131

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
8	ARK.	S-136(4)		1	
STATE JOB NO. 9345				1	22

STATE OF ARKANSAS
STATE HIGHWAY COMMISSION

PLAN OF PROPOSED BRIDGES
BERGMAN—LEAD HILL
BRIDGE WIDENING
BOONE COUNTY
ROUTE 43 SEC. 3

JOB Nº 9345

FED. AID PROJ. NO. S-136 (4)

INDEX OF SHEETS

SHEET NO.	DRWG. NO.	TITLE
1	8409	Title Sheet Job No. 9345
2	8410	Summary of Quantities
3	8411	Layout of Bridge No. 1003
4	8412	Details of Bents 1-4 Incl. Bridge No. 1003
5	8413	Details of Piers 1 & 2 Bridge No. 1003
6	8414	Details of Widening 30' R.C.D.G. Spans Bridge No. 1003
7	8415	Details of Widening 55' R.C.D.G. Spans Bridge No. 1003
8-9	2899-2900	Details of Original Substructure Bridge No. 1003
10	2234	Details of Original 30' R.C.D.G. Spans Bridge No. 1003
11	2248	Details of Original 55' R.C.D.G. Span Bridge No. 1003
12	8416	yout of Bridge No. 1396
13	8417	Details of Abutment No. 1 Bridge No. 1396
14	8418	Details of Abutment No. 2 Bridge No. 1396
15	8419	Details of Piers 1 & 2 Bridge No. 1396
16	8420	Details of Widening 35' R.C.D.G. Spans Bridge No. 1396
17	2532	Details of Original Substructure Bridge No. 1396
18	2235	Details of Original 35' R.C.D.G. Spans Bridge No. 1396
19	1888	Embankment Constr. at Bridge Ends and Backfill for Structures
20	1891	Basis for Computing Excavation for Structures
21	1996	Standard Barricade Warning and Signs
22	GR6	Steel Plate Guard Fence

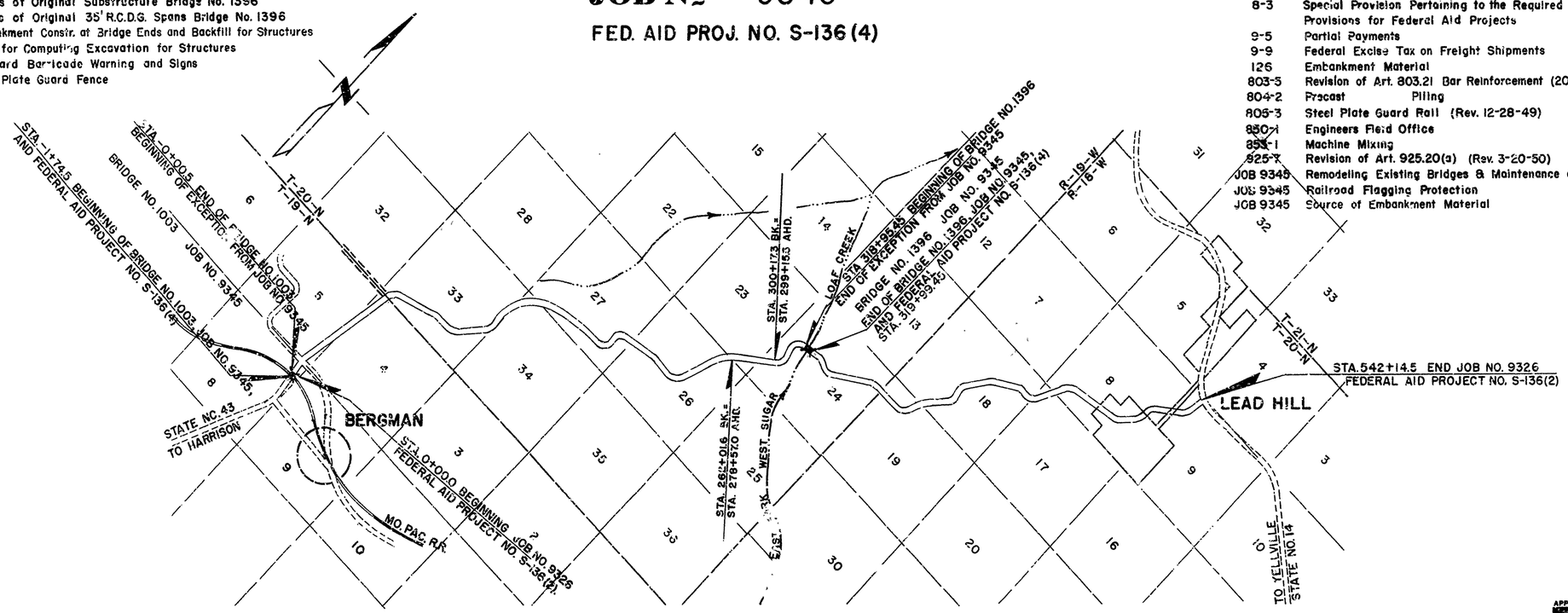
SPECIFICATIONS: ARKANSAS STATE HIGHWAY COMMISSION
STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
ADOPTED MARCH 1, 1940 WITH THE SPECIAL PROVISIONS LISTED BELOW

PAMPHLETS

DIVISION	PART
I	
II	1, 8A, 8B, 9
IV	

SPECIAL PROVISIONS

No.	TITLE	NO SHEETS
	Required Contract Provisions (Appr. 11-3-48)	7
2-1	Competency of Bidders	2
2-2	Equipment List Required	1
2-4	State License for Contractors	1
3-8	Termination of Contract	1
4-1	Revision of Article 4.9	1
7-8	Insurance and Construction Over Railroad	3
8-3	Special Provision Pertaining to the Required Contract Provisions for Federal Aid Projects	2
9-5	Partial Payments	1
9-9	Federal Excise Tax on Freight Shipments	1
126	Embankment Material	3
803-3	Revision of Art. 803.21 Bar Reinforcement (20,000 psi)	1
804-2	Precast Piling	1
805-3	Steel Plate Guard Rail (Rev. 12-28-49)	1
850-1	Engineers Field Office	1
855-1	Machine Mixing	1
925-X	Revision of Art. 925.20(a) (Rev. 3-20-50)	1
JOB 9345	Remodeling Existing Bridges & Maintenance of Traffic	1
JOB 9345	Railroad Flagging Protection	1
JOB 9345	Source of Embankment Material	1



LAYOUT
Scale: 1" = 3000' *FINAL LENGTH*

GROSS LENGTH OF PROJECT=	30,620.35 Feet	or 5.799 Miles
NET LENGTH OF BRIDGES=	278.00 Feet	or 0.052 Miles
LENGTH OF EMBANKMENT=		
NET LENGTH OF PROJECT=	278.00 Feet	or 0.052 Miles

APPROVED
[redacted]
CHIEF ENGINEER-STATE HIGHWAY COMMISSION

APPROVED
[redacted]
CHAIRMAN-STATE HIGHWAY COMMISSION

APPROVED
[redacted]
DIRECTOR ENGINEER
DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED
[redacted]
CHIEF OPERATING OFFICER
GUY A. THOMPSON, TRUSTEE
MISSOURI PACIFIC LINES

Wm. Bodman
BRIDGE DESIGN ENGINEER

BRIDGE No. 1003 & 1396 DRAWING No. 8409

FED ROAD No.	STATE	FED AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.	S-136(4)			
JOB No.		9345		2	22

SUMMARY OF BRIDGE QUANTITIES - JOB NO. 9345 (Code No. X021 & X121)

ITEM NO.	ITEM	UNIT	BRIDGE NO. 1003 (Code No. X121)							BRIDGE NO. 1396 (Code No. X021)						TOTAL JOB NO. 9345
			BENTS 1 & 4	BENTS 2 & 3	PIERS 1 & 2	SPANS 1 & 5	SPANS 2 & 4	SPAN 3	TOTAL	ABUT. 1	ABUT. 2	PIERS 1 & 2	SPANS 1 & 3	SPAN 2	TOTAL	
103	Dry Excavation For Structures	Cu. Yd.	33	11	62				106	38	77	3			118	224
103	Wet Excavation For Structures	Cu. Yd.									4	1			5	5
103	Solid Rock Excavation For Structures	Cu. Yd.								1	1	3			5	5
S.P.-126	Embankment Material (Class EM-13)	Cu. Yd.							100						100	200
S.P. & 802	Class "A" Concrete For Bridges	Cu. Yd.			67.99				67.99	14.47	16.25	14.41			45.13	113.12
S.P. & 802	Class "S" Concrete For Bridges	Cu. Yd.	3.38	13.12	6.69	34.22	32.65	44.01	134.07				22.14	10.87	33.01	167.08
S.P. & 803	Reinforcing Steel	Lb.	759	1568	*6285	5954	5997	7949	28,512	1073	1581	1119	4570	2514	11,257	39,769
S.P. & 804	[illegible]ing (16" Octagonal)	Lin. Ft.	120	92					212							212
S.P.-805-3	Steel Plate Guard Rail (10 ga.)	Lin. Ft.				121.67	120.0	110.0	351.67				118.5	70.0	188.5	540.17
S.P. & 925	Steel Plate Guard Fence (12 ga.)	Lin. Ft.							114.0						114.0	228.0
S.P.	Remodeling Existing Bridges and Maintenance of Traffic	Compl. Item							60%						40%	100%

* Includes 1344# in bearing devices at ends of 55' span.

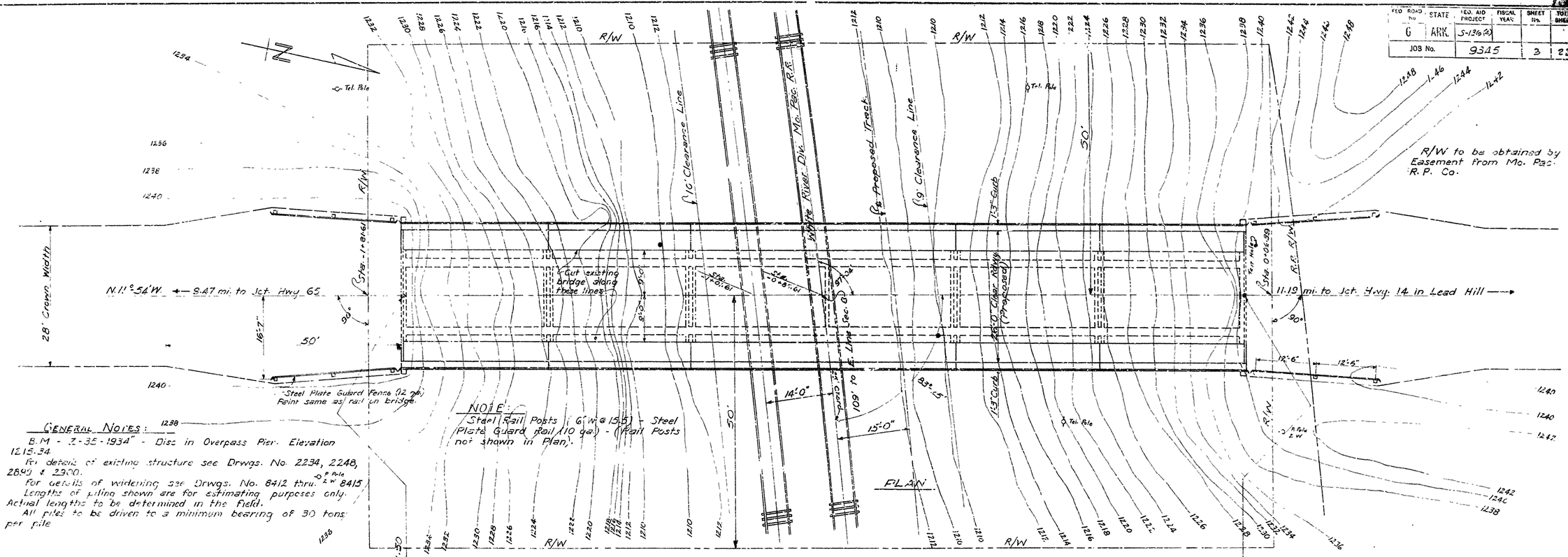
Bridge Design Engineer

SUMMARY OF BRIDGE QUANTITIES
BRIDGE WIDENINGS
BERGMAN – LEAD HILL
BOONE COUNTY
ROUTE 43 SEC. 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

Drawn By B.R. Date 1-5-54
Traced By Date
Checked By L.P.C. Date 1-21-54
BRIDGE NOS. 1003 & 1396 DRAWING NO. 8410

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.	S-136(2)			
JOB No.		9345		3	23



GENERAL NOTES:

B.M. - Z-35-1934" - Disc in Overpass Pier. Elevation 1215.34

For details of existing structure see Drwgs. No. 2234, 2248, 2849 & 2900.

For details of widening see Drwgs. No. 8412 thru. 8415

Lengths of piling shown are for estimating purposes only. Actual lengths to be determined in the field.

All piles to be driven to a minimum bearing of 30 tons per pile

Loading - H15 (A.A.S.H.O. 1949 Revised)

Stresses:

Class "S" Concrete (n=10)	1200 #/□"
Class "A" Concrete (n=15)	840 #/□"
Reinforcing Steel	20,000 #/□"

NOTE:

Contractor shall provide Public Liability and Property Damage Liability insurance (see Special Provisions), and shall submit plan of falsework and cofferdams in the track area for approval of Railroad Company prior to construction. Excavations to be adequately sheeted and braced so as to eliminate damage to adjacent tracks. Satisfactory railroad clearances to be maintained during construction.

LAYOUT OF MO. PAC. R.R. OVERPASS BERGMAN-LEAD HILL BOONE COUNTY ROUTE 43 SEC. 3

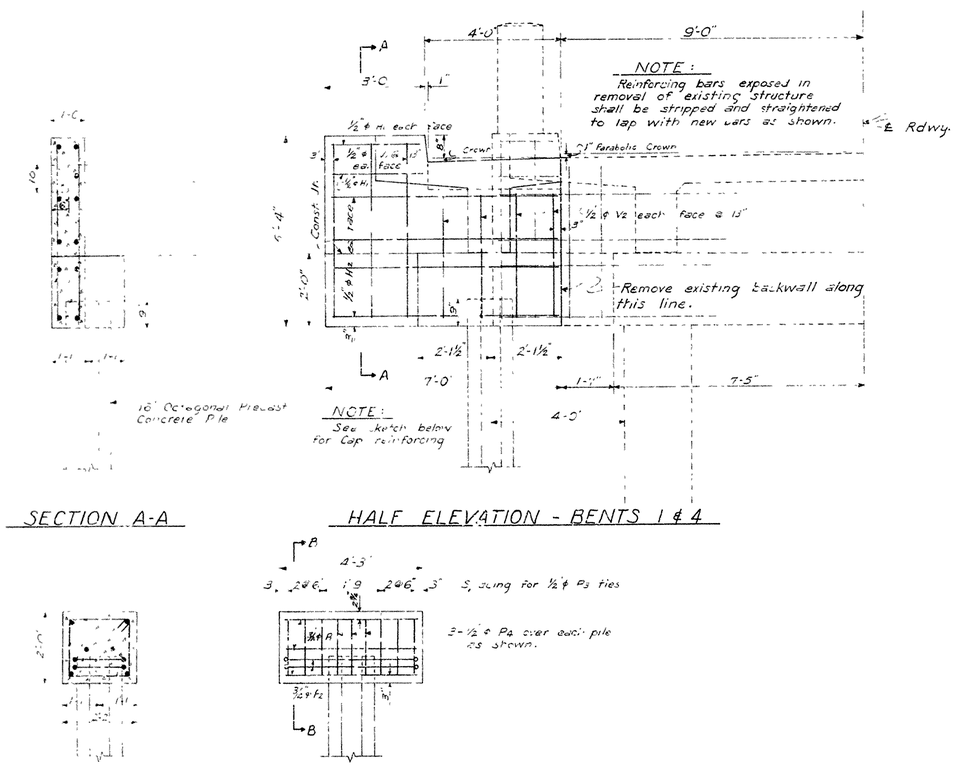
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

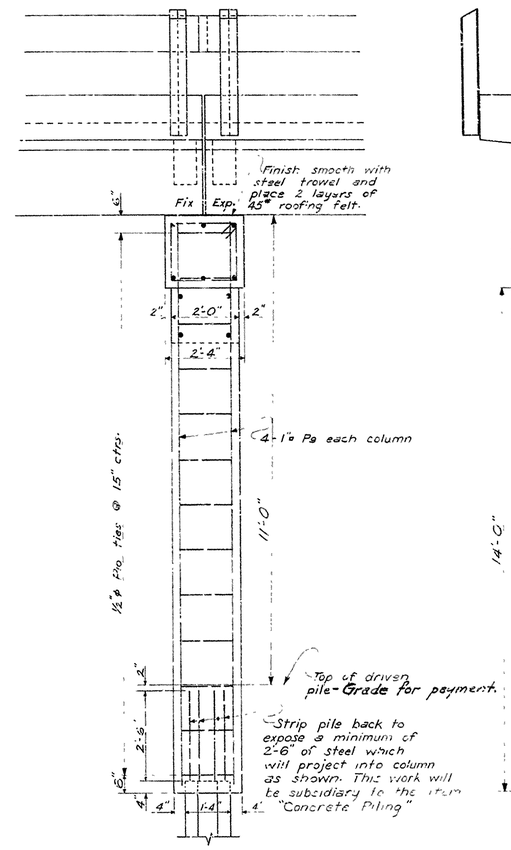
Drawn By B.R. Date 10-14-53 Scale 1 in. = 10 ft.
Traced By Date
Checked By F.E.B. Date 1-15-54

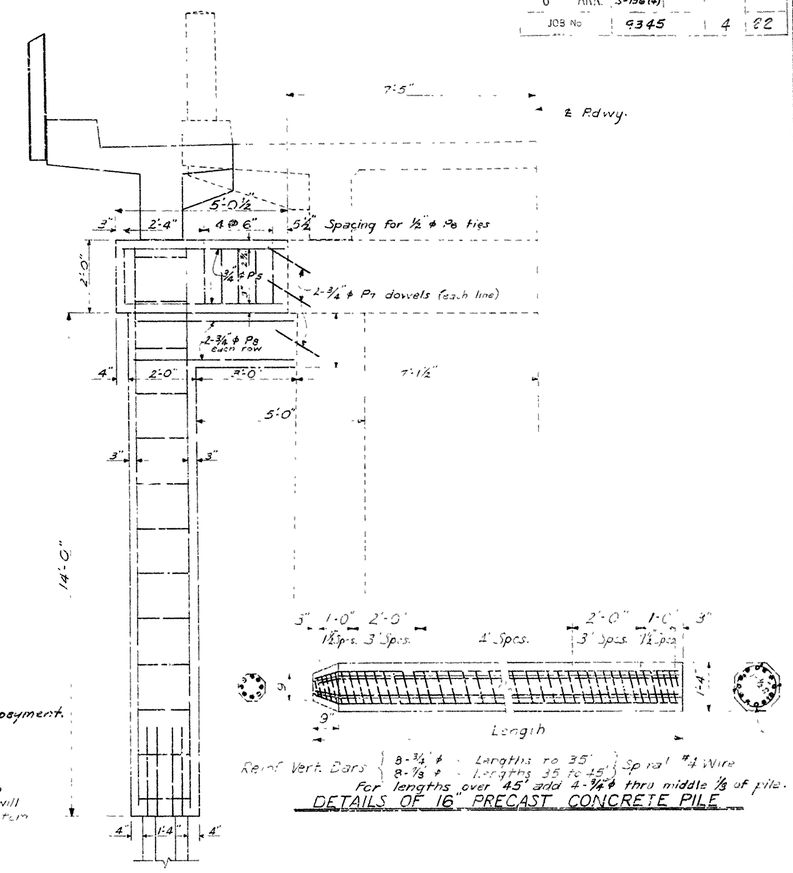
Bridge Design Engineer

BRIDGE NO. 1003 DRAWING NO. 8411

FED ROAD No.	STATE	FED AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.	S-136(4)			
JOB No.	9345			4	82



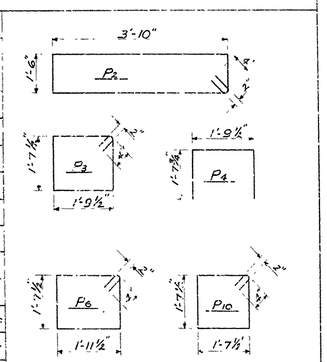




BAR LIST - BENTS NO. 1, 2, 3 & 4

MARK	SIZE	LENGTH	NO. REQ'D BENTS 1 & 4	NO. REQ'D BENTS 2 & 3	
P1	¾"ø	3'-11"	24		Str.
P2	¾"ø	11'-5"	8		
P3	½"ø	7'-7"	24		
P4	½"ø	5'-1"	12		
P5	¾"ø	4'-8"		24	Str.
P6	½"ø	7'-11"		24	
P7	¾"ø	1'-6"		24	Str.
P8	¾"ø	4'-9"		16	Str.
P9	1"ø	15'-8"		16	Str.
P10	½"ø	7'-3"		52	
V1	½"ø	5'-5"	24		Str.
V2	½"ø	3'-5"	32		Str.
H1	½"ø	2'-8"	12		Str.
H2	½"ø	6'-9"	32		Str.

BENDING DIAGRAM

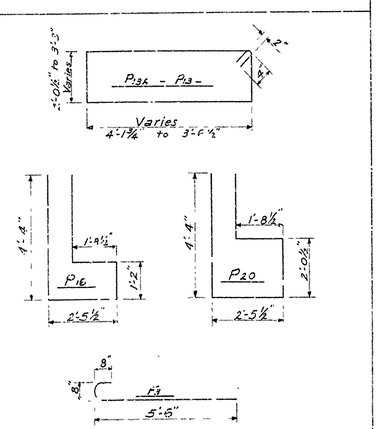


Dimensions are to centers of bars.

BAR LIST - PIERS NO. 1 & 2

MARK	SIZE	LENGTH	NO. REQ'D PIER 1	NO. REQ'D PIER 2	
P11	1"ø	28'-8"	8		Str.
P12	½"ø	28'-8"	8		Str.
P13A – P13X	½"ø	Varies 13'-8⅜" Avg.	2 Each	2 Each	
P14	¾"ø	1'-6"	40	40	Str.
P15	¾"ø	4'-8"	22		Str.
P16	¾"ø	12'-10"	20		
P17	1"ø	29'-8"		8	Str.
P18	½"ø	29'-8"		8	Str.
P19	¾"ø	4'-8"		22	Str.
P20	¾"ø	12'-10"		20	
F1	¾"ø	4'-1"	24	24	Str.
F2	¾"ø	5'-8"	16	16	Str.
F3	1"ø	6'-6"	8	8	

BENDING DIAGRAM



Dimensions are to centers of bars.

GENERAL NOTES:

All concrete to be Class "S".
For additional General Notes see Drwg. No. 8414

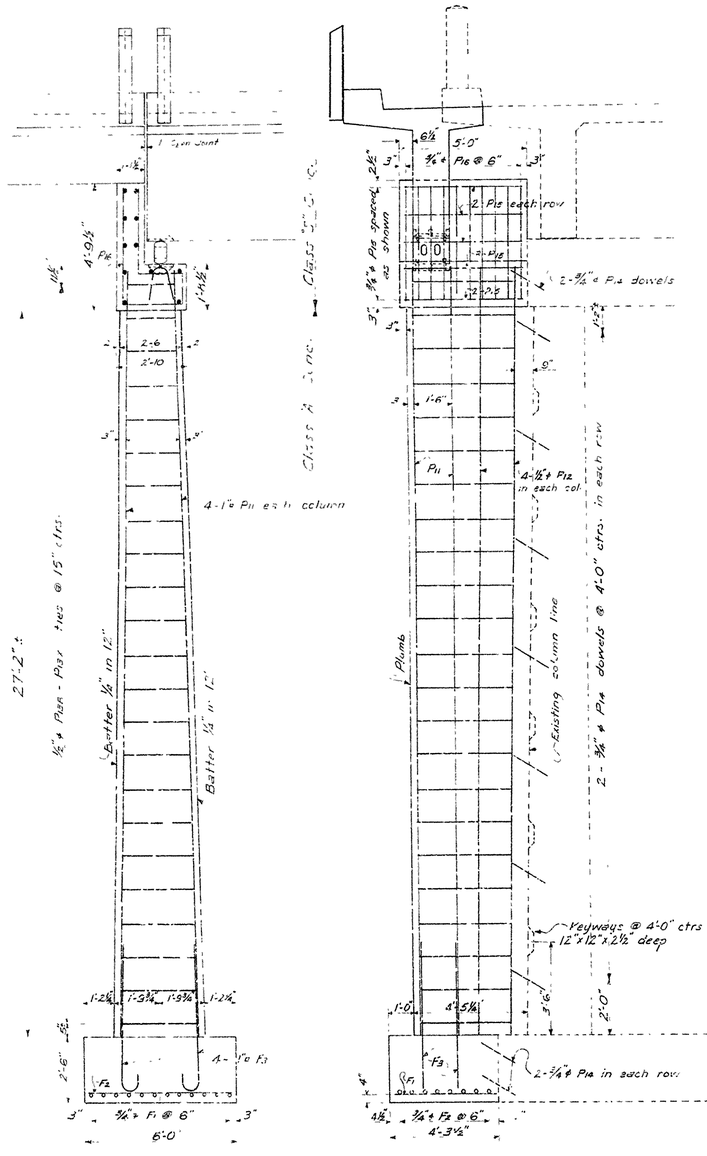
DETAILS OF WIDENING
BENTS 1-4
MO. PAC. R.R. OVERPASS
BERGMAN--LEAD HILL
BOONE COUNTY
ROUTE 43 SEC. 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

Drawn By B.R. Date 12-9-53
Traced By Date
Checked By F.R.B. Date 1-14-54
Scale: ½"=1'-0"

Bridge Design Engineer

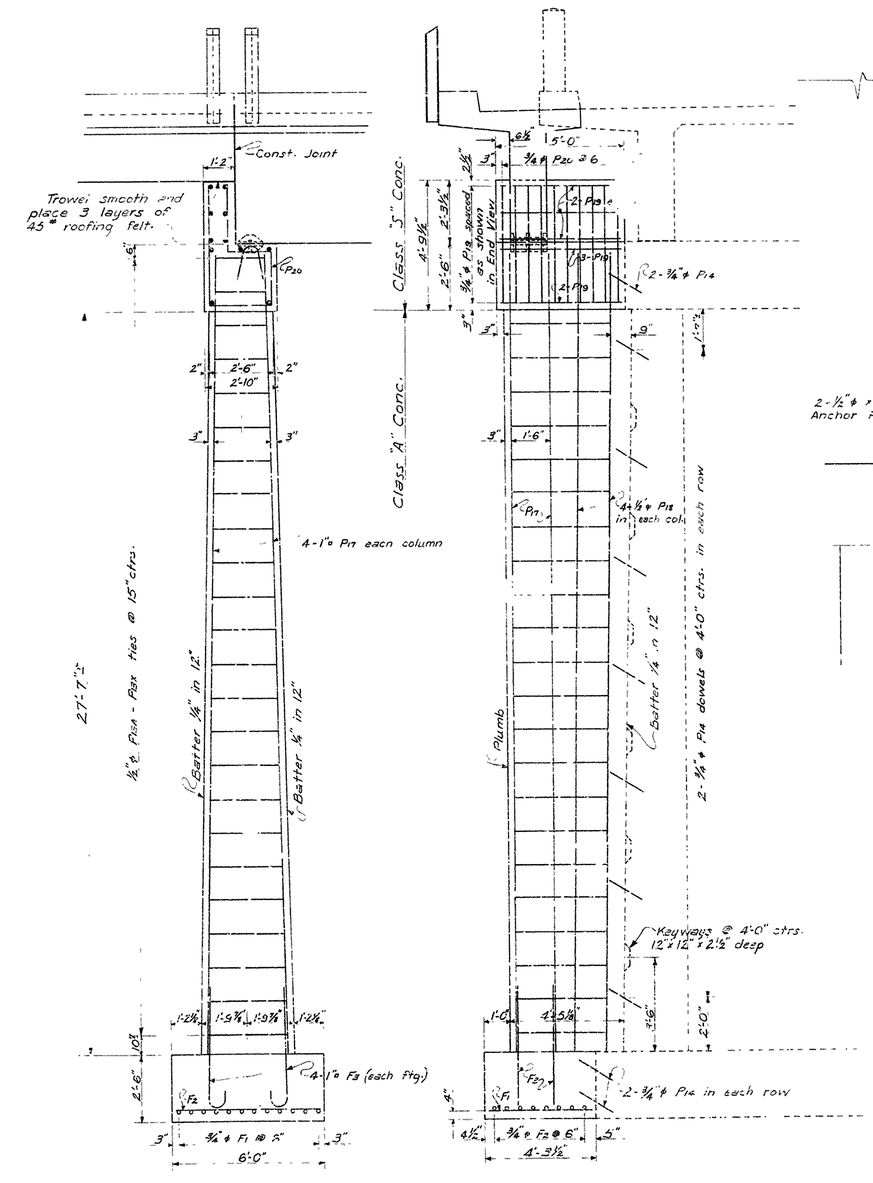
BRIDGE NO. 1003 **DRAWING NO. 8412**



END VIEW

HALF ELEVATION

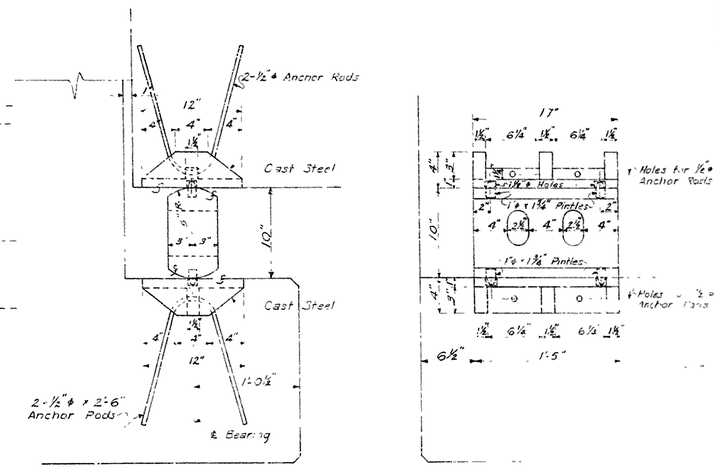
DETAILS OF PIER #1



END VIEW

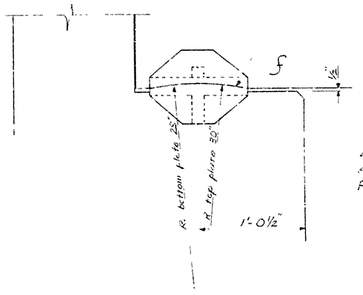
HALF ELEVATION

DETAILS OF PIER #2



DETAILS OF EXPANSION ROCKERS

Scale : 1½" = 1'-0"



NOTE :

Bearing plates at Fixed Ends with top & bottom plates for Expansion shoes except bearing surfaces are curved and pintle holes are omitted

DETAILS OF BEARING PLATES AT FIXED END OF SPAN

Scale : 1½" = 1'-0"

GENERAL NOTES :

All concrete from bottom of Cap down to be Class "A". Concrete in Cap to be Class "S".
For additional General Notes see Drwg No. 8414
For Reinforcing Bar List see Drwg. No. 8412

Revised (B.R.) 3-23-54 Keyway

DETAILS OF WIDENING
PIERS 1 & 2
MO. PAC. R.R. OVERPASS
BERGMAN—LEAD HILL
BOONE COUNTY
ROUTE 43 SEC. 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

Drawn By: B.R Date 12-1-53
Traced By Date
Checked By F.R.B Date 1-13-54

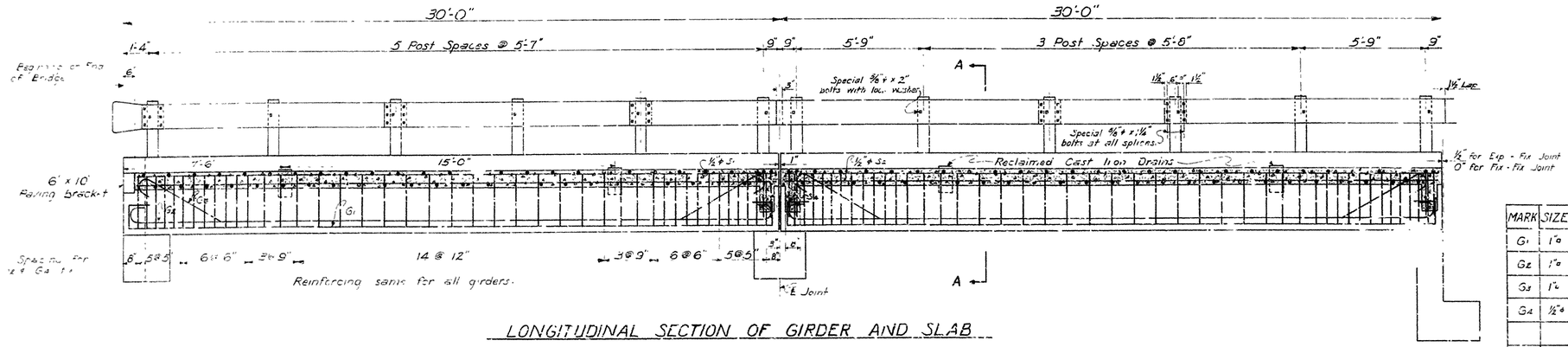
Scale: ⅝" = 1'-0 ¢ as noted

Bridge Design Engineer

BRIDGE NO. 1003

DRAWING NO. 8413

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.	S-136 (4)			
JOB No.	9345	G		22	

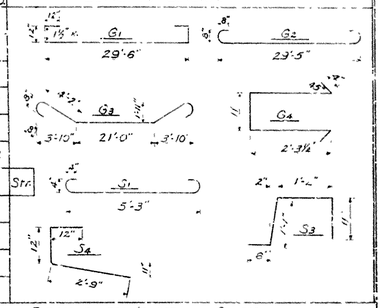


LONGITUDINAL SECTION OF GIRDER AND SLAB

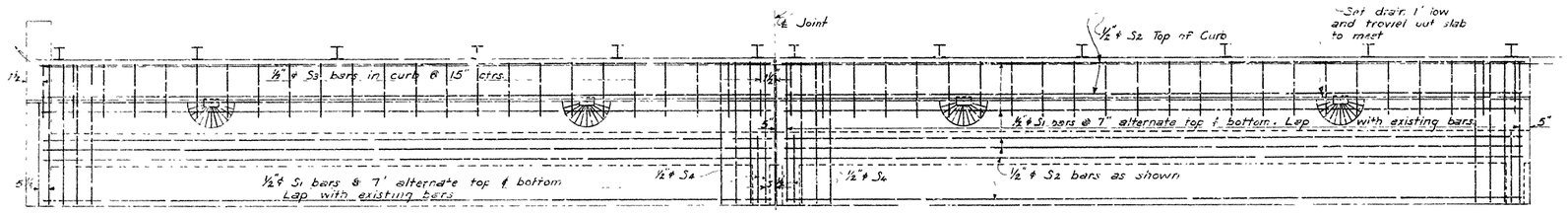
BAR LIST (All 30' Spans)

MARK	SIZE	LENGTH	NO. REQ'D.	
G1	1"ϕ	33'-3"	32	
G2	1"ϕ	31'-5"	16	
G3	1"ϕ	31'-4"	16	
G4	½"ϕ	6'-3"	344	
S1	½"ϕ	6'-3"	404	
S2	½"ϕ	29'-3"	64	Str.
S3	½"ϕ	3'-8"	192	
S4	½"ϕ	4'-9	24	

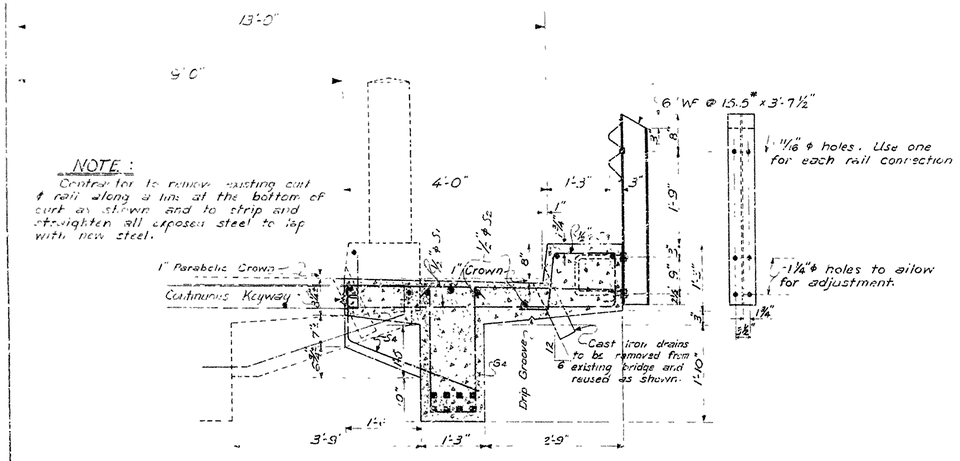
BENDING DIAGRAM



Dimensions are to centers of bars

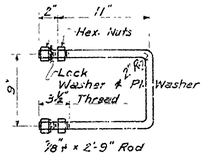


PLAN

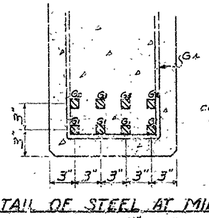


NOTE:
Contractor to remove existing curb & rail along a line at the bottom of curb as shown and to strip and straighten all exposed steel to lap with new steel.

SECTION A-A
Scale: ¾" = 1'-0"



RAIL POST ANCHOR ROD
Scale: 1½" = 1'-0"



DETAIL OF STEEL AT MID-SPAN
Scale: 1½" = 1'-0"

GENERAL NOTES:

The work contemplated consists of widening the existing overpass structure on both sides of roadway and removing and replacing handrail on both sides. For requirements in conducting the work of remodeling existing overpass see Special Provision "Remodeling Existing Bridges and Maintenance of Traffic."

All dimensions relating to existing overpass are to be verified in the field. Drawings showing details of existing structure are for information only.

In establishing grade on widened portion of bents and piers, dimensions shown take precedence over elevations.

All concrete to be the class called for on the individual details and shall be poured in the dry. All exposed corners to have ¾" chamfer unless otherwise noted.

Reinforcing steel is to be deformed bars of Intermediate or Hard grade (see Special Provision 803-5). Reinforcing steel is to be held in place by means of steel wire supports sufficient in size and number to properly support the steel in the forms. These supports will not be paid for directly, but will be considered as subsidiary to the item "Reinforcing Steel".

Dimensions relating to reinforcing steel are to centers of bars.

Shop lists and Bending Diagrams of reinforcing steel, including steel wire supports, must be submitted and approval secured before fabrication is begun.

Weight of S[illegible] Steel Bearings, including anchor rods, is included in weight shown for "Reinforcing Steel".

The Steel [illegible] Rail is to be of the type shown on the plans or an equivalent rigid type as approved by the Engine[illegible] Plate Guard Rail, including steel posts, all fastenings rail to posts and posts to curbs, is to be paid fo[illegible] price bid [illegible] linear foot for Steel Plate Guard Rail (10 ga.).

Specifica[illegible] Arkansas State Highway Commission S[illegible]dard Specifications for Road & Bridge Construction adopted March 1st, 1940.

Revised (B.R.) 3-23-54 Keyways

DETAILS OF WIDENING
30'-0" SPAN
MO. PAC. R.R. OVERPASS
BERGMAN-LEAD HILL
BOONE COUNTY
ROUTE 43 SEC. 3

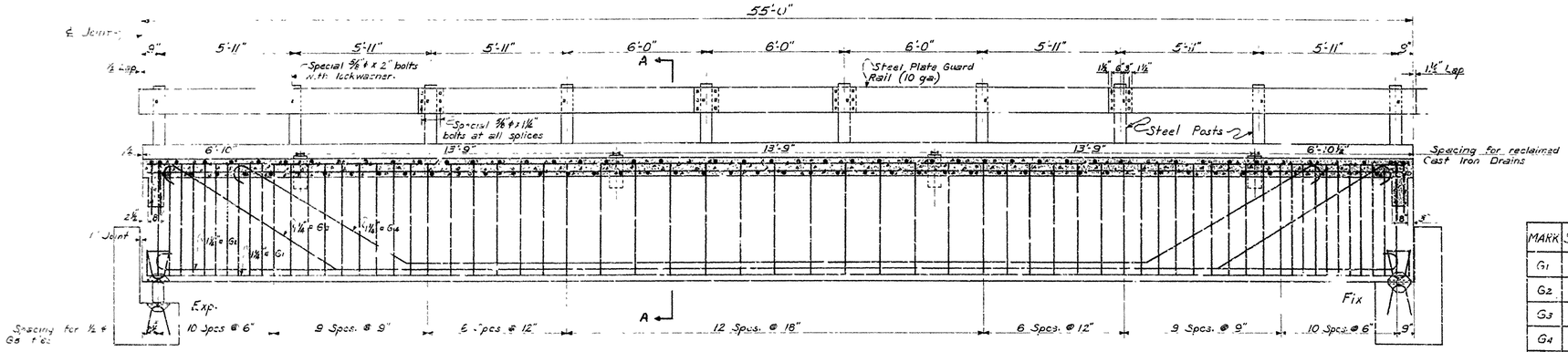
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

Drawn By B.R. Date 11-24-53
Traced By Date
Checked By F.R.B. Date 1-12-54
Scale: ⅜" = 1'-0" & as noted

Bridge Design Engineer

BRIDGE NO. 1003 DRAWING NO. 6414

FED. ROAD No.	STATE	FED. AID PROJECT	SHEET No.	TOTAL SHEETS
6	ARK.	F-136(4)		
JOB No.	9345	7	22	

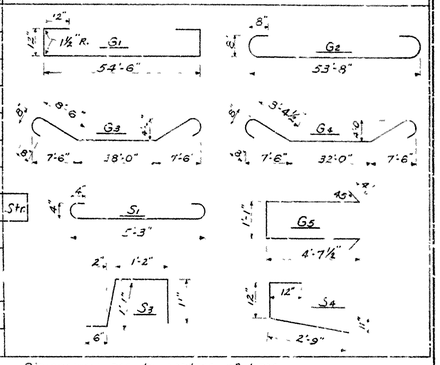


LONGITUDINAL SECTION OF GIRDER AND SLAB

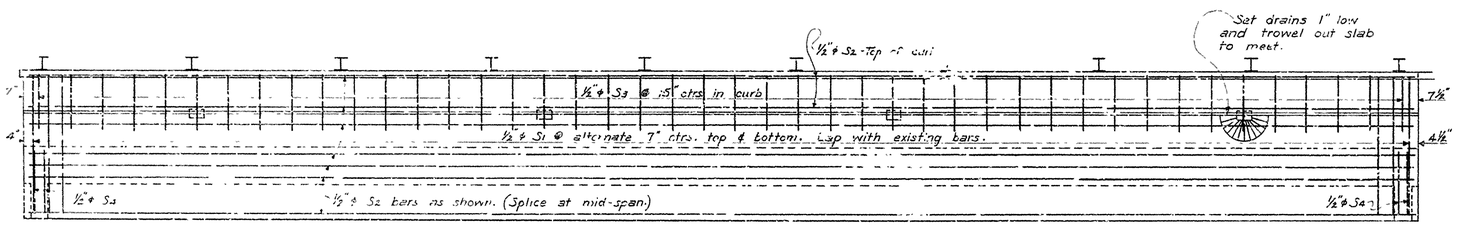
BAR LIST

MARK	SIZE	LENGTH	NO. REQ'D
G1	1¼"ϕ	58'-3"	8
G2	1¼"ϕ	55'-8"	4
G3	1¼"ϕ	57'-0"	4
G4	1¼"ϕ	50'-9"	2
G5	½"ϕ	11'-1"	126
S1	½"ϕ	6'-3"	188
S2	½"ϕ	28'-1"	32 Str.
S3	½"ϕ	3'-8"	88
S4	½"ϕ	4'-9"	8

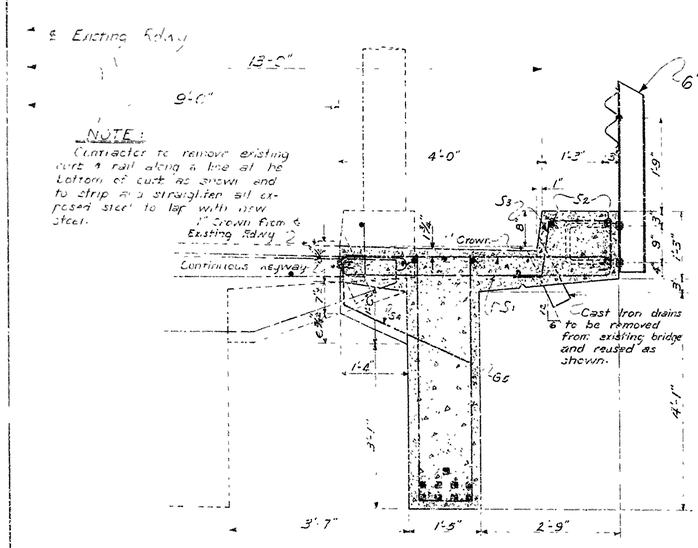
BENDING DIAGRAM



Dimensions are to centers of bars.

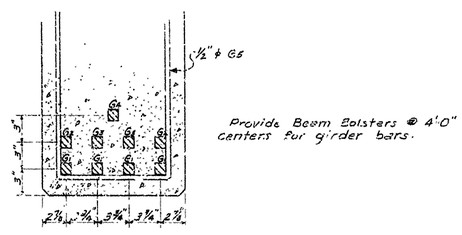


PLAN



SECTION A-A

Scale: ¾" = 1'-0"



DETAIL OF STEEL AT MID-SPAN

Scale: 1½" = 1'-0"

GENERAL NOTES:

All concrete to be Class "S".
For additional General Notes see Drwg. No. 8414

Revised (E.R.) 7-23-54 Keyways

DETAILS OF WIDENING
55'-0" SPAN
MO. PAC. R.R. OVERPASS
BERGMAN—LEAD HILL
BOONE COUNTY
ROUTE 43 SEC. 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

Drawn By E.R. Date 12-4-53
Traced By Date
Checked By F.E.B. Date 1-13-54

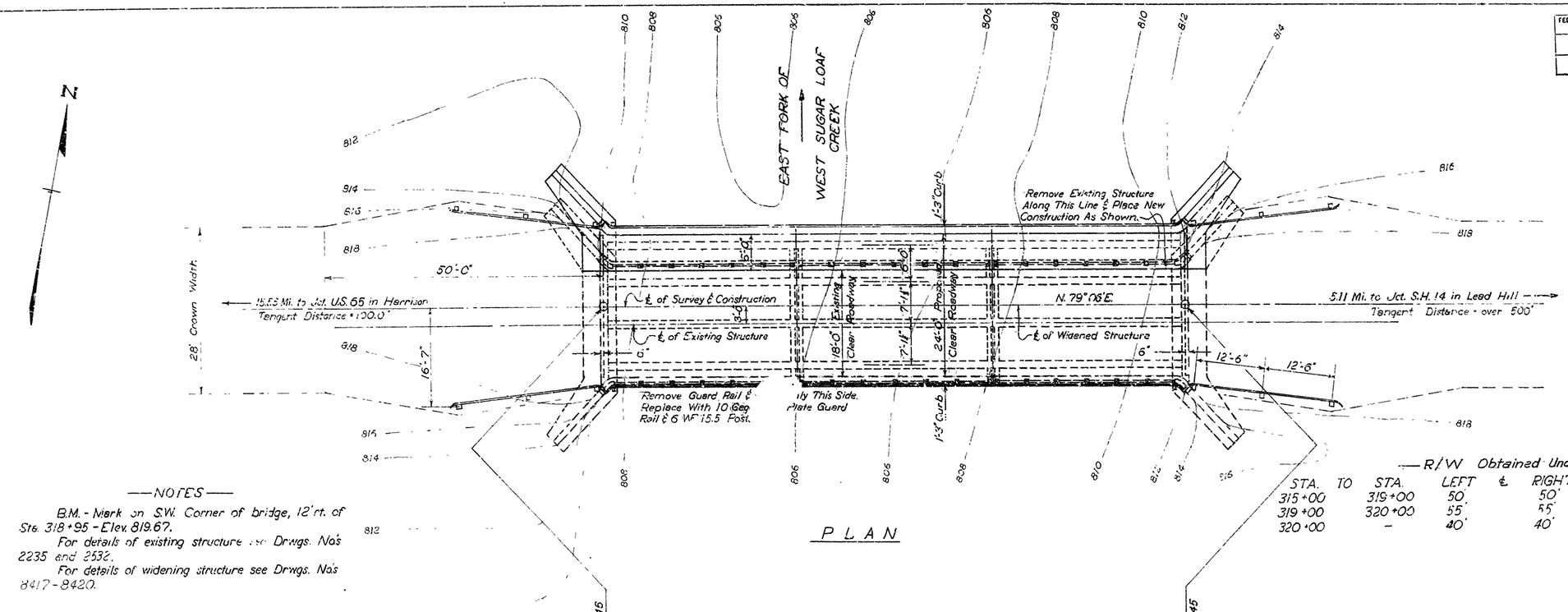
Scale: ⅜" = 1'-0" & as noted

Bridge Design Engineer

BRIDGE NO. 1003 **DRAWING NO. 8415**

136

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.	S-136(4)			
JOB No.		9345		12	22



PLAN

—R/W Obtained Under Job 9326

STA.	TO	STA.	LEFT	℄	RIGHT	TOTAL
315+00		319+00	50'		50'	100'
319+00		320+00	55'		55'	110'
320+00		–	40'		40'	80'

—NOTES—

B.M. - Mark on S.W. Corner of bridge, 12' rt. of Sta. 318+95 - Elev. 819.67.

For details of existing structure see Drwgs. Nos 2235 and 2532.

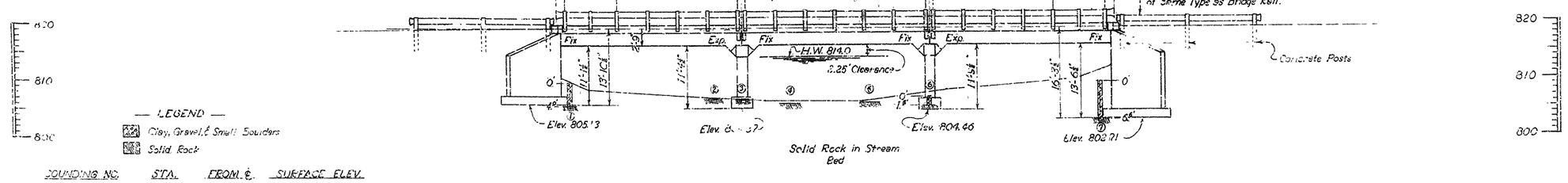
For details of widening structure see Drwgs. Nos 8417-8420.

Loading: H 15 A.A.S.H.O. 1949 (Revised)

Unit Stresses:

Class "A" Concrete	(n=15)	840 #/□"
" "S" "	(n=10)	1200 #/□"
Reinforcing Steel		20,000 #/□"

Drainage Area: 2.5 sq. mi. (Mts.-Wooded)



— LEGEND —

Clay, Gravel, & Small Boulders

Solid Rock

SOUNDING NO.	STA.	FROM ℄	SURFACE ELEV.
1	318+98	Lt 17'	809.2
2	319+25	Lt 11'	806.3
3	319+30	Lt 15'	806.3
4	319+39	Lt 10'	805.4
5	319+54	Lt 10'	805.9
6	319+65	Lt 11	806.8
7	319+97	Lt 14	809.3

ELEVATION

319+00 +50 320+00

LAYOUT OF BRIDGE
OVER EAST FORK-WEST SUGAR LOAF CREEK
BERGMAN — LEAD HILL
BOONE COUNTY
ROUTE 43 SEC. 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

Drawn By: J.H.L. Date: 10-18-53
Traced By: Date:
Checked By: Date: 1-4-54

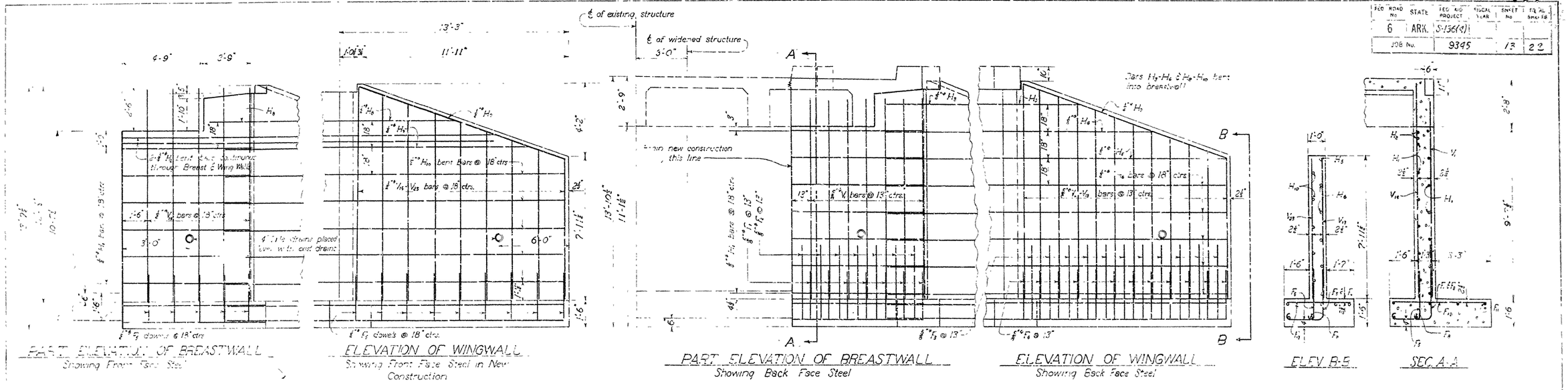
Scale: 1 in. = 10 ft.

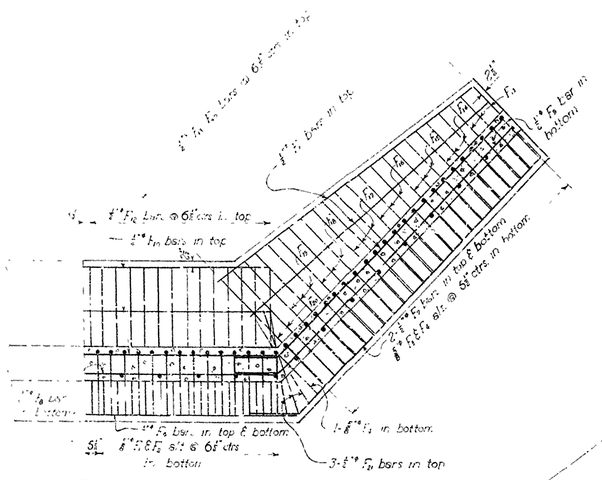
Bridge Design Engineer

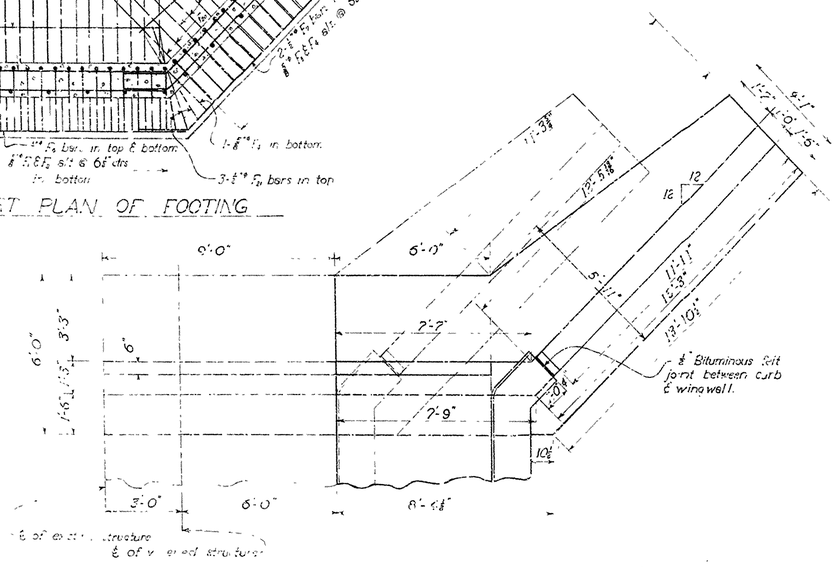
BRIDGE NO. 13P6

DRAWING NO. 8416

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.	S-156(3)			
JOB No.	9345		13	22	





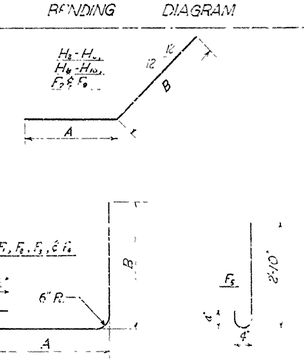


BAR LIST

STRAIGHT BARS

MARK	SIZE	NO. REQD	LENGTH
V1	⅝" ϕ	7	11'-1"
V2	↑	1	11'-11"
V3		↑	11'-7"
V4			11'-3"
V5			10'-10"
V6			10'-6"
V7			10'-1"
V8			9'-9"
V9			9'-5"
V10			9'-0"
V11			8'-7"
V12	↓	↓	8'-3"
V13	⅝" ϕ	1	7'-10"
V14	½" ϕ	5	12'-0
V15	↑	1	11'-11"
V16		↑	11'-5"
V17			10'-10"
V18			10'-4"
V19			9'-10"
V20			9'-4"
V21			8'-10"
V22		↑	8'-4"
V23		1	7'-10"
H1		13	7'-8"
H2		2	12'-6"
F6		2	8'-2"
F7		1	7'-8"
F8		3	7'-4"
F11		3	12'-1"
F12		14	5'-7"
F13		3	3'-8"
F14		↑	3'-11"
F15			4'-2"
F16			4'-5"
F17			4'-9"
F18		↑	5'-0"
F19		3	5'-3"
F20	↑	2	5'-6"
F21	½" ϕ	3	4'-0"

BENDING DIAGRAM



All dimensions are to ctr. of bars

BENT BARS

MARK	SIZE	NO. REQD	"A"	"B"	LENGTH
H3	½" ϕ	2	7'-7"	8'-7"	16'-2"
H4	↑	1	2'-8"	3'-9"	6'-5"
H6		1	2'-0"	8'-1"	10'-1"
H7		1	3'-0"	12'-5"	14'-5"
H8		5	2'-0"	12'-6"	14'-6"
H9		1	2'-8"	6'-6"	9'-2"
H10		1	2'-0"	10'-0"	12'-12"
H11	½" ϕ	5	2'-3"	13'-0"	15'-0"
F1	⅝" ϕ	7	2'-4"	3'-3"	6'-1"
F2	↑	7	2'-4"	4'-8"	7'-5"
F3	↓	11	2'-1"	4'-8"	7'-3"
F4	⅝" ϕ	12	2'-1"	3'-3"	5'-10"
F5	½" ϕ	14	—	—	3'-4"
F9	↑	2	2'-0"	13'-7"	15'-7"
F10	⅝" ϕ	1	2'-0"	12'-11"	14'-11"

GENERAL NOTES

All concrete to be Class "A" and poured in the dry.

Dowel existing steel exposed by cutting away process into new construction, tying new steel to old steel where possible.

For additional General Notes see Drawing No. 8419.

Bridge Design Engineer

DETAILS OF WIDENING
ABUTMENT NO. 1 OF BRIDGE
OVER EAST FORK-WEST SUGAR LOAF CREEK
BERGMAN — LEAD HILL
BOONE COUNTY
ROUTE 43 SEC. 3

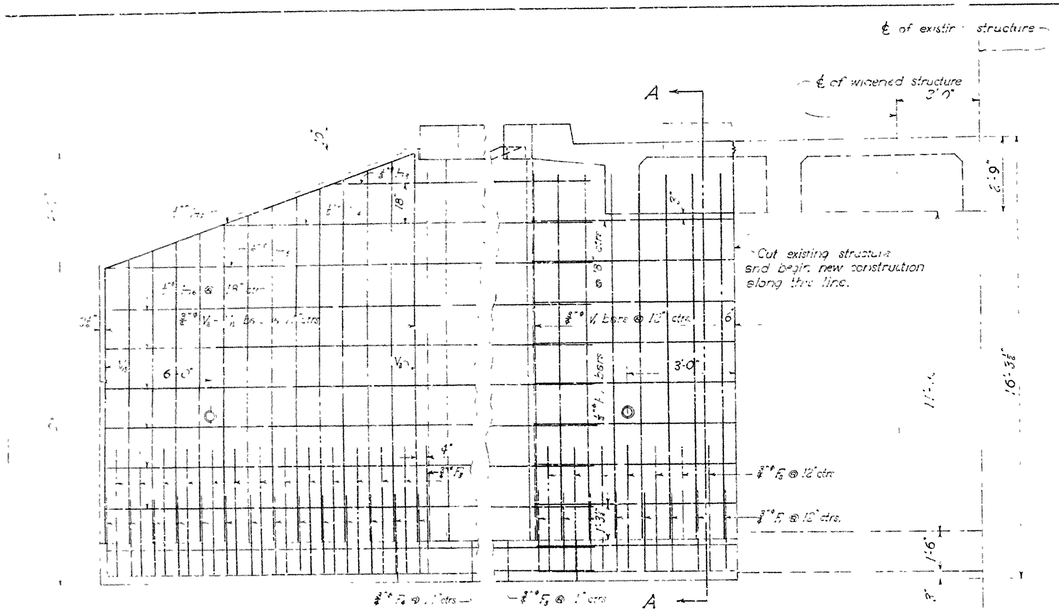
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

Drawn By: J.H.L. Date: 12-18-53
Traced By: Date:
Checked By: Date: 1-14-54
Scale: 3/8 in. = 1 ft.

BRIDGE NO. 1398 **DRAWING NO. 8417**

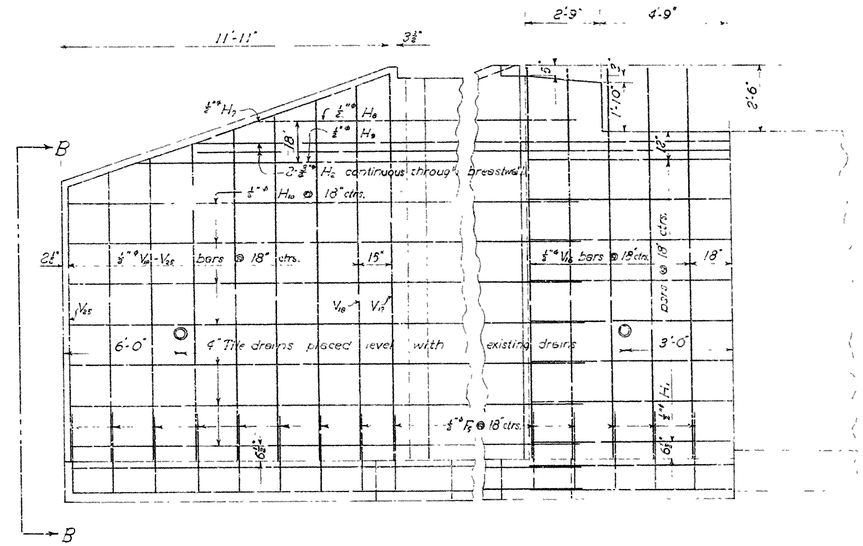
140

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.	S-136(4)			
JOB No.	9345			14	22



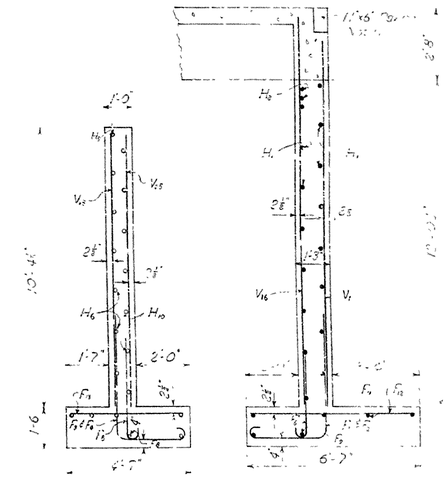
ELEVATION OF WINGWALL
Showing Front Face Steel

PART ELEVATION OF BREASTWALL
Showing Back Face Steel in New Construction



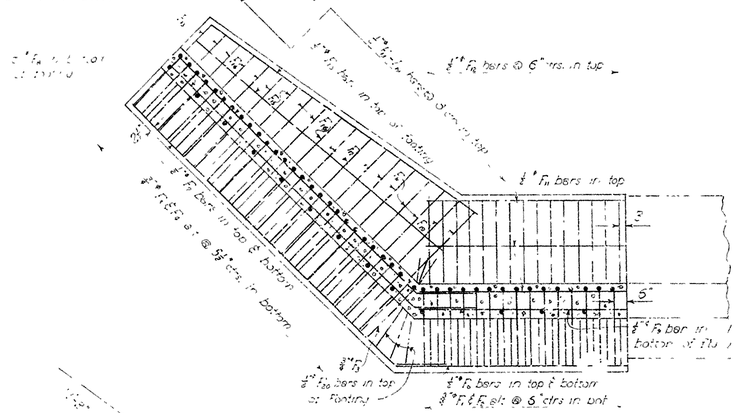
ELEVATION OF WINGWALL
Showing Front Face Steel

PART ELEVATION OF BREASTWALL
Showing Front Face Steel

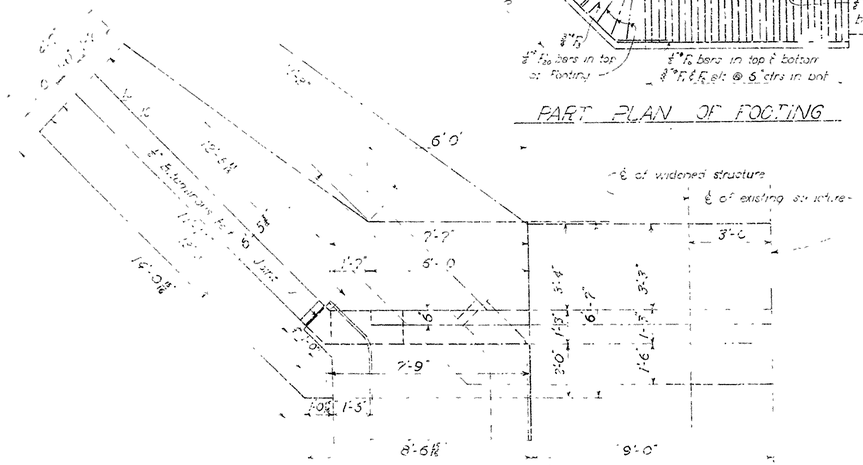


ELEV. B-B

SEC. A-A



PART PLAN OF FOOTING



PART PLAN SHOWING NEW CONSTRUCTION

BAR LIST

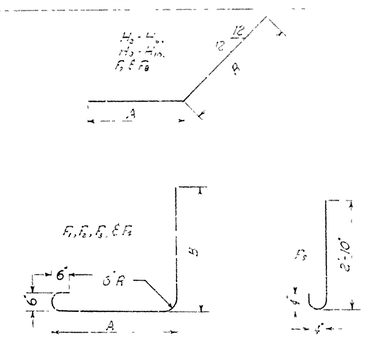
STRAIGHT

MARK	SIZE	NO. REQ'D.	LENGTH
V_1	⅝"	8	13'-6"
V_2		1	14'-4"
V_3			11'-2"
V_4			13'-10"
V_5			12'-6"
V_6			13'-2"
V_7			12'-10"
V_8			12'-7"
V_9			12'-3"
V_{10}			11'-11"
V_{11}			11'-7"
V_{12}			11'-3"
V_{13}			10'-11"
V_{14}			10'-7"
V_{15}	¾"	1	10'-3"
V_{16}	⅝"	5	14'-5"
V_{17}		1	14'-4"
V_{18}			13'-1"
V_{19}			13'-4"
V_{20}			12'-10"
V_{21}			12'-4"
V_{22}			11'-10"
V_{23}			11'-3"
V_{24}			10'-9"
V_{25}		1	10'-3"
H_1		16	7'-8"
H_2		2	12'-4"
F_2		2	8'-7"
F_3		1	7'-8"
F_{13}		3	12'-3"
F_4		3	7'-6"
F_{12}		15	6'-2"
F_{11}		3	4'-2"
F_{10}		3	4'-6"
F_{15}			4'-10"
F_{15}		1	5'-2"
F_{16}		3	5'-6"
F_{17}			5'-10"
F_{18}		2	6'-1"
F_{19}	½"	3	4'-0"

BENT BARS

MARK	SIZE	NO. REQ'D.	"A"	"B"	LENGTH
H_2	⅝"	2	2'-7"	8'-0"	10'-2"
H_3	⅝"	1	3'-8"	3'-9"	6'-5"
H_4		1	2'-0"	8'-1"	10'-1"
H_5		1	2'-0"	12'-5"	14'-5"
H_6		6	2'-0"	12'-5"	14'-5"
H_7		1	2'-8"	6'-6"	9'-2"
H_8		1	2'-0"	10'-10"	12'-10"
H_{10}	⅝"	2	2'-0"	13'-0"	15'-0"
F_2	⅝"	8	2'-10"	3'-8"	7'-0"
F_3		7	3'-10"	4'-8"	8'-0"
F_3		16	2'-7"	4'-8"	7'-9"
F_4	½"	14	2'-7"	3'-8"	6'-9"
F_4	½"	16			3'-4"
F_5	½"	2	2'-0"	13'-11"	15'-11"
F_7	½"	1	2'-0"	12'-11"	14'-11"

BENDING DIAGRAM



All dimensions are to ctrs. of bars.

NOTES

All concrete to be Class "A" and poured in the dry.

Dowel existing steel exposed by cutting away process into new construction, tying new steel to old steel where possible.

For General Notes see Drawing No. 8419.

Bridge Design Engineer

DETAILS OF WIDENING
ABUTMENT NO. 2 OF BRIDGE
OVER EAST FORK–WEST SUGAR LOAF CREEK
BERGMAN — LEAD HILL
BOONE COUNTY
ROUTE 43 SEC. 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

Drawn By: J.H.L. Date: 12-22-53
Traced By: Date:
Checked By: Date: 1-8-54

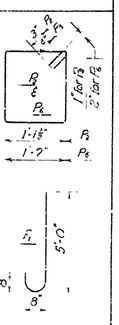
Scale: 3/8 in. = 1 ft.

BRIDGE NO. 1386 **DRAWING NO. 8418**

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.	S-136(4)			
JOB No.		9345	15	22	

BAR LIST FOR PIERS NO. 1 & 2

MARK	SIZE	NO. REQUIRED PIER 1	NO. REQUIRED PIER 2	LENGTH	BENDING DIAGRAM
P_{2a}	1" ϕ	4		9'-1"	str.
P_{1a}	1" ϕ		4	9'-6"	str.
P_3	⅝" ϕ	8	8	6'-0"	
P_{2b}	⅝" ϕ	6		9'-1"	str.
P_{1b}	⅝" ϕ		6	9'-6"	str.
P_5	⅝" ϕ	10	12	5'-10"	str.
P_6	⅝" ϕ	4	4	5'-9"	str.
P_7	⅝" ϕ	2	2	7'-3"	
P_8	⅝" ϕ	3	3	4'-0"	str.
P_9	⅝" ϕ	12	12	1'-0"	str.
P_1	1" ϕ	4	4	6'-0"	
P_2	⅝" ϕ	8	8	5'-8"	str.
P_3	⅝" ϕ	12	12	3'-8"	str.
P_4	1" ϕ	4	4	3'-4"	str.
P_5	1" ϕ	2	2	2'-6"	str.



All dimensions c to c. of bars.

GENERAL NOTES

The work contemplated consists of widening the existing bridge structure on the lefthand side of roadway and removing and replacing guard rail only on the right side. For requirements in conducting the work of remodeling existing bridge see Special Provision "Remodeling Existing Bridges and Maintenance of Traffic."

All dimensions relating to existing bridge are to be verified in the field. Drawings showing details of existing bridge are furnished for information only.

In establishing grade on widened portions of abutments and piers dimensions shown take precedence over elevations.

For substructure details, see Drawings No. 8417, 8418, & 8419. For superstructure details, see Drawing No. 8420.

All concrete to be of class [illegible] on individual drawings and shall be poured in the dry.

All exposed corners in concrete work to have ¾" chamfers, unless otherwise shown.

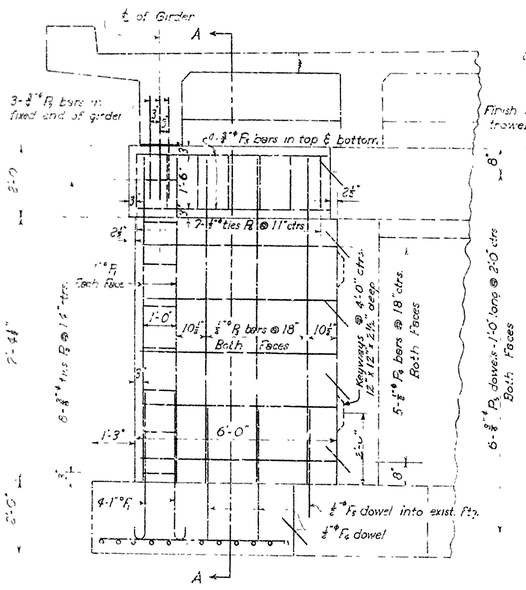
Reinforcing steel is to be deformed bars of Intermediate or Hard grade (see Special Provision 803-5). Reinforcing steel is to be held in place by means of steel wire supports, sufficient in size and number to properly support the steel in the forms. These supports will not be paid for directly, but will be considered as subsidiary to the item "Reinforcing Steel".

Shop Lists and Bending Diagrams of reinforcing steel, including steel wire supports, must be submitted and approval secured before fabrication is begun.

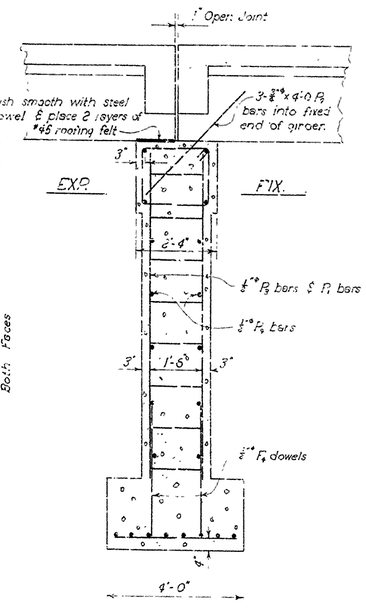
The Steel Plate Guard Rail is to be of the type shown on the plans or an equivalent rigid type as approved by the Engineer. Steel Plate Guard Rail, including steel posts, all fastenings-rail to posts and posts to curb on both sides of roadway, is to be paid for at the price bid per linear foot for "Steel Plate Guard Rail (10 Gage)."

Roofing felt under girders at expansion joints shall be paid for as "Class 'S' Concrete."

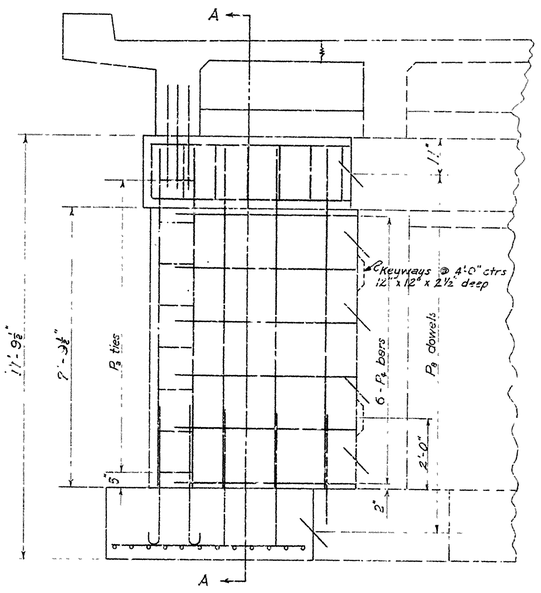
Specifications: Arkansas State Highway Commission Standard Specifications for Road & Bridge Construction adopted March 1st, 1940.



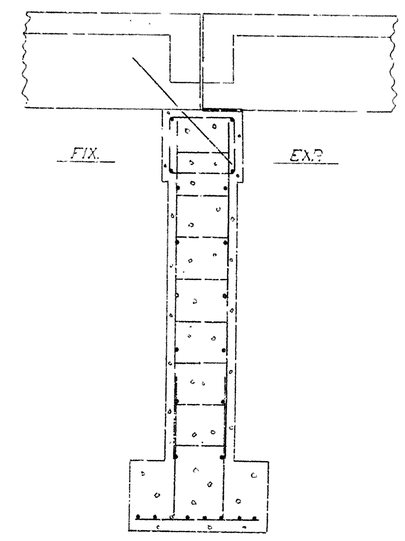
PART ELEVATION OF PIER NO. 1
Showing New Construction
(North End [illegible])



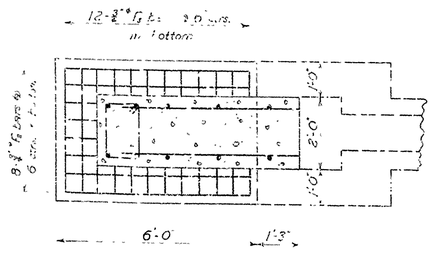
SEC. A-A OF PIER NO. 1



PART ELEVATION OF PIER NO. 2



SEC. A-A OF PIER NO. 2



PART FOOTING PLAN FOR PIERS NO. 1 & 2

NOTES

Pier No. 2 shall be made identical to Pier No. 1 as to both dimensions and steel, except as noted.
All concrete in Piers No. 1 & 2 to be Class "A".
For details of superstructure see Drawing No. 8420.

Revised (B.R.) 3-23-54 Keyways

DETAILS OF WIDENING
PIERS 1 & 2 OF BRIDGE
OVER EAST FORK-WEST SUGAR LOAF CREEK
BERGMAN -- LEAD HILL
BOONE COUNTY
ROUTE 43 SEC. 3

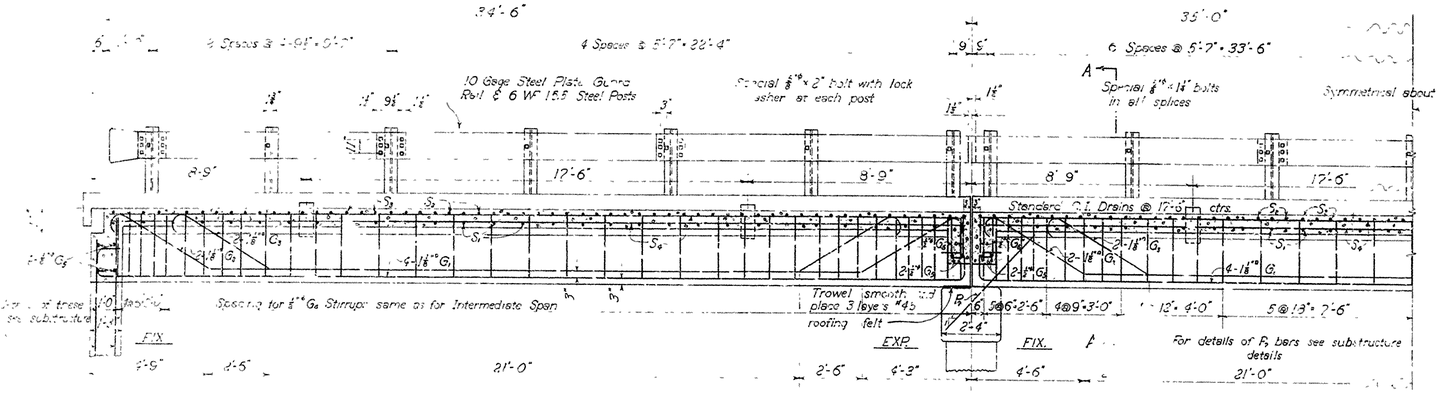
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

Bridge Design Engineer

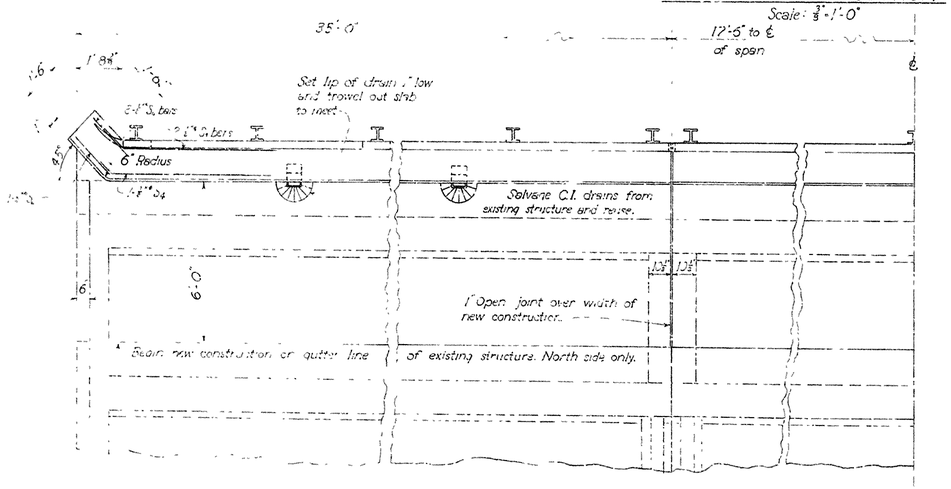
Drawn By: J.H.L. Date: 12-16-53
Traced By: Date:
Checked By: GHK Date: 1-6-54
Scale: 1/2 in. = 1 ft.

BRIDGE NO. 1396 **DRAWING NO. 8419**

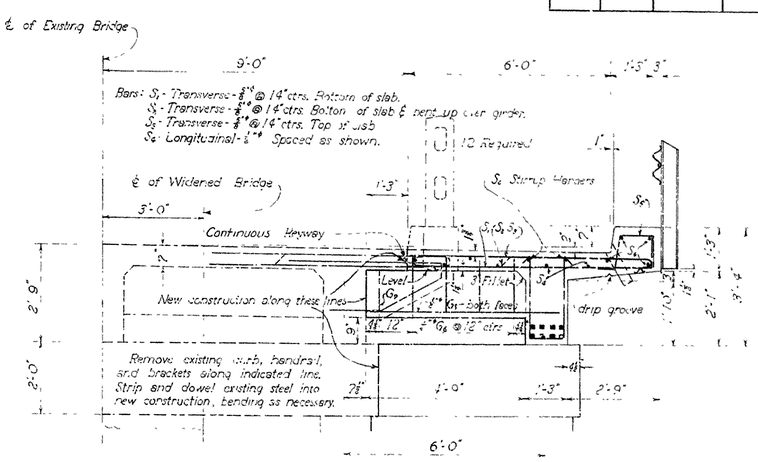
FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.	S-136(4)			
JOB No.	9345			16	22



LONGITUDINAL SECTION
Scale: ⅛" = 1'-0"



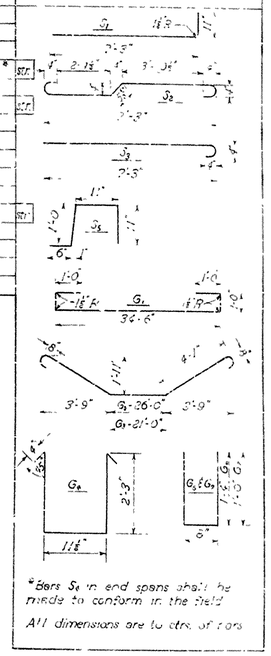
PART PLAN SHOWING NEW CONSTRUCTION
Scale: ⅛" = 1'-0"



PART SECTION A-A SHOWING NEW CONSTRUCTION
(NORTH SIDE ONLY)
Scale: ⅛" = 1'-0"

BAR SCHEDULE					
MARK	SIZE	No. REQUIRED SPANS 1 & 3	No. REQUIRED SPAN 2	LENGTH	
S_1	⅝"ϕ	60	31	8'-1"	
S_2	⅝"ϕ	58	30	8'-5"	
S_3	⅝"ϕ	60	31	7'-9"	
S_4	½"ϕ	24	12	34'-3" *	str.
S_5	⅝"ϕ	60	31	3'-5"	
S_6	⅝"ϕ	6	–	2'-0"	str.
G_1	1⅛"□	8	4	38'-7"	
G_2	1⅛"□	4	2	36'-2"	
G_3	1⅛"□	4	2	31'-0"	
G_4	⅝"ϕ	72	37	6'-1"	
G_5	⅝"ϕ	12	4	5'-9"	str.
G_6	½"ϕ	8	8	3'-4"	
G_7	½"ϕ	2	2	2'-8	

FENDER'S DIAGRAM



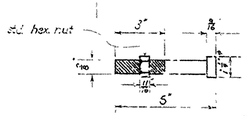
*Bars S_4 in end spans shall be made to conform in the field.
All dimensions are to ctrs. of bars.

—— NOTES ——

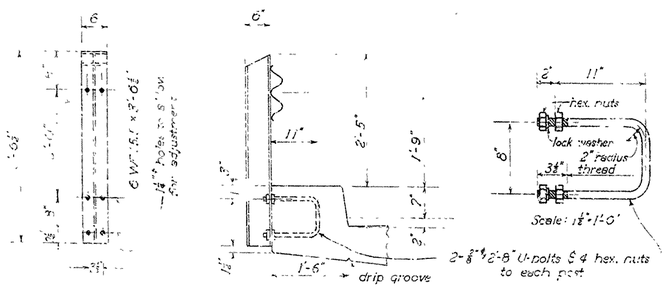
All concrete to be Class "S and poured in the dry.

Dowel existing steel, exposed by cutting away process, into new construction, tying new steel to old steel where possible.

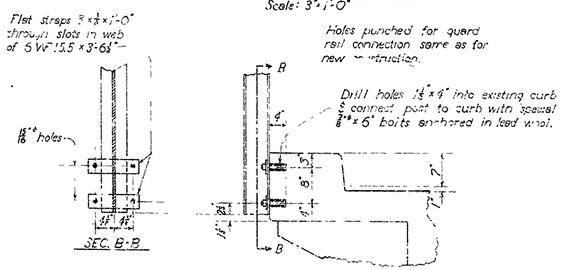
For additional General Notes see Drawing No. 8419.



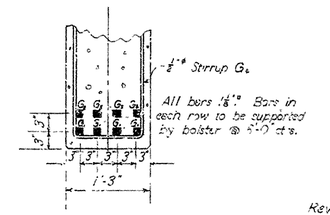
DETAILS OF SPECIAL ⅞" x 6" BOLT
Scale: 3" = 1'-0"



DETAILS OF POST & CONNECTION TO NEW CONSTRUCTION
Scale: ⅛" = 1'-0"



DETAILS OF POST CONNECTION TO EXISTING STRUCTURE
Scale: ⅛" = 1'-0"



DETAIL OF STEEL IN GIRDER AT MID-SPAN
Scale: 1" = 1'-0"

Revised (B R) 3-29-54 Keyway

Bridge Design Engineer

DETAILS OF WIDENING SUPERSTRUCTURE OF BRIDGE OVER EAST FORK-WEST SUGAR LOAF CREEK
BERGMAN — LEAD HILL
BOONE COUNTY
ROUTE 43 SEC. 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

Drawn By: J.H.L. Date: 12-15-53
Traced By: Date:
Checked By: Date: 1-5-54
Scale: As Noted

BRIDGE NO. 1396 **DRAWING NO. 8420**