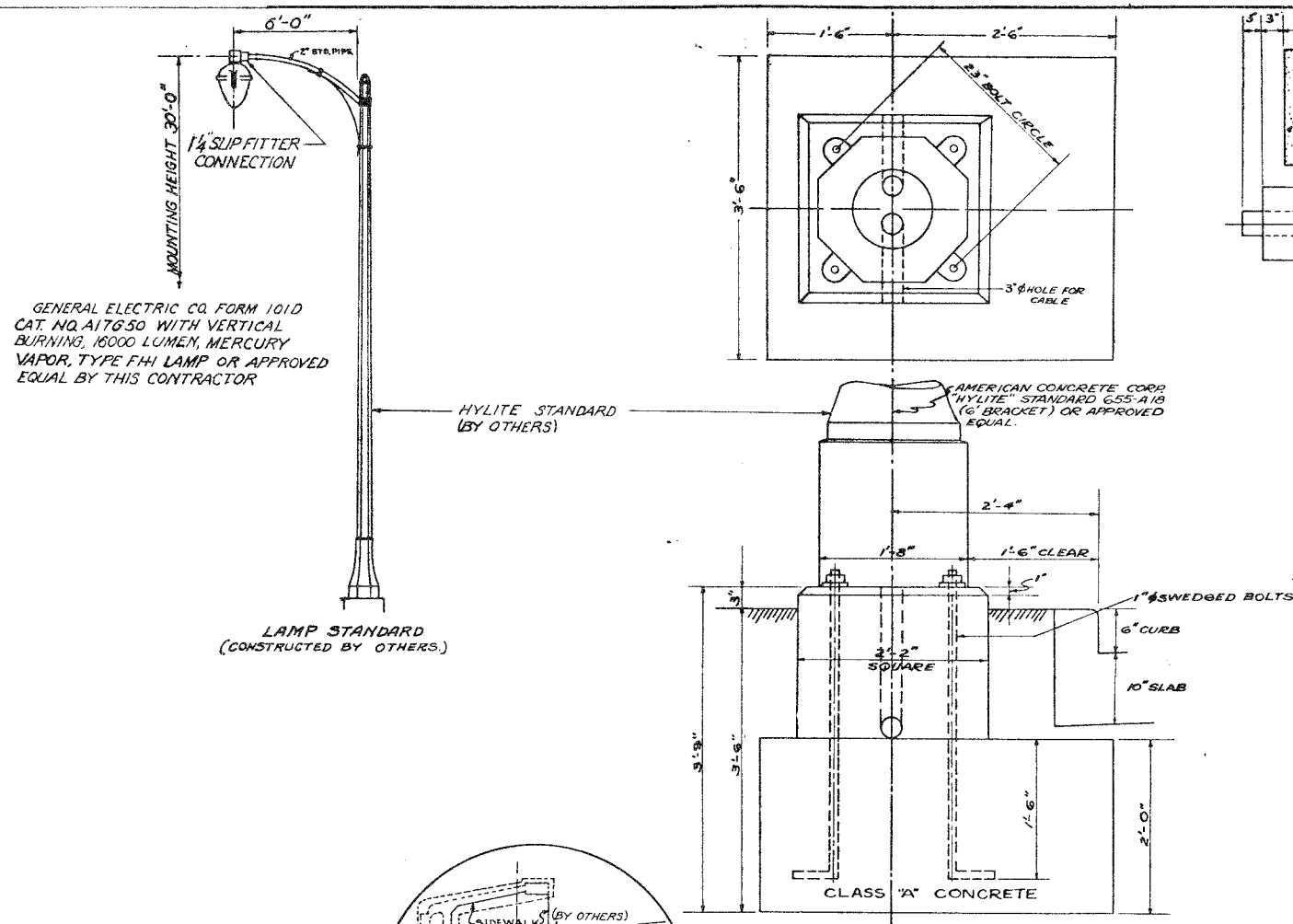
Revised Sept. 10, 49

DR. D.H.L. TR. M.K.S. CK. F.R.K.

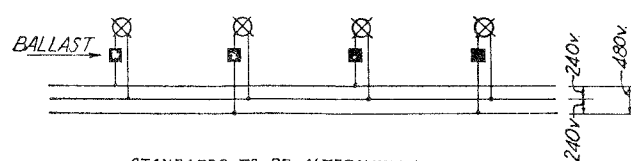
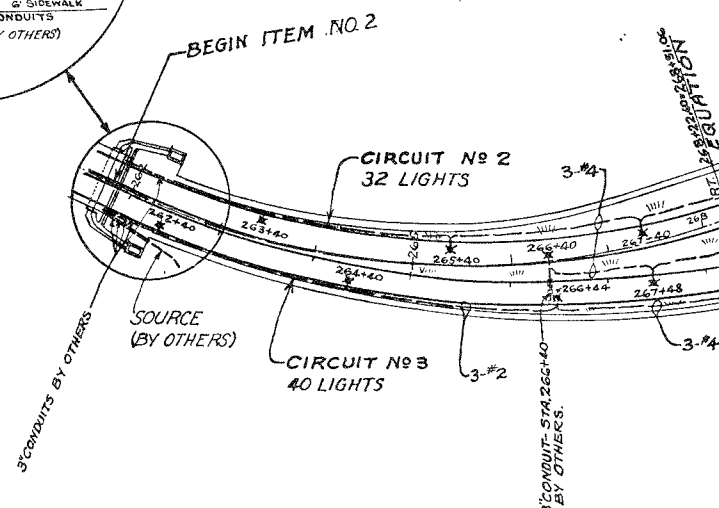
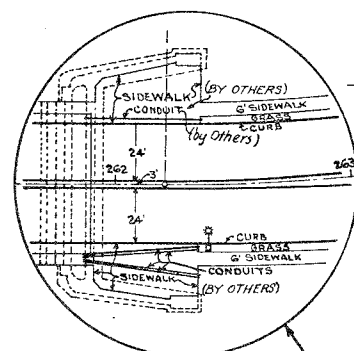


STATES OF TENNESSEE & ARKANSAS
 MEMPHIS HIGHWAY BRIDGE
 ACROSS THE MISSISSIPPI RIVER AT MEMPHIS TENNESSEE
 BRIDGE ROADWAY LIGHTING
 WIRING DIAGRAM & EQUIPMENT LAYOUT
 SCALE IN FEET
 AS SHOWN
 CONTRACT NO. 12 DRAWING NO. 4
 APPROVED: DATE: 7/2/49
 FOR MODJESKI & MASTERS
 THIS DRAWING REVISED APR 1950
 TO SHOW THE WORK
 AS CONSTRUCTED
 MODJESKI & MASTERS-ENGINEERS
 K-102-106

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	NO. SHEET	TOTAL SHEETS
6	TENN ARK.	HA-550-22 FI-11-507A-2 PART 12 L.C. TIME	1949		

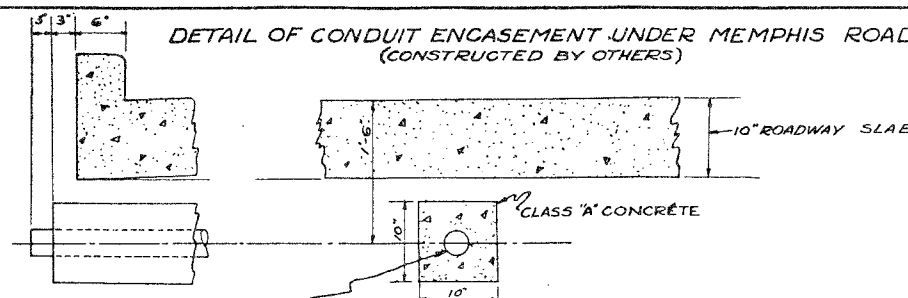


LAMP STANDARD BASE - MEMPHIS APPROACH ROADS
(AT SIDEWALK OR CENTER PARKWAY)
(CONSTRUCTED BY OTHERS)

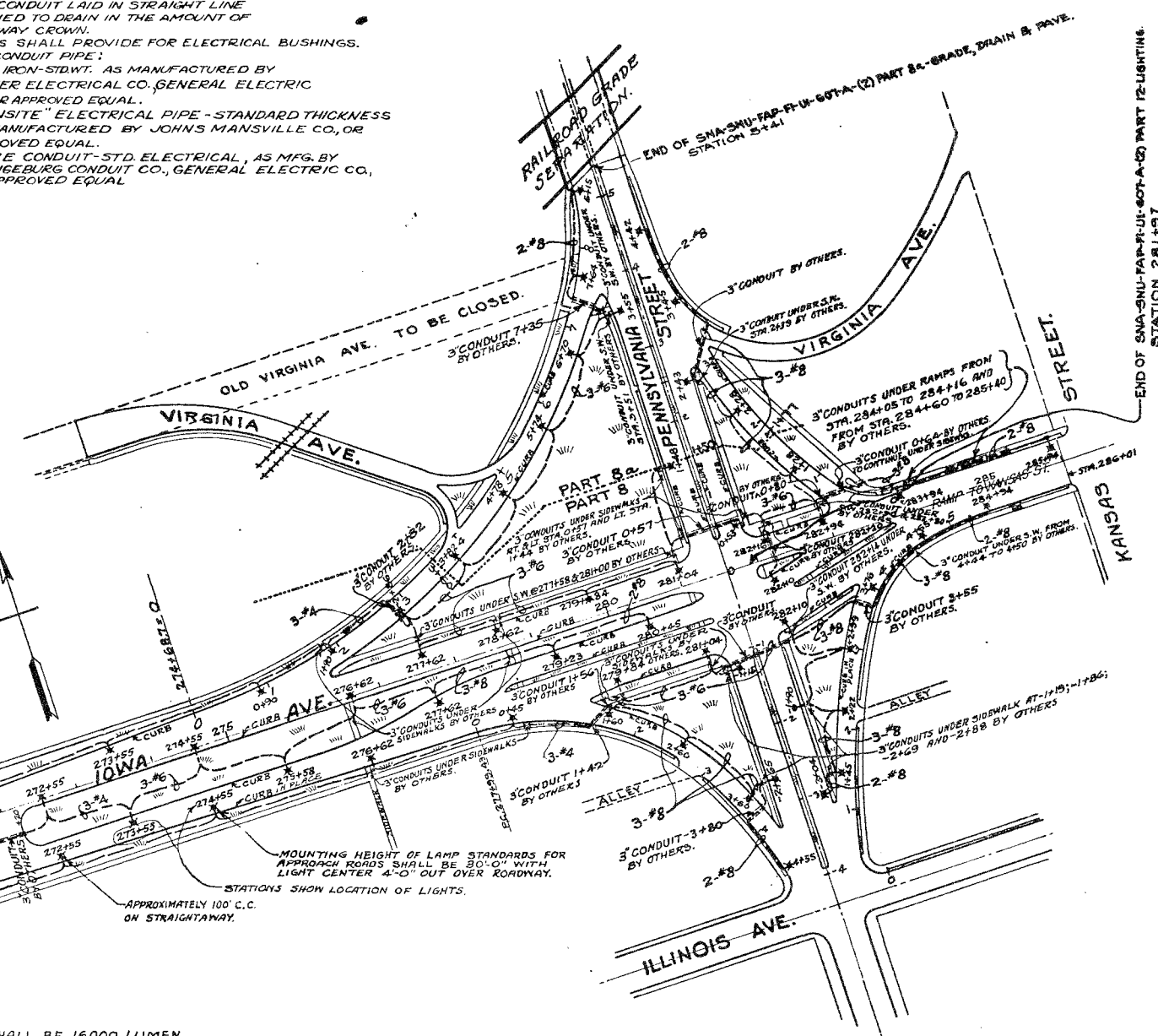


STANDARDS TO BE ALTERNATELY
CONNECTED AT 240 V TO EACH SIDE
OF 240/480V LINES.

DETAIL OF CONDUIT ENCASEMENT UNDER MEMPHIS ROADWAYS
(CONSTRUCTED BY OTHERS)



3" Ø CONDUIT LAID IN STRAIGHT LINE
FITTED TO DRAIN IN THE AMOUNT OF
ROADWAY CROWN.
ENDS SHALL PROVIDE FOR ELECTRICAL BUSHINGS.
3" Ø CONDUIT PIPE:
GALV. IRON-STDWT. AS MANUFACTURED BY
WALKER ELECTRICAL CO., GENERAL ELECTRIC
CO., OR APPROVED EQUAL.
"TRANSITE" ELECTRICAL PIPE - STANDARD THICKNESS
AS MANUFACTURED BY JOHN'S MANSVILLE CO., OR
APPROVED EQUAL.
FIBER COMPT. STD. ELECTRICAL, AS MFG. BY
ORANGEBURG CONDUIT CO., GENERAL ELECTRIC CO.,
OR APPROVED EQUAL.



NOTE: ALL LAMPS SHALL BE 16000 LUMEN
MERCURY VAPOR, VERTICAL BURNING.
BALLAST TRANSFORMER (GE CAT. NO. 3275767)
POLE BASE MOUNTING (OR EQUAL) INSTALLATION AND
CONNECTIONS, SIMILAR TO DETAILS SHOWN ON DWG
NO. 2 FOR ARKANSAS. APPROACH
ALL WORK ON THIS DWG TO BE PERFORMED
BY THIS CONTRACTOR UNDER ITEM NO. 2

ESTIMATED QUANTITIES
ITEM 2-1 LUMP SUM.
SEE SPECIFICATIONS FOR REQUIREMENTS.

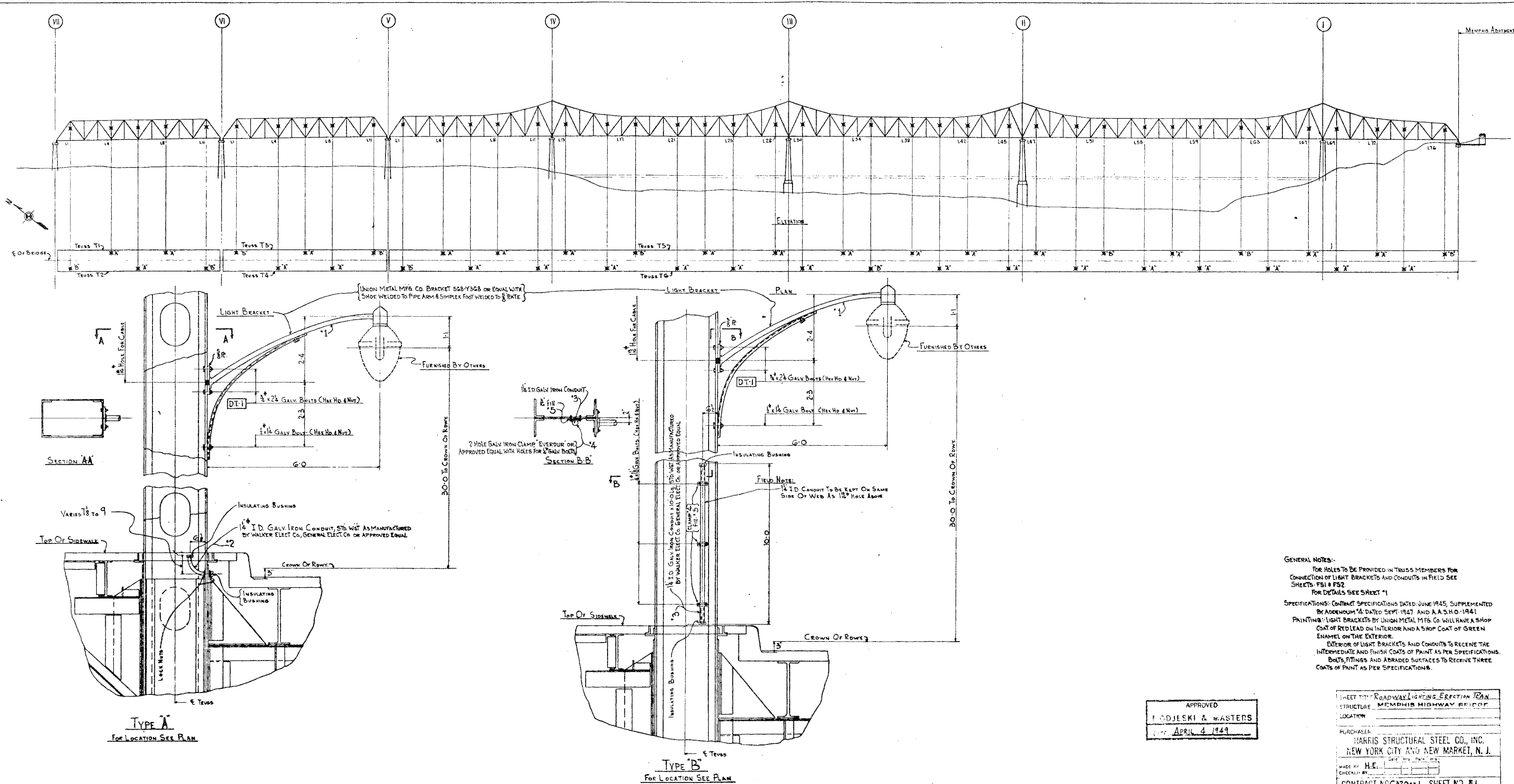
STATES OF TENNESSEE & ARKANSAS
MEMPHIS HIGHWAY BRIDGE
ACROSS THE MISSISSIPPI RIVER AT MEMPHIS TENNESSEE

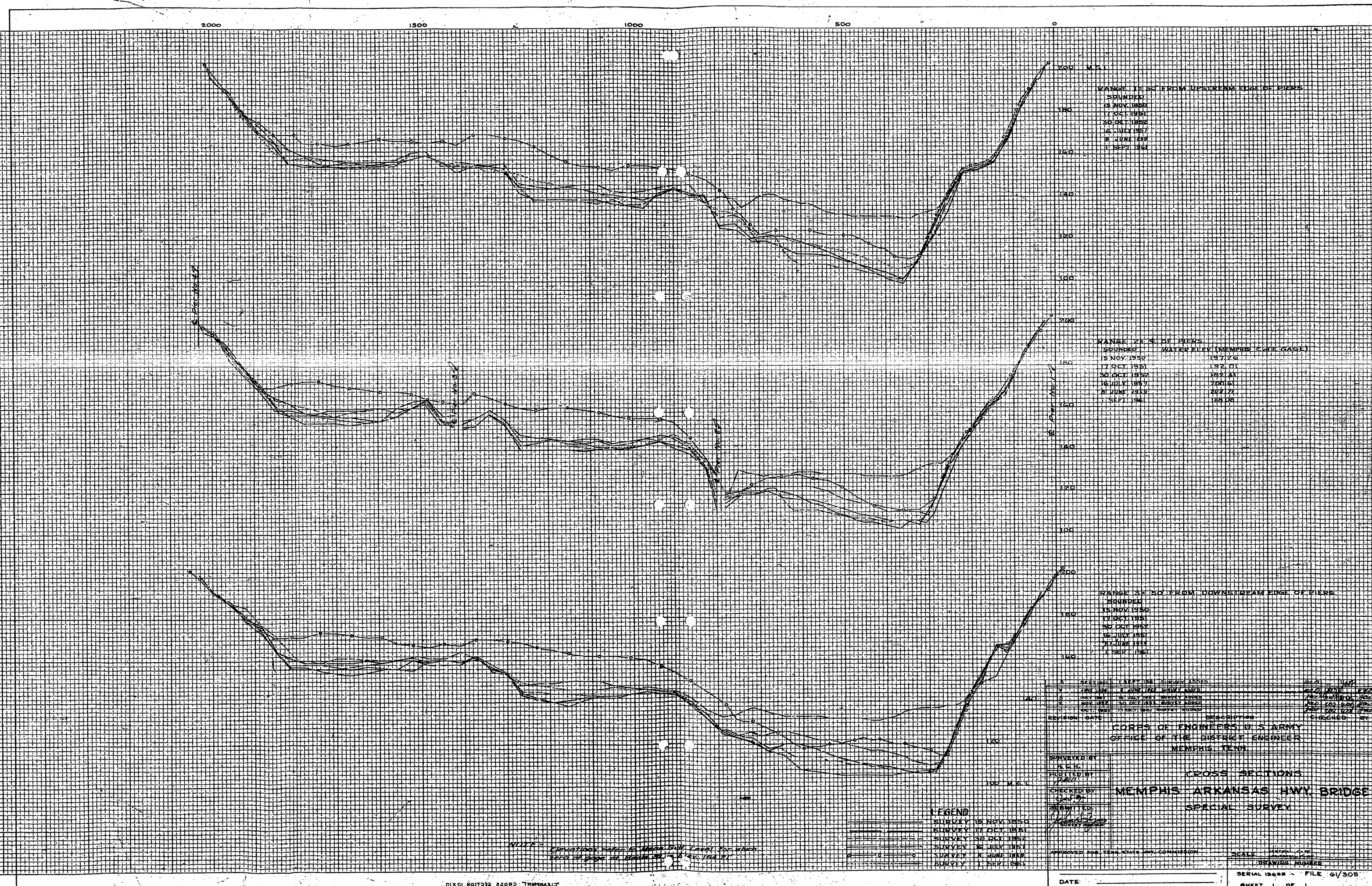
MEMPHIS APPROACH LIGHTING
GENERAL PLAN & DETAILS




CONTRACT NO.12 DRAWING NO.5

MODJESKI & MASTERS-ENGINEERS





RANGE 1E 50' FROM UPSTREAM EDGE OF PIERS
SOUNDED
15 NOV 1950
17 OCT 1951
30 OCT 1952
16 JULY 1957
31 JUNE 1959
1 SEPT 1961

RANGE 2E 5' OF PIERS
SOUNDED WATER ELEV (MEMPHIS GAGE GAGE)
15 NOV 1950 197.26
17 OCT 1951 197.01
30 OCT 1952 198.13
16 JULY 1957 200.61
31 JUNE 1959 202.71
1 SEPT 1961 198.08

RANGE 3E 50' FROM DOWNSTREAM EDGE OF PIERS
SOUNDED
15 NOV 1950
17 OCT 1951
30 OCT 1952
16 JULY 1957
31 JUNE 1959
1 SEPT 1961

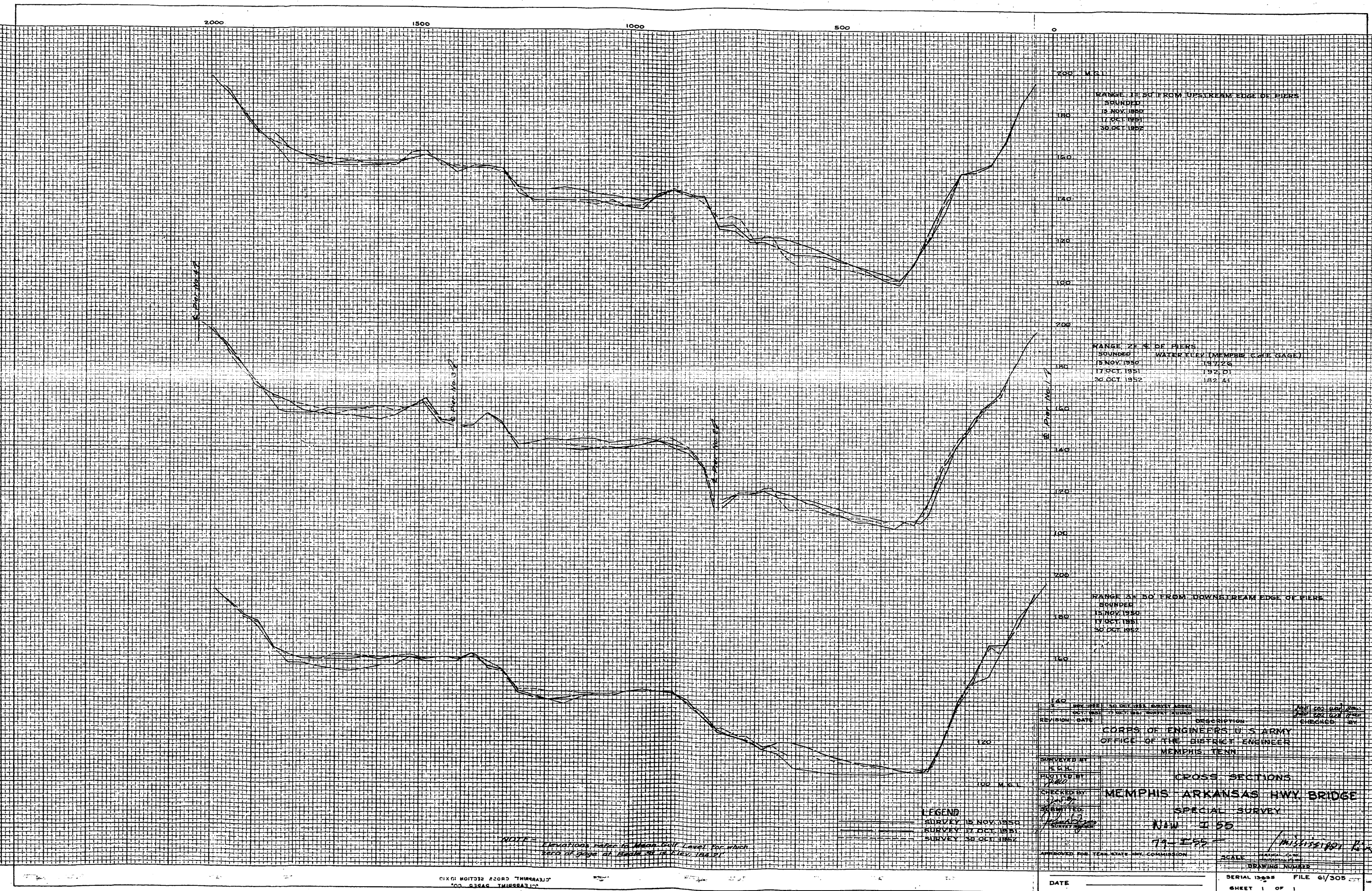
LEGEND

- SURVEY 15 NOV 1950
- SURVEY 17 OCT 1951
- SURVEY 30 OCT 1952
- SURVEY 16 JULY 1957
- SURVEY 31 JUNE 1959
- SURVEY 1 SEPT 1961

NOTE - Elevations refer to which gage level for which
top of gage at bottom of 15' (4.268 m)

1	15 NOV 1950	15 NOV 1950	15 NOV 1950
2	17 OCT 1951	17 OCT 1951	17 OCT 1951
3	30 OCT 1952	30 OCT 1952	30 OCT 1952
4	16 JULY 1957	16 JULY 1957	16 JULY 1957
5	31 JUNE 1959	31 JUNE 1959	31 JUNE 1959
6	1 SEPT 1961	1 SEPT 1961	1 SEPT 1961
REVISION DATE	DESCRIPTION	CHECKED BY	
	CORPS OF ENGINEERS U.S. ARMY		
	OFFICE OF THE DISTRICT ENGINEER		
	MEMPHIS, TENN.		
SURVEYED BY			
PLOTTED BY			
CHECKED BY			
APPROVED BY			
APPROVED FOR TENN. STATE HWY. COMMISSION			
DATE			
SHEET 1 OF 1			

CROSS SECTIONS
MEMPHIS ARKANSAS HWY. BRIDGE
SPECIAL SURVEY



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REVISION	DATE	DESCRIPTION	CHECKED BY
1	NOV 1951	NO OCT 1952 SURVEY ADDED	101 101 101 101
2	OCT 1952	NO OCT 1951 SURVEY ADDED	101 101 101 101

CORPS OF ENGINEERS U.S. ARMY
OFFICE OF THE DISTRICT ENGINEER
MEMPHIS TENN.

CROSS SECTIONS
MEMPHIS ARKANSAS HWY. BRIDGE
SPECIAL SURVEY
NIW 455
79-155

APPROVED FOR TENN. STATE HWY. COMMISSION

DATE _____

SHEET 1 OF 1