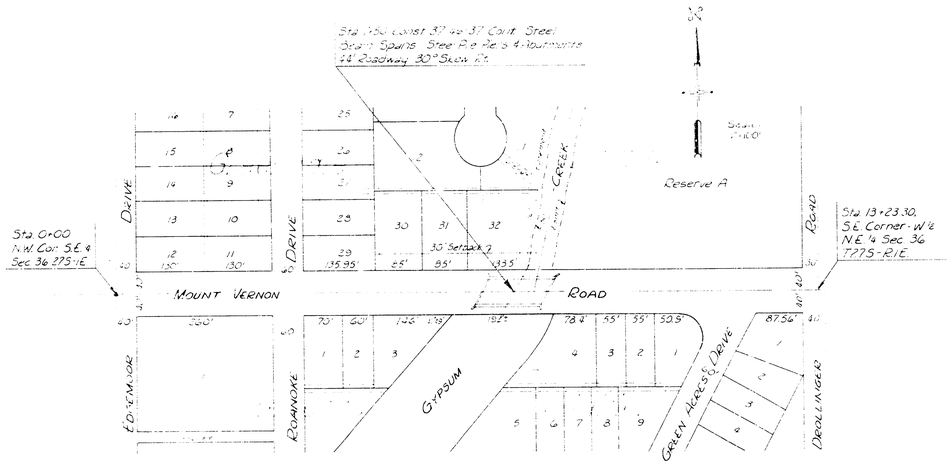
GYPSUM CREEK BRIDGE

ON

MT. VERNON ROAD



CITY ENGINEERING DEPARTMENT

WICHITA, KANSAS

L. K. WHITE, CITY ENGINEER

PROJ. NO. C12-174

PLANS PREPARED BY

R.S. DELAMATER, CONSULTING ENGINEER

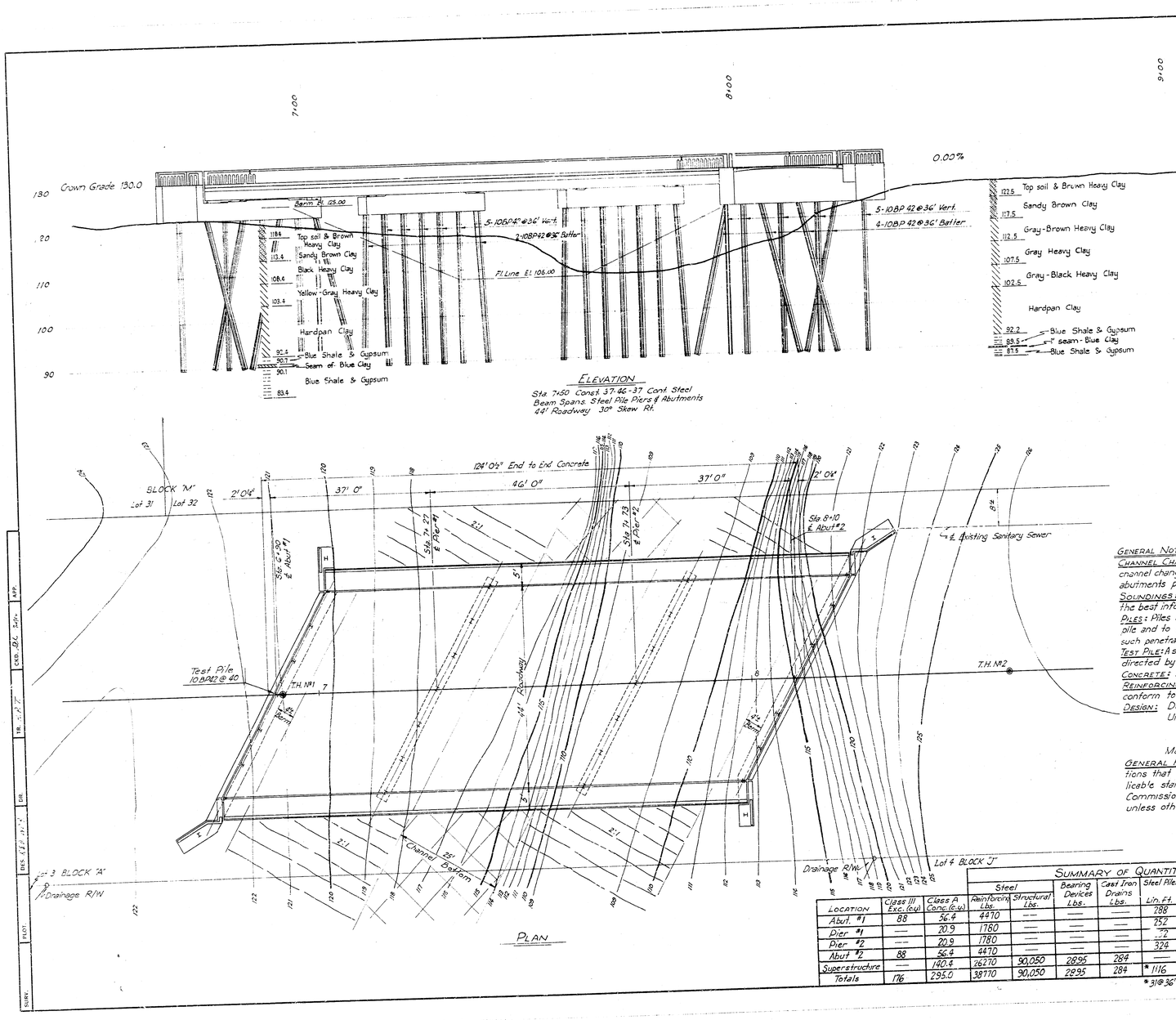
WICHITA, KANSAS

OCTOBER, 1952

INDEX OF SHEETS

1--TITLE SHEET
2--CONSTRUCTION LAYOUT
3--ABUTMENT DETAILS
4--PIER & HANDRAIL DETAILS
5--STEEL DETAILS
6--EXPANSION & BEARING DEVICE DETAILS
7--SUPERSTRUCTURE DETAILS
8--BAR SUPPORTS & SPACERS

7311



GENERAL NOTES:

CHANNEL CHANGES & GRADING: The Grading Contractor shall excavate the channel change at the bridge site and complete the embankment at the abutments prior to construction of the bridge.

SOUNDINGS: Soundings are as taken by borings in the field and represent the best information available to the city.

PILES: Piles shall be driven to a minimum computed bearing of 33 tons per pile and to the penetration shown unless in the judgement of the Engineer such penetration cannot be obtained without injury to the pile.

TEST PILE: A steel test pile shall be driven at the location shown or as directed by the Engineer. Test pile shall remain in place as a permanent pile

CONCRETE: All concrete shall be Class A

REINFORCING STEEL: All reinforcing steel shall be billet steel and shall conform to A.S.T.M. Specification A 305-49.

DESIGN: Design Loading: H 20-49 A.A.S.H.O.
Unit Stresses: f_s = 20,000 p.s.i.-Reinforcing Steel
f_s = 18,000 p.s.i.-Structural Steel
f_c = 1,000 p.s.i.-Class A Concrete
Maximum Pile Loading 33 Tons per Pile.

GENERAL REQUIREMENTS: It is the intention of these plans & specifications that construction of the bridge shall be in accordance with applicable standard specifications and requirements of the Kansas Highway Commission and that materials shall conform to those specifications, unless otherwise expressly indicated.

SUMMARY OF QUANTITIES

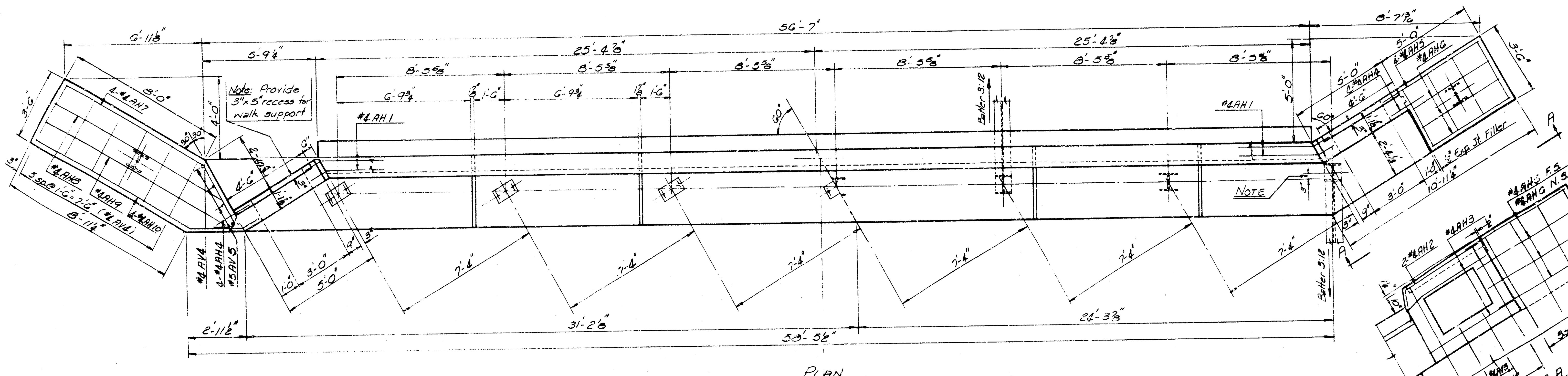
LOCATION	Class III Exc. (c.y.)	Class A Conc. (c.y.)	Steel Reinforcing Lbs.	Steel Structural Lbs.	Bearing Devices Lbs.	Cast Iron Drains Lbs.	Steel Piles Lin. Ft.	Steel Test Piles Lin. Ft.	Concrete Handrail Lin. Ft.
Abut. #1	88	56.4	4470	—	—	—	288	40	17.5
Pier #1	—	20.9	1780	—	—	—	252	—	—
Pier #2	—	20.9	1780	—	—	—	72	—	—
Abut #2	88	56.4	4470	—	—	—	324	—	17.5
Superstructure	—	140.4	26270	90,050	2895	284	—	—	244.5
Totals	176	295.0	39770	90,050	2895	284	*1116	40	279.5

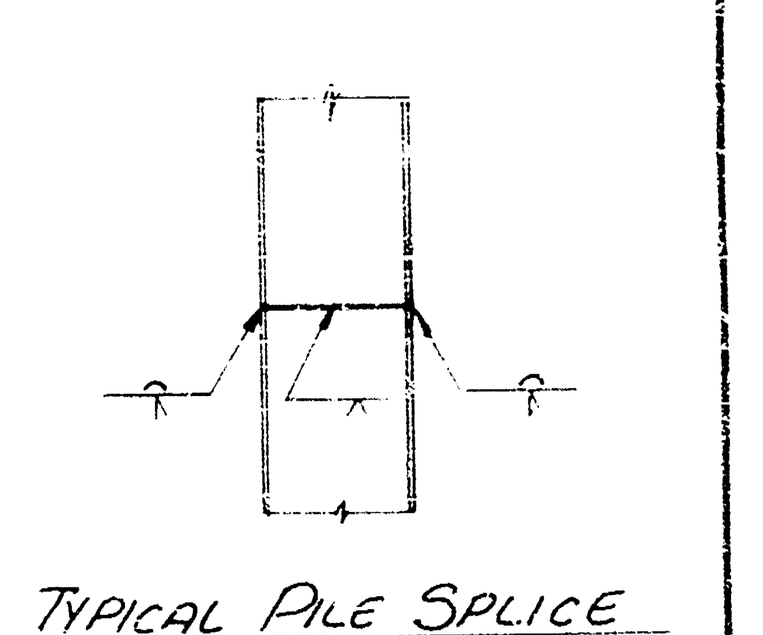
*31@36'

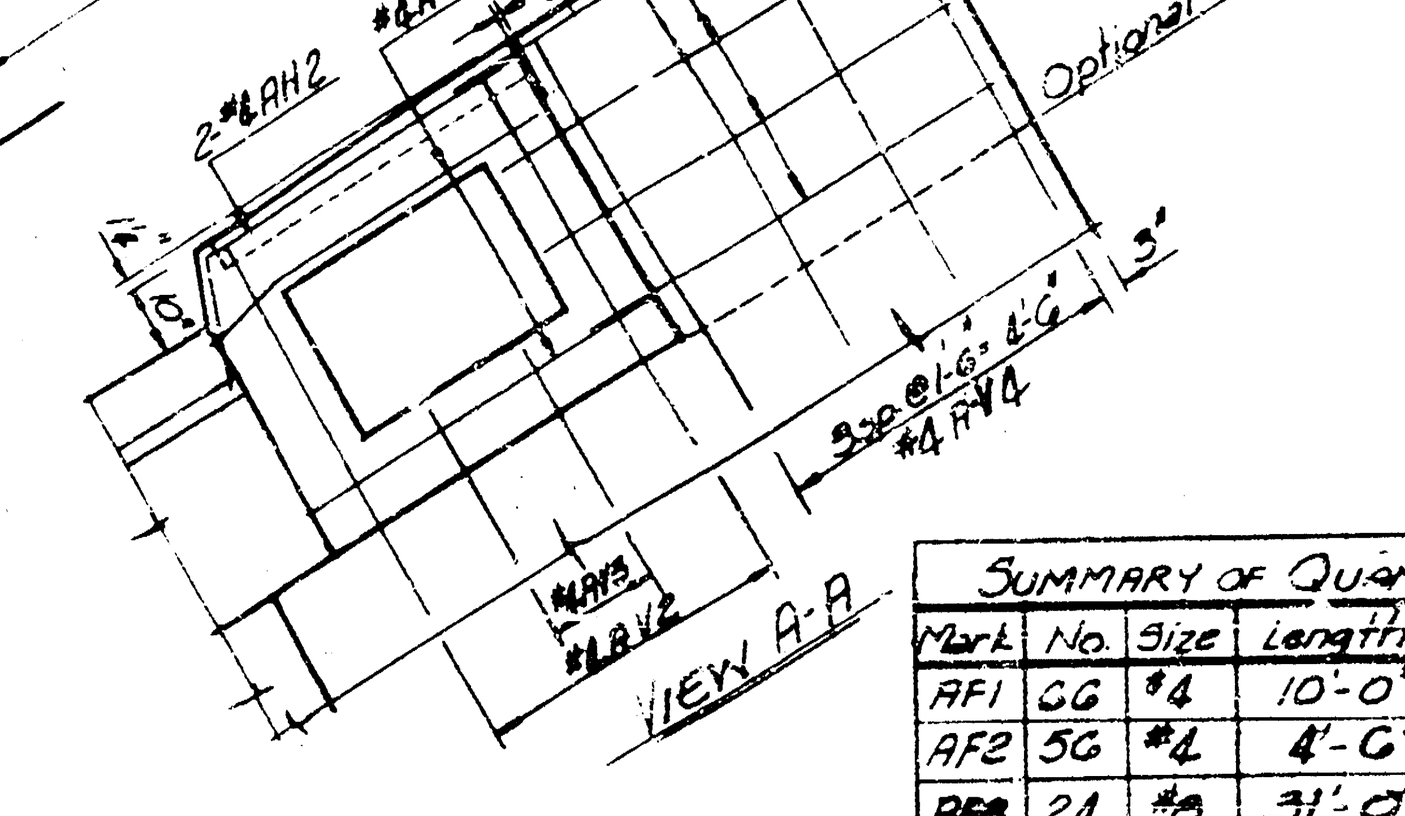
GYPSUM CREEK
CONSTRUCTION LAYOUT
MT. VERNON ROAD

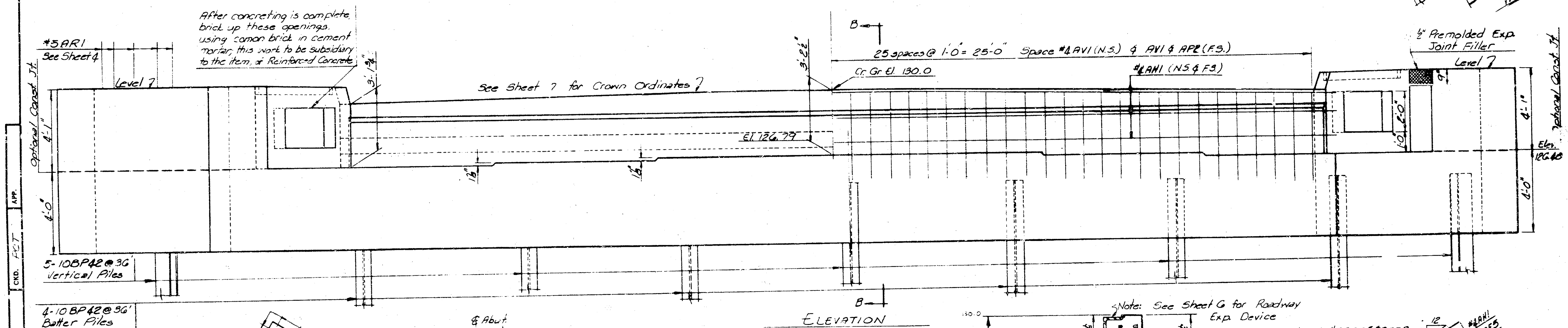
R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

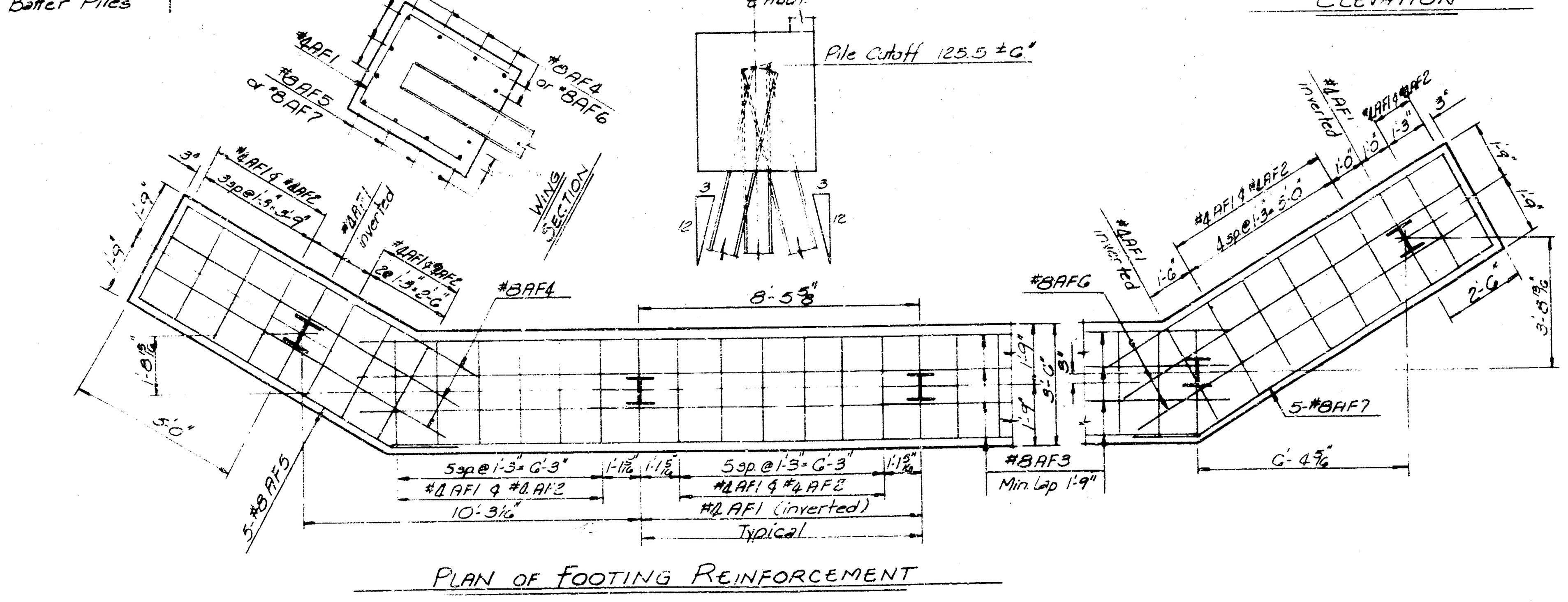
DATE October 1952
SCALE 1"= 10'
DWG. NO. 7912

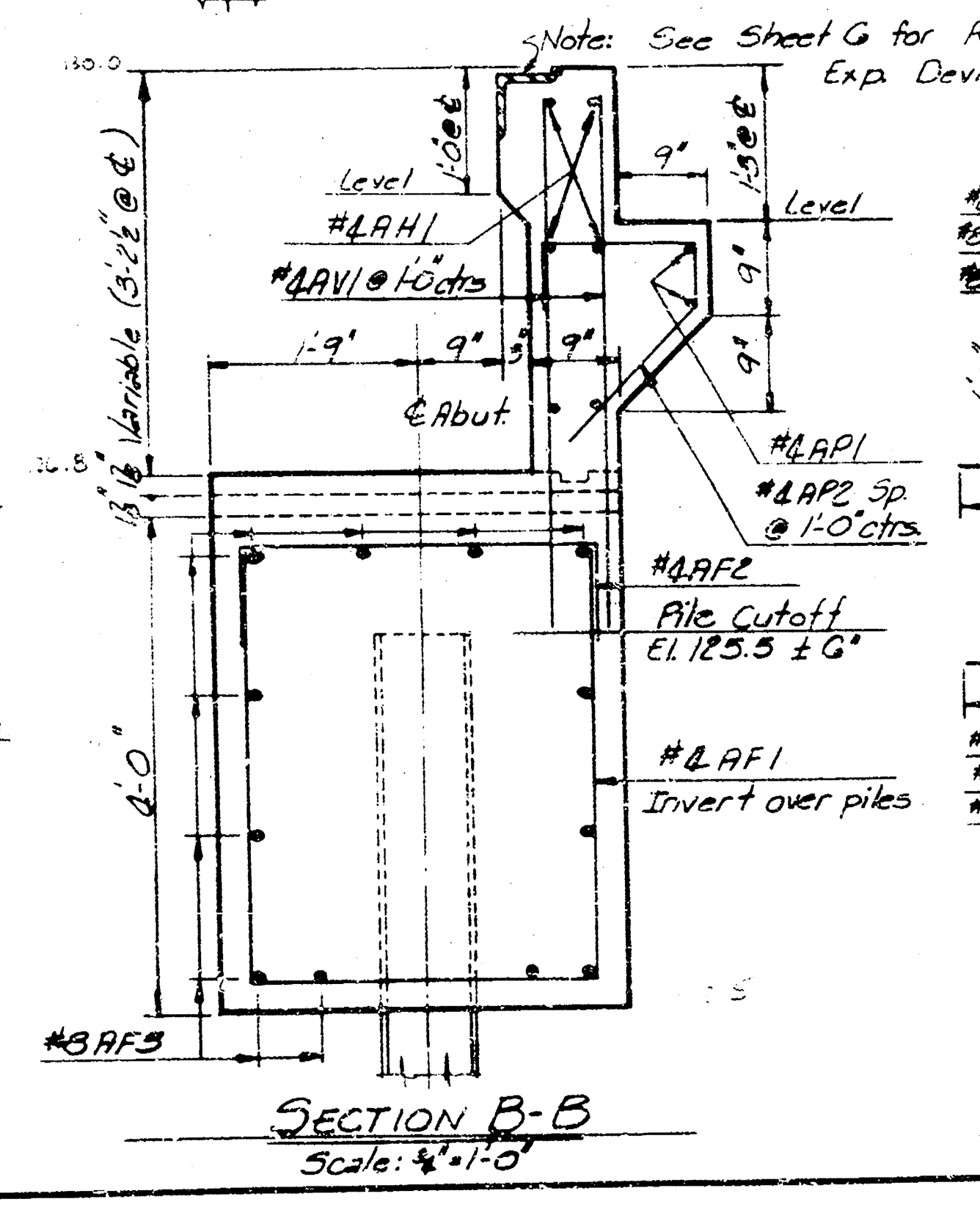


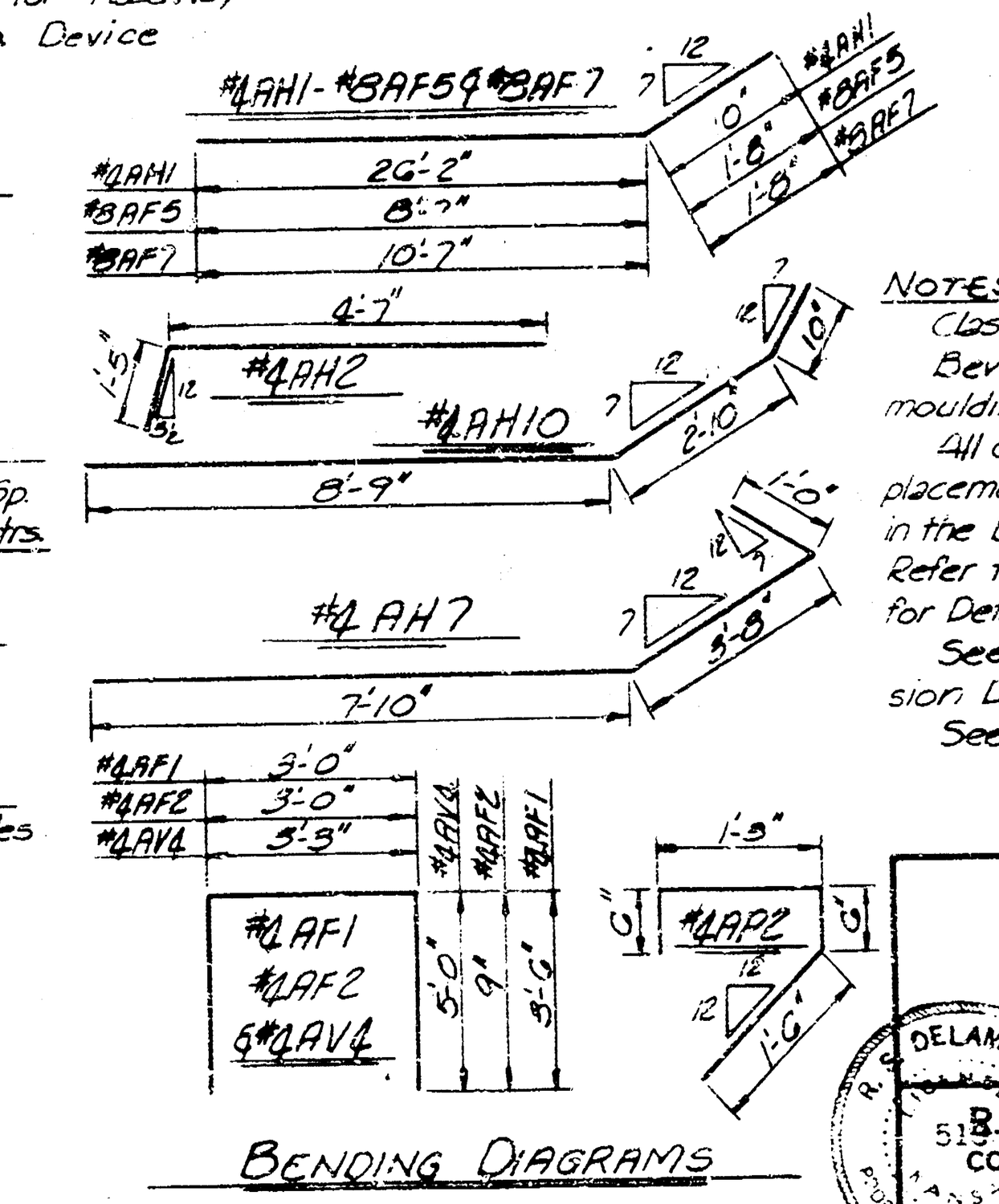












SUMMARY OF QUANTITIES				
Mark	No.	Size	Length	Shape
AF1	66	#4	10'-0"	⊓
AF2	56	#4	4'-6"	⊓
AF3	24	#8	31'-0"	—
AF4	7	#8	10'-0"	—
AF5	5	#8	10'-3"	
AF6	7	#8	12'-0"	—
AF7	5	#8	12'-3"	
AV1	102	#4	4'-3"	—
AV2	8	#4	5'-0"	—
AV3	8	#4	2'-0"	—
AV4	11	#4	13'-5"	⊓
[illegible]	4	#5	5'-3"	—
[illegible]	12	#4	27'-0"	
AH2	4	#4	6'-0"	
AH3	8	#4	5'-0"	—
AH4	8	#4	2'-0"	—
AH5	4	#4	5'-9"	—
AH6	6	#4	4'-9"	—
AH7	4	#4	12'-6"	
AH8	1	#4	9'-6"	—
AH9	1	#4	10'-3"	—
AH10	4	#4	12'-5"	
AP1	4	#4	26'-0"	—
AP2	51	#4	5'-9"	
Class A Concrete 56.4 c.y. Reinforcing Steel *4470 Lbs. Piling - See Sheet 2				

*Includes Abutment Handrail Reinf. Steel. See Sheet 4

NOTES:

Class A concrete shall be used througnout.

Bevel all exposed edges with a ¾" triangular moulding unless otherwise noted.

All dimensions shown relative to reinforcing steel placement are to ℄ of bars. All dimensions shown in the bending diagrams are out to out of bars. Refer to A.A.S.H.O. Manual of Recommened Practice for Detailing Reinforced Concrete Highway Structures.

See Sheet 6 for details of Rocker and Expansion Devices.

See Sheet 4 for Handrail Details.

GYPSUM CREEK

ABUTMENT DETAILS

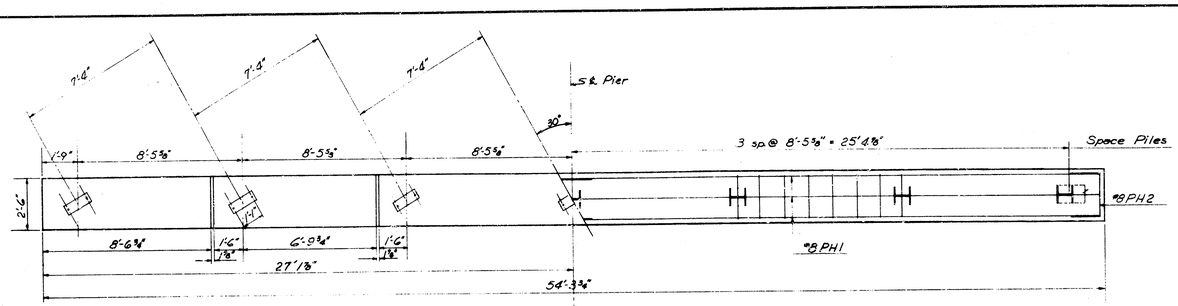
MT. VERNON ROAD

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

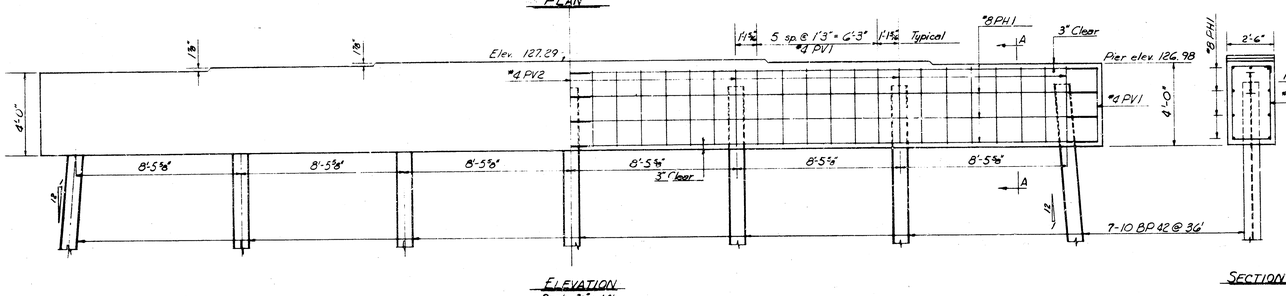
DATE October 1952
SCALE ⅜" = 1'-0"
DWG. NO. 7913

SURV. | PLOT. | DES. | DR. W.D.B. | TR. | CKD. FCT | APP.

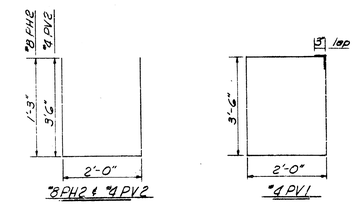
SHEET NO.	TOTAL SHEETS
4	8



PLAN



ELEVATION
Scale: ⅜" = 1 ft.

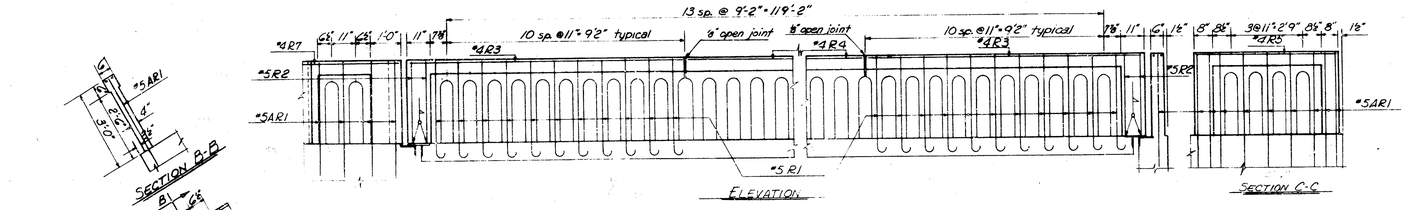


BENDING DIAGRAMS

Summary of Pier Quantities				
Mark	No.	Size	Length	Shape
PH1	18	8	25'-0"	—
PH2	8	8	4'-6"	⌐
PV1	38	4	11'-6"	□
PV2	7	4	9'-0"	□
Class A Concrete 20.9 Cu. Yds.				
Reinforcing Steel 1780 Lbs.				
Piling - See Sheet 2				

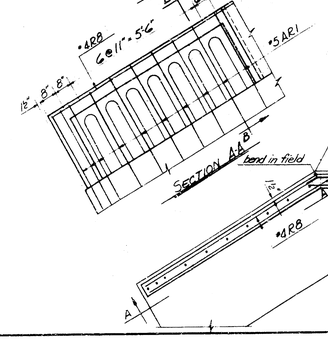
SECTION A-A

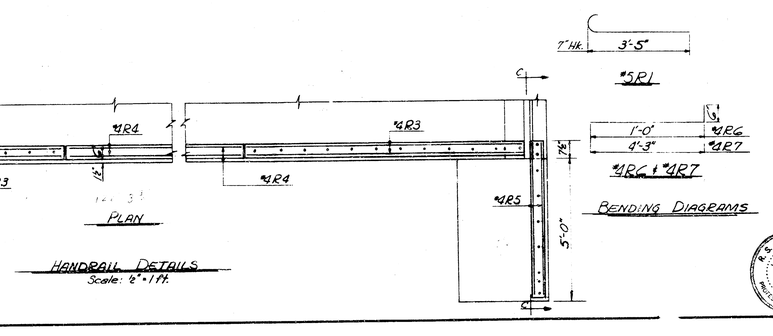
Notes:
Class A Concrete shall be used throughout.
Bevel all exposed edges with a ¾" triangular moulding unless otherwise noted.
See Sheet 6 for Pier Rocker Plate Assembly.



ELEVATION

SECTION C-C





PLAN

BENDING DIAGRAMS

HANDRAIL DETAILS
Scale: 2" = 1 ft.

Abutment Handrail Reinforcing Steel				
Mark	No.	Size	Length	Shape
A R1	25	#5	6'-0"	—
R5	2	#4	5'-3"	—
R6	2	#4	1'-6"	⌐
R7	2	#4	6'-9"	⌐
R8	2	#4	8'-3"	—

Superstructure Handrail Reinforcing Steel				
Mark	No.	Size	Length	Shape
R1	264	#5	6'-0"	⊃
R2	8	#5	2'-11"	—
R3	8	#4	10'-6"	—
R4	44	#4	9'-0"	—

Notes:
Class A Concrete shall be used throughout.
Bevel all exposed edges with a ¾" triangular moulding unless otherwise noted.
The bid item "Concrete Handrail" shall include only the concrete materials and labor involved per Lin. Ft. Concrete Handrail reinforcing shall be paid for under the bid item "Reinforcing Steel." The weights of reinforcing steel itemized above are included in the abutment & superstructure quantities; See Sheets 3 & 7.
See Sheet 3 for Pile Splice Detail.

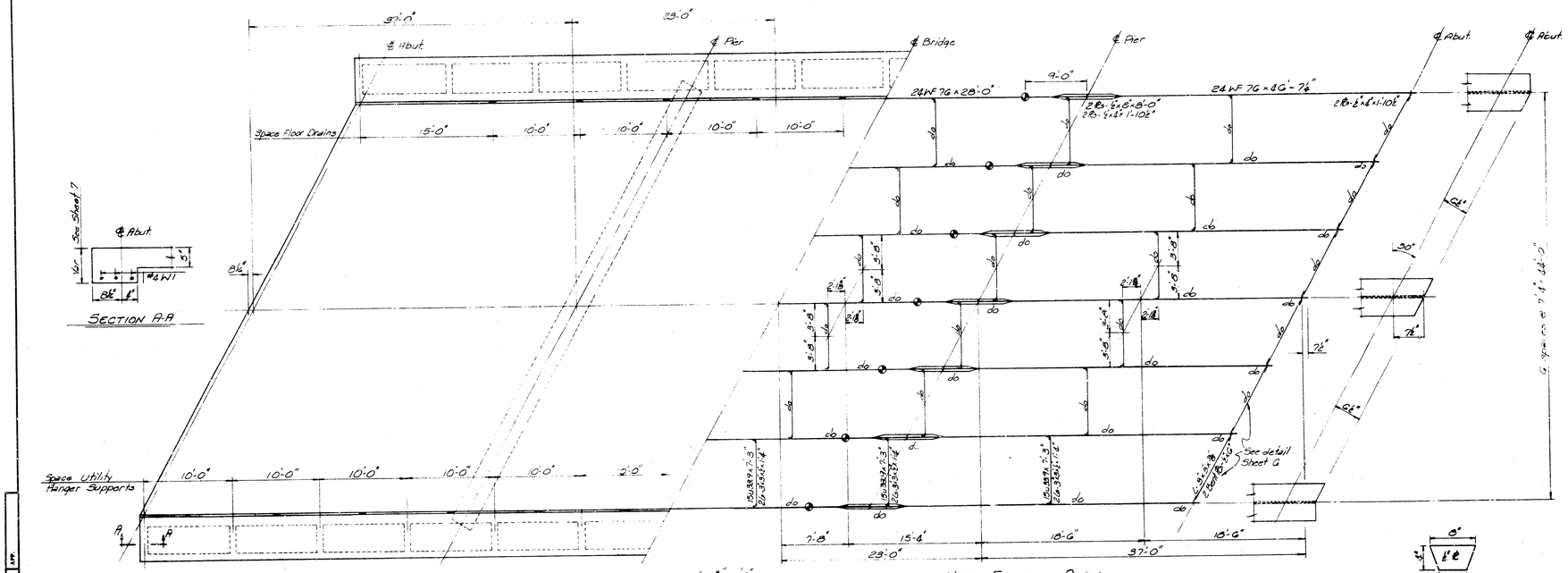
R. S. DELAMATER REGISTERED ENGINEER 513 KANSAS PROFESSIONAL ENGINEER

GYPSUM CREEK
PIER & HANDRAIL DETAILS
MT. VERNON ROAD

R. S. DELAMATER CONSULTING ENGINEER WICHITA, KANSAS	DATE October, 1952	
	SCALE As Shown	DWG. NO. 7914

SURV. PLOT. DES. DR. AE'T TR. QUAN. & U.D. QUAN. APP.

SHEET NO.	TOTAL SHEETS
5	8



GYPSUM CREEK

STEEL DETAILS

MT. VERNON ROAD

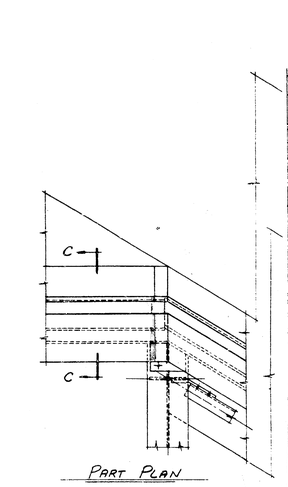
R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE October 1952

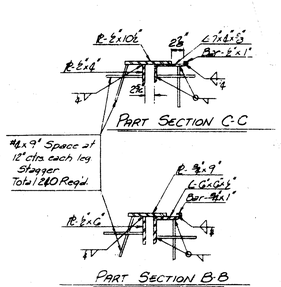
SCALE ⅜"=1'-0" = 1'-0"

DWG. NO. 7915

LAY. | CKD. R.S.D. | TR. | DR. E.J.H. | DES. | PLOT. | SURV.



PART PLAN

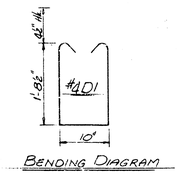


PART SECTION C-C

#4x9" Space at 12" ctrs each leg Stagger Total 280 Reqd

PART SECTION B-B

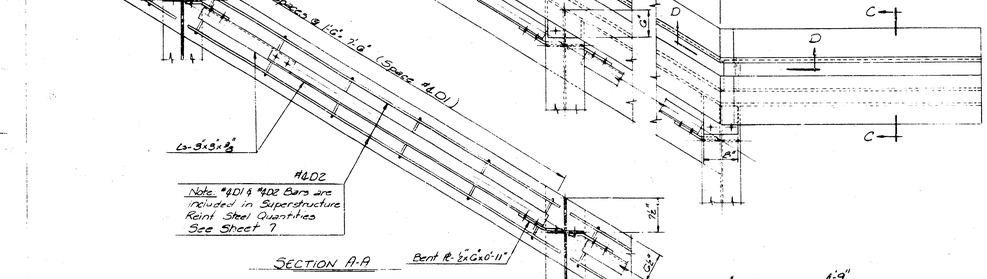
SECTION B-B



BENDING DIAGRAM

8'-0" Bend all Rs to L to 11 parabolic crown. See Sheet 7 for Crown Ordinates

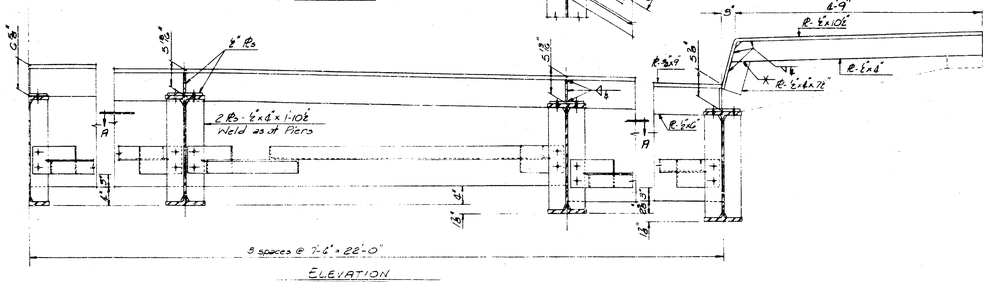
Expansion Device may be made in sections and field welded at these points



PLAN

Note: #4D1 & #4D2 Bars are included in Superstructure Reinf. Steel Quantities See Sheet 7.

SECTION A-A

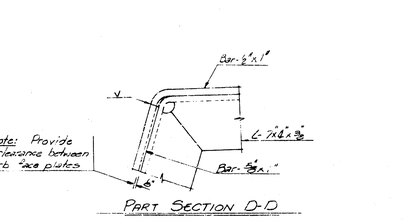


ELEVATION

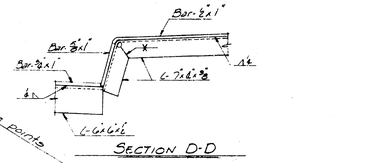
EXPANSION DEVICE DETAILS

Note: Provide slotted holes and temporary bolts in top plates for erection purposes.

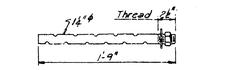
Scale: 1"=1'-0"



PART SECTION D-D

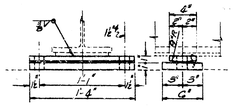


SECTION D-D



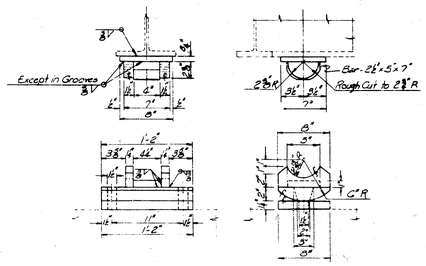
SWEDGED ANCHOR BOLT

Computed Wt. 2.8 lbs. Each
56 Bolts Required



PIER ROCKER PLATE ASSEMBLY

Total Computed Wt 41.9 lbs. per Assembly
14 Assemblies Required



ABUTMENT PIN & ROCKER ASSEMBLY

Total Computed Wt 133.7 Lbs. per Assembly
1℄ Assemblies Required

GENERAL NOTES:

RIVETS & BOLTS: All rivets shall be ⅞ϕ in 1⅛"ϕ open holes. All bolts required for field erection shall be ⅞ϕ structural rib bolts in 1⅛"ϕ open holes.

BEAM SPLICES: Use ⅞"ϕ structural rib bolts in beam splices. All open holes shall be sub-punched or sub-drilled 1⅛"ϕ and reamed to 1⅛"ϕ with component parts assembled to correct line and matched marked. The number of bolts shall not be less than shown.

WELDING: All welds shall be ¼" continuous fillet welds unless othewise noted.

PAINTING: All parts accessible after erection shall receive one coat of tinted aluminum followed by one coat of aluminum paint.

ERECTION: Each line of girders shall be erected to correct line and grade before field splices are bolted. The structural steel in the two end spans shall be completely erected and all bolting of end diaphragms and expansion devices completed prior to construction of the back-walls above bridge seat elevation.

CONSTRUCTION: Dead load deflections shall be provided for in the amount shown on Sheet 7 by raising the slab as indicated.

BEARING DEVICES: All Bearing Plates, Rocker Pins and Plates, and Swedged Anchor Bolts shall be included in "Bearing Devices" bid item. All parts of Bearing Devices shall be structural steel.

R. S. DELAMATER 513 REGISTERED ENGINEER

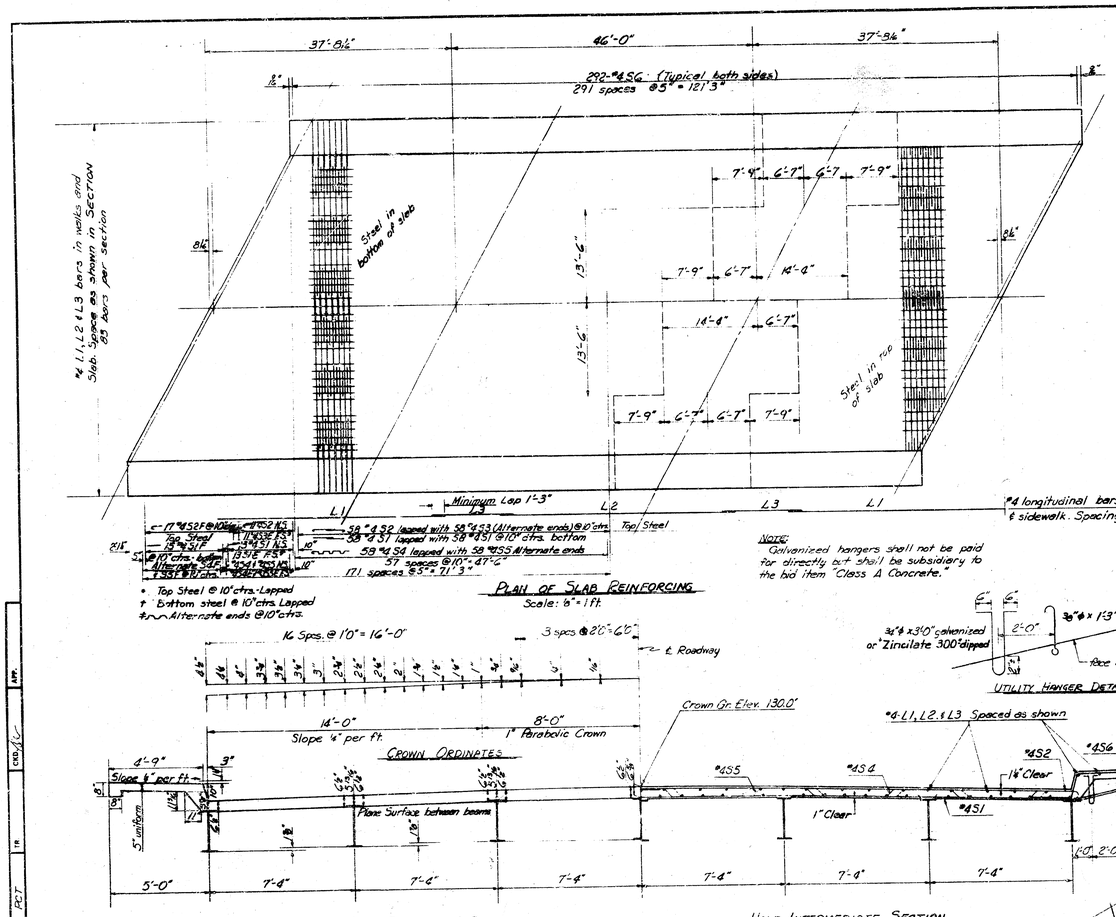
GYPSUM CREEK EXPANSION & BEARING DEVICE DETAILS

MT. VERNON ROAD

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE October 1952
SCALE 1"=1'-0" & 1"=1'-0"
DWG. NO. 7918

APP. | CHD. A.F. | TR. | ENG. L.J.O.B. | DES. | PLOT. | SURV.



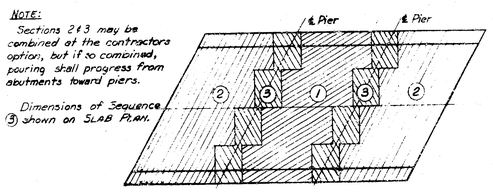
PLAN OF SLAB REINFORCING
Scale: 1/8" = 1 ft.

#4 longitudinal bars in slab & sidewalk. Spacing along ℄

NOTE:
Galvanized hangers shall not be paid for directly but shall be subsidiary to the bid item "Class A Concrete."

HALF SECTION AT PIER

HALF INTERMEDIATE SECTION

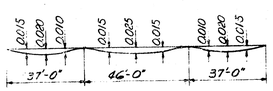


NOTE:
Sections 2 & 3 may be combined at the contractors option, but if so combined, pouring shall progress from abutments toward piers.

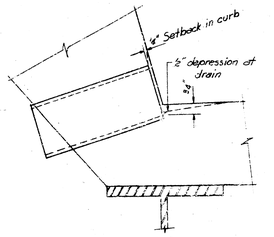
Dimensions of Sequence ③ shown on SLAB PLAN.

SEQUENCE OF PLACING CONCRETE

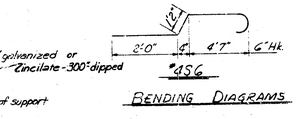
Scale: 16" = 1 ft.

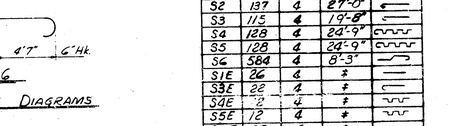


DEAD LOAD DEFLECTIONS AT QUARTER POINTS



DRAIN OPENING DETAIL

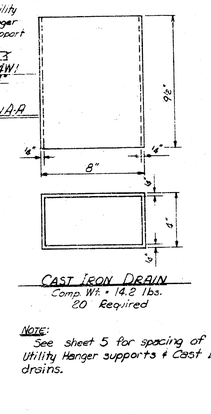




NOTE:
All dimensions in the bending diagrams are out to out of bars. Refer to AASHO Manual of Recommended Practice for Detailing Reinforced Concrete Highway Structures.

BENDING DIAGRAMS

UTILITY HANGER DETAILS



NOTE:
See sheet 5 for spacing of Utility Hanger supports & Cast Iron drains.

SECTION A-A

SUMMARY OF SLAB QUANTITIES

Mark	No.	Size	Length	Shape
S1	256	4	53'-3"	
S2	137	4	27'-0"	
S3	115	4	19'-8"	
S4	128	4	24'-9"	
S5	128	4	24'-9"	
S6	584	4	8'-3"	
S1E	26	4	#	
S3E	22	4	#	
S4E	12	4	#	
S5E	12	4	#	
S1F	30	4	#	
S2F	34	4	#	
S4F	16	4	#	
S5F	16	4	#	
L1	166	4	30'0"	
L2	83	4	37'6"	
L3	166	4	10'0"	
D1 *	72	4	5'0"	
D2 *	72	4	8'3"	
W1	56	4	5'0"	

See bending diagrams

Class A Concrete	140.4 C.Y.
Reinforcing Steel	# 26270 Lbs.
Structural Steel	90050 Lbs.
Bearing Devices	2895 Lbs.
Cast Iron Drains	284 Lbs.
Concrete Handrail	266.5 Lin. Ft.

* See sheet 6
# Includes Superstructure Handrail Reinforcing Steel - See Sheet 6

General Note:
All concrete shall be Class A. Bevel all exposed edges with a ¾" triangular molding unless otherwise noted. See Sheet 4 for Handrail Details.

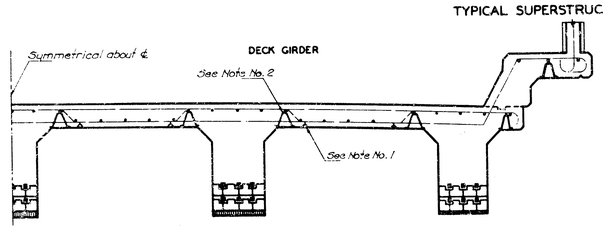
GYPSUM CREEK
SUPERSTRUCTURE DETAILS
MT. VERNON ROAD

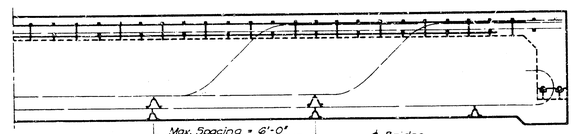
R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

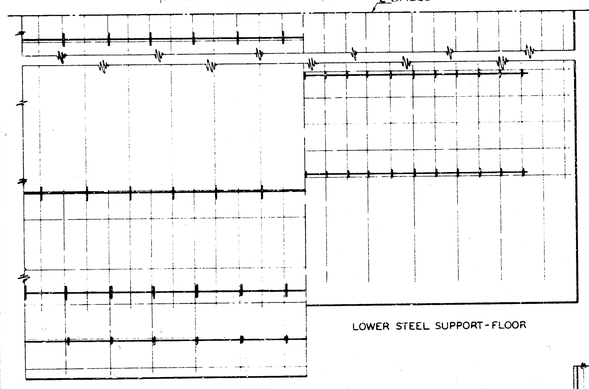
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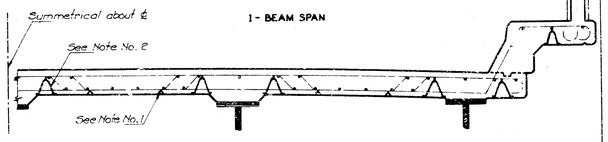
APP. CHD. DR. CT. DES. PLOT. SURV.

TYPICAL SUPERSTRUCTURE DETAILS

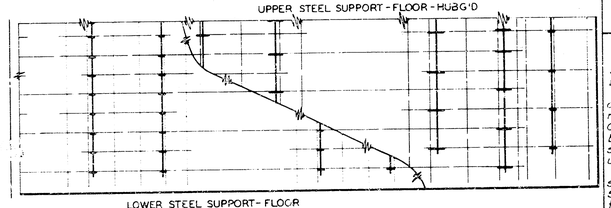




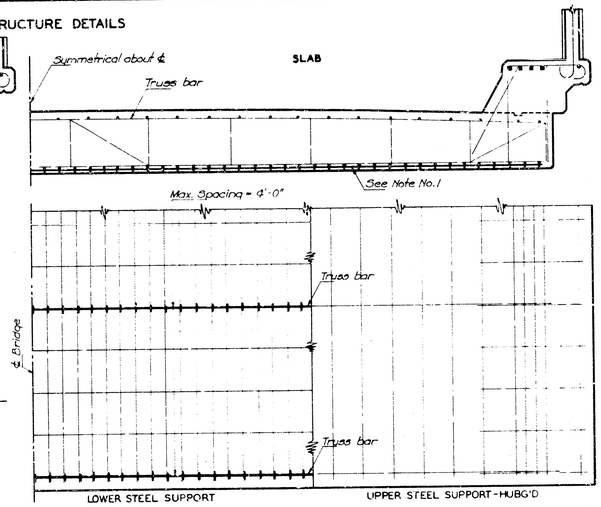




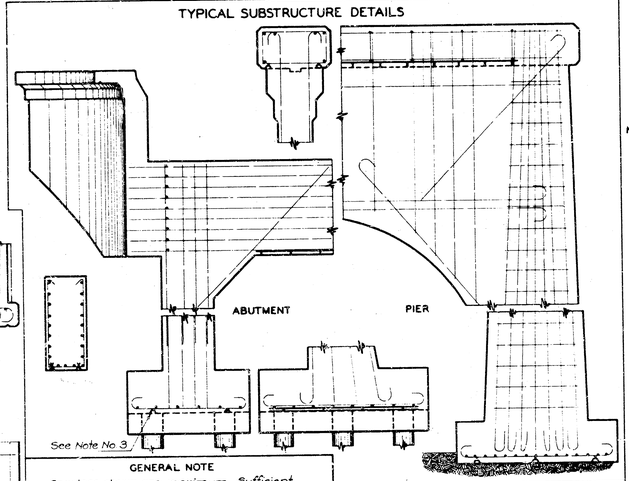
UPPER STEEL SUPPORT-FLOOR-HUBG'D



LOWER STEEL SUPPORT-FLOOR



TYPICAL SUBSTRUCTURE DETAILS



GENERAL NOTE

Spacings shown are maximum. Sufficient supports shall be used, as determined by the Engineer, to retain the reinf. steel in position.

Approved designs and arrangements of Supports or Spacers other than as shown on this sheet, may be used with the permission of the Engineer. Component parts of Supports and Spacers shall be securely welded at all contact points. Legs shall be so constructed that only the ends bear upon the forms.

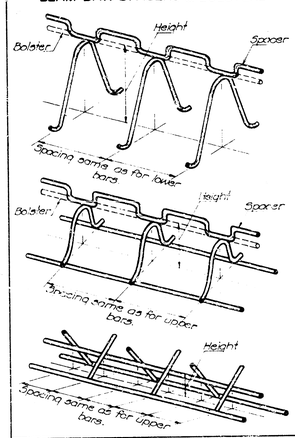
Wire used for Supports and Spacers shall be of sufficient size to insure stability of Reinforcing Steel at the position shown on the Plans, within the limits indicated by Notes 1 & 2. Wire supports shall be supplemented with form ties or other approved devices where necessary.

NOTE 1: *The lower side of Reinforcing Steel in these locations shall be not less than one inch (1") from the surface of the concrete.*

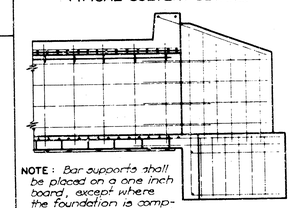
NOTE 2: *The upper side of Reinforcing Steel in these locations shall be within the limits shown on the Plans.*

NOTE 3: *The use of Wire Supports for Reinforcing Steel in these locations is optional. Where they are not used the Steel shall be supported from the forms by means of wire ties or saddles.*

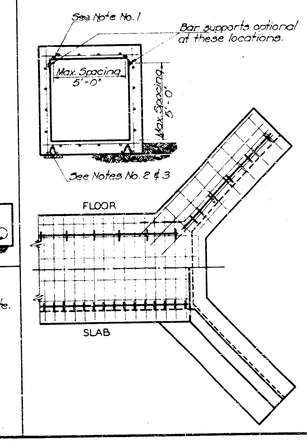
BEAM BAR SPACERS & BOLSTERS



TYPICAL CULVERT DETAILS



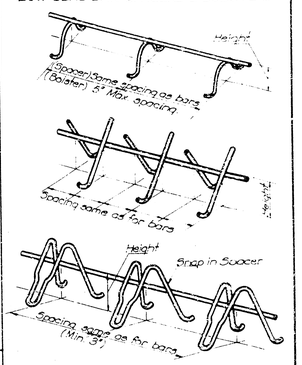
NOTE: *Bar supports shall be placed on a one inch board, except where the foundation is composed of rock, firm shale or a seal course. See Note No. 3.*



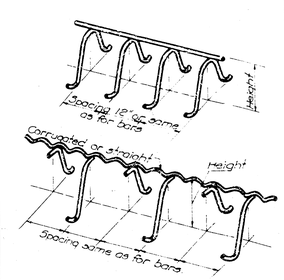
Textbook List No.	State	Proj. No.	Fiscal Year	Sheet No.	Total Sheets
5	Kansas		Oct. 1965	8	8

Section

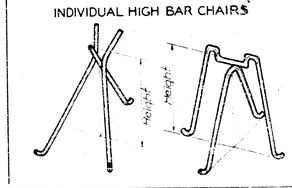
LOW SLAB BAR SPACERS & BOLSTERS



HIGH SLAB BAR SPACERS & BOLSTERS



INDIVIDUAL HIGH BAR CHAIRS



NO	DATE	REVISIONS	BY	APP'D
3				
2				
1	3-26	No change for 1965 Spec's.	-	

GYPSUM CREEK BRIDGE MT. VERNON ROAD

SUPPORTS AND SPACERS FOR REINFORCING STEEL

STD. NO. 610 SCALE No Scale

DESIGNED BY A.A.S. DATE 7-65 DETAILED BY J.J.S. TRACED BY W.A.B.

CHECKED BY C.T. APPROVED BY [illegible] DATE 4-1-66