

STATE OF ARKANSAS
STATE HIGHWAY COMMISSION

PLAN AND PROFILE OF PROPOSED
STATE HIGHWAY

GREERS FERRY RESERVOIR HIGHWAY RELOCATIONS

CORPS OF ENGINEERS CONTRACT NO. DA-93-C50-CIVENG-59-291

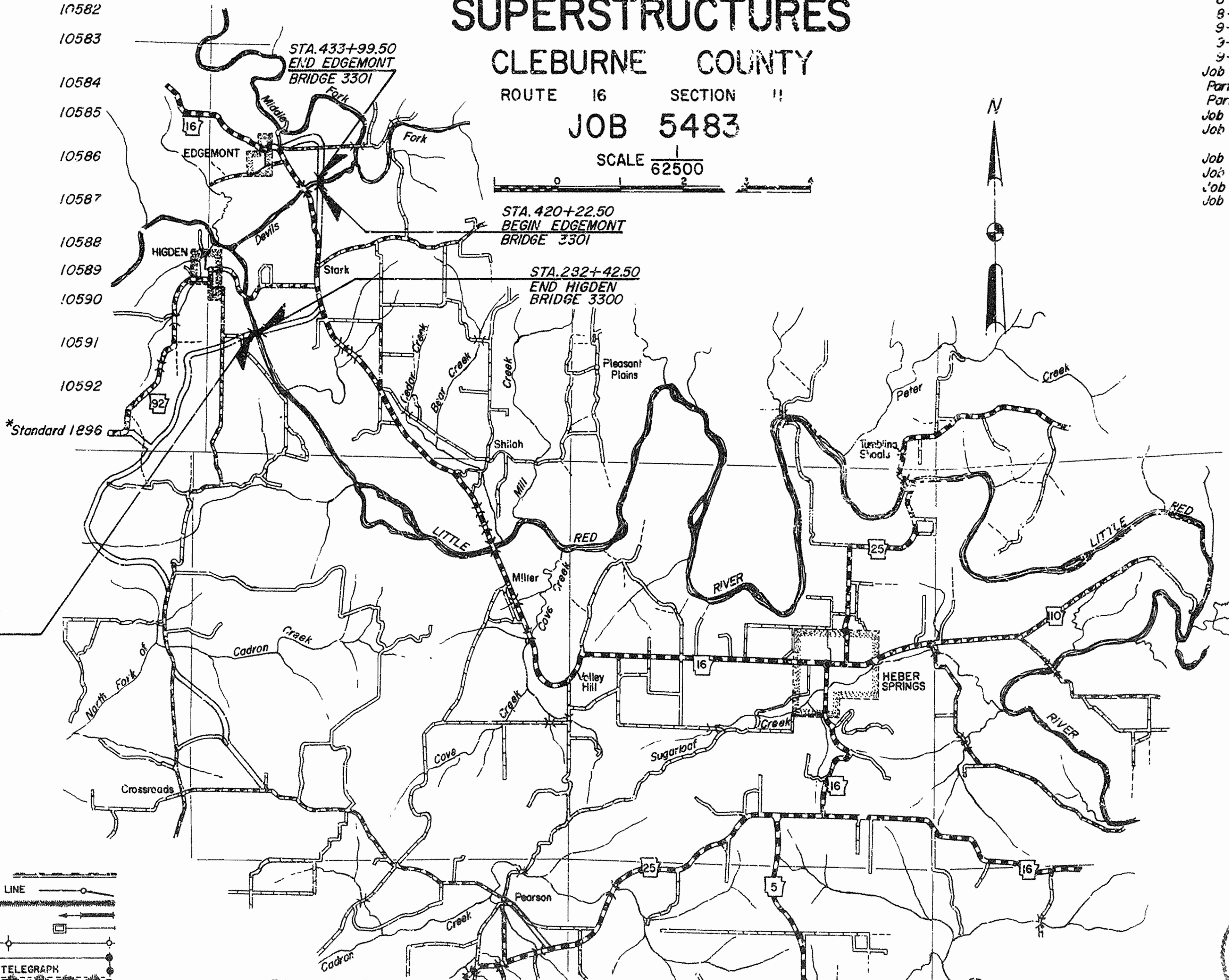
EDGEMONT AND HIGDEN BRIDGES
SUPERSTRUCTURES

CLEBURNE COUNTY

ROUTE 16 SECTION 11

JOB 5483

SCALE 1/62500



INDEX OF SHEETS

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19.	*Standard 1296

SPECIFICATIONS ADOPTED BY STATE HIGHWAY COMMISSION
MARCH 1, 1940, WITH SPECIAL PROVISIONS AS FOLLOWS:

DIVISION	PART	NUMBER	SPECIAL PROVISION
I			
IV			
		2-1	Competency of Bidders
		2-2	Equipment List Required
		2-4	State License for Contractors
		3-9	Award of Contract
		7-13	Required Contract Provisions for Work Financed by Corps of Engineers Funds
		7-19	Safety and Accident Prevention
		8-2	Employment of Labor
		8-7	Liquidated Damages
		8-9	Legal Holidays
		9-5	Partial Payments
		3-7	Common Carrier Rates
		9-10	Method of Measurement
Job 5483			Order of Work and Access to Site
Part 8-A			Structures
Part 8-B			Structures
Job 5483			Modification of SP-806, Steel Structures
Job 5483			Modification of SP-807, Metal Bearing and Roadway Expansion Devices
Job 5483			Verification of Field Dimensions
Job 5483			Installation of Suspension Bolts
Job 5483			Engineer's Field Office
Job 5483			Removal of Access Ladders

NOTE:
* This standard is not normally included in plans sold to prospective Bidders, but may be obtained on request.

RECOMMENDED FOR APPROVAL	<i>L. P. Carlson</i>	BRIDGE DESIGN ENGINEER
RECOMMENDED FOR APPROVAL		ROADWAY DESIGN ENGINEER
RECOMMENDED FOR APPROVAL		DISTRICT ENGINEER
APPROVED	<i>Wald Friedman</i>	CHIEF ENGINEER

U.S. ARMY ENGINEER DISTRICT	LITTLE ROCK, ARKANSAS	
APPROVE	<i>Amfacy</i>	17 DEC 1959
	COL, CORPS OF ENGINEERS	DISTRICT ENGINEER

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

JOB 5483
EDGEMONT & HIGDEN BRIDGES - SUPERSTRUCTURE
ROUTE 16, SECTION 11, CLEBURNE COUNTY
LOCALITY MAP & INDEX

DRAWN BY:	D.M.F.	GARVER & GARVER	SCALE: 1/62500
CHECKED BY:	J.H.L.	ENGINEERS	SHEET NO.
DATE:	10/1/59	LITTLE ROCK, ARKANSAS	1 of 19



CONVENTIONAL SIGNS

STATE LINE	RETAINING WALL
COUNTY LINE	BASE OR SURVEY LINE
CITY OR VILLAGE	LEVEE
TOWNSHIP LINE	CULVERTS
SECTION LINE	DROP INLET
GRANT LINE	TROLLEY POLE
FENCE LINE X	POWER POLE
UNFENCED PROPERTY	TELEPHONE OR TELEGRAPH
RIGHT OF WAY LINE	MARSH
TRAVELED WAY	HEDGE
RAILROADS	BUILDINGS
BRIDGES	

FINAL LENGTH

GROSS LENGTH OF PROJECT	2479.00 FEET OR 0.453 MILES
NET " " ROADWAY	" " " "
NET " " BRIDGES	2479.00 " " 0.453 " "
NET " " PROJECTS	2479.00 " " 0.453 " "

P & S JOB 1380

BRIDGE NOS. 3300 & 3301 DRAWING NO. 10575

SCHEDULE OF QUANTITIES, EDMONT BRIDGE

ITEM NUMBER		SP-802	SP-803	SP-805	SP-806 & SP	SP-806 & SP	SP-807 & SP	SP
UNIT OF BRIDGE	CONSTRUCTION ITEM IN UNITS AS SHOWN	CLASS "S" CONCRETE C.Y.	REINFORCING STEEL LBS.	STEEL PLATE GUARD BRIDGE RAILING (10 GAUGE) L.F.	STRUCTURAL STEEL IN BEAM SPANS LBS.	STRUCTURAL STEEL IN TRUSS SPANS LBS.	METAL BEARING & ROADWAY EXPANSION DEVICES LBS.	INSTALLATION OF SUSPENSION BOLTS COMPLETE ITEM
BRIDGE NO. 3301	Standard Beam Spans, South Approach	40.0	9,702	163.25	38,880		1,539	
	Trusses, Main Crossing Spans					2,067,666	28,600	
	Floor System, Main Crossing Spans	750.5	128,996	2,353.50		335,215	56,428	
	Standard Beam Spans, North Approach	58.3	14,958	27.25	85,317		1,909	
	TOTALS	848.8	153,656	2,544.00	124,197	2,402,881	88,576	100%

SCHEDULE OF QUANTITIES, HIGDEN BRIDGE

ITEM NUMBER		SP-802	SP-803	SP-805	SP-806 & SP	SP-806 & SP	SP-807 & SP	SP
UNIT OF BRIDGE	CONSTRUCTION ITEM IN UNITS AS SHOWN	CLASS "S" CONCRETE C.Y.	REINFORCING STEEL LBS.	STEEL PLATE GUARD BRIDGE RAILING (10 GAUGE) L.F.	STRUCTURAL STEEL IN BEAM SPANS LBS.	STRUCTURAL STEEL IN TRUSS SPANS LBS.	METAL BEARING & ROADWAY EXPANSION DEVICES LBS.	INSTALLATION OF SUSPENSION BOLTS COMPLETE ITEM
BRIDGE NO. 3300	Standard Beam Spans, West Approach	84.3	16,863	263.25	104,433		1,909	
	Trusses, Main Crossing Spans					1,476,942	23,800	
	Floor System, Main Crossing Spans	543.5	93,529	1,703.50		241,313	41,585	
	Standard Beam Spans, East Approach	58.3	14,958	233.25	85,317		1,909	
	TOTALS	686.1	125,350	2,200.00	189,750	1,718,255	69,203	100%

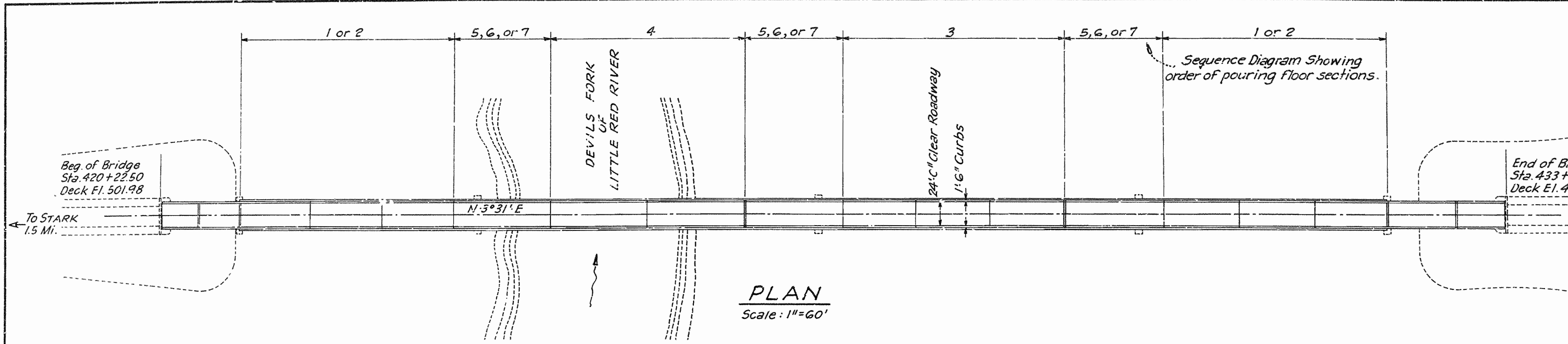
SUMMARY OF QUANTITIES

ITEM NUMBER		SP-802	SP-803	SP-805	SP-806 & SP	SP-806 & SP	SP-807 & SP	SP
UNIT OF BRIDGE	CONSTRUCTION ITEM IN UNITS AS SHOWN	CLASS "S" CONCRETE C.Y.	REINFORCING STEEL LBS.	STEEL PLATE GUARD BRIDGE RAILING (10 GAUGE) L.F.	STRUCTURAL STEEL IN BEAM SPANS LBS.	STRUCTURAL STEEL IN TRUSS SPANS LBS.	METAL BEARING & ROADWAY EXPANSION DEVICES LBS.	INSTALLATION OF SUSPENSION BOLTS COMPLETE ITEM
BRIDGE NOS. 3300 & 3301	Standard Beam Spans, Approaches	240.9	56,481	893.00	313,947		7,366	
	Trusses, Main Crossing Spans					4,121,136	52,400	
	Floor System, Main Crossing Spans	1,294.0	222,525	4,057.00			98,013	
	TOTALS	1,534.9	279,006	4,950.00	313,947	4,121,136	157,779	100%

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

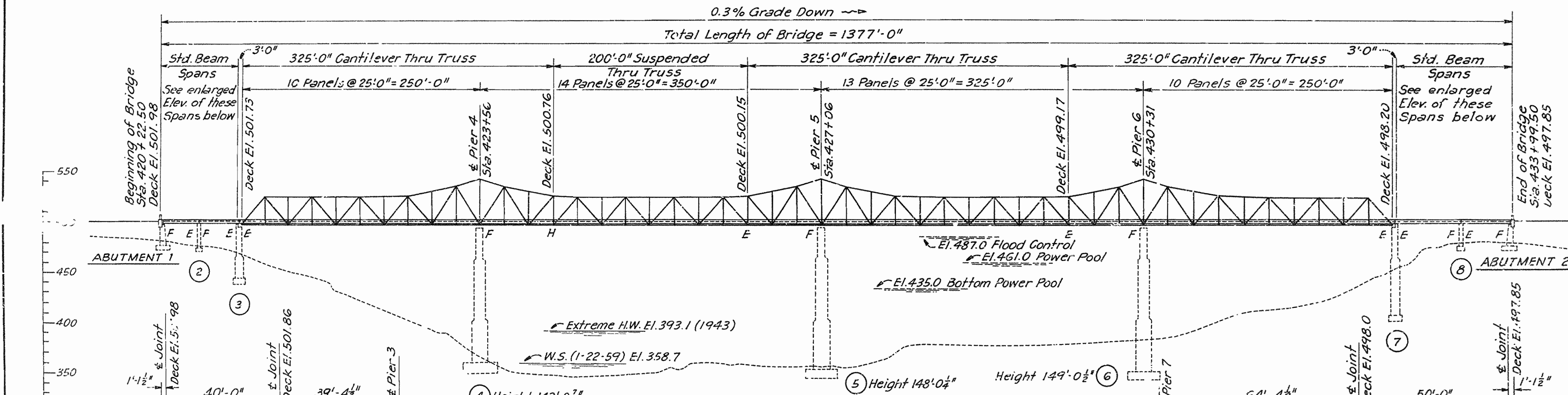
JOB 5483
EDGEMONT & HIGDEN BRIDGES - SUPERSTRUCTURE
ROUTE 16, SECTION II, CLEBURNE COUNTY
SUMMARY OF QUANTITIES &
SCHEDULE OF BRIDGE QUANTITIES

DRAWN BY D.M.F.	GARVER & GARVER, Inc. ENGINEERS LITTLE ROCK, ARKANSAS	SCALE NONE
CHECKED BY M.G.G.		FILE NO. 2 OF 19
DATE 10/1/59		



PLAN
Scale: 1"=60'

GENERAL NOTES:
 Specifications: Arkansas State Highway Commission Standard Specifications for Road and Bridge Construction, adopted March 1, 1940; and AASHO Standard Specifications for Highway Bridges (1957), and designated Special Provisions.
 Design Loading: H15-44.
 Allowable Unit Stresses (psi):
 Structural Steel (see Sheet No. 8)
 Reinforcing Steel 20,000
 Class 5 Concrete (n=10) 1,200
 This contract is for superstructures complete, including roadway pavements and all detail appurtenant thereto.
 Highway approach construction will be proceeding under separate contracts during prosecution of the work under this Contract. Coordination of the work between the superstructure and roadway Contractors will be necessary.



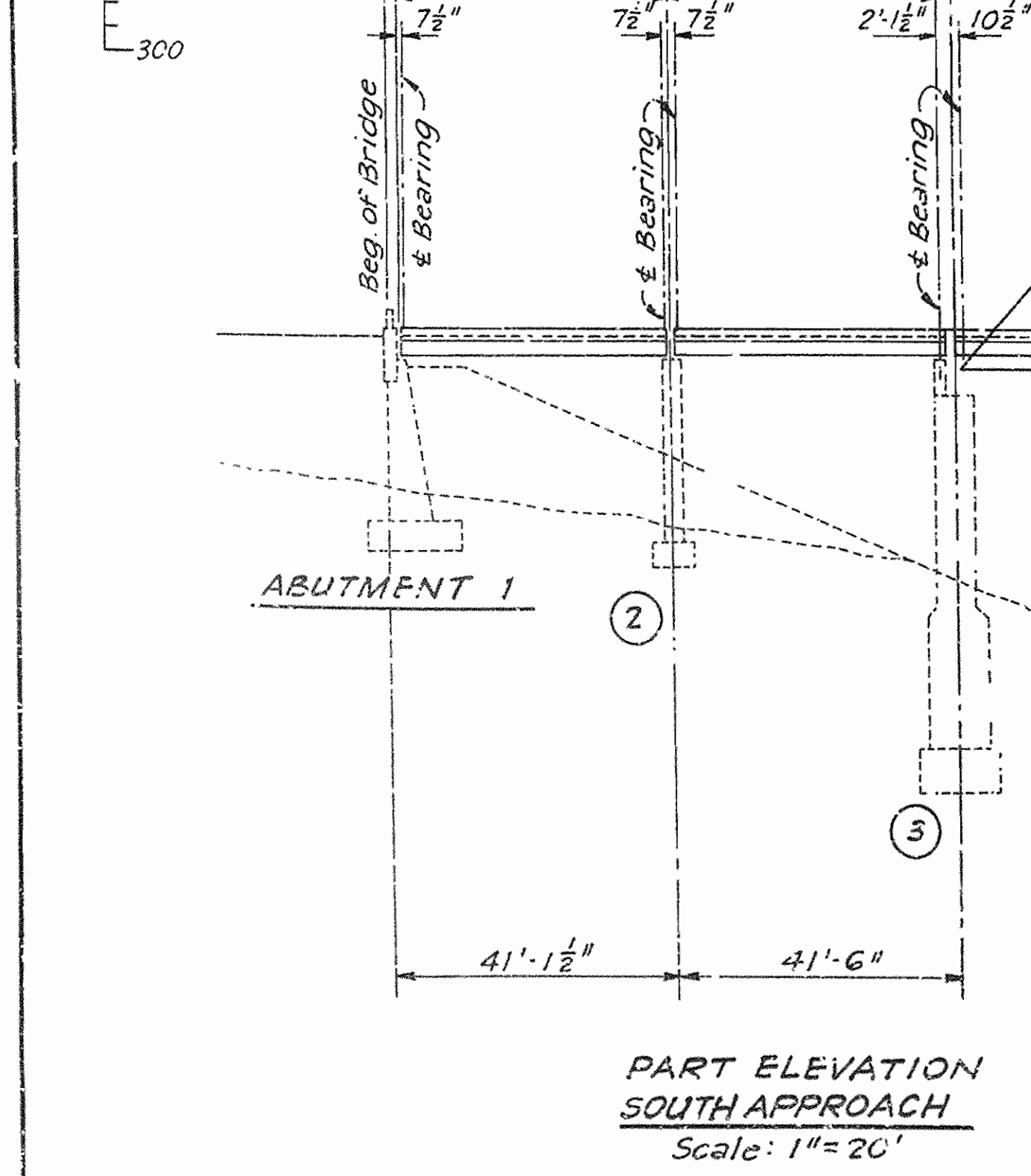
ELEVATION
Scale: 1"=60'

STRUCTURAL STEEL IN TRUSS SPANS:
 All materials shall be carbon steel ASTM A7-58T unless otherwise noted.
 Shoes shall be cast steel ASTM A27-58, Grade G5-35, fully annealed.
 Pins shall be forged steel ASTM A235-55, Class C-1.
 Floor system expansion plates shall be bronze ASTM B100-58, Alloy No. 1.
 Bronze for suspender pin bushings shall be ASTM B22-52, Alloy E. Bushings shall be equipped with Lubrite inserts, trepanned type, on bearing half only.
 Shoes shall be drilled for anchor bolts, to templates supplied by substructure Contractor, whose work includes the fabrication and erection of grillage assemblies complete with anchor bolts.
 Shop connections shall be made with 7/8" φ rivets. Field connections shall be made with 7/8" φ rivets or high-strength steel bolts, at the Contractor's option, except in roadway expansion devices where machine bolts are specified.
 Open holes shall be 1/16" φ unless otherwise noted.
 Drain holes shall be provided at all points subject to the collection of water.
 Welding, where called for on the drawings, shall be by the electric arc process.
 Shoes, expansion dams, gratings and supports shall be shop assembled and match marked.
 Before shipment all structural steel except surfaces to be in contact with concrete shall be given one coat of Type I Red Lead Ready-Mixed Paint, AASHO M72. Field paint shall consist of a first coat of red lead, as specified for shop coat but tinted with lamp black, and a second coat of aluminum paint, AASHO M69.
 Cast steel, forged steel and bronze plates and bushings shall be paid for at the unit price bid for the item "Metal Bearing & Roadway Expansion Devices".
 These drawings show general features of design only. Shop drawings shall be prepared in accordance with the specifications, and shall be submitted and approved before fabrication is begun. Prior to the submission of shop drawings, erection drawings will have been submitted and approved. No payment will be made for any increase in member sizes above those shown on these drawings due to erection requirements.

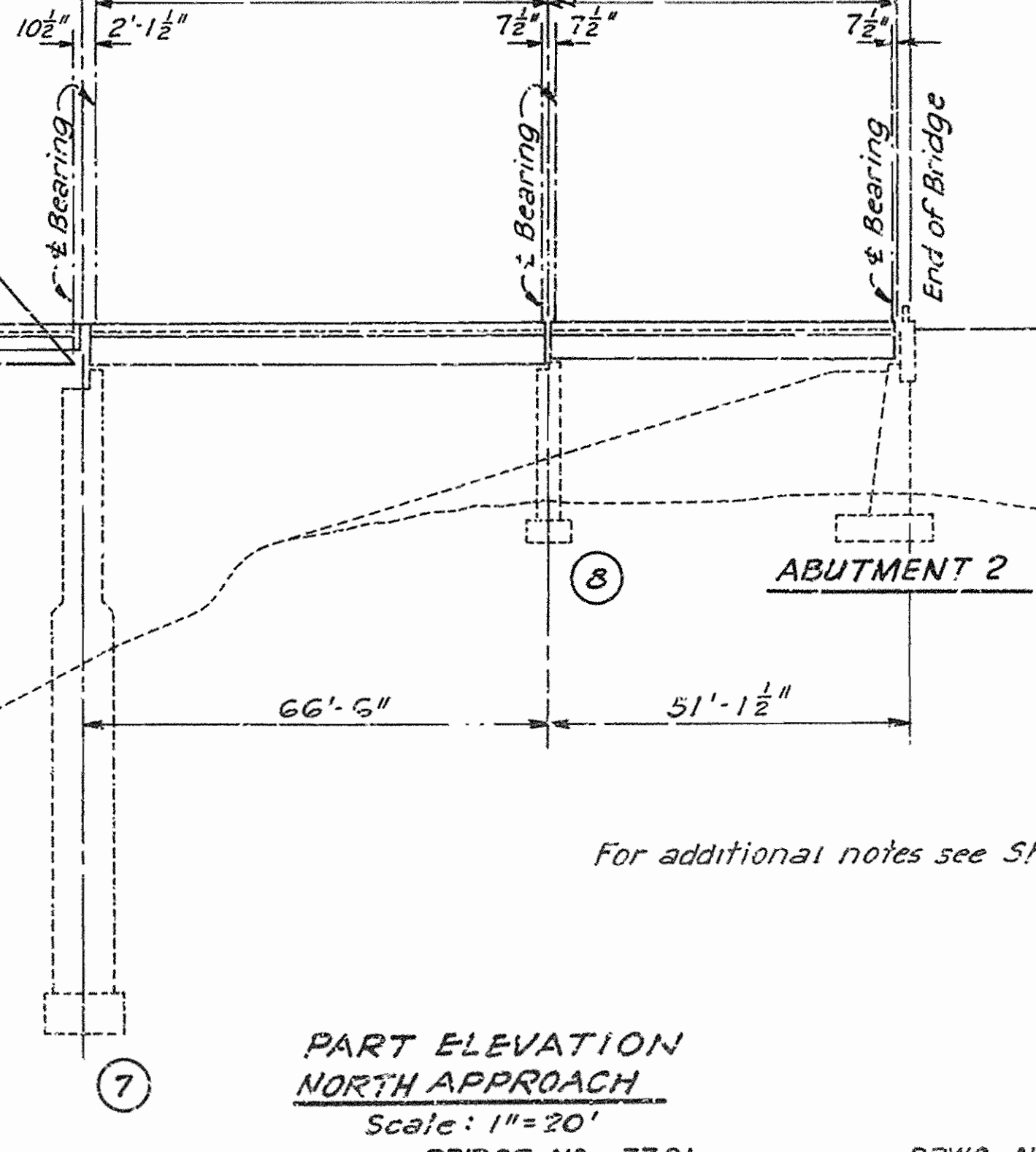
For the information of the Contractor, maximum and minimum base pressures for principal substructure units subject to critical Load Groups 1 & 2 are shown in the tabulation following. The maximum base pressure at lesser substructure units is 10 kips per sq.ft.

LOAD GROUP	DESIGN CONDITION	PIER 3		PIER 4		PIER 5		PIER 6		PIER 7	
		MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.
1	Full Reservoir: No hydrostatic uplift, 50% hydrostatic uplift.	8.5 ^K	8.5 ^K	13.9 ^K	9.2 ^K	15.1 ^K	14.3 ^K	9.6 ^K	14.3 ^K	12.7 ^K	12.7 ^K
		8.5 ^K	6.6 ^K	13.9 ^K		14.3 ^K	9.6 ^K		9.6 ^K	12.7 ^K	9.7 ^K
2	Full Reservoir: No hydrostatic uplift, wind on superstructure.	10.6 ^K	4.6 ^K	20.7 ^K	6.2 ^K	22.3 ^K	6.9 ^K	22.3 ^K	6.9 ^K	16.1 ^K	6.5 ^K
	50% hydrostatic uplift, wind on superstructure.	8.7 ^K	2.7 ^K	16.0 ^K	1.6 ^K	16.8 ^K	1.3 ^K	16.8 ^K	1.3 ^K	13.1 ^K	3.3 ^K
	Empty Reservoir: Wind on superstructure and substructure.	10.7 ^K	2.5 ^K	17.0 ^K	-2.5 ^K	18.7 ^K	-0.1 ^K	18.7 ^K	-0.1 ^K	17.5 ^K	1.7 ^K

* Base pressures under Group 3 Loading are not critical and are not shown



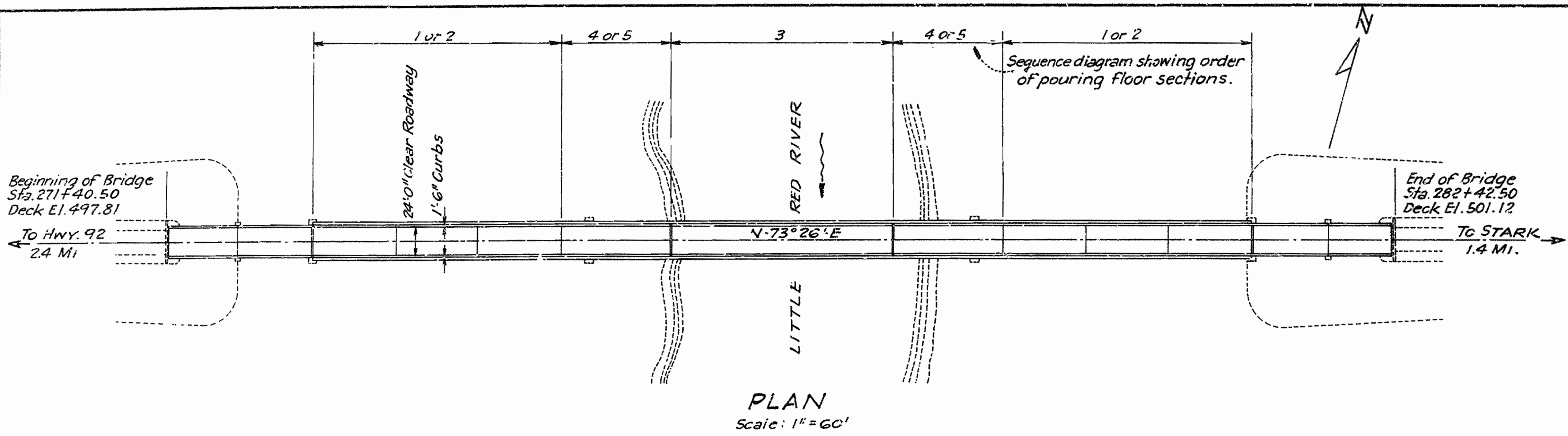
PART ELEVATION SOUTH APPROACH
Scale: 1"=20'



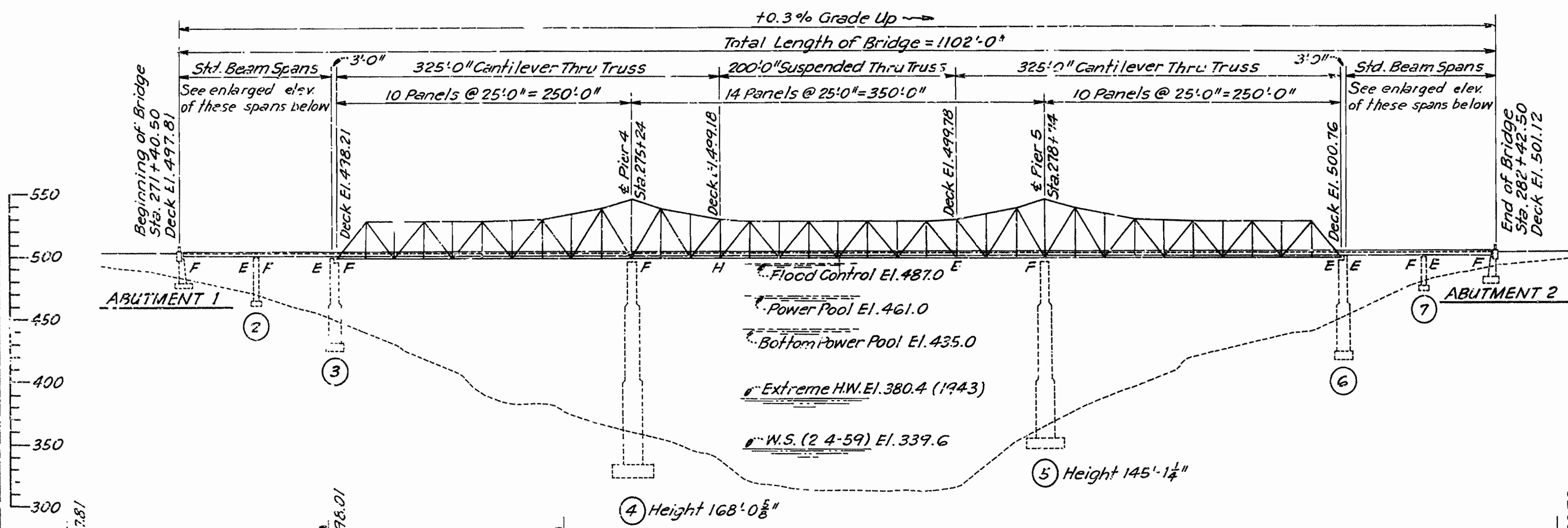
PART ELEVATION NORTH APPROACH
Scale: 1"=20'

REV.	DATE	DESCRIPTION	BY
1	10/11/59	Added note to General Notes.	
ARKANSAS STATE HIGHWAY COMMISSION LITTLE ROCK, ARKANSAS JOB 3483 EDMONT & HIGDEN BRIDGES - SUPERSTRUCTURE ROUTE 16 SECTION II, CLEBURNE COUNTY LAYOUT, EDMONT BRIDGE SUPERSTRUCTURE			
DRAWN BY	M.G.G.	GARVER & GARVER, Inc.	SCALE AS NOTED
CHECKED BY	J.L.S.	ENGINEERS	SHEET NO.
DATE	10/11/59	LITTLE ROCK, ARKANSAS	3 OF 19

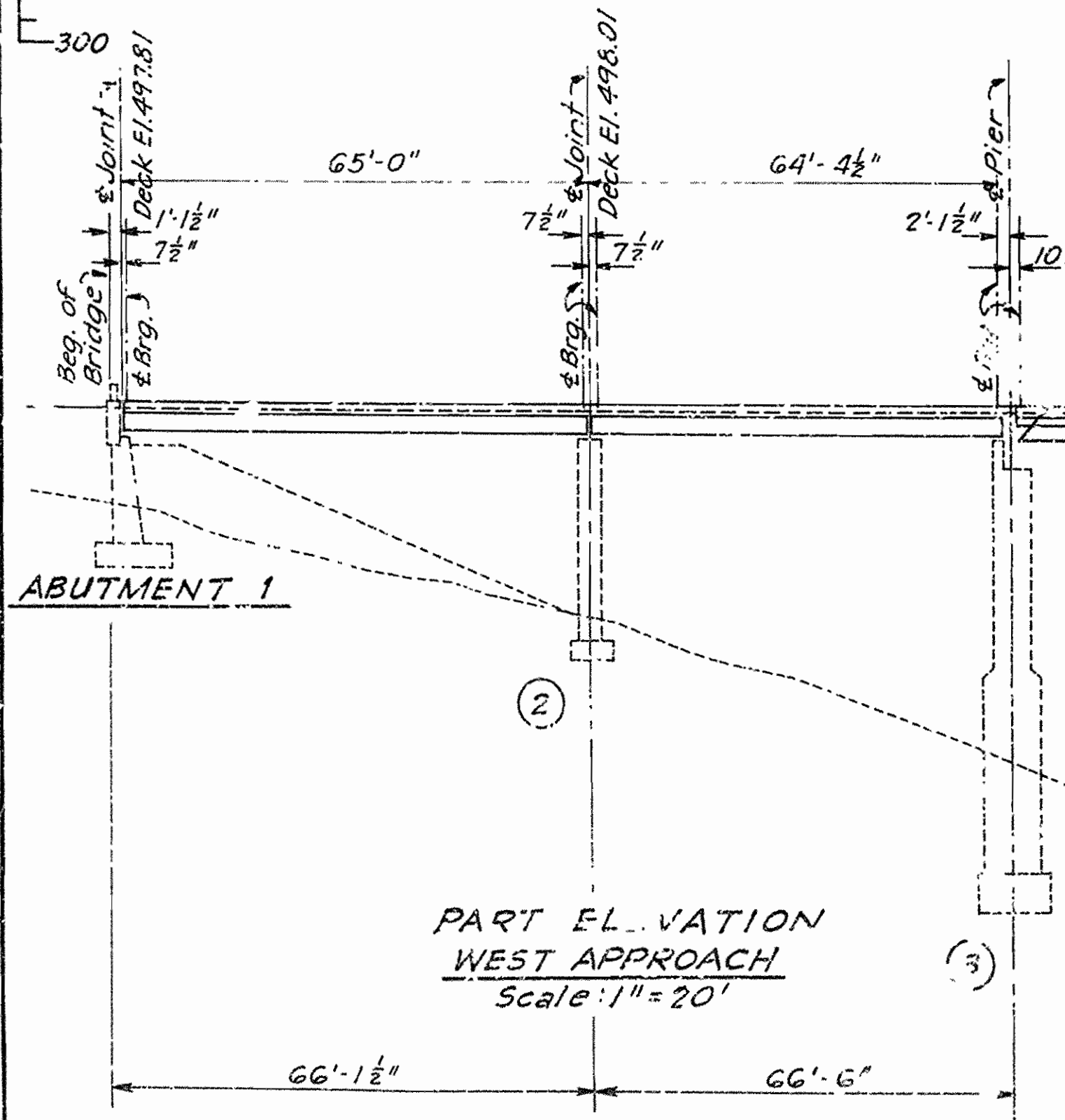
For additional notes see Sheet No. 4



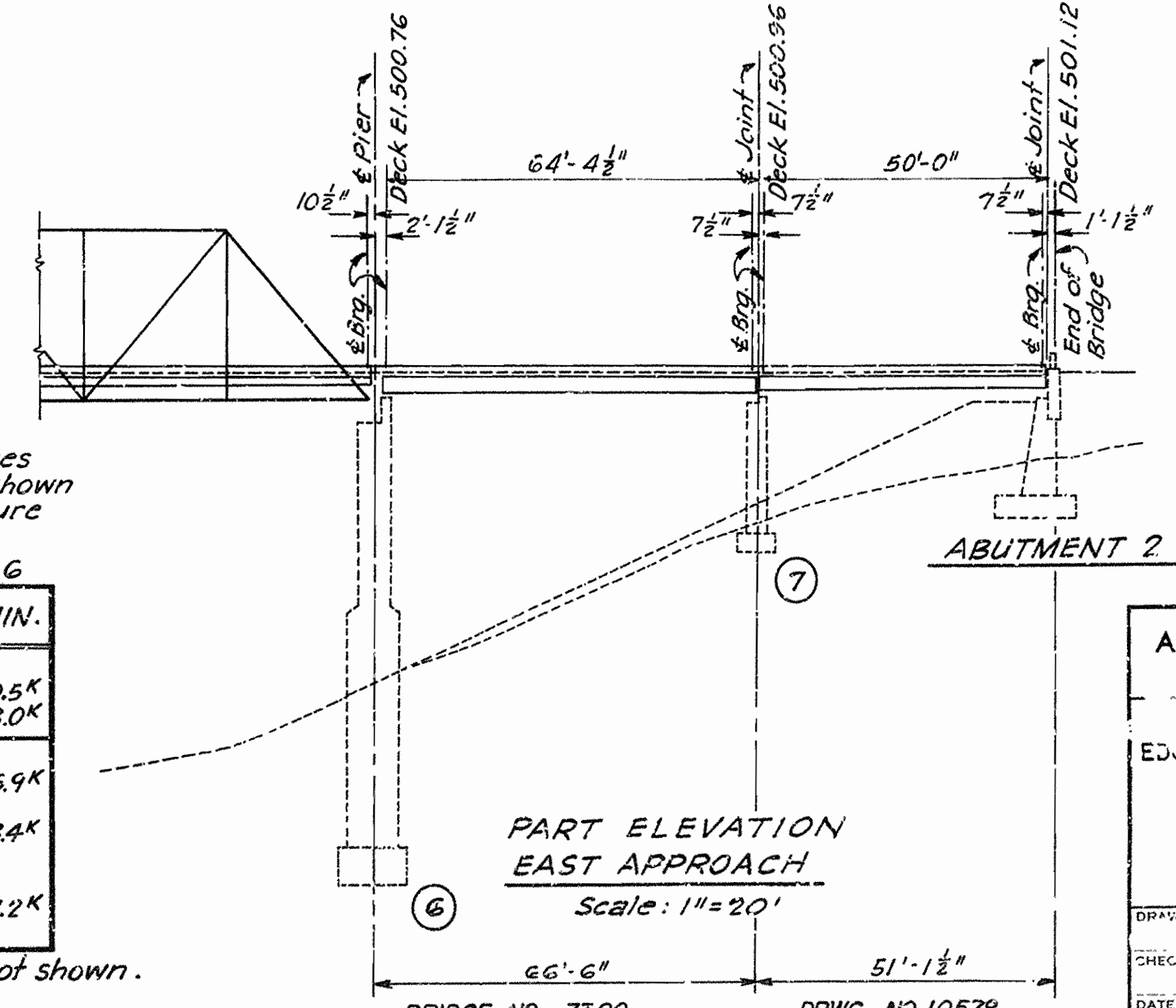
PLAN
Scale: 1" = 60'



ELEVATION
Scale: 1" = 60'



PART ELEVATION WEST APPROACH
Scale: 1" = 20'



PART ELEVATION EAST APPROACH
Scale: 1" = 20'

For the information of the Contractor, maximum and minimum base pressures for principal substructure units subject to critical Load Groups 1 & 2 are shown in the tabulation following. The maximum base pressure at lesser substructure units is 10 kips per sq. ft.

LOAD GROUP	DESIGN CONDITION	PIER 3		PIER 4		PIER 5		PIER 6	
		MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.
1	Full Reservoir:								
	No hydrostatic uplift	9.2K	9.2K	16.0K	15.1K	10.5K	10.5K	10.5K	10.5K
2	50% hydrostatic uplift	9.2K	7.0K	16.0K	10.8K	14.3K	9.6K	10.5K	8.0K
	Full Reservoir:								
2	No hydrostatic uplift, wind on superstructure	11.7K	4.9K	23.6K	7.7K	22.3K	6.9K	13.5K	5.9K
	50% hydrostatic uplift, wind on superstructure	9.5K	2.7K	18.4K	2.5K	16.8K	1.3K	11.0K	3.4K
2	Empty Reservoir:								
	Wind on superstructure and substructure	12.2K	1.0K	19.5K	-1.0K	18.7K	-0.1K	14.6K	1.2K

*Base pressures under Group 3 Loading are not critical and are not shown.

STRUCTURAL STEEL IN BEAM SPANS:

All materials shall be carbon steel ASTM A7-58T. Shoes shall be drilled for anchor bolts and beam spans fabricated subsequent to verification of the location of anchor bolts as provided and erected by the substructure Contractor. Shop connections shall be made with 7/8"φ rivets. Field connections for diaphragms shall be riveted, or bolted with high-strength steel bolts, at the Contractor's option. All open holes shall be 1 1/16"φ. Welding, where called for on the drawings, shall be by electric arc process. Shoes shall bear on 1/8" of red lead and canvas or preformed fabric pad. Bearing pads shall be included in the unit price bid for the item "Structural Steel in Beam Spans". Shop and field paint shall be as specified for Structural Steel in Truss Spans, Sheet No. 3. Shop drawings shall be prepared in accordance with the specifications, and shall be submitted and approved before fabrication is begun.

REINFORCED CONCRETE ROADWAY:

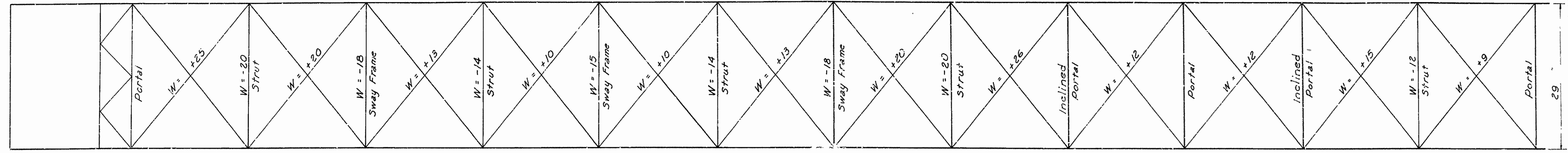
Roadway construction on main spans, and on approach spans in the vicinity of expansion dams at panel points L0, L34 and L47, shall not commence until all structural steel in truss spans has been erected and riveted, or bolted, as the case may be. Roadway construction shall be in the sequence indicated by numbers on Plans, Sheet Nos. 3 and 4. All concrete shall be Class S. All exposed corners shall be chamfered 3/4" except gutter line and top of curb, which shall be rounded to 1/2" radius. Reinforcing steel shall be deformed bars of intermediate or hard grade. Shop lists and bending diagrams shall be submitted and approved prior to any fabrication. Reinforcement shall be firmly held in place by means of steel wire supports, which are not a pay item but subsidiary to the item "Reinforcing Steel". Handrail shall be steel plate guard of the type shown on the drawings or an equivalent rigid type, as approved by the Engineer. Rail, rail posts, anchor bolts and all appurtenant fittings shall be paid for at the unit price bid for "Steel Plate Guard Bridge Railing". Slightly vertical alignment shall be obtained by adjustment within the limits of slotted holes in rail posts, and by field drilling truss member connections after satisfactory alignment is obtained.

Southwestern Bell Telephone Company cable suspension bolts shall be furnished the Contractor at no cost. The installation will be paid for at the lump sum price bid for the item "Installation of Suspension Bolts". Roadway drains shall be included in the unit price bid for the item "Metal Bearing and Roadway Expansion Devices". Painting shall be as specified for other structural steel items. Field painting of handrail shall be as specified for other structural steel items. Shop painting shall consist of one coat of rust inhibitor primer.

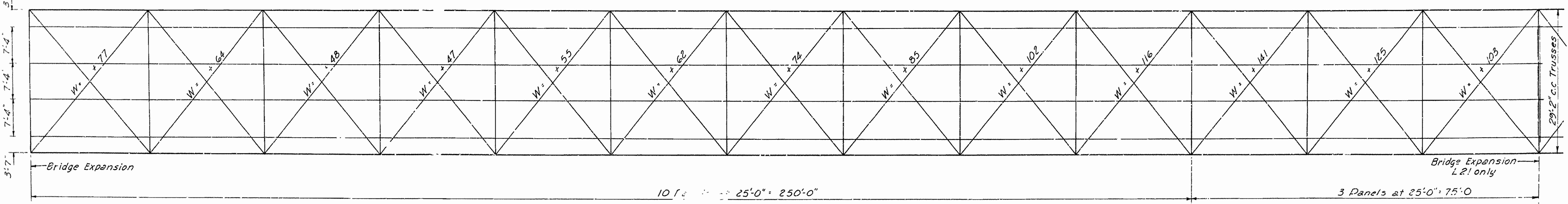
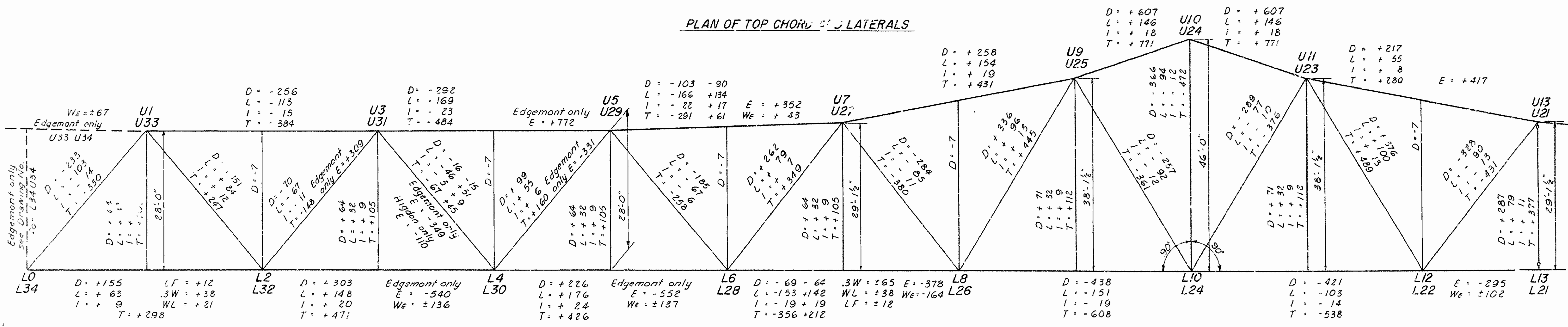
For additional notes see Sheet No. 3.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
JOB 5483
EDGEMONT & HIGDEN BRIDGES-SUPERSTRUCTURE
ROUTE 16, SECTION II, CLEBURNE COUNTY
LAYOUT, HIGDEN BRIDGE
SUPERSTRUCTURE

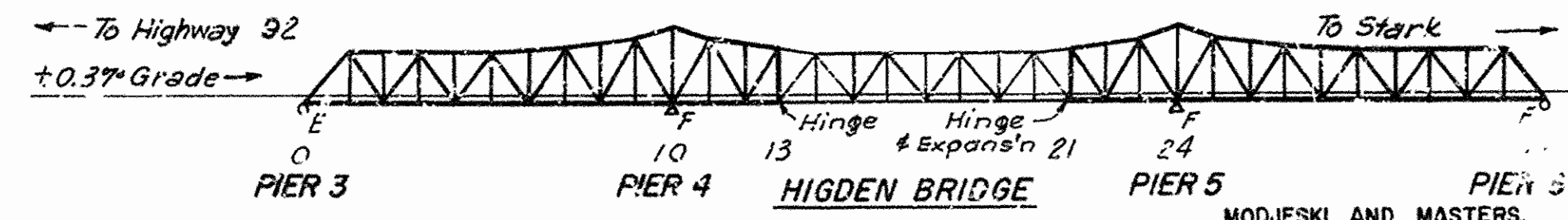
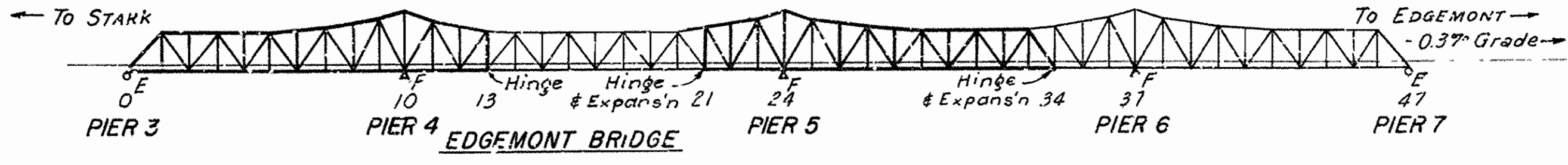
DRAWN BY: M.G.G.
CHECKED BY: J.L.S.
DATE: 10/11/59
GARVER & GARVER, Inc.
ENGINEERS
LITTLE ROCK, ARKANSAS
SCALE: AS NOTED
SHEET No. 4 of 19



PLAN OF TOP CHORD OF LATERALS



PLAN OF BOTTOM CHORD AND FLOOR SYSTEM



KEY PLANS

BRIDGE NOS. 3300 & 3301 DRWG. NC.10579

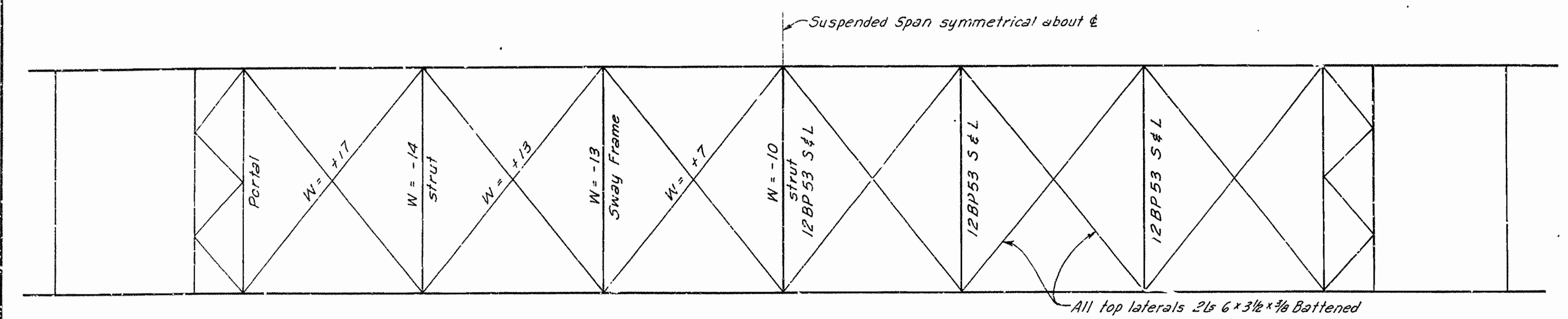
MODJESKI AND MASTERS, CONSULTANT HARRISBURG, PENNSYLVANIA
 APPROVED BY: J. L. S. 9/4/59

REACTIONS

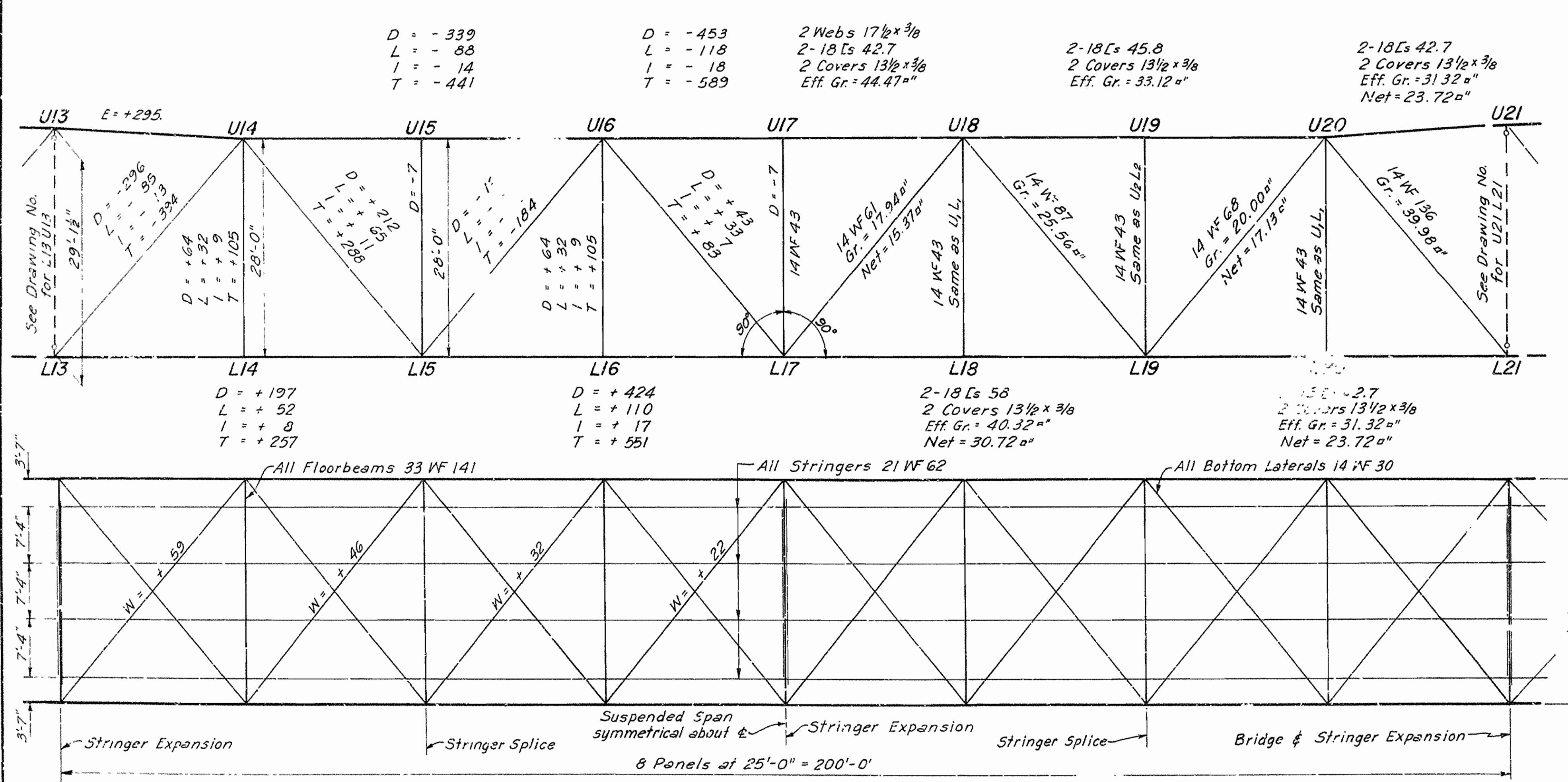
PANEL POINTS 0 & 34		PANEL POINTS 10 & 24	
D = 206	W (horizontal) = 91 per Bridge	D = 902	W (horizontal) = 266 per Bridge
L = 86	W (vertical) = 25 per Truss	L = 184	W (vertical) = 112 per Truss
I = 12		I = 14	
T = 304		T = 1100	

ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARKANSAS
 JOB 5483
 EDMONT & HIGDEN BRIDGES - SUPERSTRUCTURE
 ROUTE 16, SECTION 11, CLEBURNE COUNTY
 SUPERSTRUCTURE STRESS SHEET
 PANEL POINTS 0-13 AND 21-34

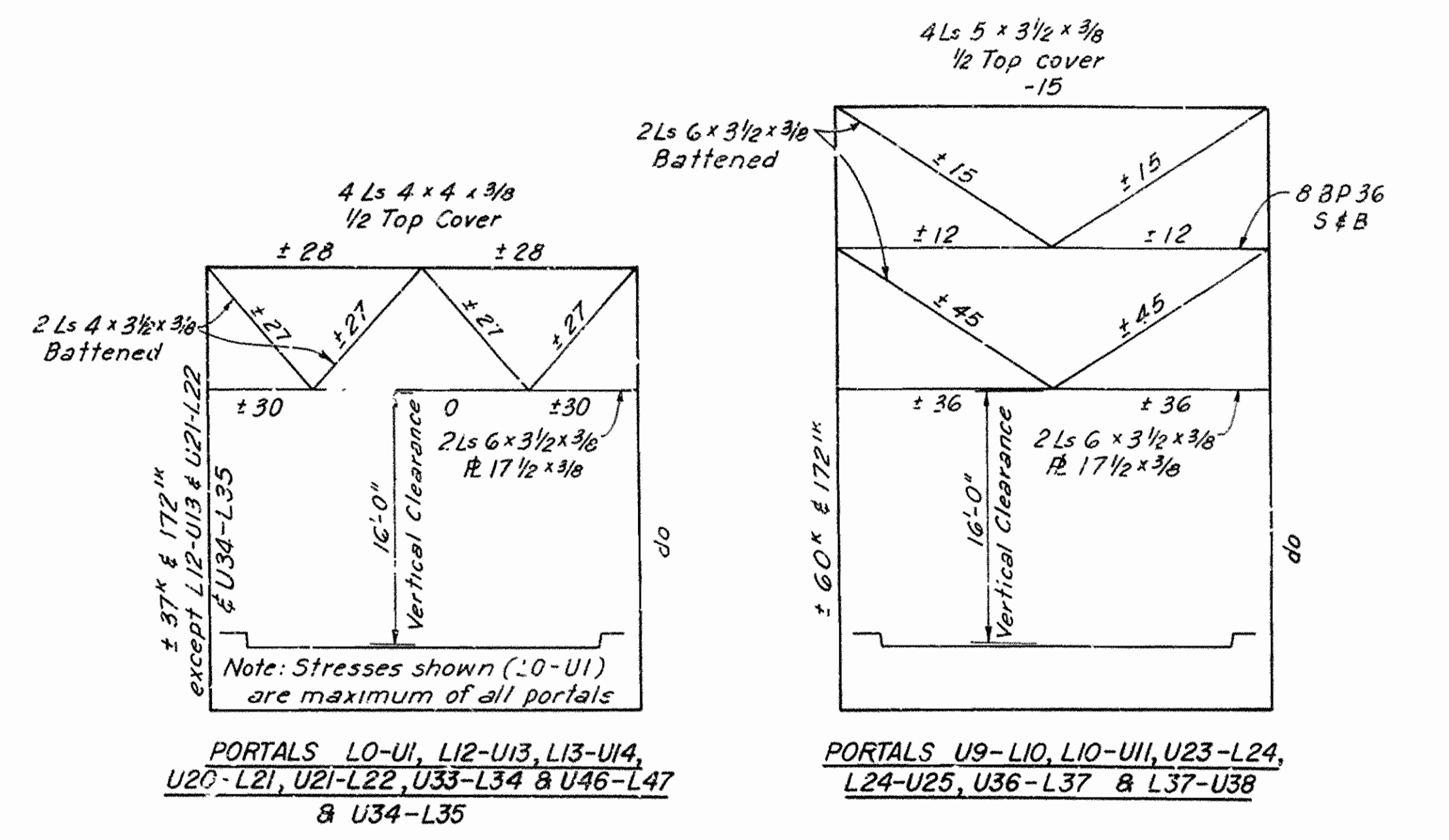
DRAWN BY: J. L. S.	GARVER & GARVER ENGINEERS	SCALE: NONE
CHECKED BY: M. G. G.		SHEET NO. 5 OF 19
DATE: 10/1/59	LITTLE ROCK, ARKANSAS	



PLAN OF TOP CHORD AND LATERALS

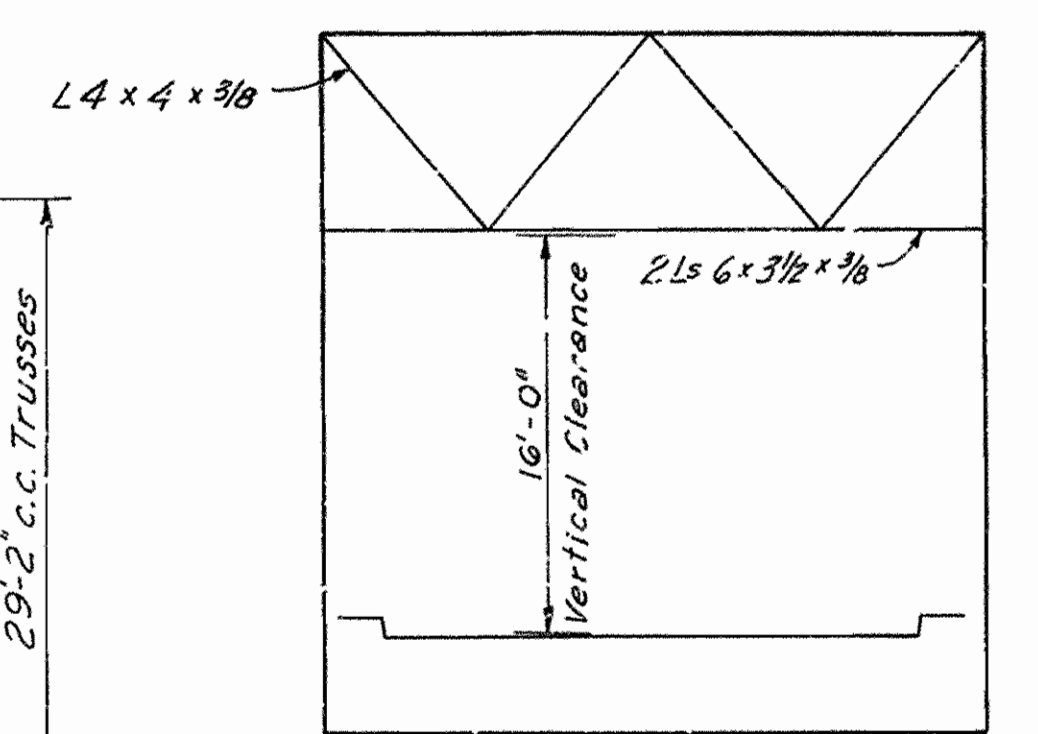


PLAN OF BOTTOM CHORD AND FLOOR SYSTEM

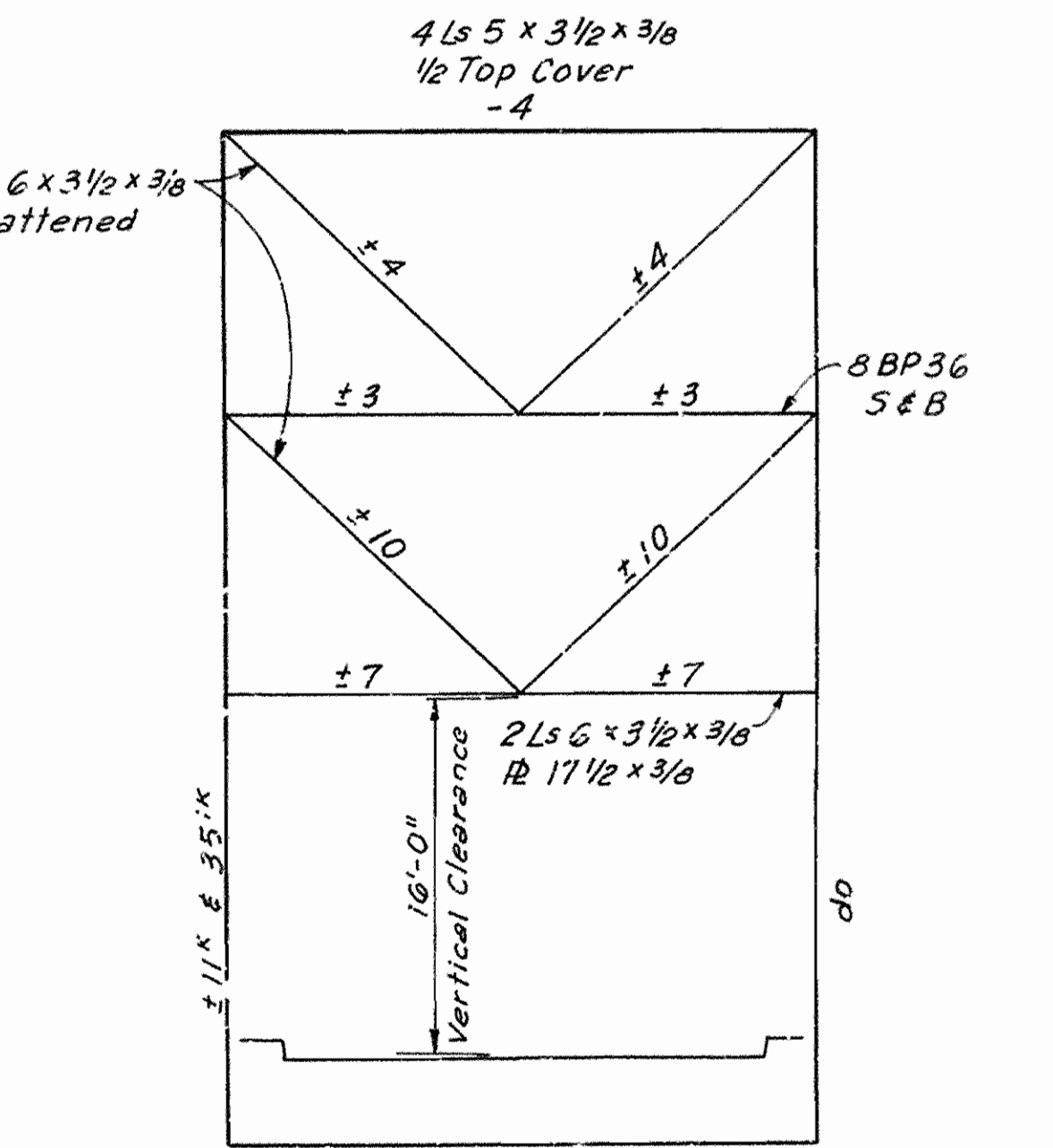


ABBREVIATIONS:

- D = Dead Load Stress
- L = Live Load Stress
- I = Impact Stress
- T = Total Stress
- W = Wind Stress
- K = Kips
- S#L = Split and Laced
- S#B = Split and Battened



TYPICAL SWAY FRAME

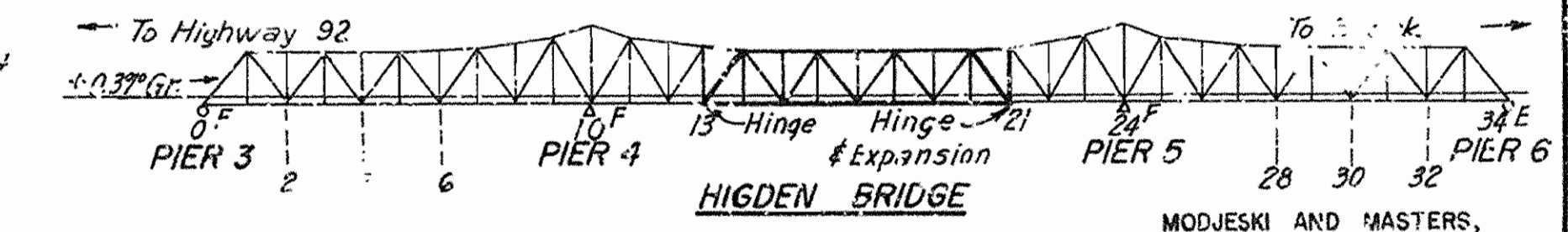
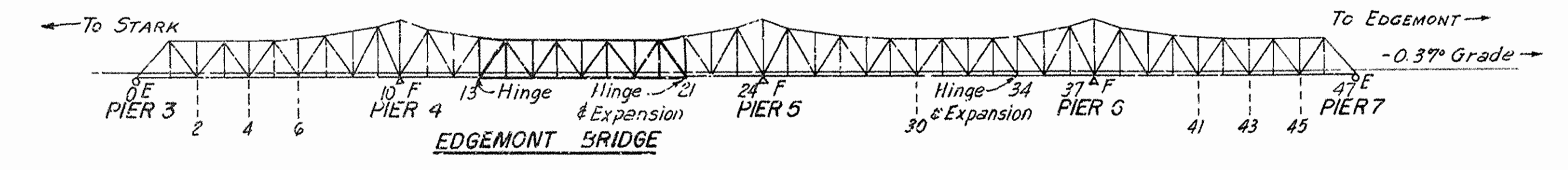


PORTALS L10-U10, L24-U24 & L37-U37

GENERAL NOTES

Construction Specifications: Arkansas State Highway Commission Standard Specifications for Road and Bridge Construction, adopted March 1, 1940, and Special Provisions.
 Design Specifications: American Association of State Highway Officials "Standard Specifications for Highway Bridges" (1957).
 D = Dead Load: Actual weight of structural steel, trusses, floorbeams, stringers, bracing, concrete deck and handrail, plus 22 lbs. per square foot of roadway for future wearing surface.
 L = Live Load = H15-44.
 I = Impact = $\frac{50}{L+125}$, where L equals the length in feet of the portion of span loaded to produce the maximum stresses.
 W = Wind Load: See Design Specifications, Articles 1.2.14 and 1.4.1.
 Erection stresses shall not exceed 1.25 times the basic allowable stress. Erection stresses plus erection wind stresses shall not exceed 1.33 times the basic allowable stresses.
 All truss stresses are shown in thousands of pounds (Kips).

E = Erection Load: stress analyses assume cantilever erection procedure in connection with both structures, with traveler dead weight and maximum lift totaling 100 kips per truss concentrated on the front axle and applied two panels back of the erection point, and temporary deck load of 130 pounds per linear foot of truss behind the traveler. The assumed successive locations of erection bents for Edgemont Bridge are at panel points 2, 4 and 6 from Stark and at panel points 45, 43, 41 and 30 from Edgemont; for Hidden Bridge they are at panel points 2, 4 and 6 from Highway 92 and at panel points 32, 30 and 28 from Stark; all as indicated in dashed lines on the Key Plans. A hinge is assumed at panel point 34, Edgemont Bridge, for cantilevering from panel point 30 to Pier 5. Trusses shall be sanded for dead load.
 WE = Erection Wind Load: The assumed wind load consists of 20 lbs. per square foot on the area of one truss as seen in elevation and 100 square feet of traveler area, the latter being applied 12 feet above centerline of bottom chord.



KEY PLANS

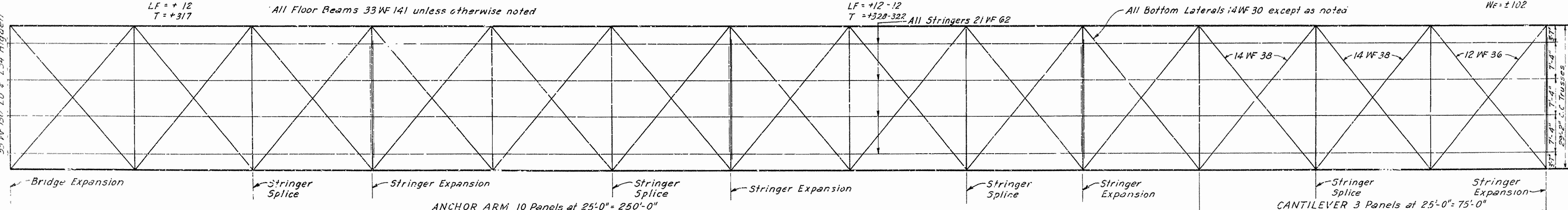
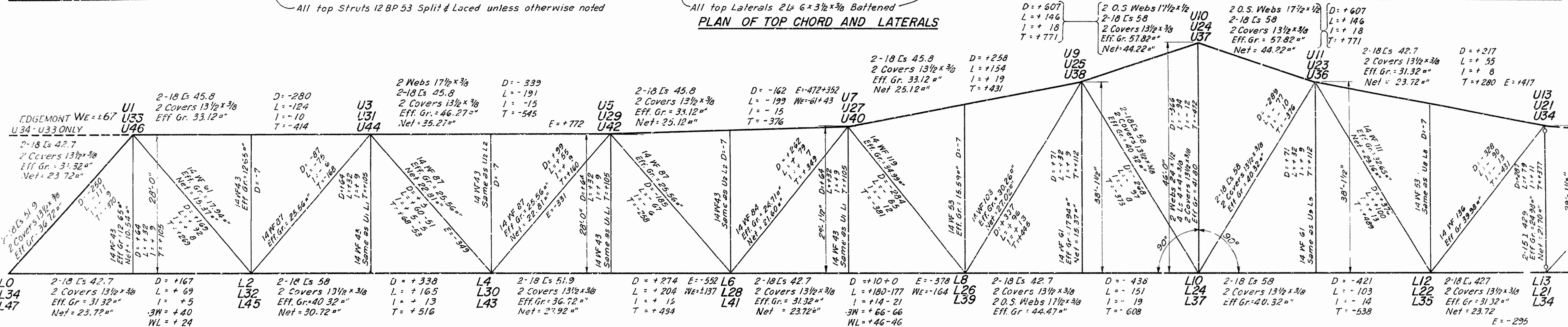
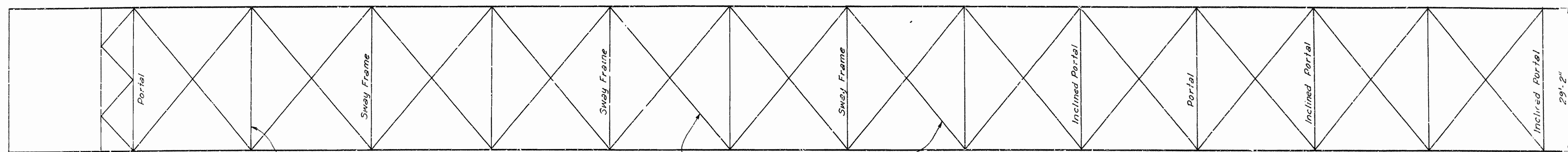
BRIDGE NOS. 3300 & 3301 NO. 10581

ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARKANSAS
 JOB 5483
 EDGEMONT & HIDDEN BRIDGES - SUPERSTRUCTURE
 ROUTE 16, SECTION 11, CLEBURNE COUNTY
 SUPERSTRUCTURES
 STRESSES AND SECTIONS
 PANEL POINTS 13-21

MODJESKI AND MASTERS, CONSULTANT
 HARRISBURG, PENNSYLVANIA
 APPROVED BY: J.A. Koe 9/14/49
 DRAWN BY: J.L.S.
 CHECKED BY: M.C.G.
 DATE: 10/1/59

GARVER & GARVER ENGINEERS
 LITTLE ROCK, ARKANSAS

SCALE: NONE
 SHEET NO: 7 OF 19



END FLOORBEAM		INTERMEDIATE FLOORBEAM		TYPICAL STRINGER	
	SHEAR	MOMENT		SHEAR	MOMENT
D	22	161	D	43	310
L	32	234	L	32	234
I	10	70	I	10	70
T	64	465	T	35	614

Section Modulus Req'd = 310.0 Section Modulus Req'd = 405.0

UNIT STRESSES

Axial Tension, Net Section, Carbon Steel ASTM A7-58T	18,000 p.s.i.
Axial Compression, Gross Section, Carbon Steel ASTM A7-58T	15,000-1/4 (1/2) ²
Stress in Extreme Fiber of Pins	27,000 p.s.i.
Bearing on Pins (not subject to rotation)	24,000
Bearing on Pins (subject to rotation)	12,000
Shear in Power Driven Rivets and Pins	13,500
Bearing on Power Driven Rivets and Milled Stiffeners	27,000
Shear in High-Strength Bolts	13,500
Bearing on High-Strength Bolts	27,000
Bearing on Concrete (under hinged rockers or bolsters, edge distance exceeding 3 inches)	1,000
Bearing on Concre (under bearing plates or non-ninged shoes)	700 p.s.i.

GENERAL NOTES

All materials except shoes and bearings shall be carbon steel ASTM A7-58T.

All rivets shall be 7/8 inch. Field connections may be bolted with 7/8 inch high-strength bolts at the erectors option. Handholes 5"x10" with circular ends, on 3'-0" centers, shall be provided in both covers of all truss box members except end posts, which shall have handholes in bottom cover plates only.

Truss verticals and floorbeams shall be normal to grade. Comparable members of all anchor and cantilever arm trusses in bot. Higden and Edgemont superstructures are sized alike, variance in stresses in the respective truss members being so slight as to justify multiple fabrication.

Stresses shown on this drawing are the maximum controlling design stresses.

Gross section minus area of handholes equals effective Gross Area.

Trusses shall be cambered for dead load.

END FLOORBEAM

	SHEAR	MOMENT
D	22	161
L	32	234
I	10	70
T	64	465

Section Modulus Req'd = 310.0

ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARKANSAS

JOB 5483
 EDGEMONT & HIGDEN BRIDGES-SUPERSTRUCTURE
 ROUTE 16, SECTION II, CLEBURNE COUNTY

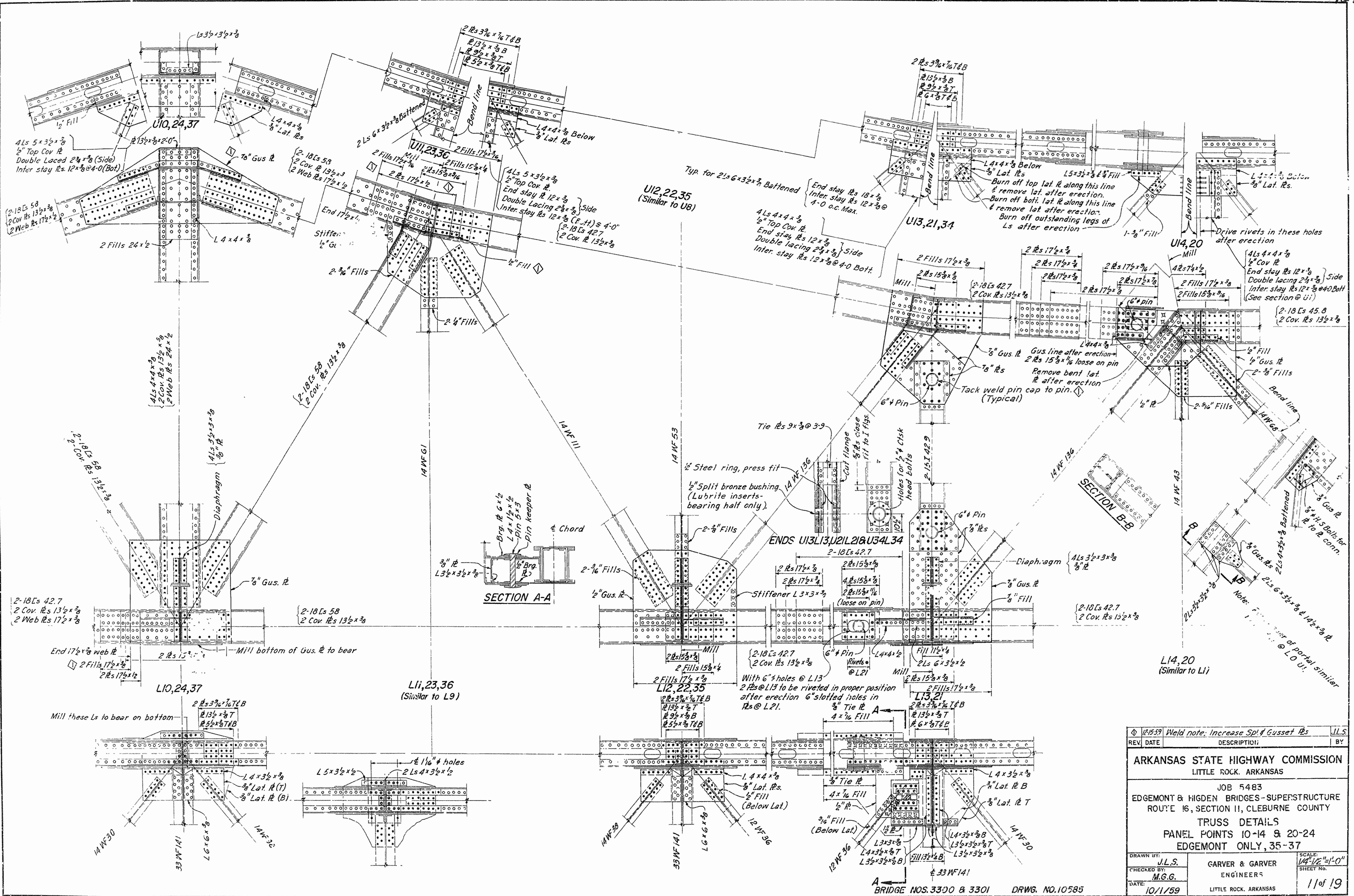
SUPERSTRUCTURES
 STRESSES AND SECTIONS
 PANEL POINTS 0-13; 21-34; 34-47

MODJESKI AND MASTERS,
 CONSULTANT
 HARRISBURG, PENNSYLVANIA

APPROVED BY:
 T. A. Koe 9/4/59

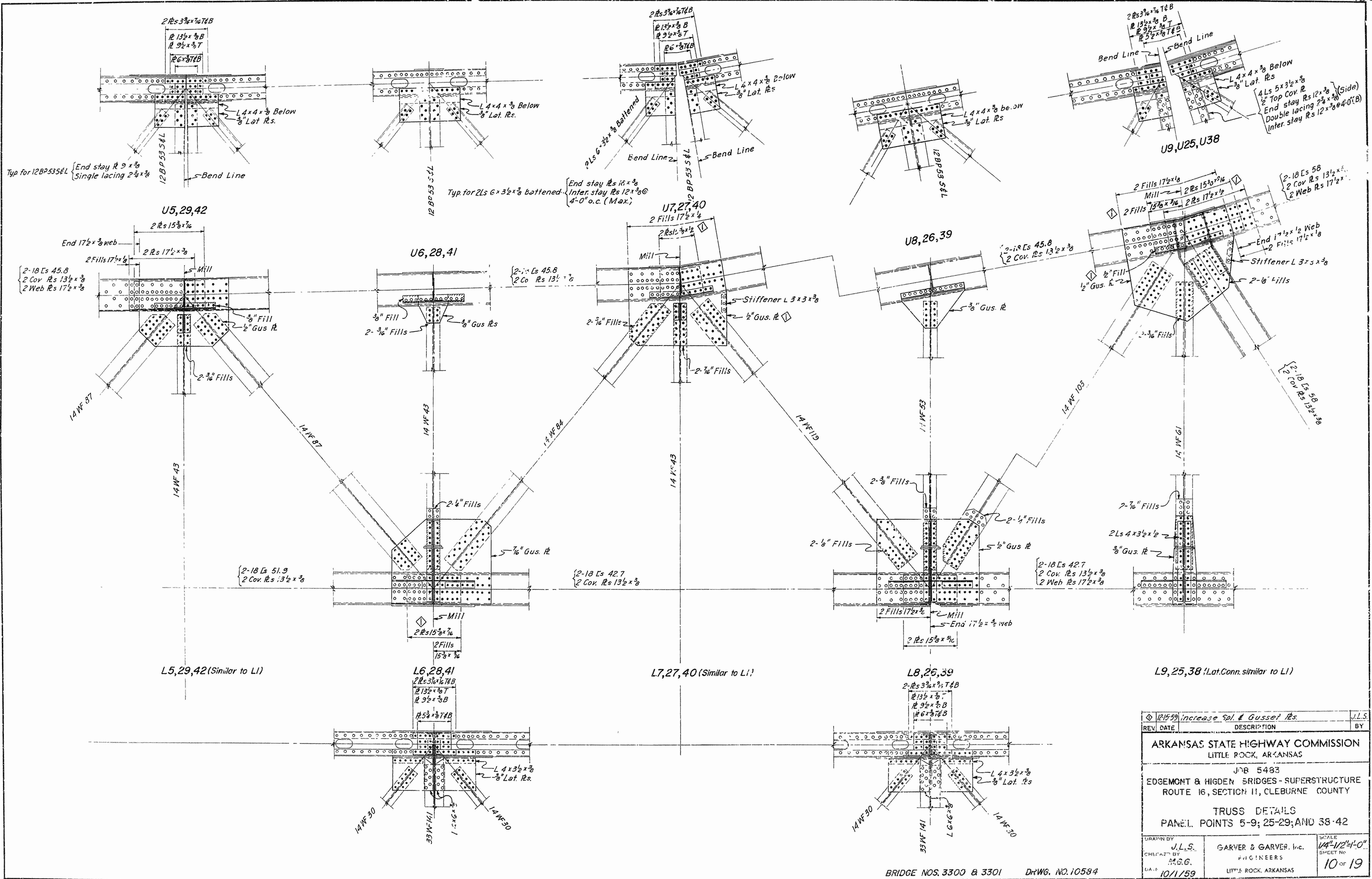
GARVER & GARVER
 ENGINEERS
 LITTLE ROCK, ARKANSAS

SCALE NONE
 SHEET No. 8 OF 19



REV.	DATE	DESCRIPTION	BY
1	10/1/59	Weld note: Increase Sp. 4 Gusset R's	J.L.S.

ARKANSAS STATE HIGHWAY COMMISSION LITTLE ROCK, ARKANSAS JOB 5483 EDGEMONT & HIGDEN BRIDGES - SUPERSTRUCTURE ROUTE 16, SECTION II, CLEBURNE COUNTY TRUSS DETAILS PANEL POINTS 10-14 & 20-24 EDGEMONT ONLY, 35-37		
DRAWN BY: J.L.S. CHECKED BY: M.G.G. DATE: 10/1/59	CARVER & GARVER ENGINEERS LITTLE ROCK, ARKANSAS	SCALE: 1/4" = 1'-0" SHEET NO.: 11 of 19



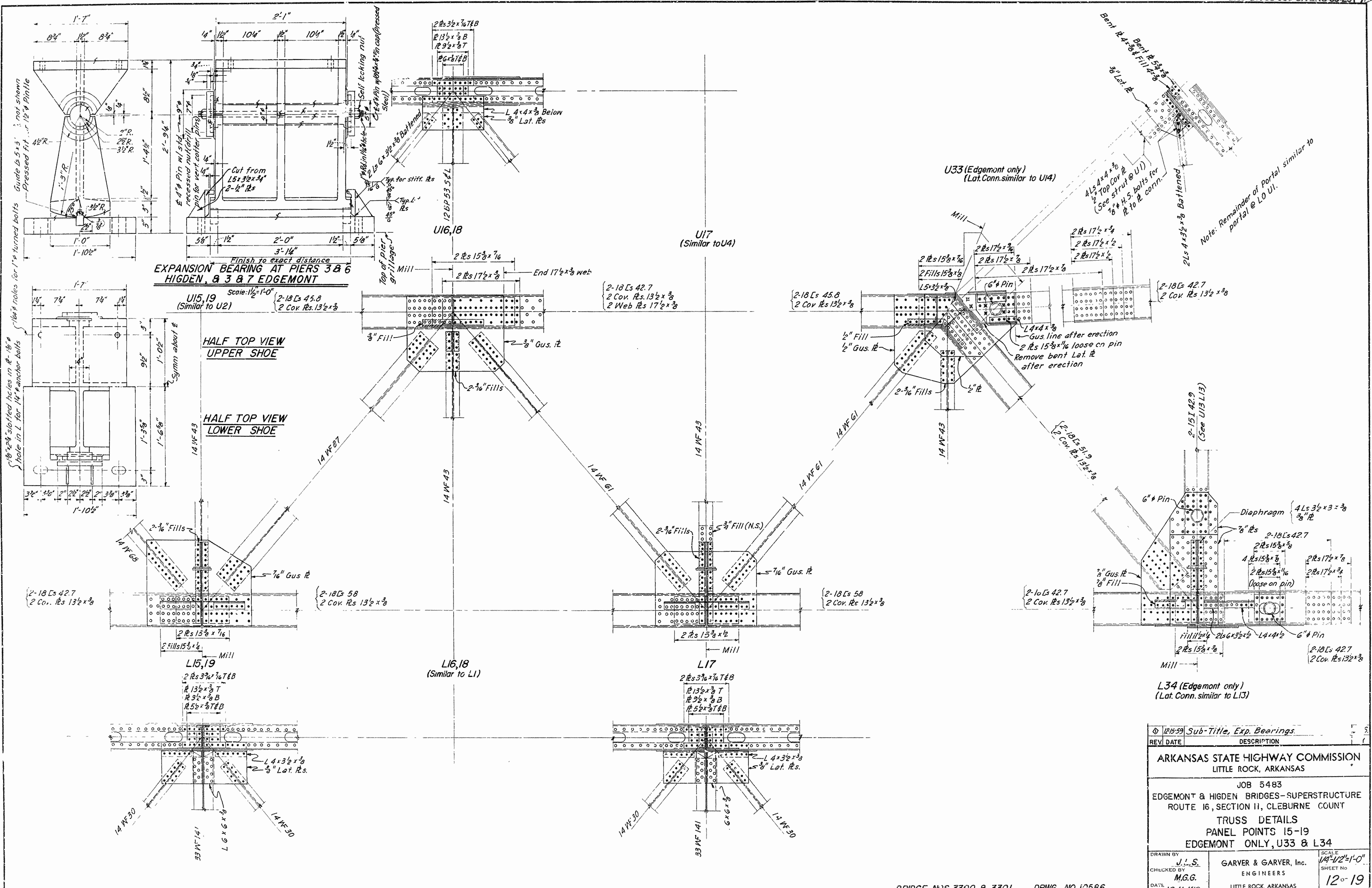
REV.	DATE	DESCRIPTION	BY
1	10/11/59	Increase Spl. & Gusset Rs.	J.L.S.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

JOB 5483
EDGEMONT & HIGDEN BRIDGES - SUPERSTRUCTURE
ROUTE 16, SECTION 11, CLEBURNE COUNTY

TRUSS DETAILS
PANEL POINTS 5-9; 25-29; AND 38-42

DRAWN BY J.L.S.	CHECKED BY M.G.G.	DATE 10/11/59	SCALE 1/4" = 1'-0"
GARVER & GARVER, Inc. ENGINEERS LITTLE ROCK, ARKANSAS		SHEET NO. 10 OF 19	



**EXPANSION BEARING AT PIERS 3 & 6
HIGDEN, & 3 & 7 EDGEMONT**

U15,19 (Similar to U2)

HALF TOP VIEW
UPPER SHOE

HALF TOP VIEW
LOWER SHOE

U16,18

U17 (Similar to U4)

U33 (Edgmont only)
(Lat. Conn. similar to U14)

L34 (Edgmont only)
(Lat. Conn. similar to L13)

L15,19

L16,18 (Similar to L1)

L17

REV	DATE	DESCRIPTION
1	12/1/59	Sub-Title, Exp. Bearings

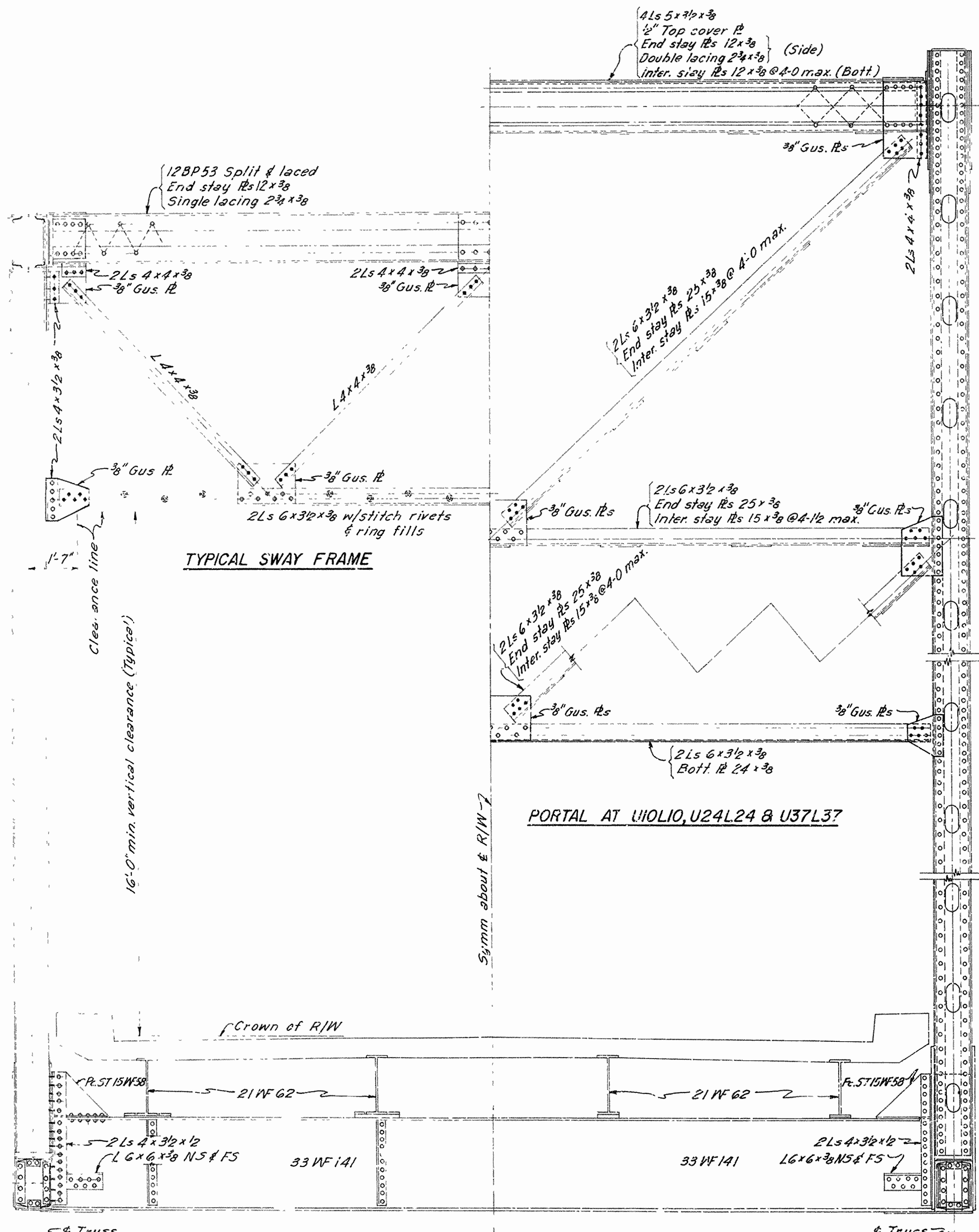
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

JOB 5483
EDGEMONT & HIGDEN BRIDGES-SUPERSTRUCTURE
ROUTE 16, SECTION II, CLEBURNE COUNTY

TRUSS DETAILS
PANEL POINTS U5-19
EDGEMONT ONLY, U33 & L34

DRAWN BY J.L.S.	CHECKED BY M.G.G.	DATE 10/1/59	SCALE 1/4"=1'-0"	SHEET NO. 12-19
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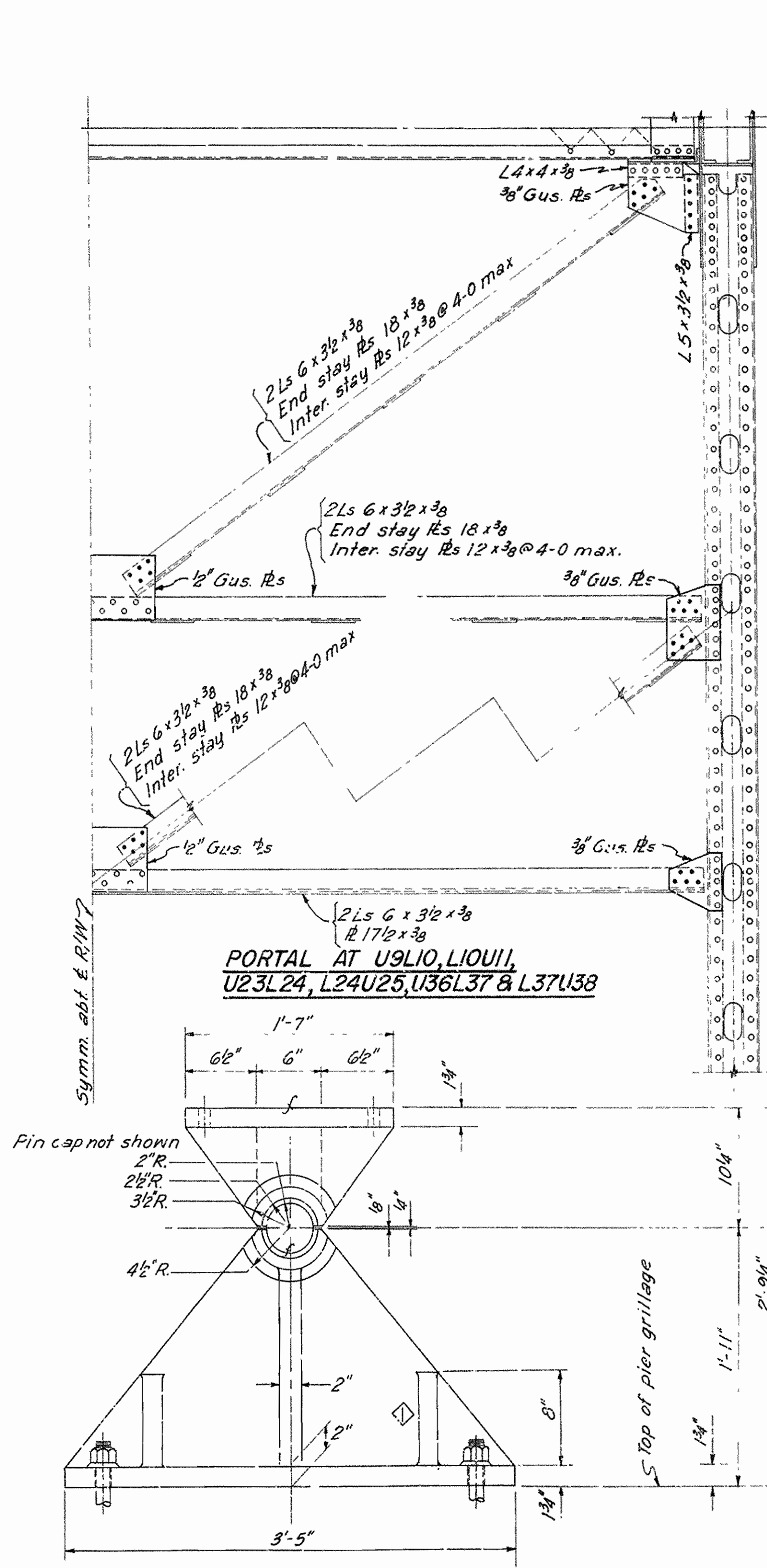
GARVER & GARVER, Inc.
ENGINEERS
LITTLE ROCK, ARKANSAS



TYPICAL SWAY FRAME

TYPICAL FLOOR BEAM

Scale: 1/2" = 1'-0"

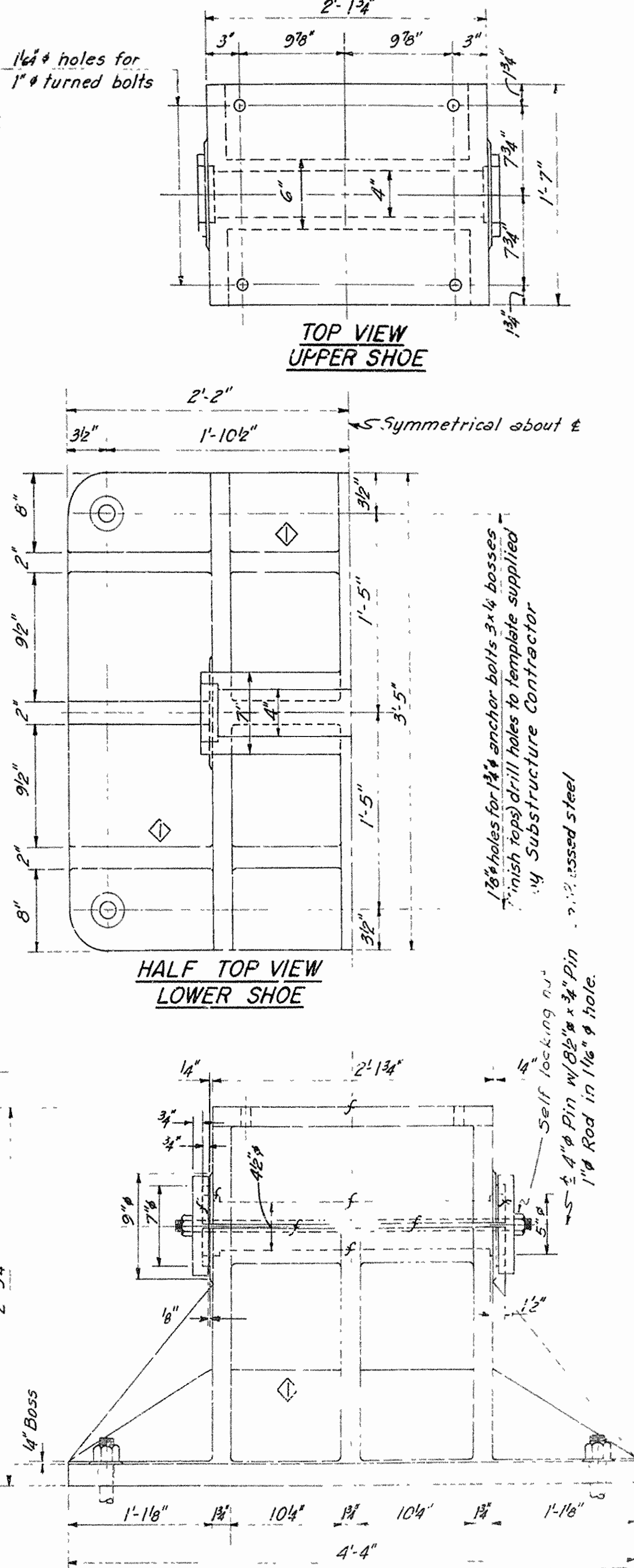


PORTAL AT U9L10, L10U11, U23L24, L24U25, U36L37 & L37U38

PORTAL AT U10L10, U24L24 & U37L37

FIXED BEARINGS AT PIERS 4 & 5 HIGDEN & 4, 5 & 6 EDMONT

Scale: 1 1/2" = 1'-0"



TOP VIEW UPPER SHOE

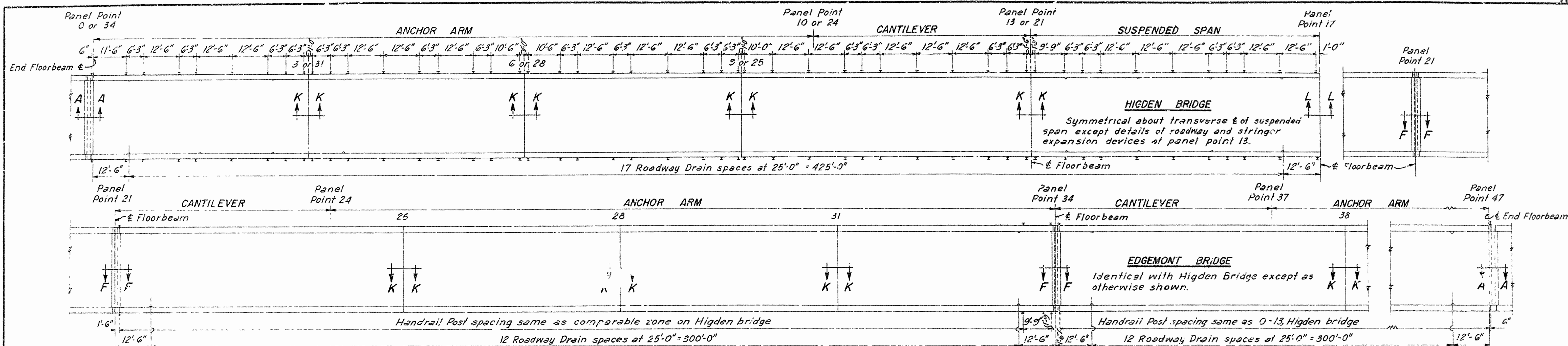
HALF TOP VIEW LOWER SHOE

REV.	DATE	DESCRIPTION	BY
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ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

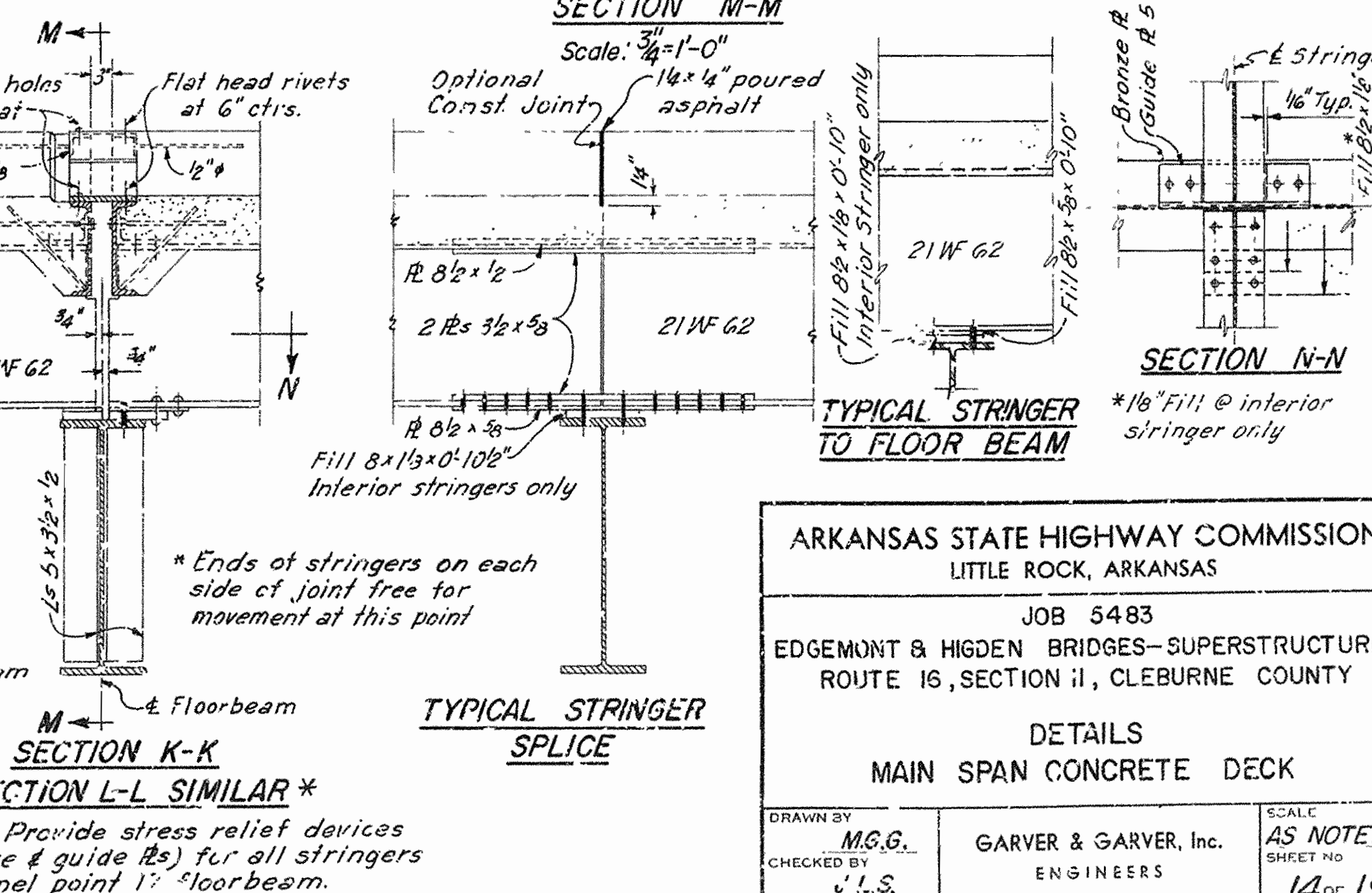
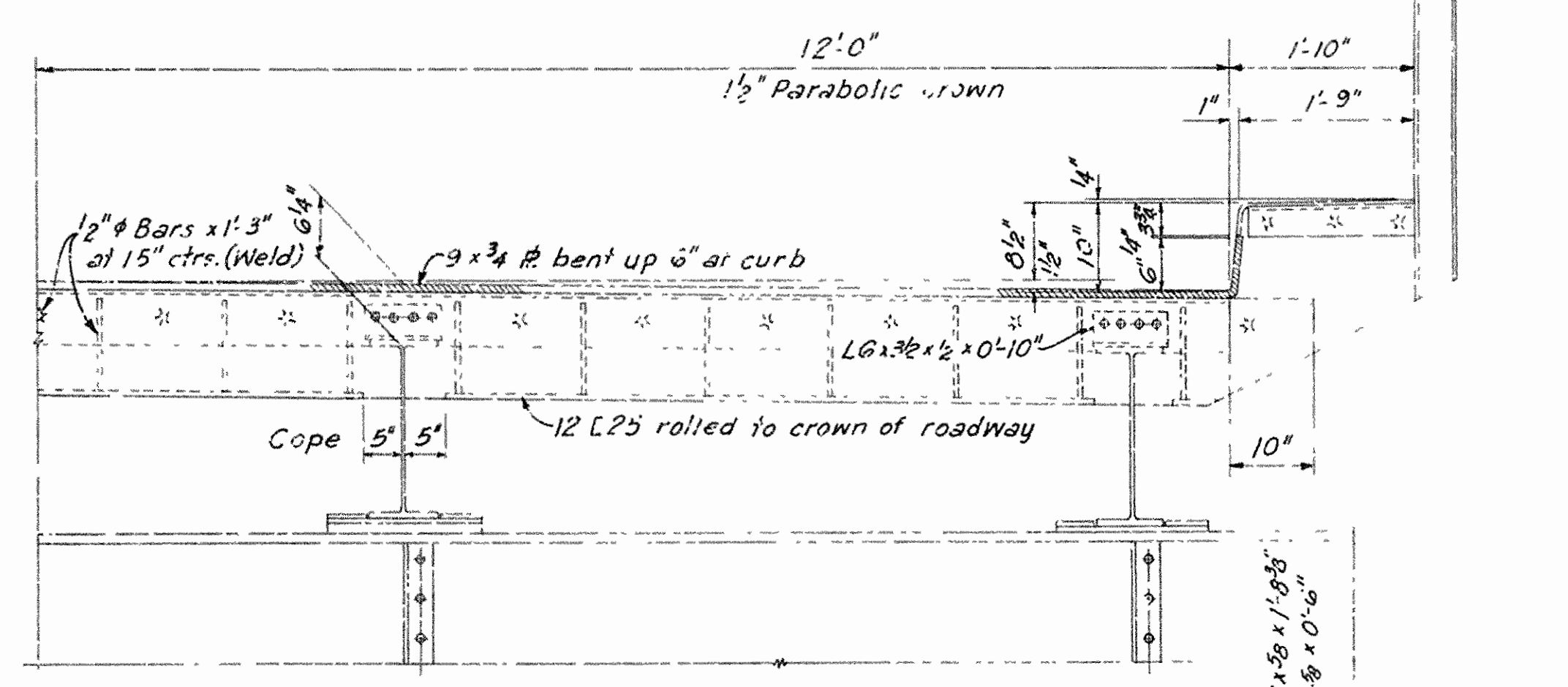
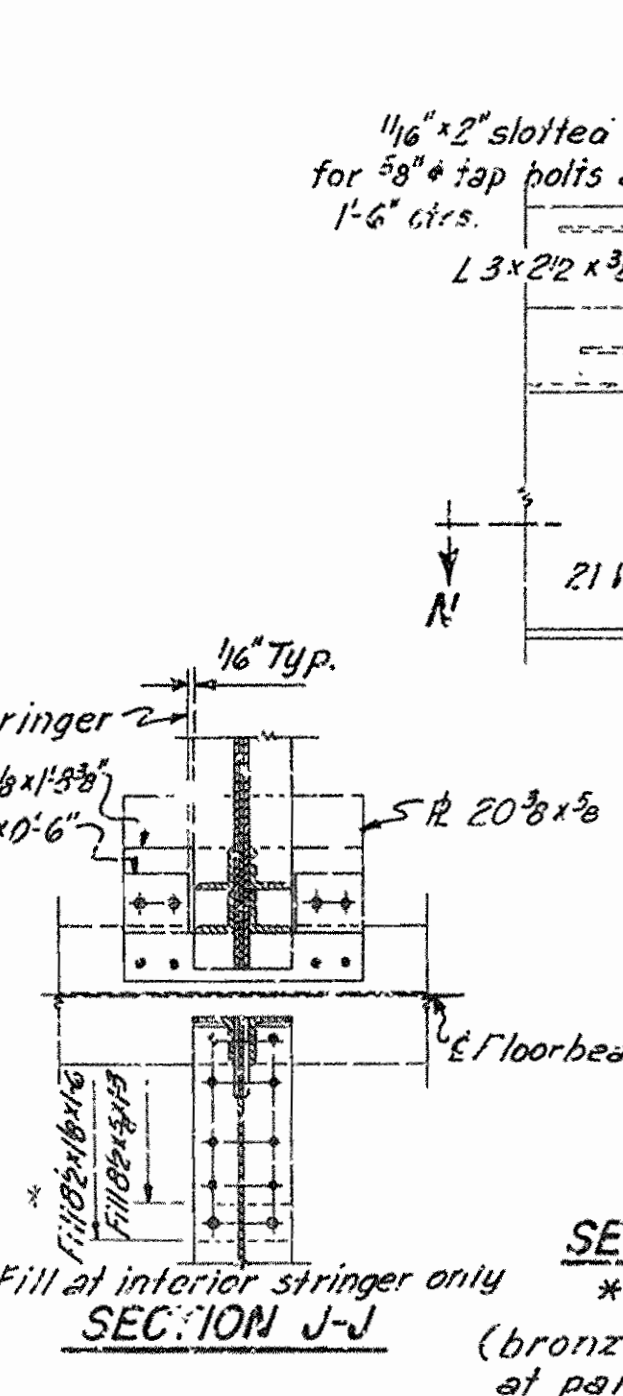
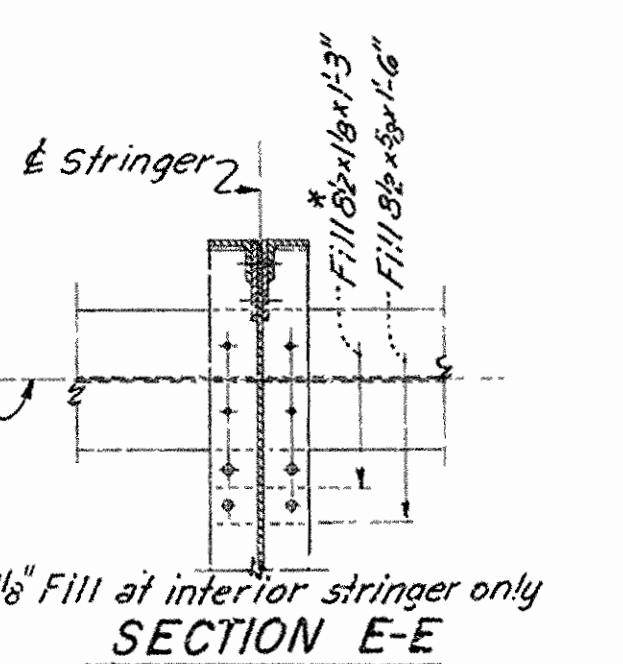
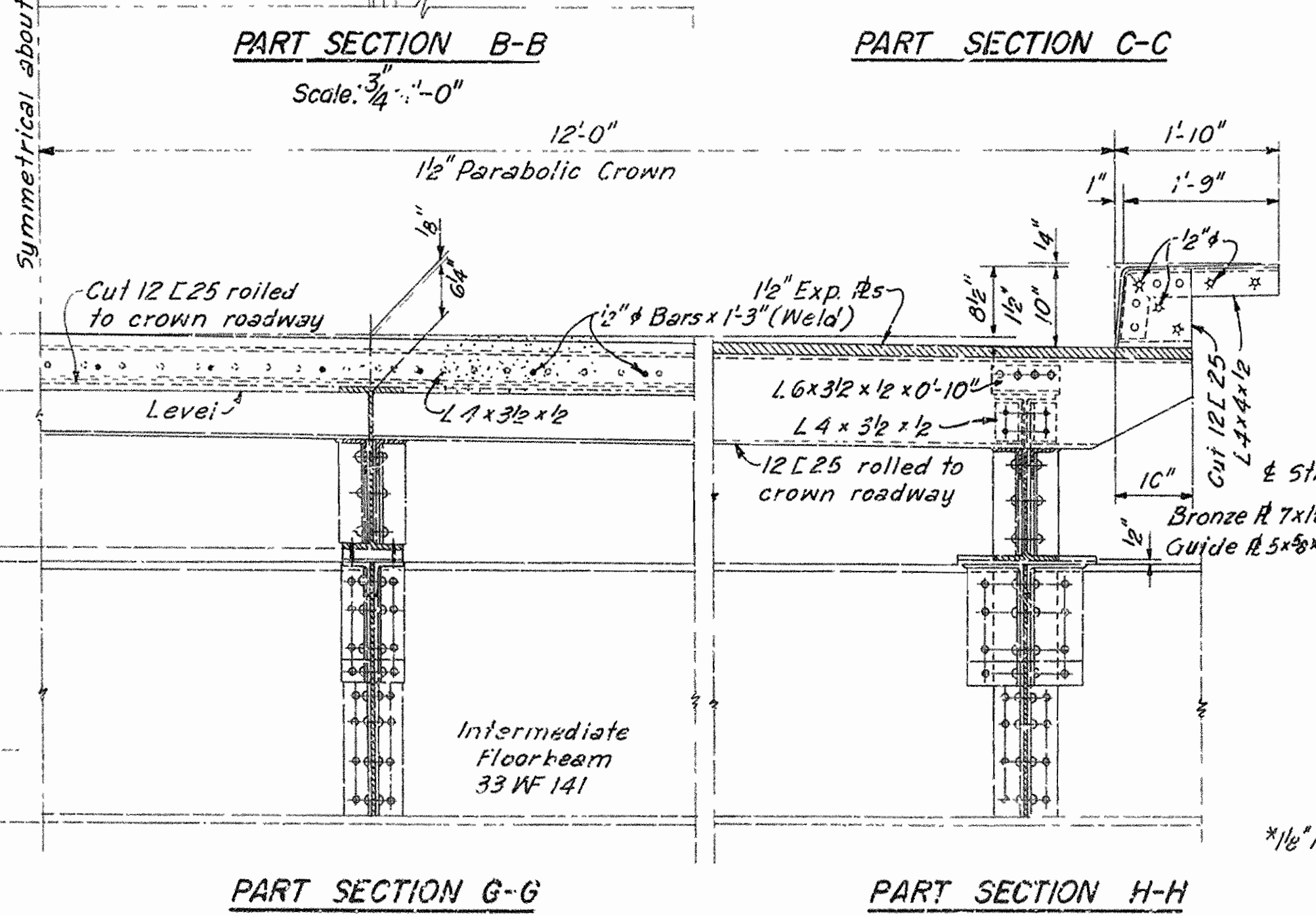
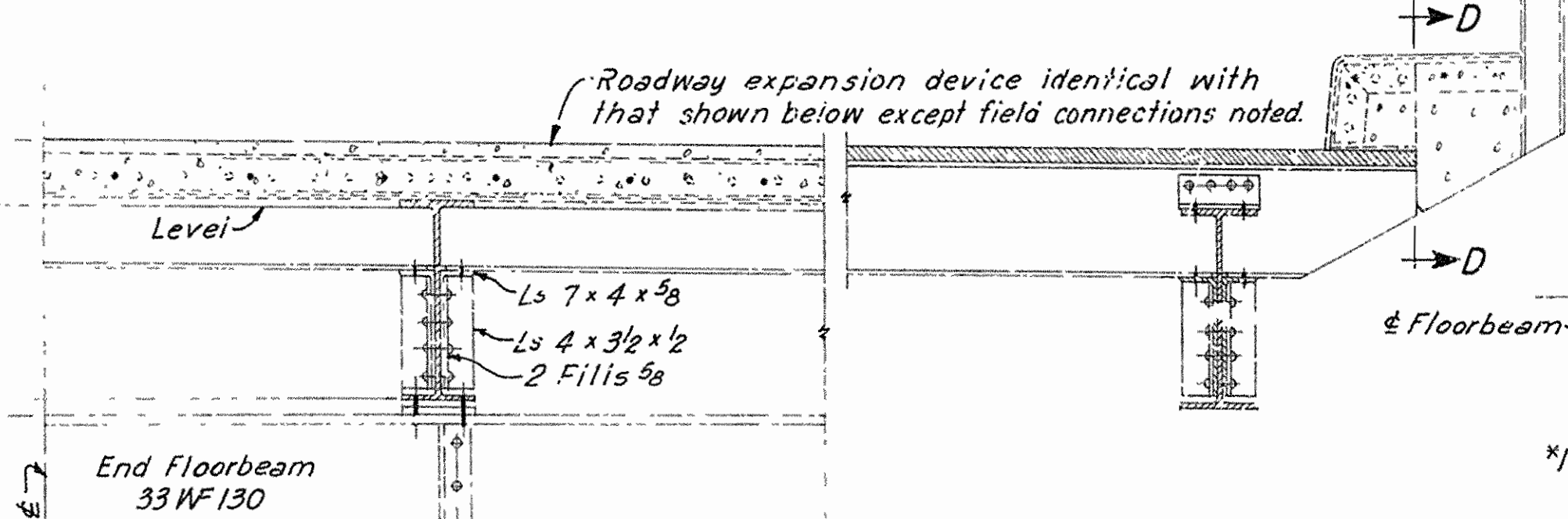
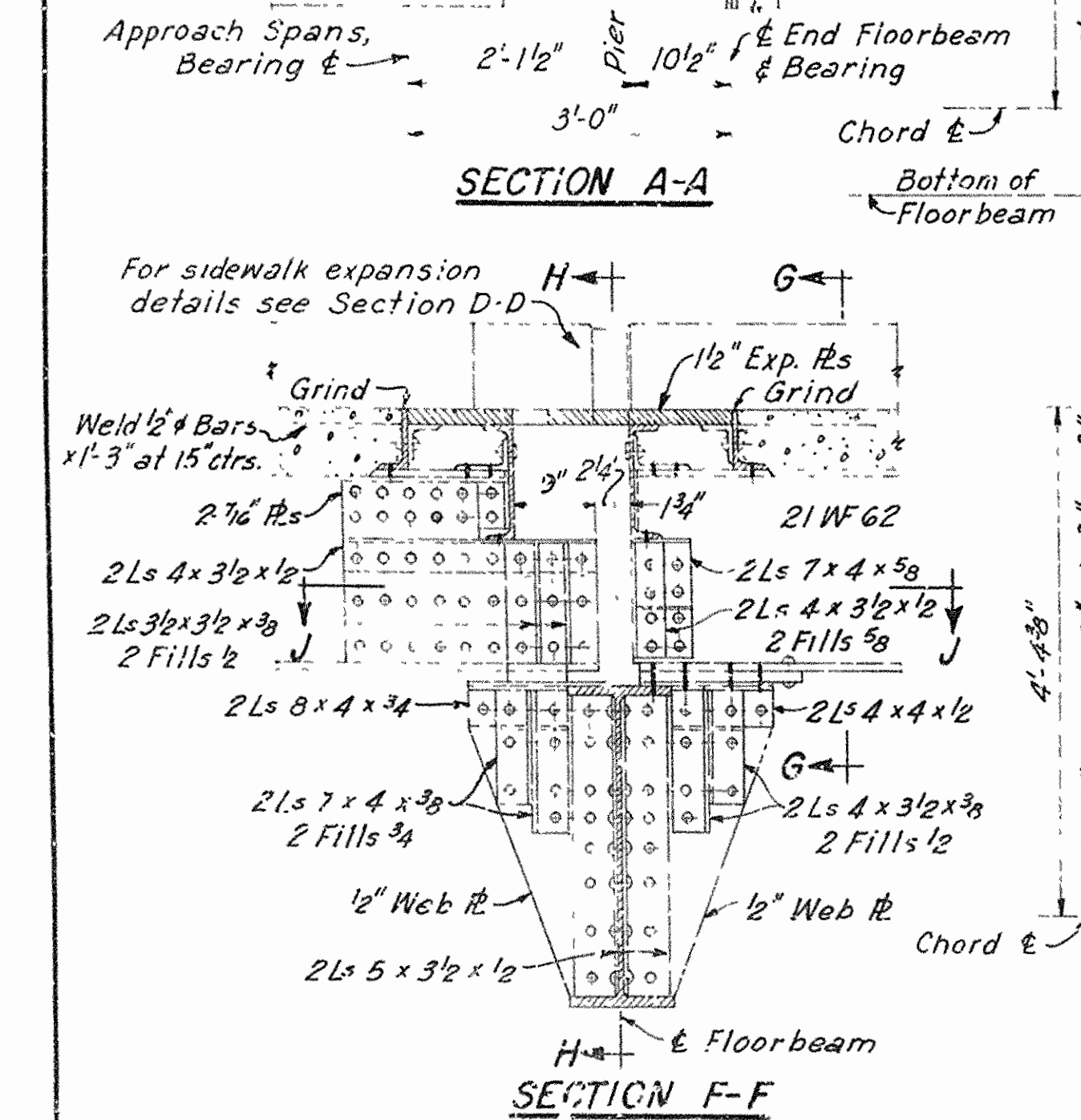
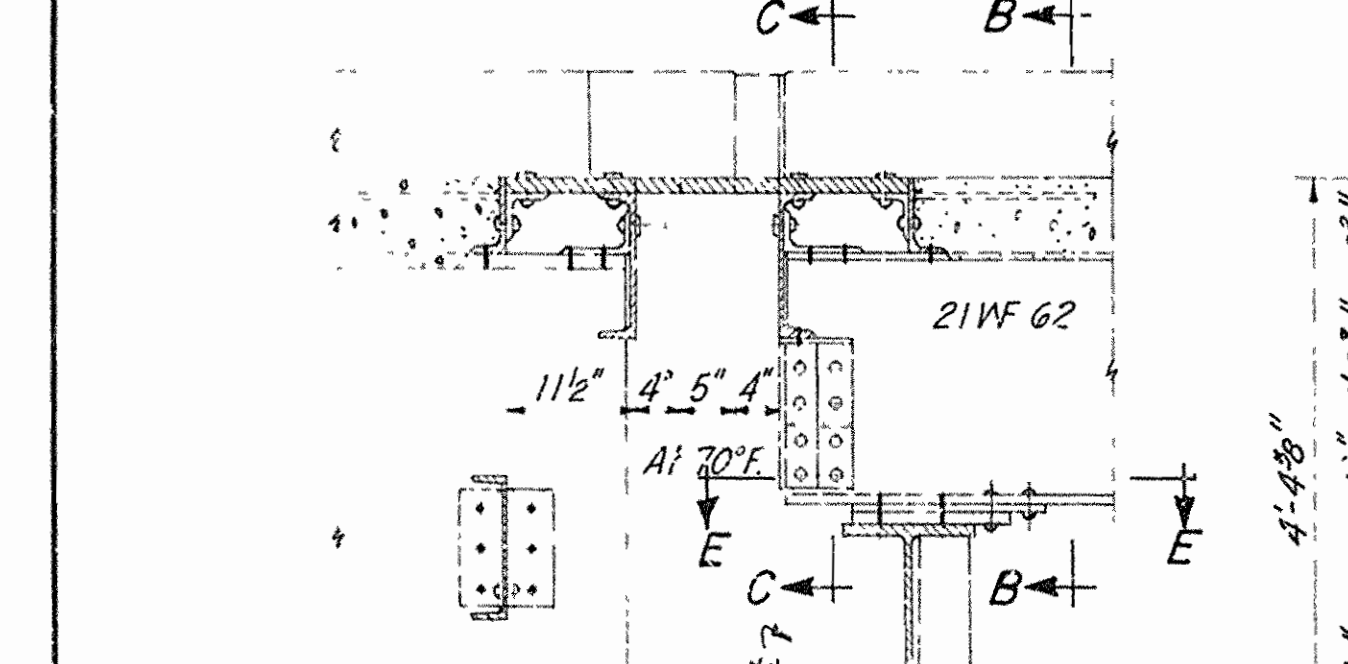
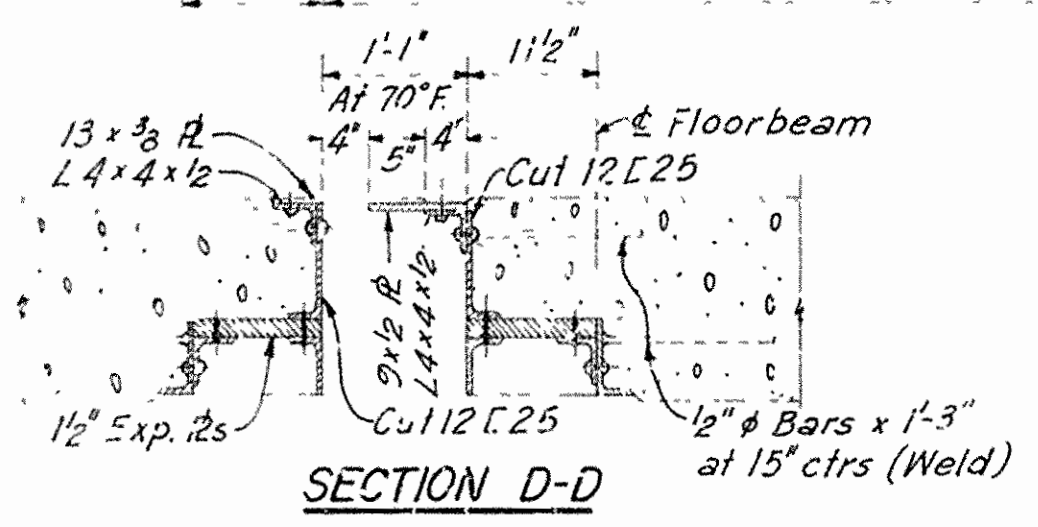
JOB 5483
EDMONT & HIGDEN BRIDGES-SUPERSTRUCTURE
ROUTE 16, SECT. N 11 CLEBURNE COUNTY
VERTICAL AND INCLINED PORTALS
AND SHOES AT PANEL POINTS 10, 24 & 37
SWAY BRACING

DRAWN BY M.G.G.	GARVER & GARVER, Inc. ENGINEERS LITTLE ROCK, ARKANSAS	SCALE AS NOTED SHEET NO. 13 OF 19
CHECKED BY J.L.S.		
DATE 10/11/59		



DECK PLANS
Scale: 1/16" = 1'-0"

Notes:
Expansion dams, gratings and supports shall be shop assembled and match marked.
Holes through floorbeams for connecting stringers and guide plates to floorbeams at roadway expansion dams shall be subpunched, reamed in the field, and bolted, after expansion dams have been adjusted, with 3/8" machine bolts with Hex. head nut and lock washer. All expansion dam field connections shall be made with 3/8" machine bolts.



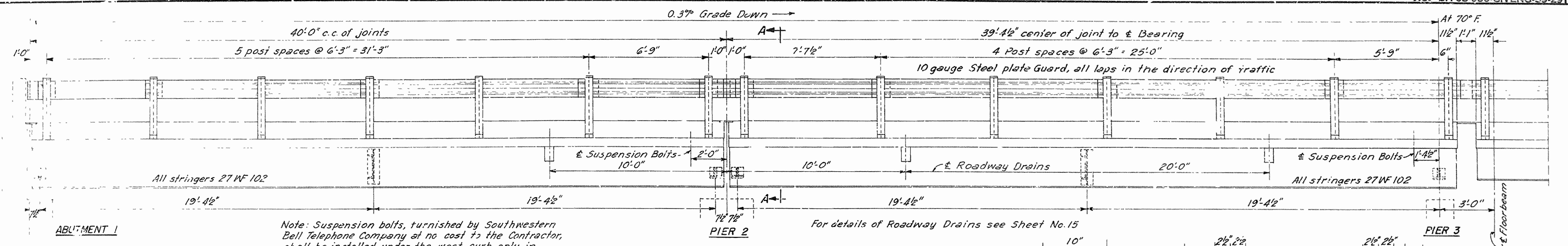
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

JOB 5483
EDGEMONT & HIGDEN BRIDGES—SUPERSTRUCTURE
ROUTE 16, SECTION II, CLEBURNE COUNTY

DETAILS
MAIN SPAN CONCRETE DECK

DRAWN BY M.G.G.	GARVER & GARVER, Inc. ENGINEERS LITTLE ROCK, ARKANSAS	SCALE AS NOTED SHEET NO 14 of 19
CHECKED BY J.L.S.		
DATE 10/1/59		

BRIDGE NOS. 3300 & 3301
DRWG. NO. 10588

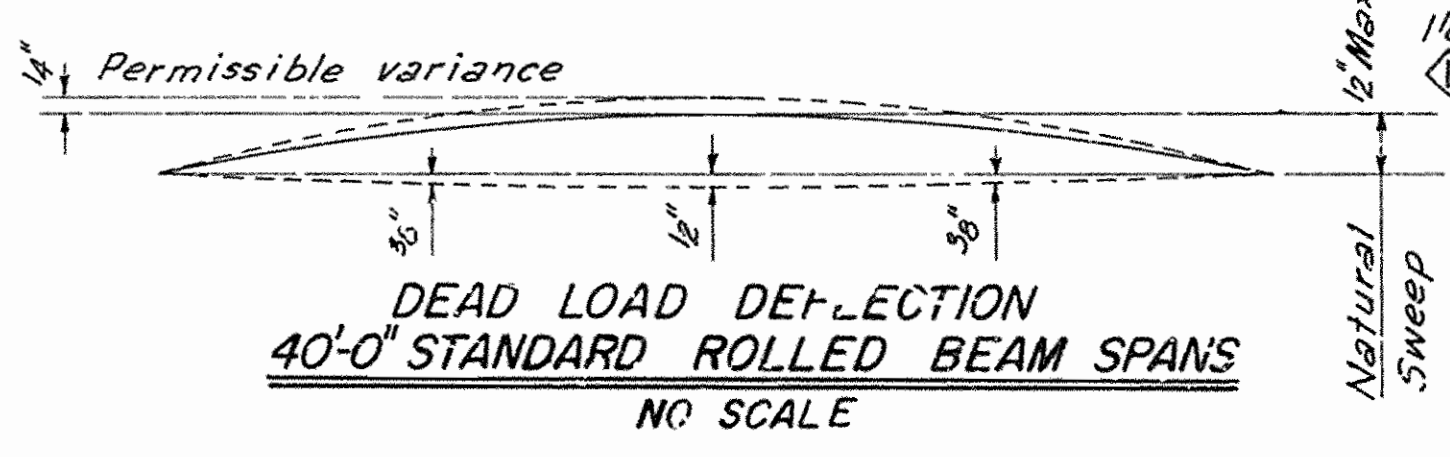


ELEVATION SOUTH APPROACH, EDMONT BRIDGE
Scale: 3/8" = 1'-0"

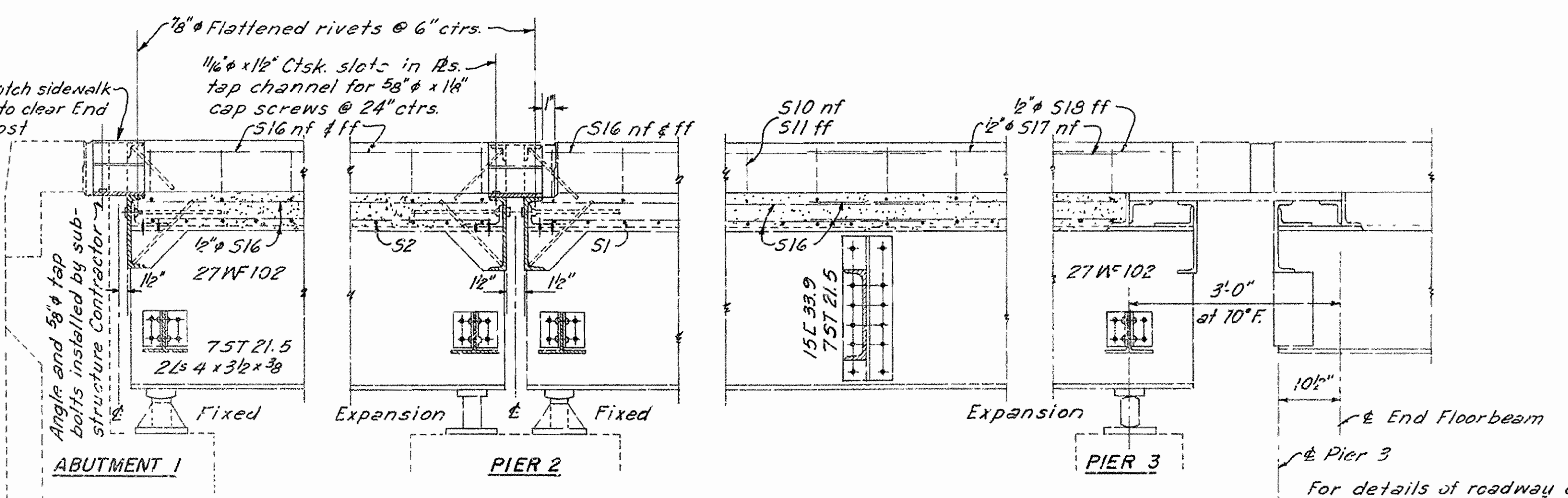
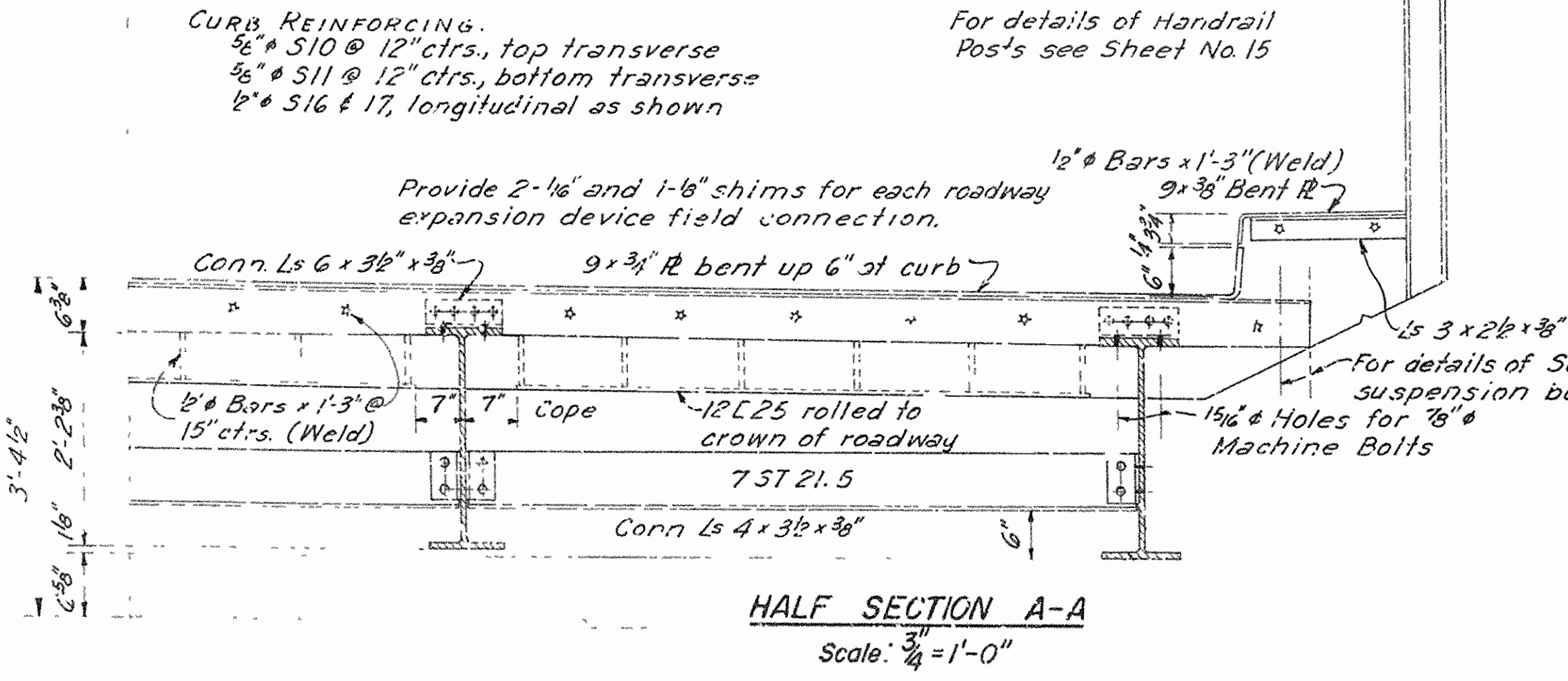
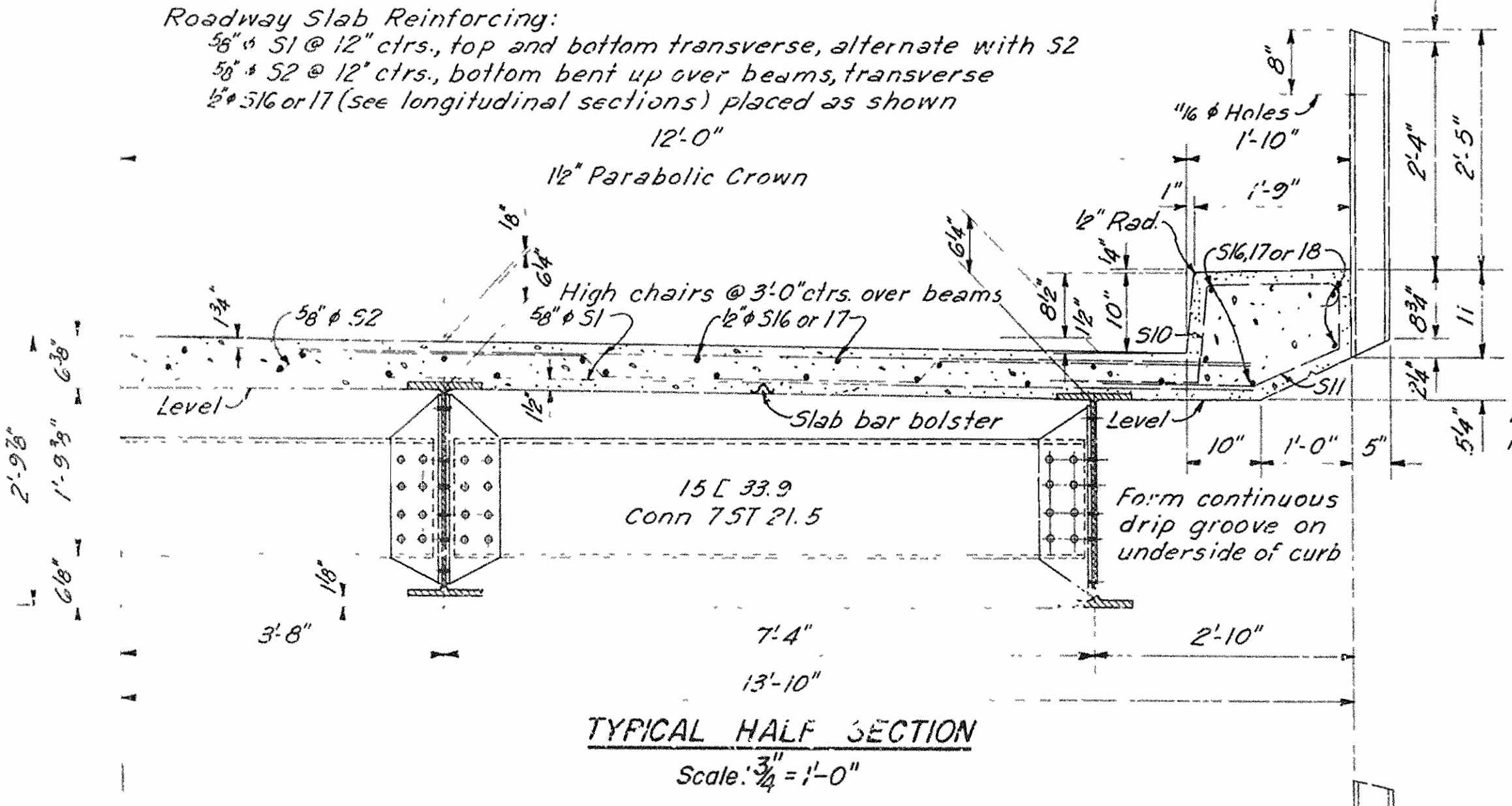
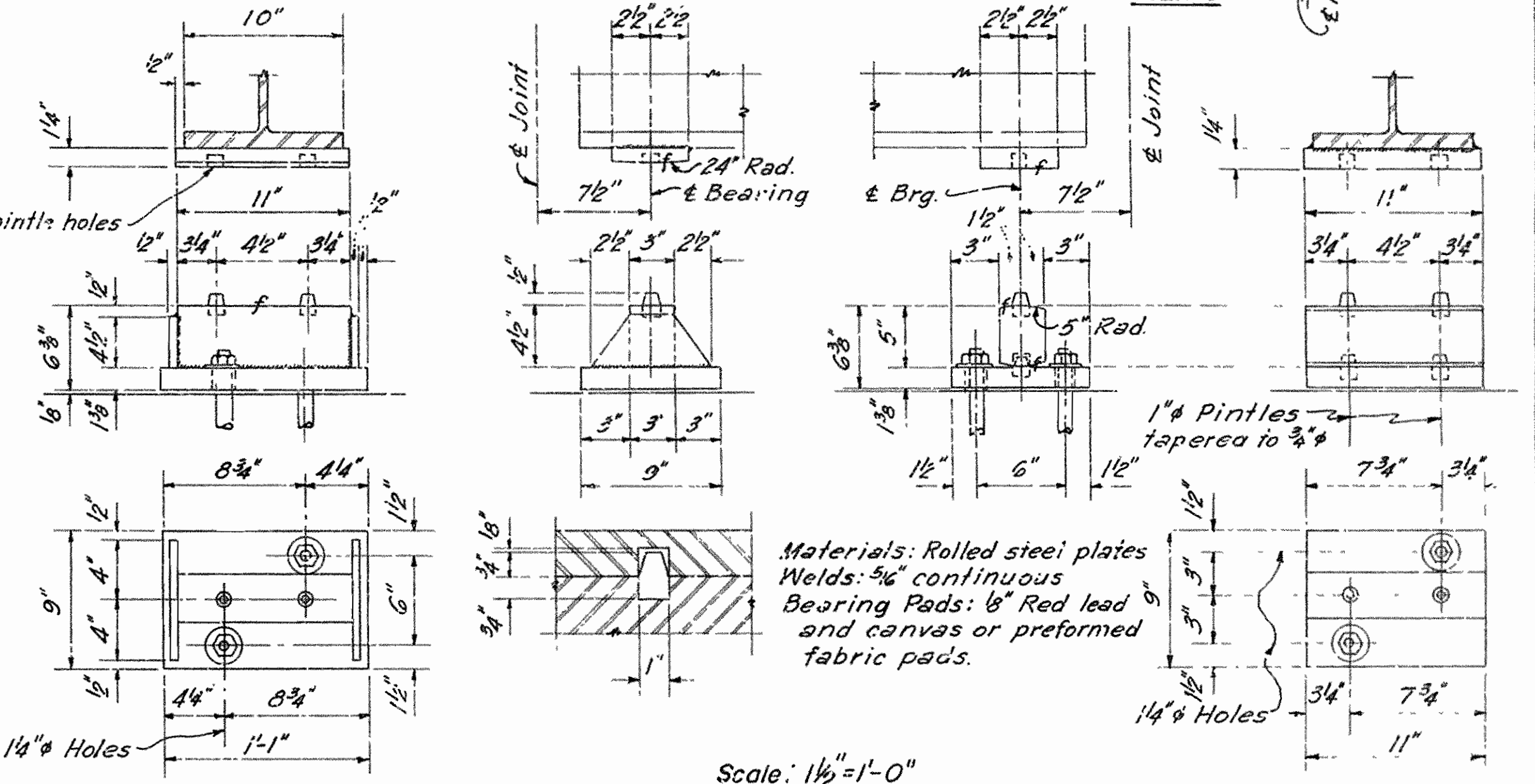
REINFORCING BAR LIST

BENT BARS				STRAIGHT BARS			
MARK	SIZE	NO	LENGTH	MARK	SIZE	NO	LENGTH
S2	5/8"	78	26'-1 1/2"	S16	1/2"	144	20'-6"
S10	5/8"	160	4'-9"	S17	1/2"	42	20'-2"
S11	5/8"	160	3'-6"	S18	1/2"	6	21'-1"

BENDING DIAGRAMS



Beams shall be fabricated with convex flange up and shall not be shop cambered. Pavement thickness shall be increased to compensate for dead load deflection as necessary to bring riding surface to plan grade. Any resulting increase in concrete quantities will be paid for at the unit price bid for Class 5 Concrete.



For details of roadway expansion devices at Pier 3 see Sheet No. 14.

REV	DATE	DESCRIPTION	BY
1	10/15/59	Add 1/8" Pintle holes.	J.L.S.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

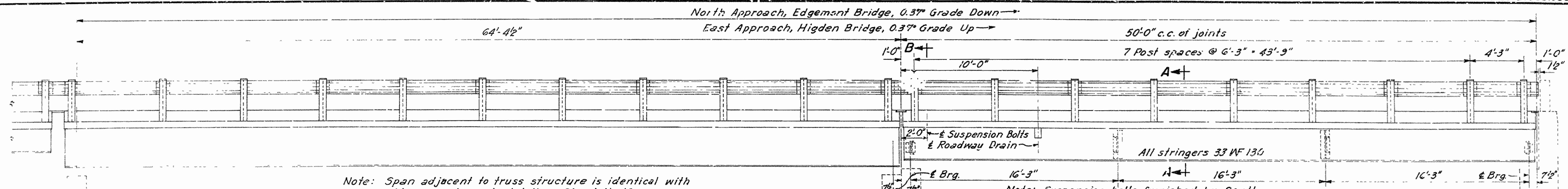
JOB 5483
EDGEMONT & HIGDEN BRIDGES - SUPERSTRUCTURE
ROUTE 16, SECTION 11, CLEBURNE COUNTY

DETAILS
40' ROLLED BEAM SPANS
SOUTH APPROACH, EDMONT BRIDGE

DRAWN BY: M.G.G.
CHECKED BY: J.L.S.
DATE: 10/11/59

GARVER & GARVER, Inc.
ENGINEERS
LITTLE ROCK, ARKANSAS

SCALE: AS NOTED
SHEET NO: 18 OF 19



Note: Span adjacent to truss structure is identical with comparable span shown in detail on Sheet No. 16.

Note: Suspension bolts, furnished by Southwestern Bell Telephone Company at no cost to the Contractor, shall be installed under the west curb only at Edgemont bridge and under the south curb only at Higden bridge, all in accordance with the details shown on Sheet No. 15.

PIER 7, EDMONT BRIDGE
PIER 6, HIGDEN BRIDGE

PIER 8, EDMONT BRIDGE
PIER 7, HIGDEN BRIDGE

ABUTMENT 2, EDMONT BRIDGE
ABUTMENT 2, HIGDEN BRIDGE

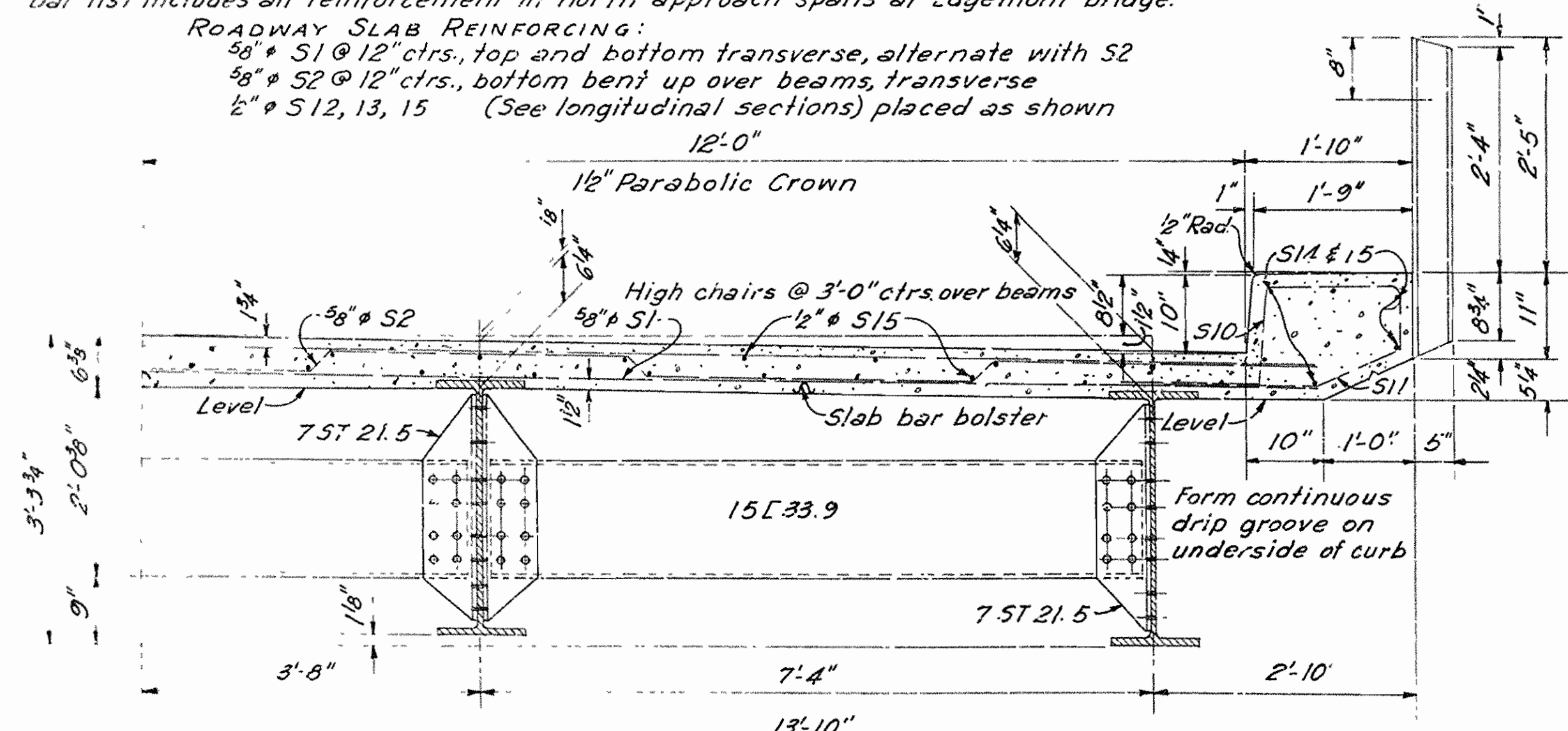
* REINFORCING BAR LIST, EDMONT BRIDGE

BENT BARS				STRAIGHT BARS			
MARK	SIZE	NO.	LENGTH	MARK	SIZE	NO.	LENGTH
S2	5/8"	113	26'-1 1/2"	S1	5/8"	230	25'-6"
S10	5/8"	230	4'-9"	S12	1/2"	48	33'-0"
S11	5/8"	230	3'-6"	S13	1/2"	42	32'-6"
				S14	1/2"	6	33'-5"
				S15	1/2"	96	26'-2"

* Bar list includes all reinforcement in north approach spans at Edgemont bridge.

ROADWAY SLAB REINFORCING:

5/8" # S1 @ 12" ctrs., top and bottom transverse, alternate with S2
5/8" # S2 @ 12" ctrs., bottom bent up over beams, transverse
1/2" # S12, 13, 15 (See longitudinal sections) placed as shown

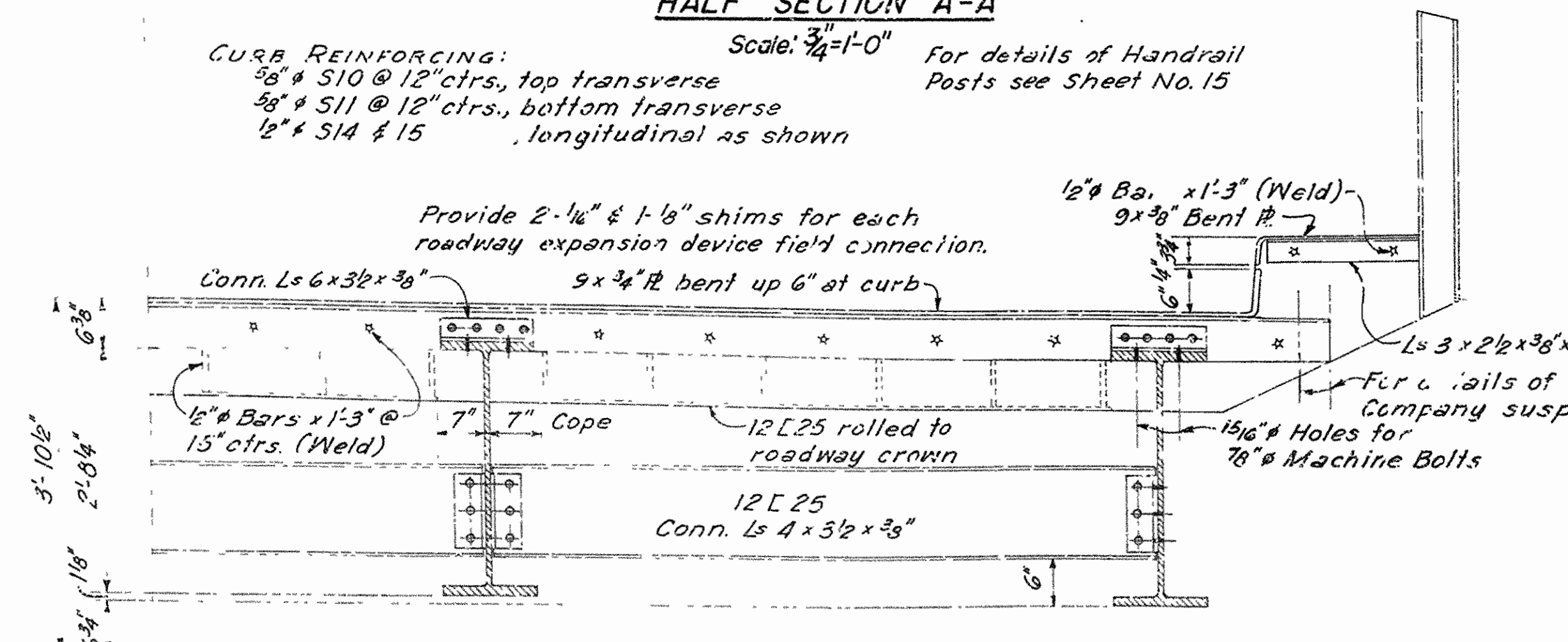


HALF SECTION A-A

Scale: 3/4" = 1'-0"

CURB REINFORCING:

5/8" # S10 @ 12" ctrs., top transverse
3/8" # S11 @ 12" ctrs., bottom transverse
1/2" # S14 & 15, longitudinal as shown

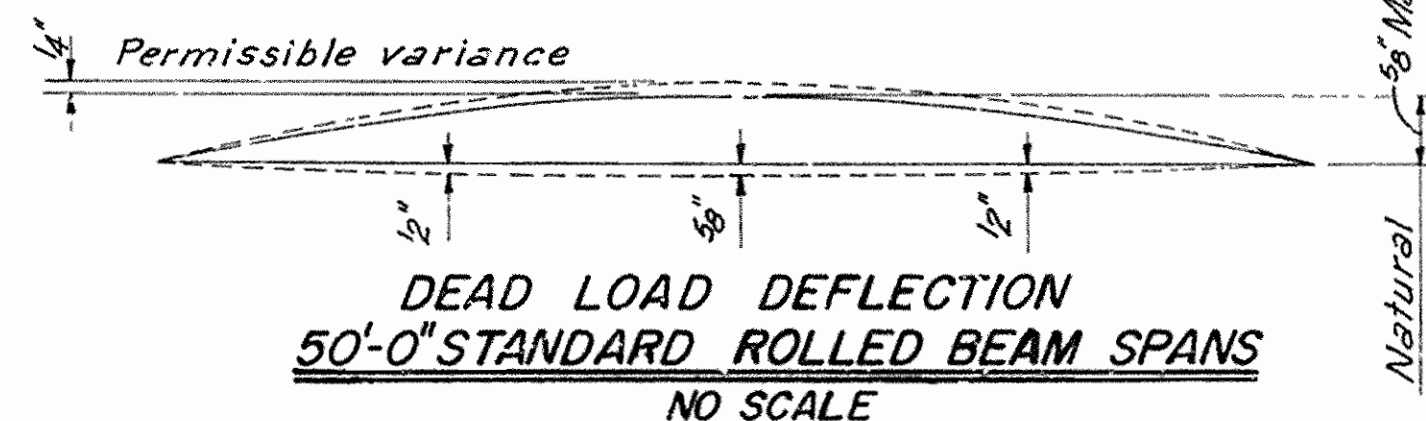


HALF SECTION B-B

Scale: 3/4" = 1'-0"

NORTH APPROACH, EDMONT BRIDGE
EAST APPROACH, HIGDEN BRIDGE

Scale: 1/4" = 1'-0"

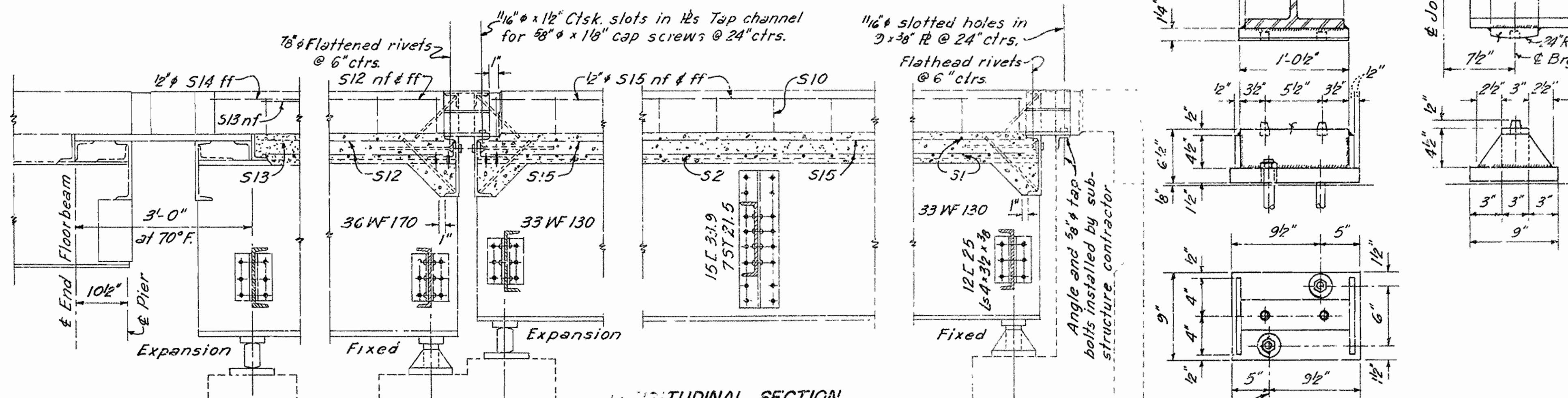


Beams shall be fabricated with the convex flange up, and shall not be shop cambered. Pavement thickness shall be increased to compensate for dead load deflection as necessary to bring riding surface to plan grade. Any resulting increase in concrete quantities will be paid for at the unit price bid for Class S Concrete.

* REINFORCING BAR LIST, HIGDEN BRIDGE

BENT BARS				STRAIGHT BARS			
MARK	SIZE	NO.	LENGTH	MARK	SIZE	NO.	LENGTH
S2	5/8"	113	26'-1 1/2"	S1	5/8"	230	25'-6"
S10	5/8"	230	4'-9"	S12	1/2"	48	33'-0"
S11	5/8"	230	3'-6"	S13	1/2"	42	32'-6"
				S14	1/2"	6	33'-5"
				S15	1/2"	96	26'-2"

* Bar list includes all reinforcement in east approach spans at Higden bridge.



LONGITUDINAL SECTION AT ROADWAY

Scale: 3/4" = 1'-0"

PIER 7, EDMONT BRIDGE
PIER 6, HIGDEN BRIDGE

PIER 8, EDMONT BRIDGE
PIER 7, HIGDEN BRIDGE

ABUTMENT 2, EDMONT BRIDGE
ABUTMENT 2, HIGDEN BRIDGE

FIXED SHOES

Scale: 1/2" = 1'-0"

Note: For details of roadway expansion devices see Sheet No. 14.

Materials: Rolled steel plates
Welds: 5/16" continuous
Bearing Pads: 6" Red Lead & Canvas; or preformed Fabric Pads.

EXPANSION SHOES

Scale: 1/2" = 1'-0"

REV	DATE	ADD 1/8" Pintle holes	DESCR. PT. 4	J.L.S.
<p>ARKANSAS STATE HIGHWAY COMMISSION LITTLE ROCK, ARKANSAS</p> <p>JOB 5483 EDGEMONT & HIGDEN BRIDGES-SUPERSTRUCTURE ROUTE 16, SECTION II, CLEBURNE COUNTY</p> <p>DETAILS, 65'-50' ROLLED BEAM SPANS EAST APPROACH, HIGDEN BRIDGE NORTH APPROACH, EDMONT BRIDGE</p>				
DRAWN BY	M.G.G.	GARVER & GARVER, Inc.	ENGINEERS	SCALE AS NOTED
CHECKED BY	J.L.S.	LITTLE ROCK, ARKANSAS		SHEET NO. 17 OF 19
DATE	10/11/59			

BRIDGE NO. 3300 & 3301

DRWS. NO. 10591