FED. ROAD DIST. NO.	STATE	B. P. R. ROUTE	B. P. R. PROJ.	STATE ROUTE		SHEET	
10	VA	220	1027 B2			1	11

ELEVATION

PLAN

Scale 1"=40'

SECTION THRU ROADWAY

Scale 1"=10'

PROFILE - STORM DRAIN

Scale - Horz. 1"=200'
" Vert. 1"=20'

PROFILE - BLUFF & CLARKE AVE

Scale 1"=40'

PROFILE - MAPLE AVE

Scale 1"=40'

ESTIMATED QUANTITIES

UNIT OF STRUCTURE		CONCRETE CLASS "A" CU. YDS.	CONCRETE CLASS "B" CU. YDS.	STEEL REINF. POUNDS	STEEL STRUCTURAL POUNDS	EXCAVATION UNCLASSIFIED CU. YDS.
ABUT. A	Neat	499.5				
	Footing		180.3			250
SPAN B	Neat	148.6				
SPAN C	Neat	150.1				
SPAN D	Neat	86.8				
SPAN E	Neat	199.8				
					365,000	
SPAN F	Neat	199.5				
					365,000	
SPAN G	Neat	199.8				
					365,000	
SPAN H	Neat	103.0				
					125,000	
ABUT. J	Neat	629.0				
	Footing		233.2			630
PIER K	Neat	61.3				
	Footing	11.5				128
PIER L	Neat	64.5				
	Footing	11.0				122
PIER M	Neat	281.8				
	Footing		87.6			149
PIER N	Neat	279.3				
	Footing		93.4			235
PIER O	Neat	279.3				
	Footing		83.4			253
PIER P	Neat	286.4				
	Footing		73.2			245
TOTALS		3,491.2	751.1	214,404	1,220,000	2,012

ESTIMATED QUANTITIES

ROADWAY: (BRIDGE NOT INCLUDED)		
PAVING	6880	sq.yds.
CONCRETE ALLEY CROSSING	250	sq.ft.
CONCRETE SIDEWALK	9100	sq.ft.
CONCRETE CURB & 24" GUTTER	2385	Lin.ft.
CONCRETE CURB CLIP BAR	905	Lin.ft.
STORM DRAIN:		
CAST IRON PIPE, CLASS "B" 24" DIA.	43.4	Tons
CONCRETE PIPE, 24" DIA.	940	Lin.ft.
CONCRETE PIPE, 18" DIA.	420	Lin.ft.
CONCRETE PIPE, 15" DIA.	60	Lin.ft.
CONCRETE, MANHOLES - C.83 & HEADWALL	40	cu.yds.
MANHOLE COVERS	3	Total.
CATCH BASIN GRATINGS	12	Total.
LADDER RODS IN MANHOLES	20	Total.
BRIDGE APPROACH RAILINGS:		
CONCRETE POSTS	64	Total.
GALV. IRON PIPE, 2" DIA. INCL. COUPLINGS & FLANGES	1024	Lin. Ft.
BRIDGE APPROACH FILLS:		
TOTAL BORROW	26,000	cu yds.
BRIDGE LIGHTING:		
LAMP COLUMNS, U.M CO. POLE C-*5925 X1	10	Total.
SODIUM VAPOR LAMPS, G.E. CO.-*M-25413G	10	Total.
JUNCTION BOXES, THOMAS & BETTS, 10 I/G 2 B	10	Total.
CONDUIT EXPANSION JOINTS	6	Total.
FIBRE CONDUIT 1½" DIA.	1220	Lin. Ft.
GALV. STEEL CONDUIT 1½" DIA.	235	Lin. Ft.
WIRING & CONDUITS FROM END OF BRIDGE TO TERMINAL POLE BY POWER COMPANY.		
WIRE GUARD FOR CATENARY:		
GALV. NETTING, 1" MESH, .203 WIRE	4770	sq. ft.
GALV. TIE WIRE, #12.	600	Lin. Ft.

GENERAL NOTES:

SPECIFICATIONS - Virginia Department of Highways, Bridge Specifications, 1932. Class H-20 Loading.
All concrete to be Class A except Class B in footings as indicated on plans.
Footings for Abutments shall extend to firm material and to solid rock for all Piers. All foundations shall be approved by the Engineer.
To provide for variations in Elevation of foundations adjustments shall be made in height of wall and spread of footings for Abutments.
All Reinforcing shall be deformed bars.
See special provision in Specifications as to manner in which work must be done over Railway electric catenary wires and Telework required for same.
The Railway Company will make all changes in its tracks, catenary wires and other structures with its own forces to permit construction of the bridge.
The C.& P. Telephone Co. will remove its poles and wires and construct extension of its underground system as required.

INDEX OF SHEETS

DESCRIPTION	SHEET
GENERAL LAYOUT	1
SOUTH ABUTMENT "A"	2
NORTH ABUTMENT "J"	3
PIERS "K-L-N&O"	4
PIER "M"	5
PIER "P"	6
SPANS "B&C"	7
SPAN "D"	8
SPANS "E-F&G"	9
SPAN "H"	10
REINF. SCHEDULE	11

THE VIRGINIAN RAILWAY CO.

OVERHEAD HIGHWAY BRIDGE M.P. 243.5

FRANKLIN ROAD ROANOKE, VA. U.S. ROUTE 220

GENERAL LAYOUT

Norfolk, Va. Scales Indicated Dec. 28, 1935

Approved A. M. Trawick Chief Engineer.

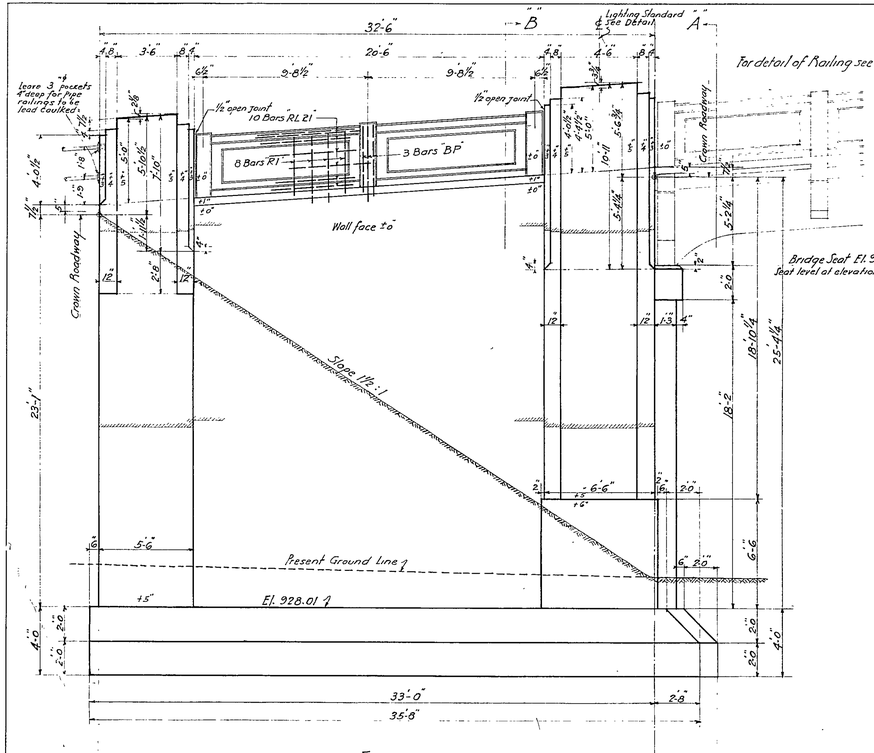
Approved Chief Engineer Dept. of Highways Virginia.

Recommended for Approval Chief Engineer Bureau of Public Roads

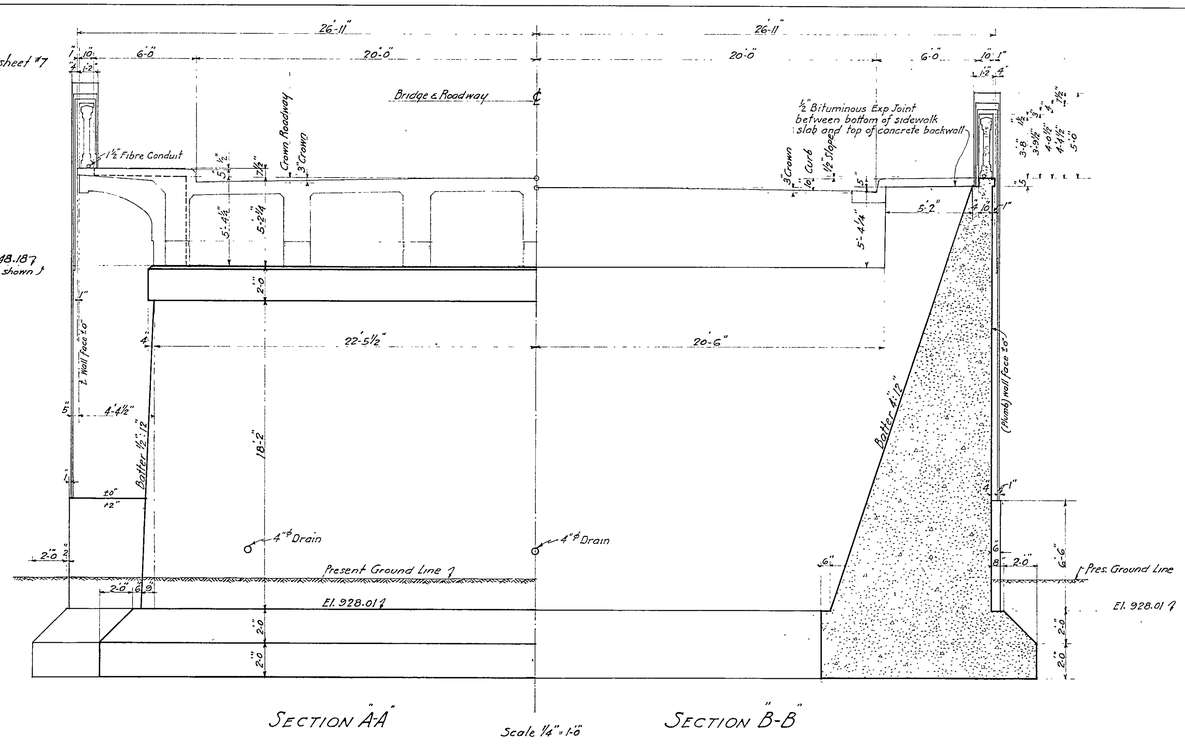
Approved Director Bureau of Public Roads.

1817-01

C-06440 SHEET 1 of



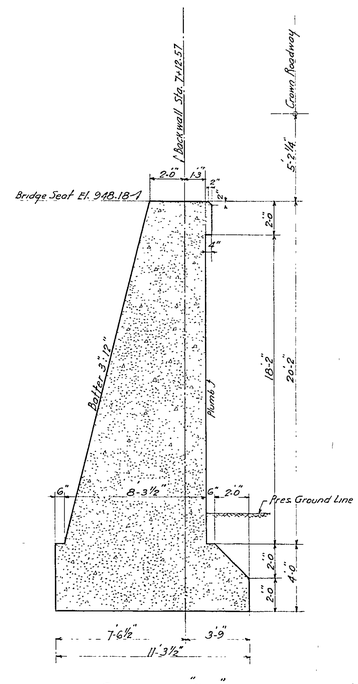
ELEVATION
Scale ¼" = 1'0"



SECTION A-A

SECTION B-B

Scale ¼" = 1'0"



SECTION C-C
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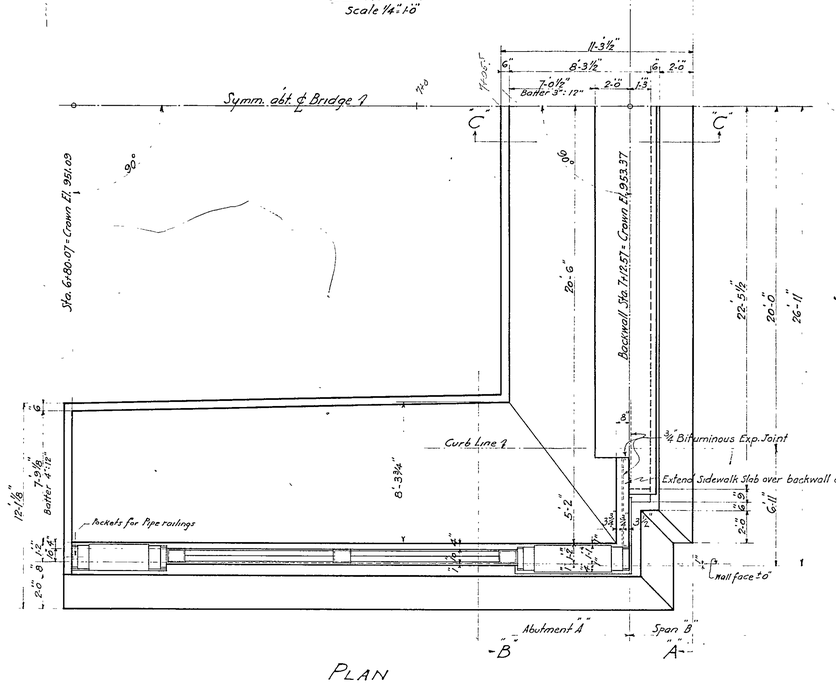
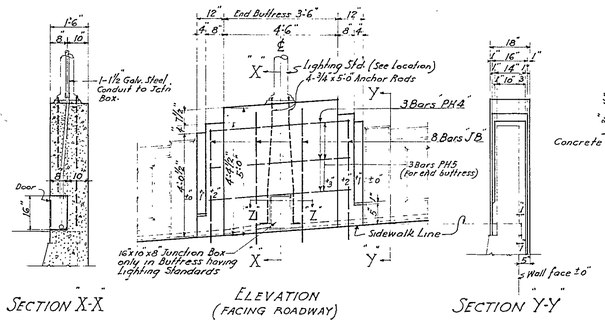


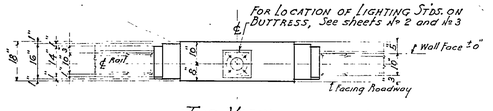
PLAN



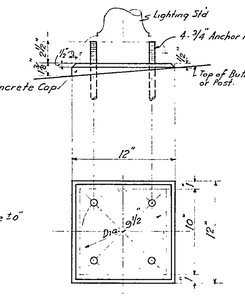
SECTION X-X

ELEVATION (FACING ROADWAY)

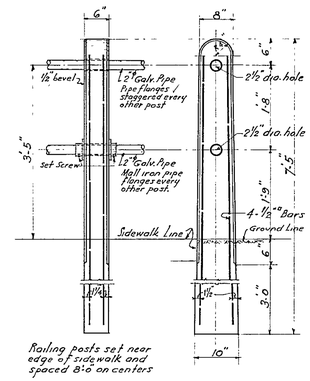
SECTION Y-Y



TOP VIEW

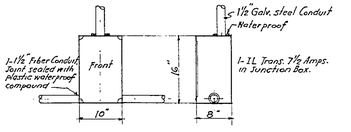


DETAIL FOR ANCHOR RODS AND CONCRETE CAP (LIGHTING STANDARD)
Scale 1½" = 1'0"

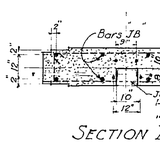


Railing posts set near edge of sidewalk and spaced 8'-0" on centers

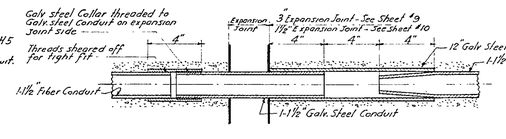
DETAIL FOR APPROACH RAILING
Scale ¾" = 1'0"
Required: 1024 Lin ft. Pipe.
" 64 Conc. Posts.



DETAIL OF JUNCTION BOX
FOR LIGHT STANDARD
THOMAS & BETTS CAST IRON - GALVANISED
Required - 10 Each.
Scale ¾" = 1'0"



SECTION Z-Z



DETAIL OF EXPANSION JOINT IN CONDUIT

DETAIL FOR LIGHTING STANDARD ON BUTTRESS
Scale ⅜" = 1'0"

THE VIRGINIAN RAILWAY CO.

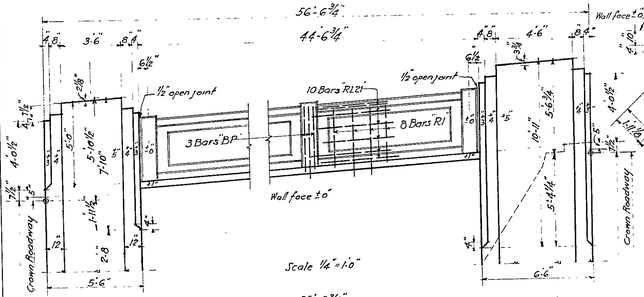
FRANKLIN ROAD BRIDGE ROANOKE, VA.

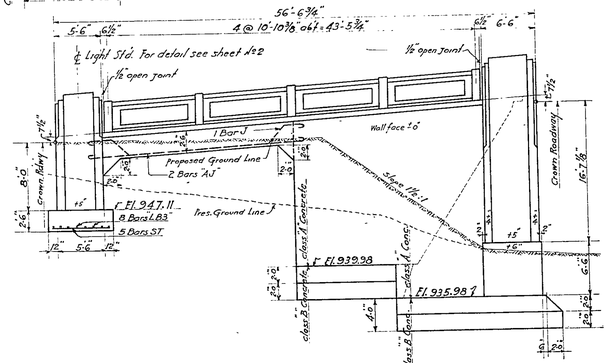
SOUTH ABUTMENT "A"

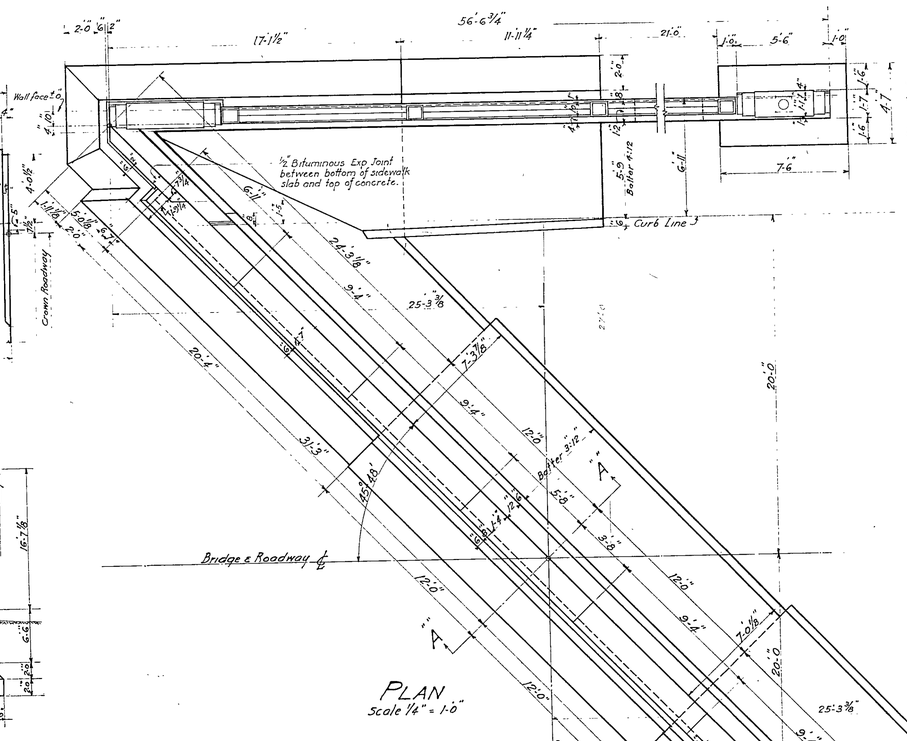
Norfolk, Va. Scales Indicated Dec. 28, 1935

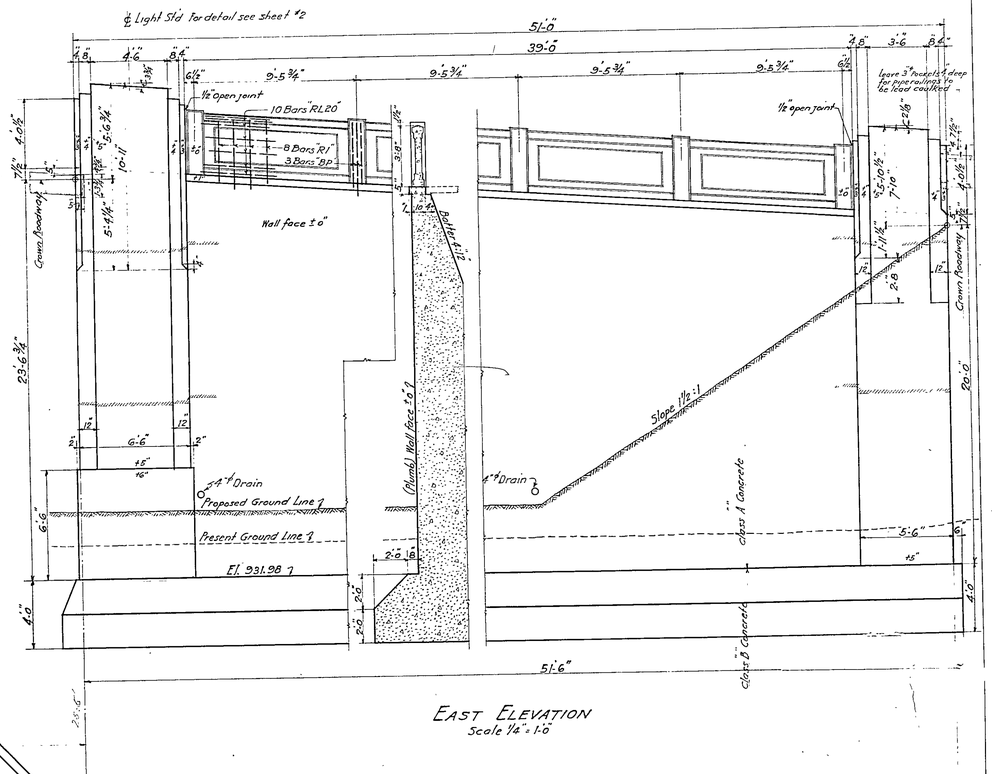
02

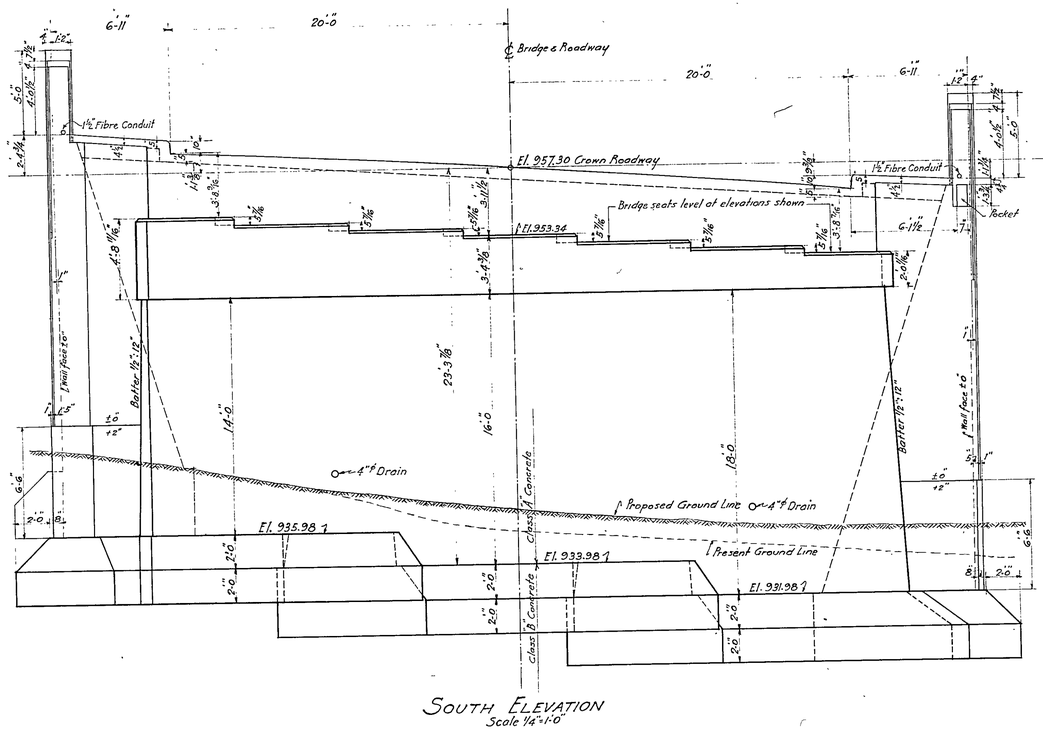
For detail of Handrailing see sheet №7
For detail of Buttress see sheet №2

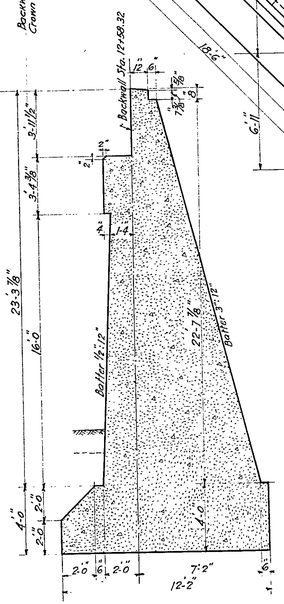


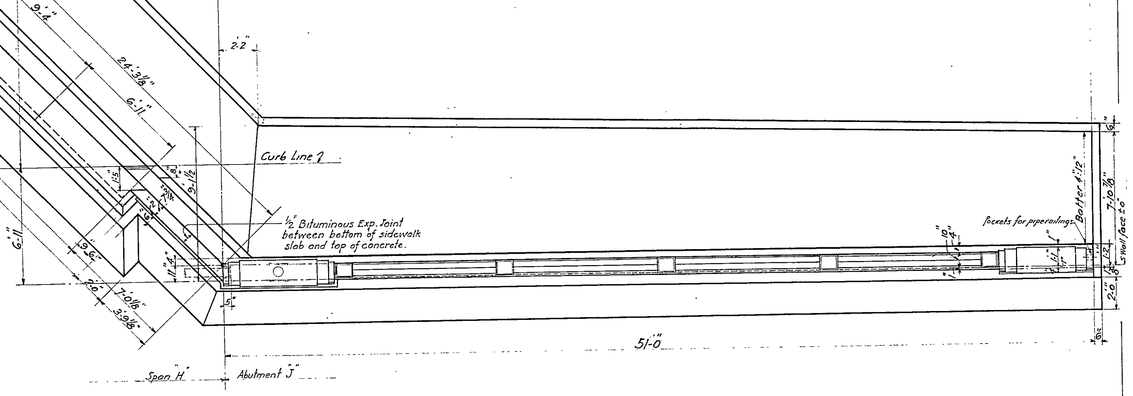












THE VIRGINIAN RAILWAY CO.

FRANKLIN ROAD BRIDGE ROANOKE, VA

NORTH ABUTMENT "J"

Norfolk, Va. Scales Indicated Dec. 28, 1935

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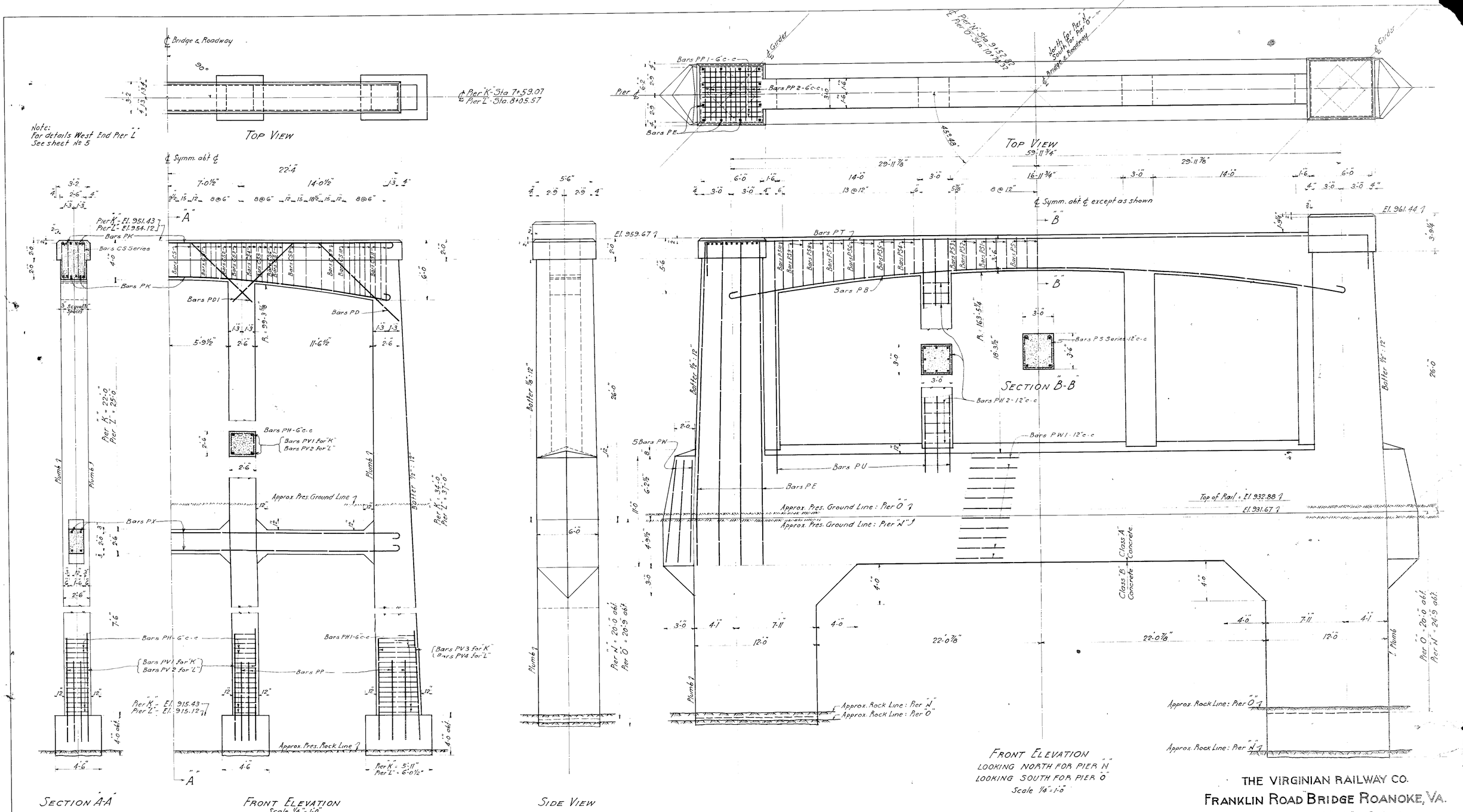
03



THE VIRGINIAN RAILWAY CO.

FRANKLIN ROAD BRIDGE ROANOKE, VA.

PIERS "K-L-N & O"

Norfolk, Va. Scale 1/4" = 1'-0" Dec. 28, 1935

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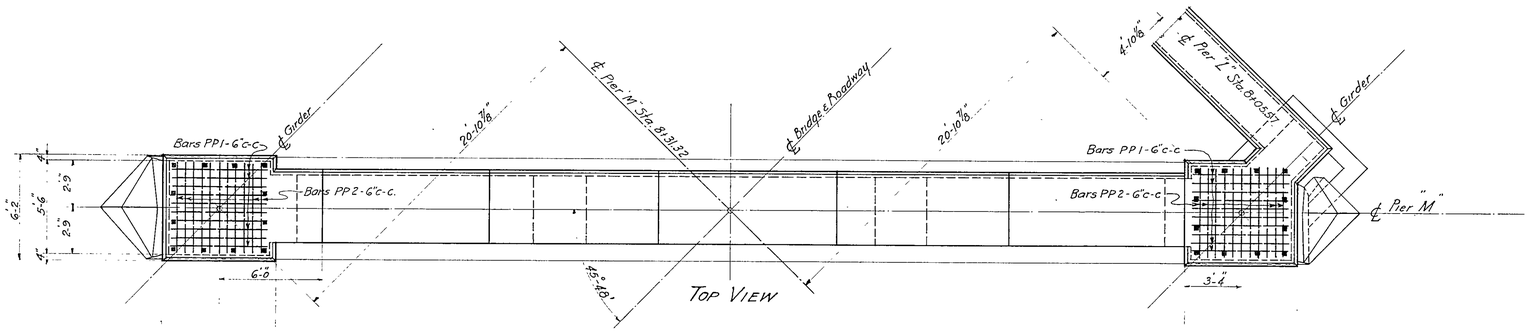
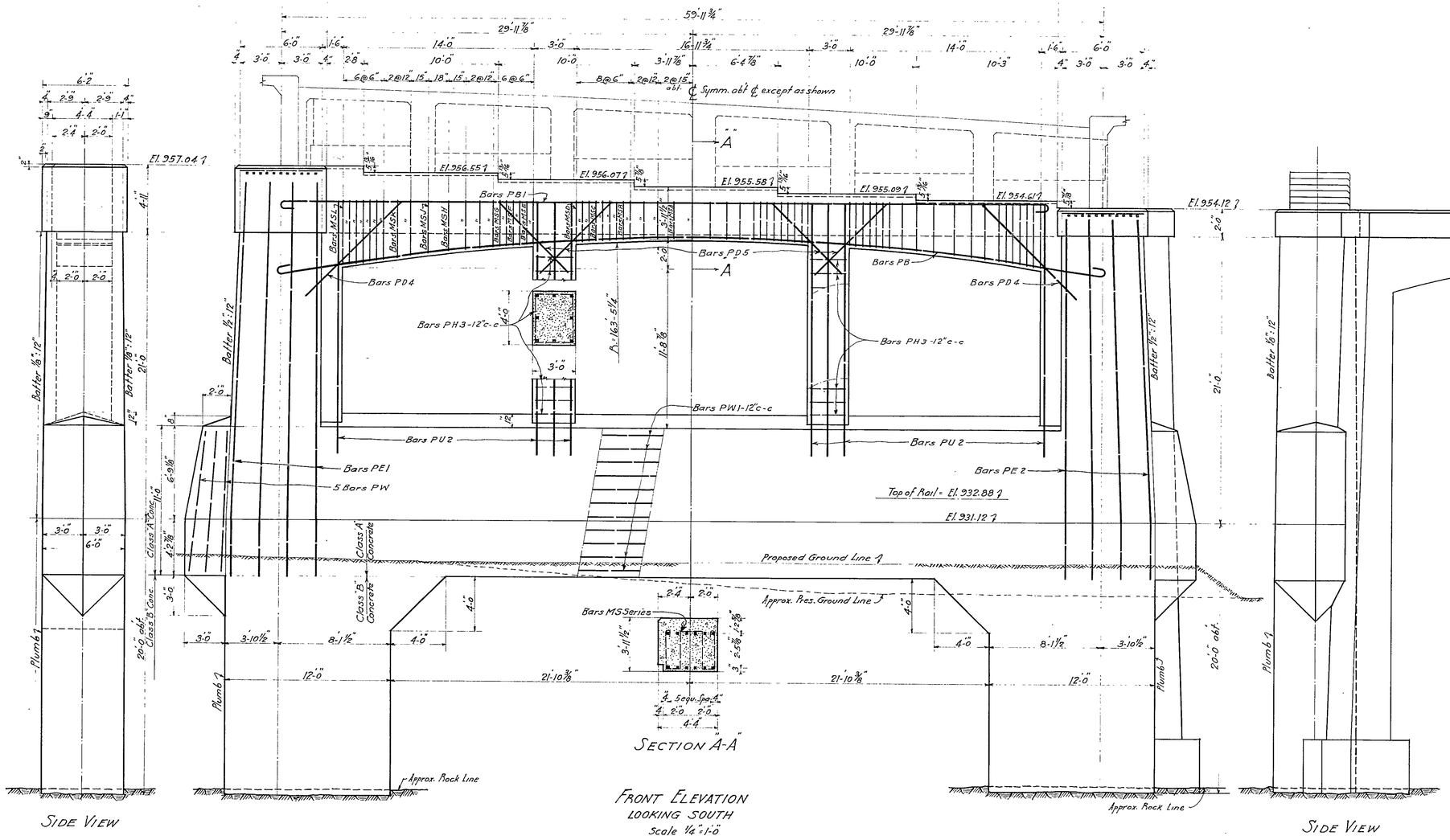


TOP VIEW



SECTION "A-A"

FRONT ELEVATION
LOOKING SOUTH
Scale ¼" = 1'-0"

SIDE VIEW

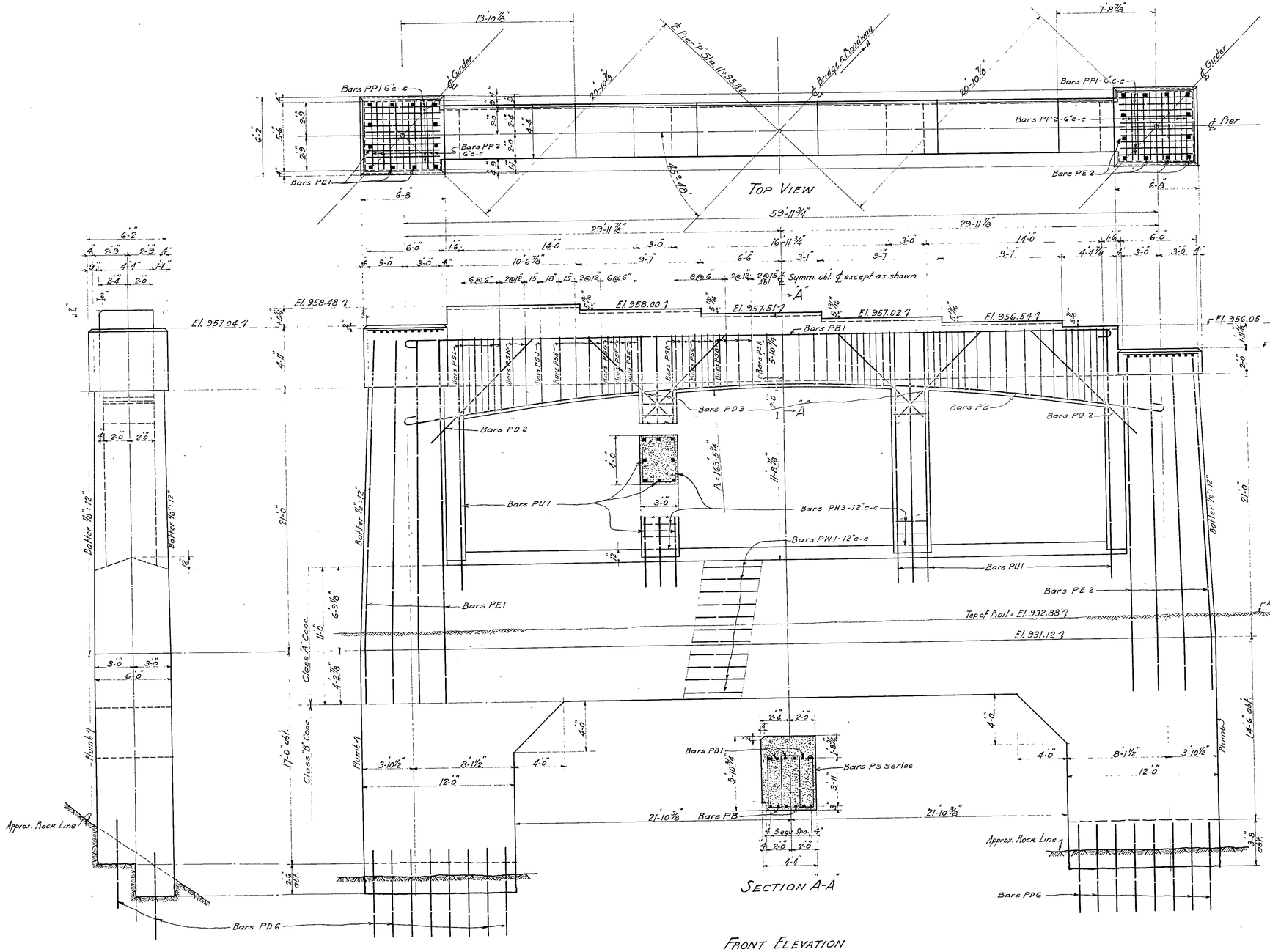
SIDE VIEW

THE VIRGINIAN RAILWAY CO.

FRANKLIN ROAD BRIDGE ROANOKE, VA.

PIER "M"

Norfolk, Va. Scale ¼" = 1'-0" Dec. 28, 1935



THE VIRGINIAN RAILWAY CO.

FRANKLIN ROAD BRIDGE ROANOKE, VA.

PIER "P"

Norfolk, Va. Scale 1/4" = 1'-0" Dec. 28, 1935

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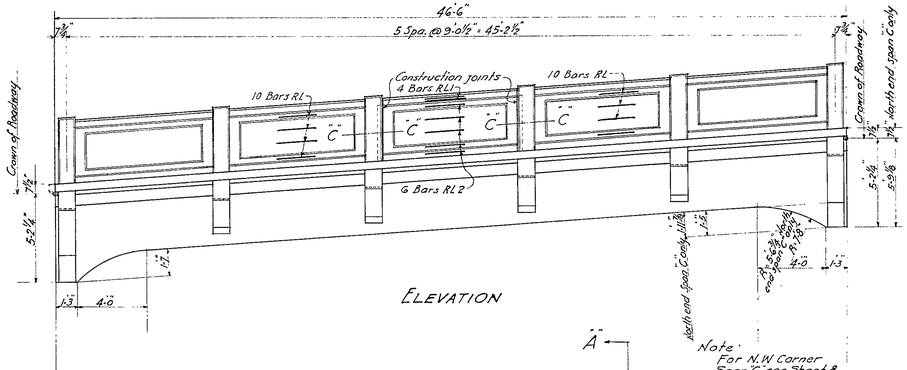
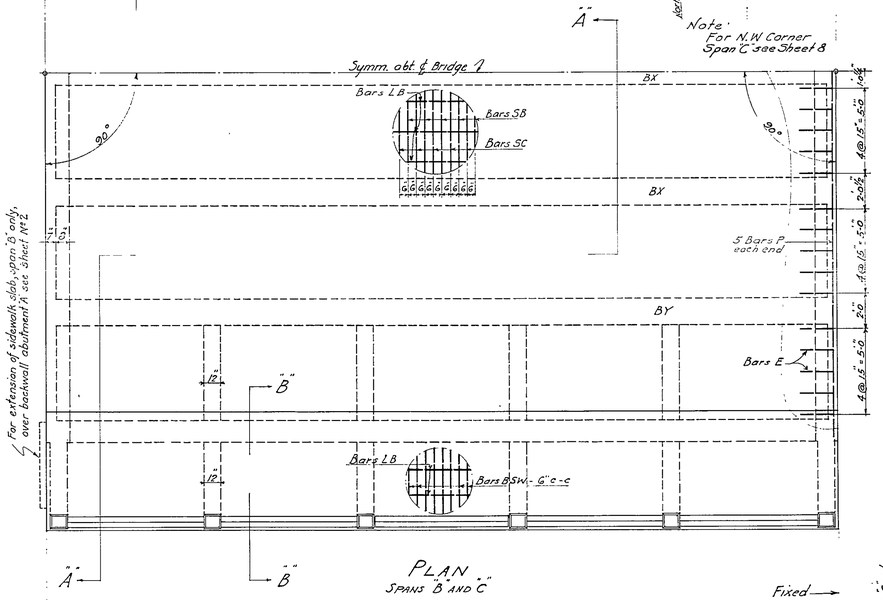
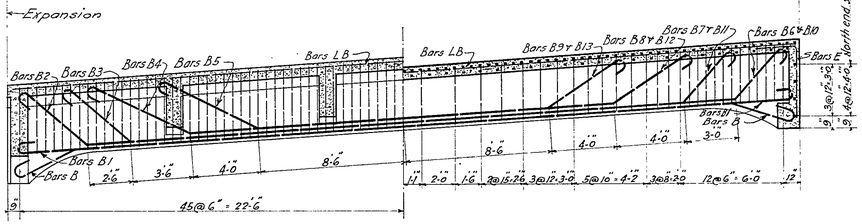
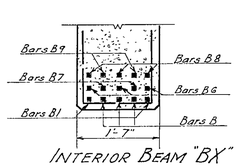
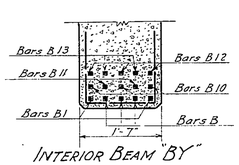


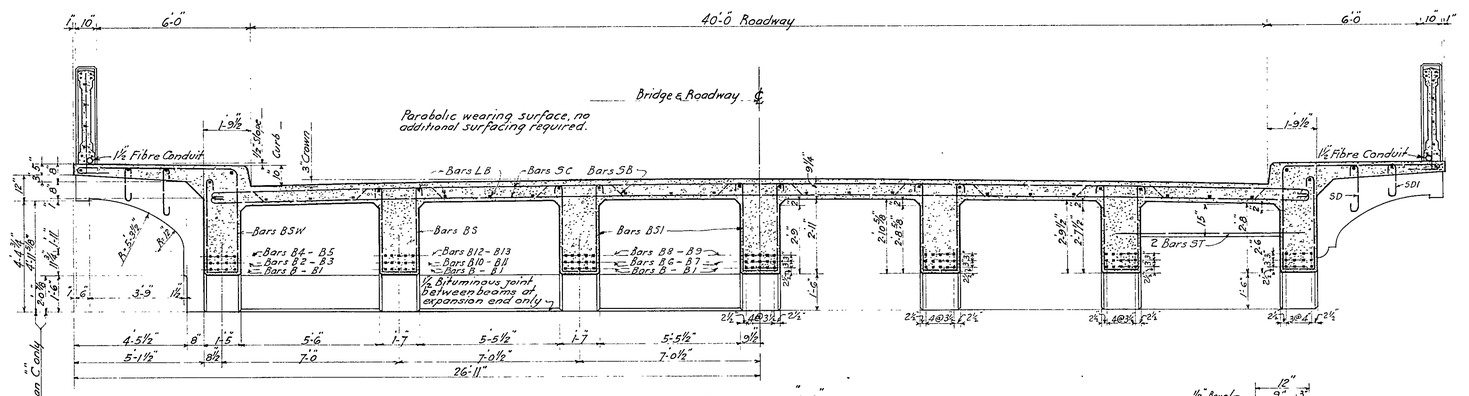
Note: For N.W. Corner Span C see Sheet 8



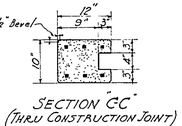




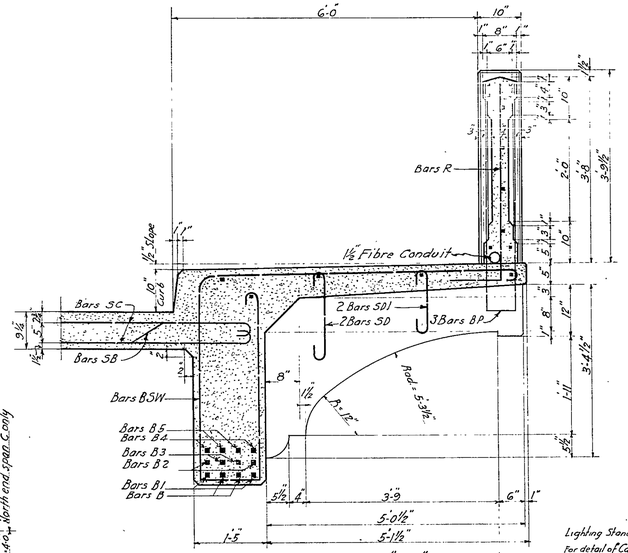




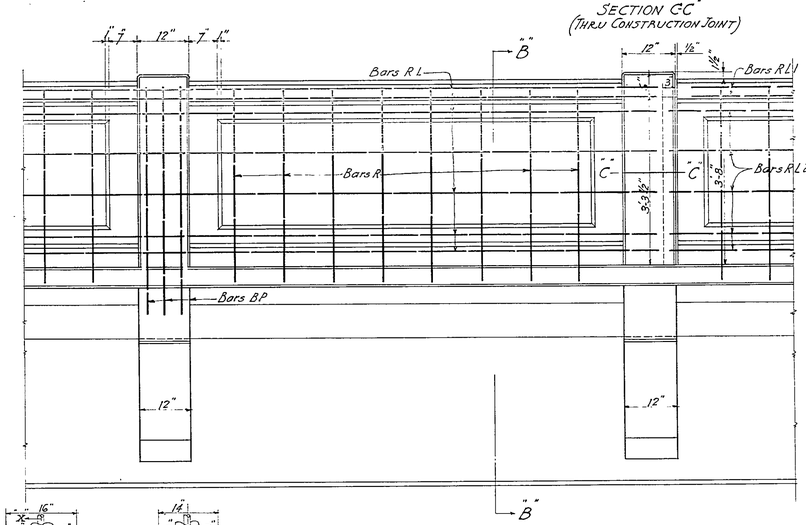
SECTION A-A
Scale 3/16" = 1'-0"

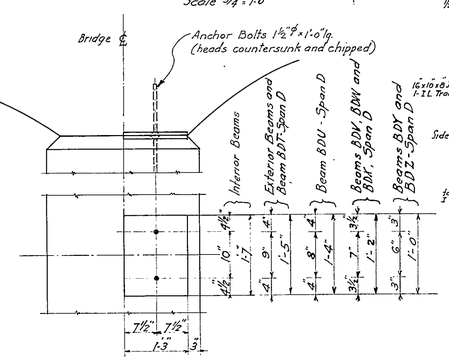


SECTION "GC"
(THRU CONSTRUCTION JOINT)

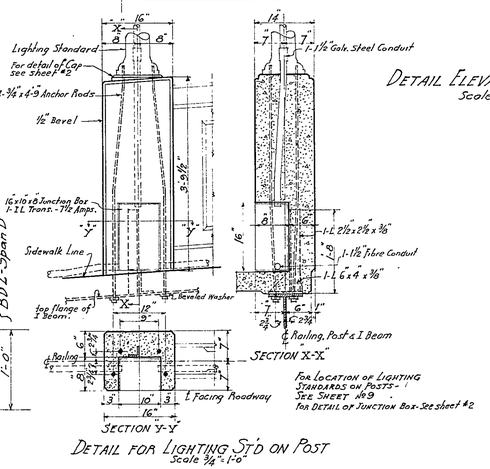


SECTION "B-B"
(THRU SIDEWALK AND RAILING)
Scale ¾" = 1'-0"





DETAIL OF BRONZE BEARING PLATE
Scale ¾" = 1'-0"



DETAIL FOR LIGHTING STD ON POST
Scale ¾" = 1'-0"

DETAIL ELEVATION OF RAILING
Scale ¾" = 1'-0"

THE VIRGINIAN RAILWAY CO.

FRANKLIN ROAD BRIDGE ROANOKE, VA.

SPANS "B" & "C"

Norfolk, Va. Scales Indicated Dec. 28, 1935

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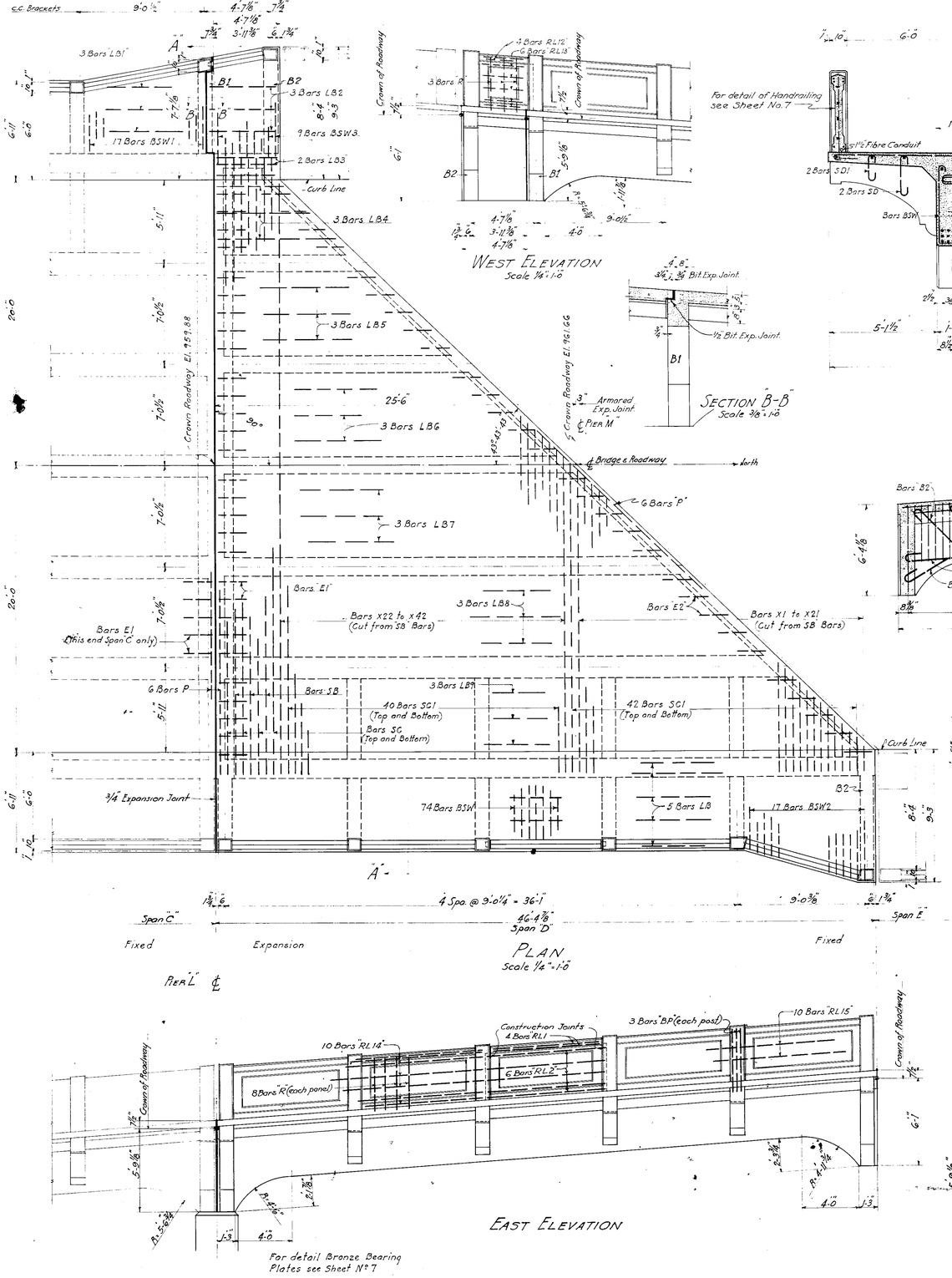
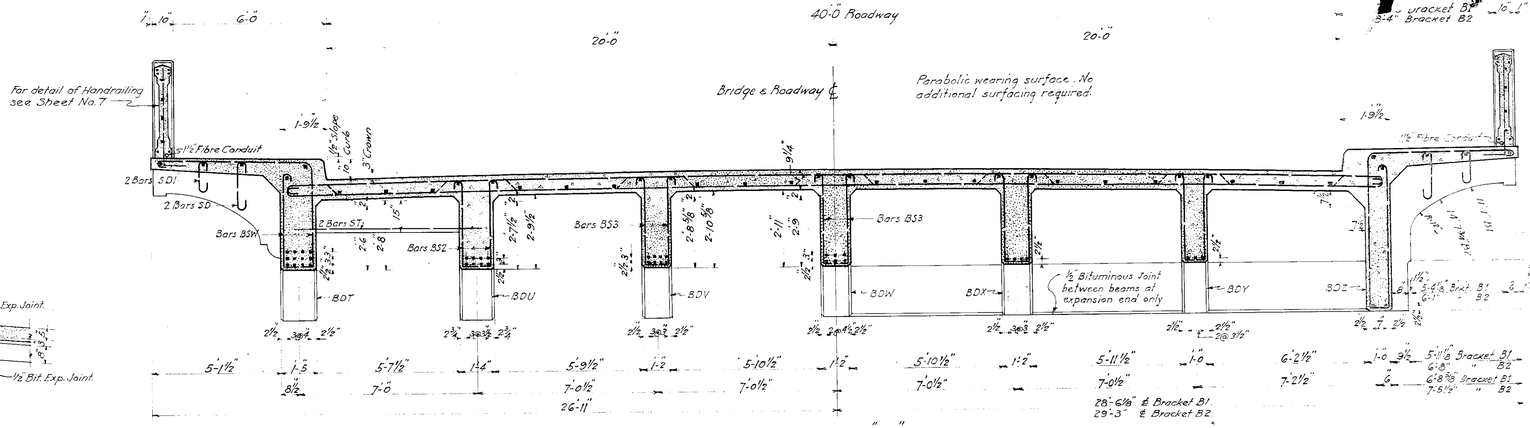
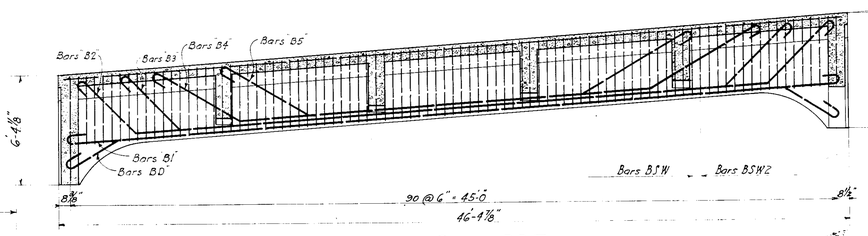
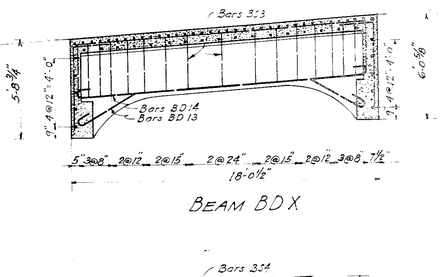
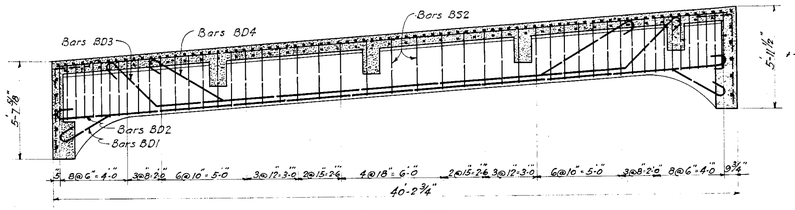
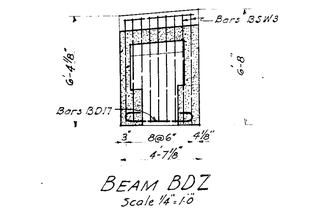


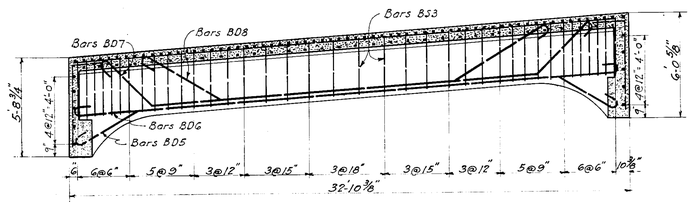


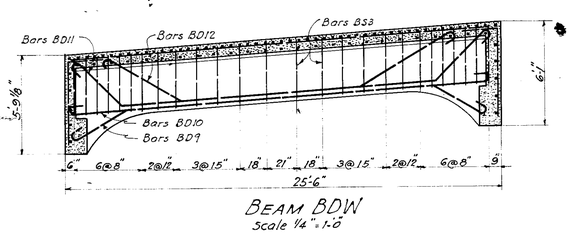












For detail Bronze Bearing Plates see Sheet No 7

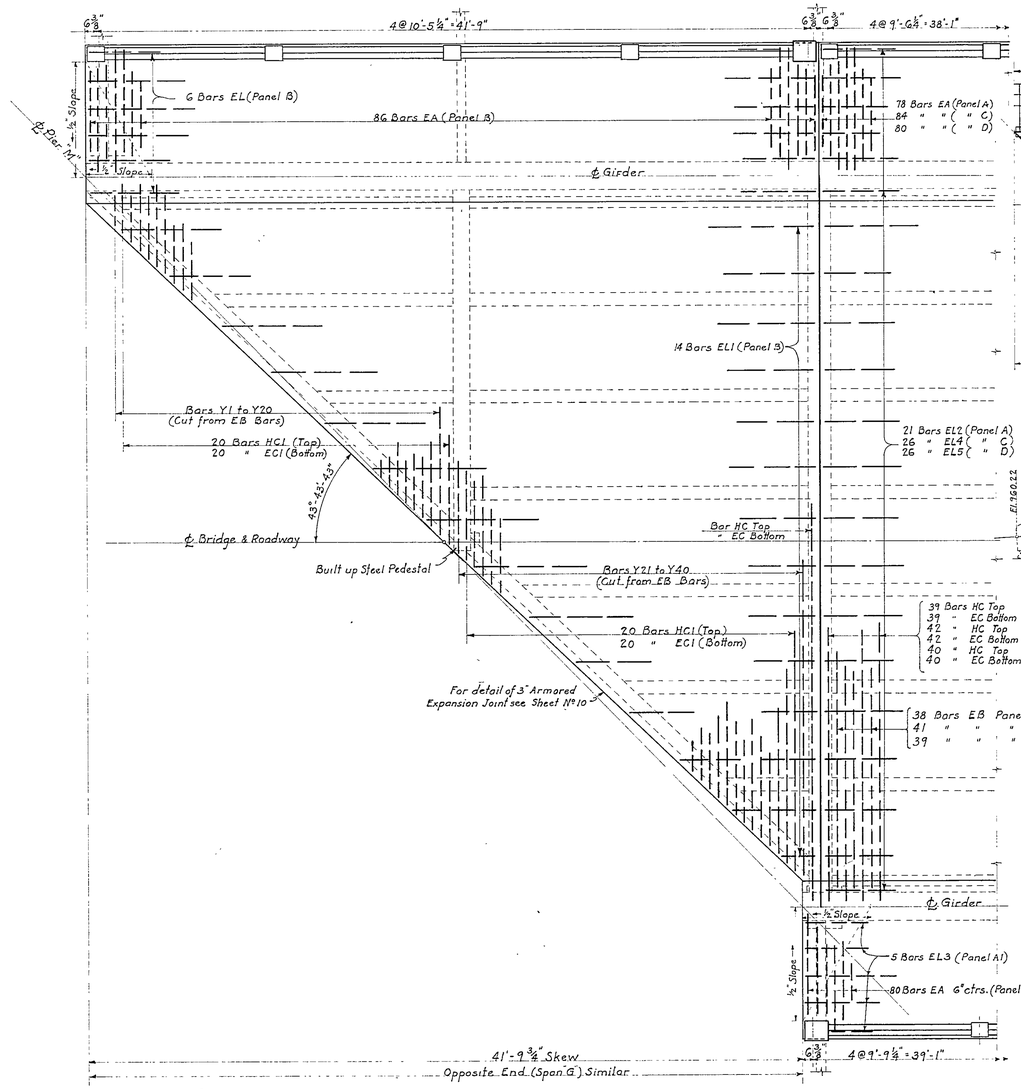
Note- Dimensions shown for beams are measured on ℄ Beam.

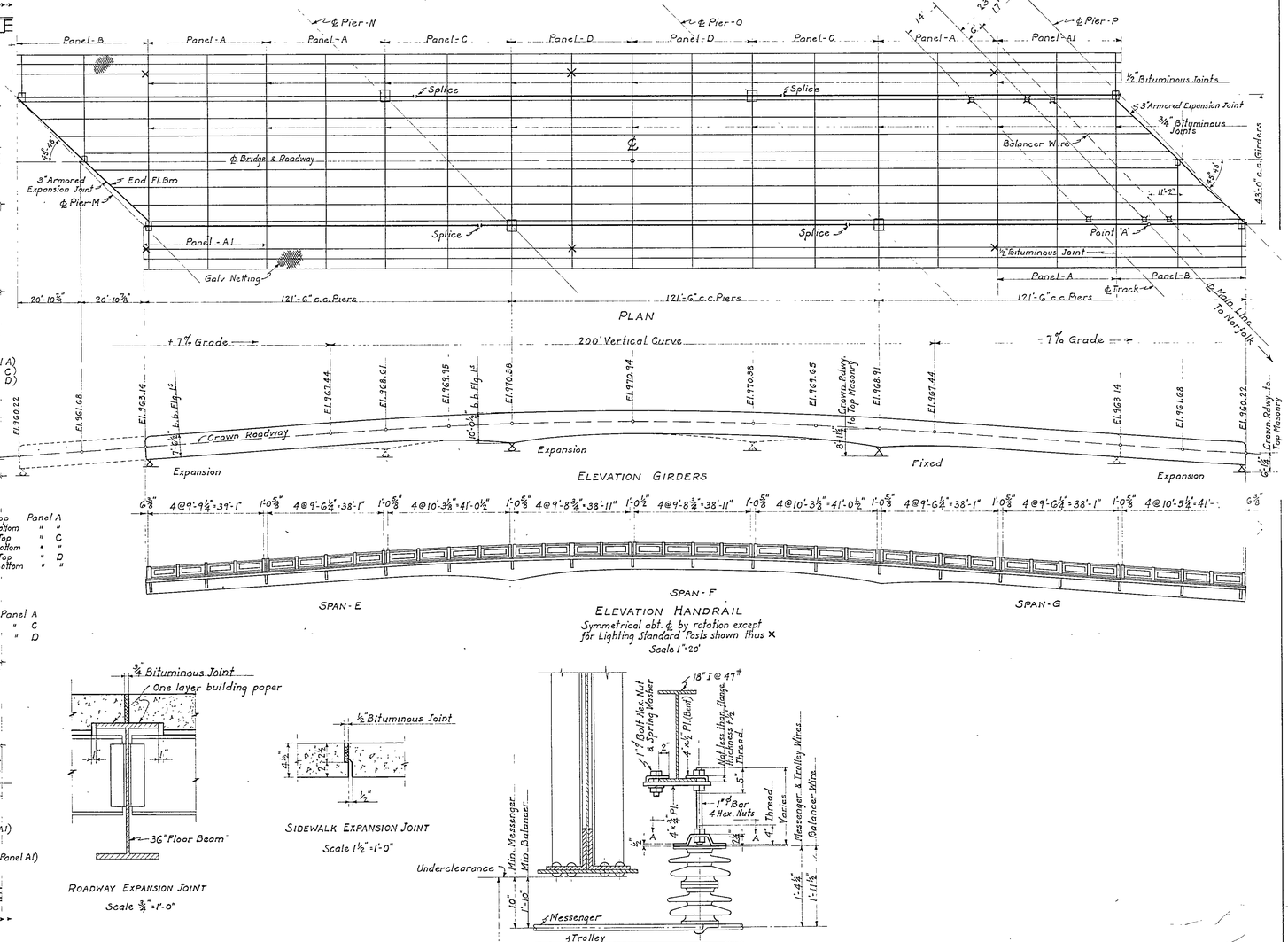
THE VIRGINIAN RAILWAY CO.

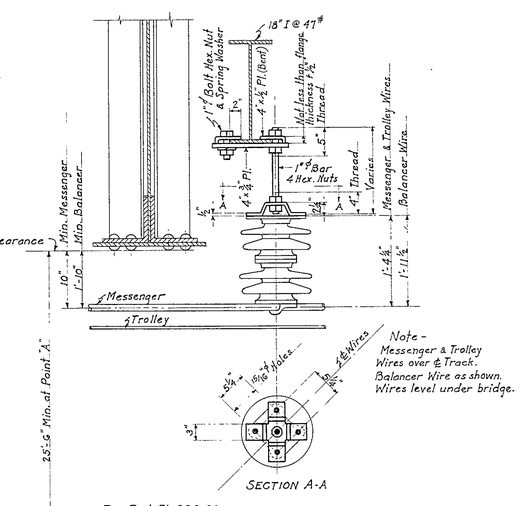
FRANKLIN ROAD BRIDGE ROANOKE, VA.

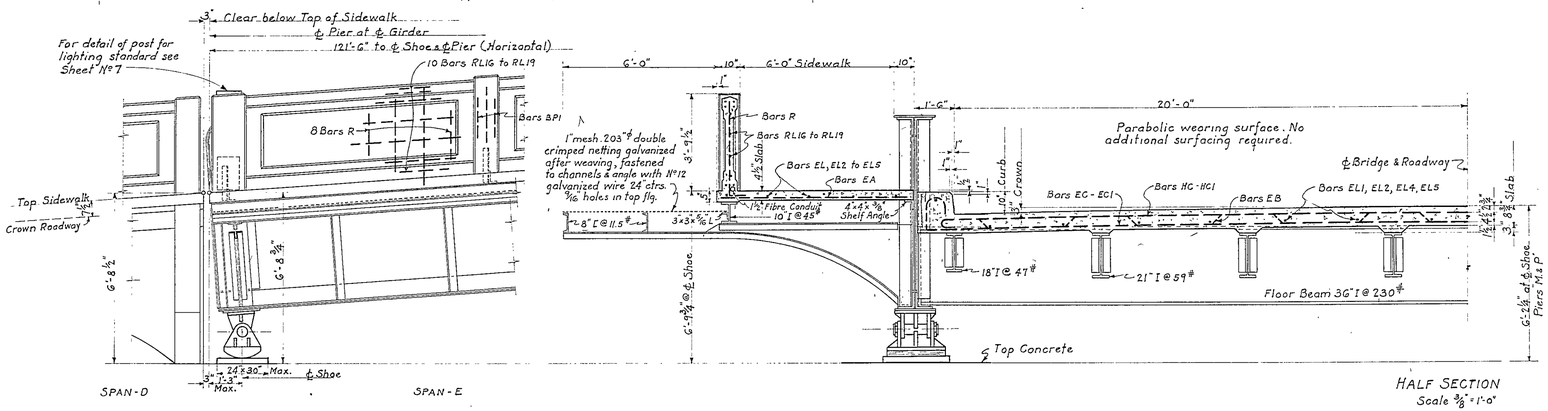
SPAN D

Norfolk, Va. Scales Indicated Dec. 28, 1935









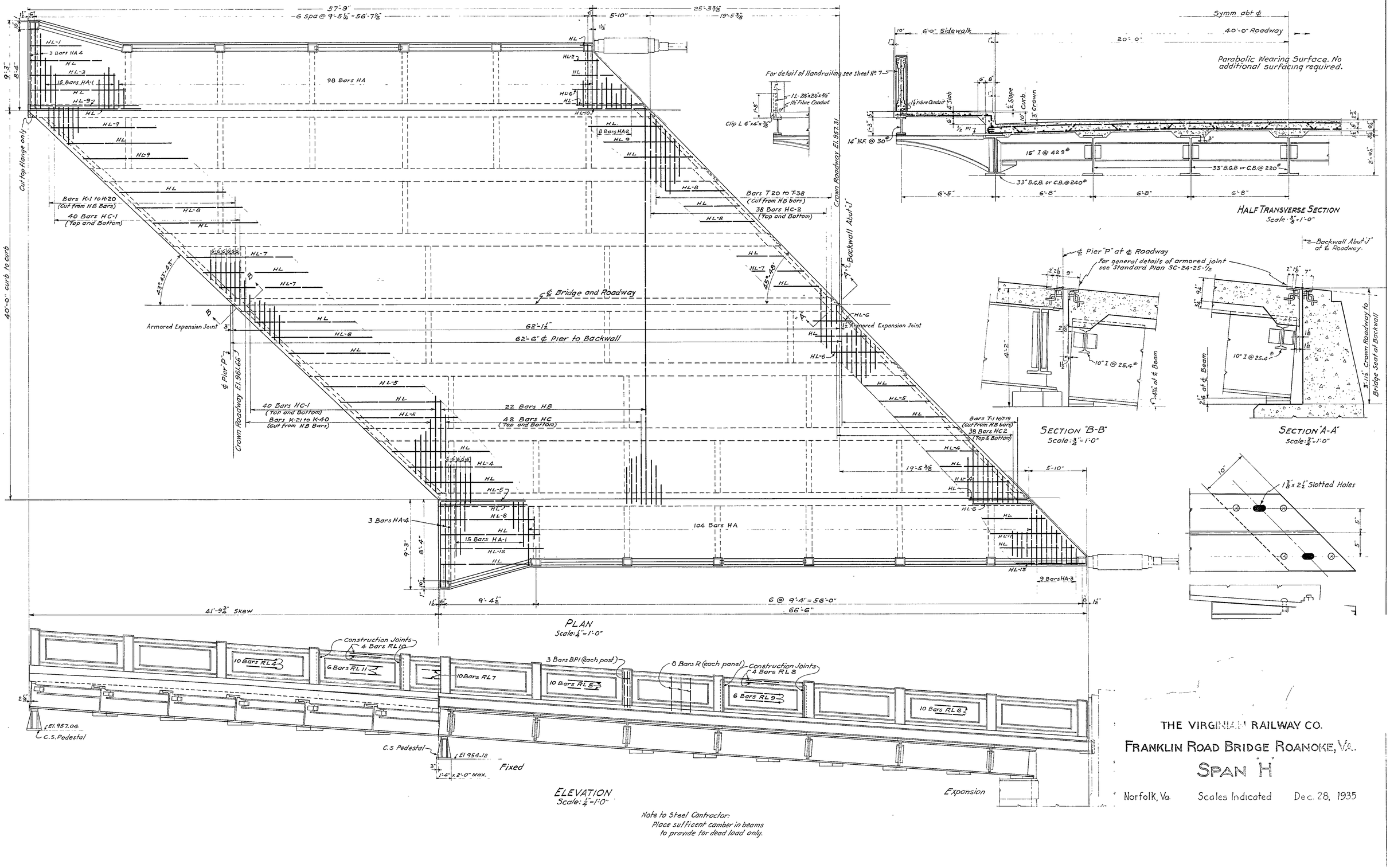
THE VIRGINIAN RAILWAY CO.

FRANKLIN ROAD BRIDGE ROANOKE, VA.

SPANS "E"-"F" & "G"

Norfolk, Va. Scales Indicated Dec. 28, 1935

C-06440 SHEET 9



THE VIRGINIAN RAILWAY CO.

FRANKLIN ROAD BRIDGE ROANOKE, VA.

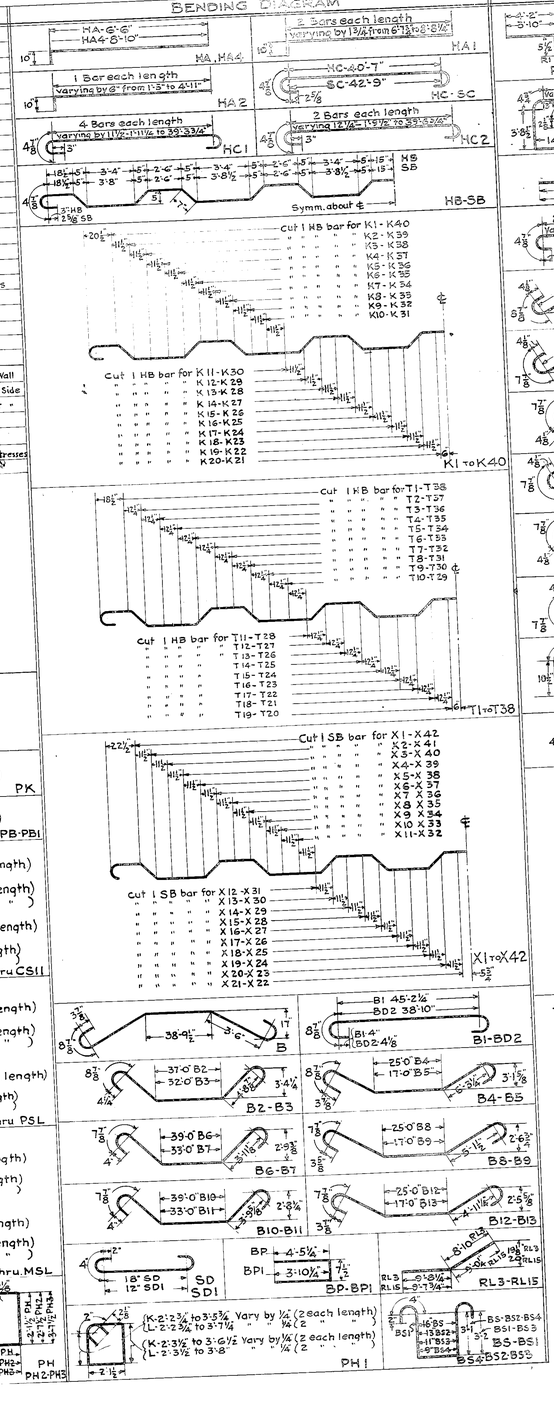
SPAN "H"

Norfolk, Va. Scales Indicated Dec. 28, 1935

SCHEDULE OF REINFORCING STEEL

MARK	SIZE	NO.	LENGTH	REMARKS	LOCATION
HA	½" □	202	7'-3½"	BENT	Sidewalk Slab-Span "H"
HA1	½" □	30	7'-5⅛" to 9'-5⅜"	"	" " " " "
HA2	½" □	8	2'-2½" to 5'-8½"	Straight	" " " " "
HA3	½" □	9	1'-7" to 3'-7" Length vary by 6"	"	" " " " "
HA4	½" □	6	9'-7½"	Bent	" " " " "
HL	½" □	30	40'-0"	Straight	Slabs " "
HL1	½" □	1	19'-6"	"	" " " "
HL2	½" □	1	20'-0"	"	" " " "
HL3	½" □	1	21'-6"	"	" " " "
HL4	½" □	3	22'-0"	"	" " " "
HL5	½" □	4	22'-6"	"	" " " "
HL6	½" □	5	23'-0"	"	" " " "
HL7	½" □	3	23'-6"	"	" " " "
HL8	½" □	4	24'-0"	"	" " " "
HL9	½" □	4	24'-6"	"	" " " "
HL10	½" □	1	25'-0"	"	" " " "
HL11	½" □	1	26'-0"	"	" " " "
HL12	½" □	1	27'-0"	"	" " " "
HL13	½" □	1	28'-0"	"	" " " "
HB	⅝" ◆	61	43'-9"	Bent	Roadway " " "
HC	⅝" ◆	364	41'-10"	"	" " "E"G"&"H"
HC1	⅝" ◆	160	3'-3" to 40'-7"	"	" " Spans-"H"
HC2	⅝" ◆	76	3'-1" to 40'-10"	"	" " Span-"H"
R	½" □	883	4'-9½"	"	Hand Railing- All Spans
RL	½" □	70	18'-7"	Straight	" " - Spans "B" &"C"
RL1	½" □	20	7'-8½"	"	" " " "B"C"&"D"
RL2	½" □	30	8'-3½"	"	" " "
RL3	½" □	10	18'-6½"	Bent	" " " Span"C"-N.W.End
RL4	½" □	10	29'-1½"	"	" " " Span"H"
RL5	½" □	10	28'-10⅛"	"	" " "
RL6	½" □	10	28'-6"	Straight	" " "
RL7	½" □	10	19'-4½"	"	" " "
RL8	½" □	4	8'-0"	"	" " "
RL9	½" □	6	8'-7"	"	" " "
RL10	½" □	4	8'-1½"	"	" " "
RL11	½" □	6	8'-8¼"	"	" " "D"
RL12	½" □	4	4'-3"	"	" " "
RL13	½" □	6	4'-6½"	"	" " "
RL14	½" □	10	18'-6"	"	" " "
RL15	½" □	10	18'-8"	Bent	" " "
RL16	½" □	20	42'-5"	Straight	" " " Panel B-Spans "E"&"G"
RL17	½" □	60	38'-11"	"	" " " "A" - "E"&"G"
RL18	½" □	40	41'-5"	"	" " " "C" - "E"F"&"G"
RL19	½" □	20	40'-0"	"	" " " "A1" - "E"&"G"
BP	½" □	93	9'-5"	Bent	Post- " Spans-"B"C"&"D"
BP1	½" □	297	8'-3"	"	" " " "E"F"G"&"H"
LB	½" □	78	46'-4"	Straight	Road & Sidewalk Slab-Spans-B.C & D
LB1	½" □	3	45'-10"	"	Sidewalk Slab-West Side Span "C"
LB2	½" □	3	4'-9"	"	Road & Sidewalk Slab-Span "D"
LB3	⅛" □	2	4'-3"	"	" " " " "
LB4	½" □	3	4'-9" to 8'-6"	"	" " " " "
LB5	½" □	3	12'-1" to 15'-10"	"	" " " " "
LBG	½" □	3	19'-1" to 23'-4"	"	" " " " "
LB7	½" □	3	27'-0" to 30'-9"	"	" " " " "
LB8	½" □	3	34'-5" to 38'-2"	"	" " " " "
LB9	½" □	3	41'-10" to 45'-7"	"	" " " " "
EL	½" □	12	42'-5" 2'-0" to 40'-7" ea. varying by 2-11⅛"	"	Sidewalk Slab-Panel B-Spans E & G
EL1	½" □	28		"	Roadway " " " "
EL2	½" □	94	39'-0"	"	" & Sidewalk" " "A" " " "
EL3	½" □	10	40'-0"	"	Sidewalk Slab- " "A1" " " "
EL4	½" □	52	41'-6"	"	Road & " " "C" - "E"F"&"G"
EL5	½" □	52	39'-6"	"	" " " "D" Span "F"
ST	½" □	40	7'-0"	"	Diaphragms Spans "B"C"&"D"
P	½" □	27	43'-1"	"	End Walls " " " "
P1	½" □	6	58'-6"	"	" " "D"
E	½" □	90	6'-7"	Bent	" " "B"&"C"
E1	½" □	60	6'-10"	"	" " "C"&"D"
E2	½" □	30	7'-2"	"	" " "D"
BSW	½" □	421	15'-8"	"	Beams & Sidewalk Slab-Span-B"C"D
BSW1	½" □	17	15'-9" to 17'-3"	"	" " " "C"
BSW2	½" □	17	15'-9¾" to 18'-3¾"	"	" " " "D"
BSW3	½" □	3	20'-1" to 21'-1"	"	" " " "D"
SD	½" □	62	2'-6"	"	Brackets "B"C"D"
SD1	½" □	62	2'-0"	"	" " "
BS	½" □	224	8'-5"	"	Beams Spans "B"C"
BS1	½" □	336	8'-7"	"	" " "D"
BS2	½" □	49	8'-2"	"	" " "D"
BS3	½" □	81	8'-2"	"	" " "D"
BS4	½" □	9	7'-10"	"	" " "
EA	½" □	1456	7'-3"	Straight	Sidewalk Slab- Spans-"E"F"&"G
SB	⅝" ◆	114	46'-0"	Bent	Roadway " - " "B"C"&"D"
SC	⅝" ◆	188	44'-0"	"	" " - " " "D"
SC1	⅝" ◆	82	3'-4" to 41'-8"	"	" " - "E"F"&"G"
EC	⅝" ◆	322	46'-10"	"	" " " -Panels B-Spans E-G
EC1	⅝" ◆	80	6'-6" to 43'-10½"	"	" " " Spans E"F"&"G"
EB	⅝" ◆	352	43'-11"	"	Beams- Spans "B"&"C"
B	1⅛" □	38	47'-11"	"	" - " "B"C"&"D"
B1	1⅛" □	30	47'-4"	"	" " "
B2	1⅛" □	10	48'-8"	"	" " "
B3	1⅛" □	10	43'-8"	Bent	" " "
B4	1⅛" □	10	39'-8"	"	" " "
B5	1⅛" □	10	31'-8"	"	" " "B"&"C"
BG	1" □	18	48-10	"	" " "
B7	1" □	12	42'-10"	"	" " "
B8	1" □	18	37'-2"	"	" " "
B9	1" □	12	29-2"	"	" " "
B10	1" □	12	48'-7"	"	" " "
B11	1" □	8	42'-7"	"	" " "
B12	1" □	12	36-10"	"	" " "
B13	1" □	8	28-10"	"	" " "D"
BD	1⅛" □	2	47'-10"	"	" " "
BD1	1⅛" □	2	41'-5"	"	" " "
BD2	1⅛" □	2	41'-0"	"	" " "
BD3	1⅛" □	2	37'-4"	"	" " "
BD4	1⅛" □	2	31'-8"	"	" " "
BD5	1" □	2	34'-0"	"	" " "
BD6	1" □	2	33'-7"	"	" " "
BD7	1" □	2	32'-4"	"	" " "
BD8	1" □	2	27'-1"	"	" " "
BD9	1" □	1	26'-10"	"	" " "
BD10	1" □	2	26'-2"	"	" " "
BD11	1" □	2	27'-11"	"	" " "
BD12	1" □	1	23'-10"	"	" " "
BD13	1" □	2	19'-5"	"	" " "
BD14	1" □	2	18'-7"	"	" " "
BD15	1" □	2	11'-3"	"	" " "
BD16	1" □	1	12'-0"	"	" " "
BD17	1" □	2	5'-8"	"	" " Piers "K"&"L"
PK	1" □	24	45'-0"	"	" " " "
PD	1" □	8	11'-0"	Straight	" " " "
PD1	1" □	16	8'-0"	"	" " - "P"
PD2	1" □	4	12'-0"	"	" " - "P"
PD3	1" □	8	9'-0"	"	" " - "M"
PD4	1" □	4	10'-0"	"	" " - "M"
PD5	1" □	8	7'-0"	"	" " - "P"
PD6	1⅛" □	32	7'-0"	"	Dowels " - "P"
CS	½" □	12	17'-8"	Bent	Beam Stirrups-Piers "K"&"L"
CS1	½" □	16	18'-0"	"	" " " " "
CS2	½" □	8	18'-4"	"	" " " " "
CS3	½" □	12	18'-8"	"	" " " " "
CS4	½" □	8	19'-0"	"	" " " " "
CS5	½" □	8	19'-4"	"	" " " " "
CS6	½" □	4	19'-8"	"	" " " " "
CS7	½" □	8	20'-0"	"	" " " " "
CS8	½" □	12	20'-8" to 22'-0"	"	" " " " "
CS9	½" □	4	23'-0"	"	" " " " "
CS10	½" □	24	23'-8" to 25'-4"	"	" " " " "
CS11	½" □	12	26'-0" to 26'-8"	"	" " " " "
PH	¼" ◆	268	9'-0"	"	Stem Hoops " " "
PH1	¼" ◆	252	9'-4" to 12'-1"	"	" " " "
PH2	¼" ◆	68	11'-0"	"	Stem Hoops " "N"&"O"
PH3	¼" ◆	52	13'-0"	"	" " " M"&"P"
PV1	1" □	8	36'-0"	Straight	Center Stems " "K"
PV2	1" □	8	39'-0"	"	" " " "L"
PV3	1" □	8	34'-0"	"	Outside " " "K"
PV4	1" □	8	37'-0"	"	" " " "L"
PP	1" □	64	9'-0"	"	Stems " "K"&"L"
PP1	½" □	80	5'-6"	"	Pier Tops - Piers-M-N-O-&"P"
PP2	½" □	88	5'-0"	"	" " " " "
PX	⅝" ◆	8	45'-6"	Bent	Cross Braces " K&L
PT	1" □	4	70'-0"	"	Beams " "N"&"O"
PB	1" □	16	62'-0"	"	" " "M"&"P"
PB1	1" □	12	57'-6"	"	" " "N"&"O"
PS	½" □	10	9'-7"	"	" " "
PS1	½" □	12	9'-9"	"	" " "
PS2	½" □	8	9'-11"	"	" " "
PS3	½" □	4	10'-1"	"	" " "
PS4	½" □	8	10'-7"	"	" " "
PS5	½" □	8	10'-9" to 10'-11"	"	" " "
PS6	½" □	12	11'-3" to 11'-7"	"	" " "
PS7	½" □	8	11'-11" to 12'-1"	"	" " "
PS8	½" □	8	12'-5" to 12'-7"	"	" " "
PS9	½" □	8	12'-11" to 13'-3	"	" " "
PS10	½" □	4	13'-5"	"	" " "
PU	½" □	44	24'-0"	Straight	" " "P"
PU1	1" □	22	20'-0"	"	" " "M"
PU2	1" □	22	18'-6"	"	Piers "N"&"O"
PE	1" □	48	32'-6"	"	" "M"&"P"
PE1	1" □	24	29'-0"	"	" " "
PE2	1" □	24	26'-6"	"	" " "
PW	½" □	30	10'-6"	"	Wrecking Pier Ends-Piers-M"N"O
PW1	½" □	88	61'-0"	"	" " - "M"N"O"P"
PSA	½" □	3	20'-7"	Bent	Beams - Pier "P"
PSB	½" □	8	20'-11"	"	" " "
PSC	½" □	8	21'-3"	"	" " "
PSD	½" □	6	21'-7	"	" " "
PSE	½" □	4	22'-7"	"	" " "
PSF	½" □	4	22'-11"	"	" " "
PSG	½" □	4	23'-3"	Bent	Beam Pier "P"
PSH	½" □	8	23'-7 to 24'-7"	"	" " "
PSJ	½" □	2	25'-3"	"	" " "
PSK	½" □	4	25'-11" & 26'-3"	"	" " "
PSL	½" □	14	26'-11 to 28'-11"	"	" " "M"
MSA	½" □	3	14'-11"	"	" " "
MSB	½" □	8	15'-3"	"	" " "
MSC	½" □	8	15'-7"	"	" " "
MSD	½" □	6	15'-11"	"	" " "
MSE	½" □	4	16'-11"	"	" " "
MSF	½" □	4	17'-3"	"	" " "
MSG	½" □	4	17'-7"	"	" " "
MSH	½" □	8	17'-11" to 18'-11"	"	" " "
MSJ	½" □	2	19'-7"	"	" " "
MSK	½" □	4	20'-3" & 20'-7"	"	" " "
MSL	½" □	14	21'-3" to 23'-3"	"	Abutment "A"&"J"-Outer Buttress
PH4	¼" ◆	12	13'-8"	"	" " " Inner "
PH5	¼" ◆	12	11'-8"	"	" J - West Wing
J	1" □	1	27'-6"	"	" " " "
AJ	1" □	2	25'-10"	"	" - N.W. Buttress
LB3	½" □	8	4'-3	Straight	" " " "
ST	½" □	5	7'-0"	"	" "Railing Post-Wing Wall
BP	½" □	48	9'-5"	Bent	" -Hand Railing-East Side
RL20	½" □	10	38'-6"	Straight	" " " -West "
RL21	½" □	10	43'-0"	"	" "A" " "
RL22	½" □	20	20'-0"	"	" "A"&"J"- "
R1	½" □	96	4'-7"	Bent	" " - Vert.bars-All Buttresses
JB	⅝" □	64	6'-0	Straight	Hand Railing Panel "D"-Span "F"
RL23	½" □	40	39'-5	"	

BENDING DIAGRAM



THE VIRGINIAN RAILWAY CO.

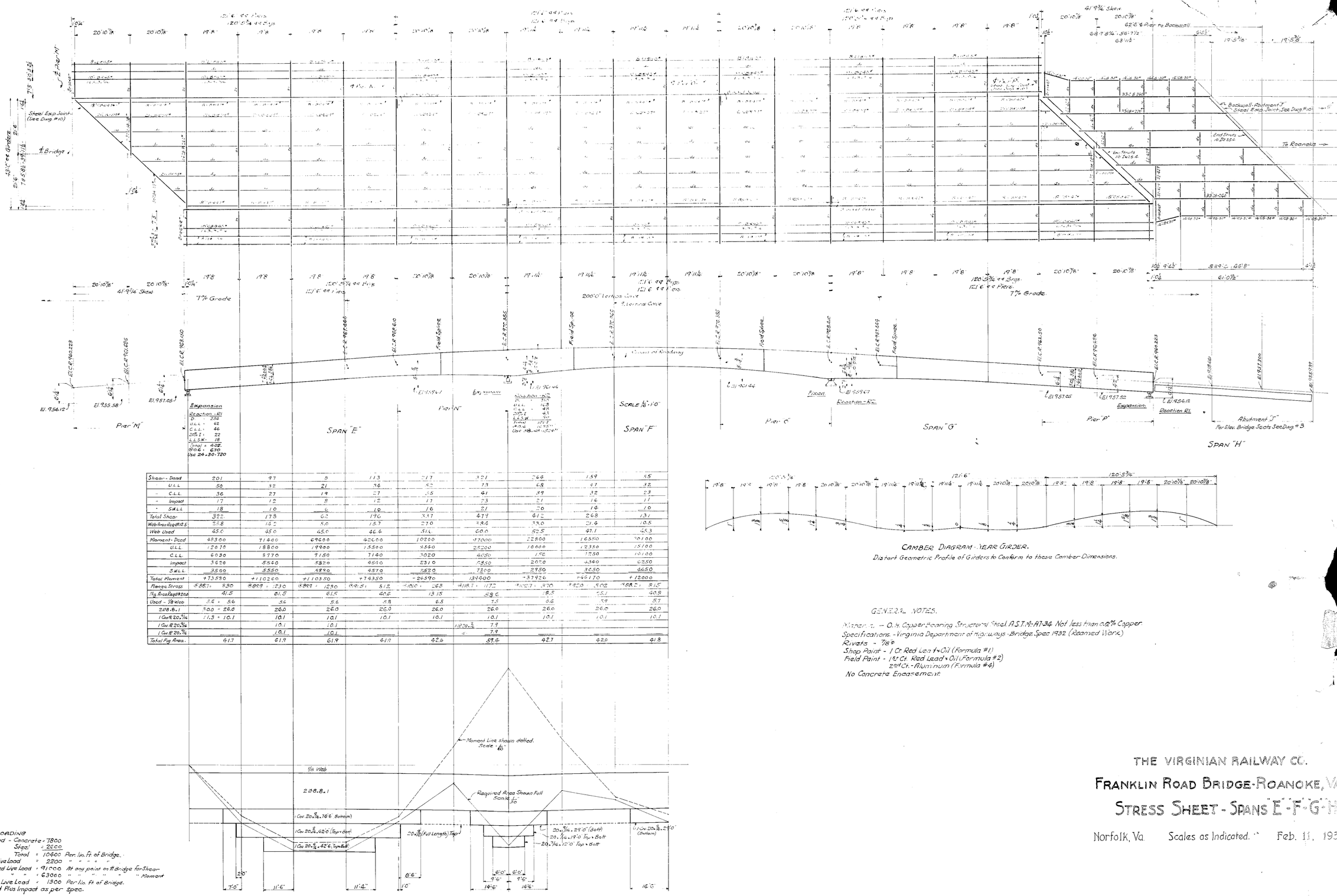
FRANKLIN ROAD BRIDGE ROANOKE VA.

REINFORCEMENT SCHEDULE

Norfolk, Va. No Scale Dec. 28, 1938

Revised 3-2-'36.

C-06440



Shear - Dead	20.1	9.7	9	11.3	21.7	32.1	26.4	15.9	5.5
" L.L.L.	5.0	3.2	2.1	3.4	5.2	7.3	6.8	4.7	3.2
" C.L.L.	3.6	2.7	1.9	2.7	4.5	6.1	5.9	3.2	2.3
" Impact	1.7	1.2	.8	1.2	1.7	2.3	2.1	1.6	1.1
" S.W.L.	1.8	1.0	.6	1.0	1.6	2.1	2.0	1.4	1.0
Total Shear	32.2	17.8	6.2	19.6	33.7	47.9	41.2	26.8	13.1
Web Areas Req'd @ 15.5	25.8	14.2	5.0	15.7	27.0	38.4	33.0	21.4	10.5
Web Used	45.0	45.0	45.0	46.4	51.6	60.0	52.5	47.1	45.3
Moment - Dead	483.00	714.00	696.00	426.00	102.00	37.00	22.80	16.550	7.00
" L.L.	120.70	188.00	199.00	155.00	84.40	26.20	10.00	12.350	5.10
" C.L.	60.30	87.70	91.50	71.40	30.20	4.05	1.90	3.750	1.00
" Impact	36.20	55.40	58.20	45.10	23.10	7.85	2.07	4.340	0.250
" S.W.L.	35.60	55.50	58.30	45.70	25.20	7.30	2.950	3.650	0.450
Total Moment	+735.50	+1102.60	+1103.50	+747.50	−265.90	1384.00	+37.926	+46.170	+12.000
Flange Stress	⊕887 = 8.30	⊕849 = 12.30	⊕849 = 12.30	⊕945 = 8.12	+606 = 2.68	+1187 = 11.72	+1027 = 9.70	+920 = 5.02	+882 = 2.15
Tg. Area Req'd @ 20	41.5	61.5	61.5	40.6	13.15	59.6	48.5	25.1	10.8
Used - Tg. w/o	5.6 + 5.6	5.6	5.6	6.8	6.5	7.5	6.6	5.9	5.7
2@8.8.1	30.0 + 28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0
1 Cov PL @ 20 3/16	11.3 + 10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
1 Cov PL @ 20 3/16		10.1	10.1			1 @ 20 3/16 7.9			
1 Cov PL @ 20 3/16		10.1	10.1			7.9			
Total Fig Area.	41.7	61.9	61.9	41.9	42.6	59.4	42.7	42.0	41.8

Distort Geometric Profile of Girders to Conform to these Camber Dimensions.

GENERAL NOTES.

Material: - O.H. Copper-bearing Structural Steel A.S.T.M.-A7-34 Not less than 0.2% Copper
Specifications. - Virginia Department of Highways - Bridge Spec 1932 (Reamed Work)
Rivets - 7/8"
Shop Paint - 1 Ct Red Lead + Oil (Formula #1)
Field Paint - 1st Ct. Red Lead + Oil (Formula #2)
2nd Ct. - Aluminum (Formula #4)
No Concrete Encasement.

ASSUMED LOADING

Assumed Dead Load - Concrete = 7800
" " Steel = 2600
" " Total = 10400 Per lin. ft. of Bridge.
Assumed Uniform Live Load = 2200 " " " " "
" " Concentrated Live Load = 91000 At any point on 2 Bridge for Shear
" " " " = 63000 " " " " " Moment
" " Side Walk Live Load = 1300 Per lin. ft. of Bridge.
Assumed Live Load Plus Impact as per spec.

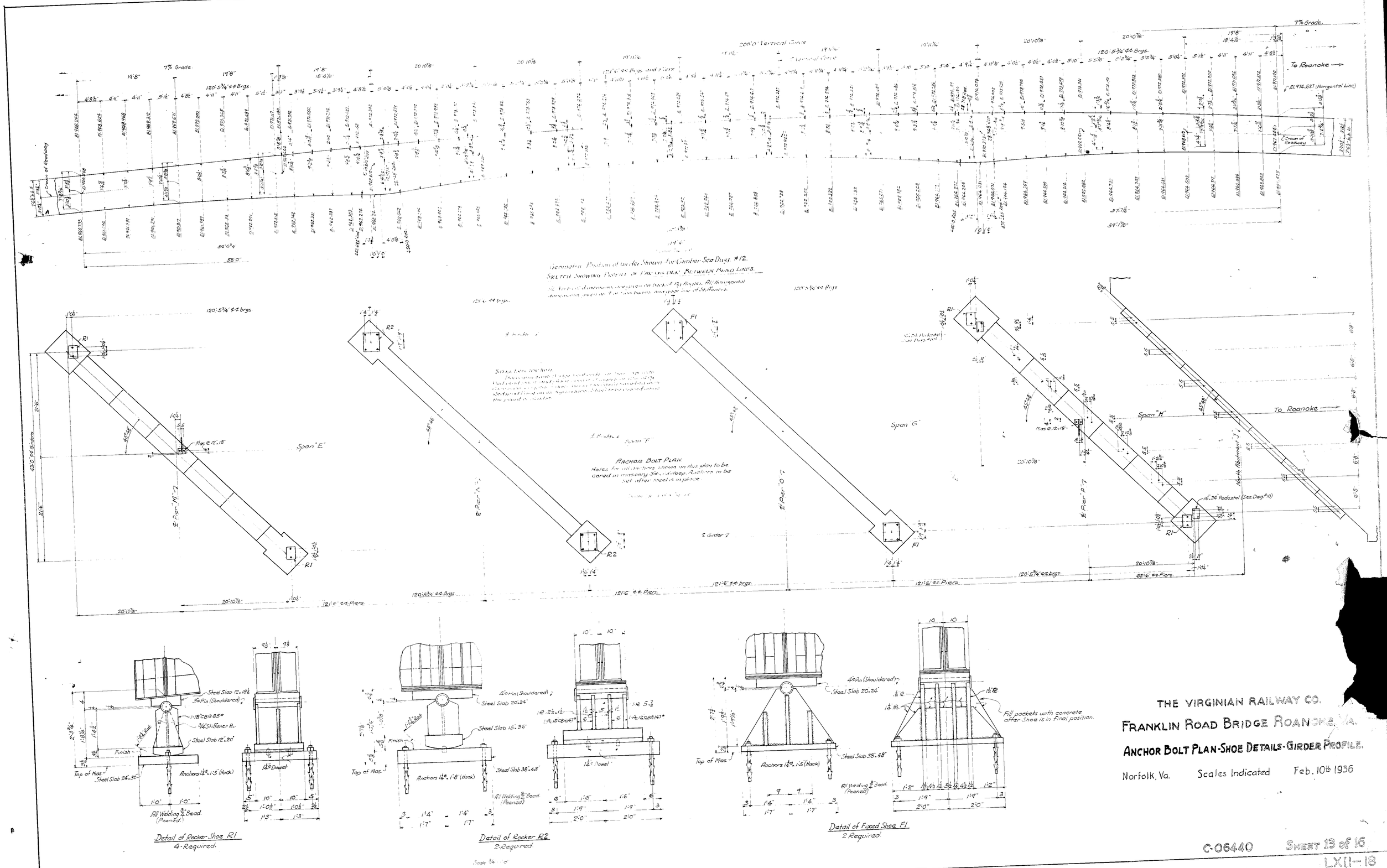
THE VIRGINIAN RAILWAY CO.

FRANKLIN ROAD BRIDGE - ROANOKE, VA.

STRESS SHEET - SPANS "E" - "F" - "G" - "H"

Norfolk, Va. Scales as Indicated. Feb. 11, 1936.

C-06440 SHEET 12 of



THE VIRGINIAN RAILWAY CO.

FRANKLIN ROAD BRIDGE ROANOKE, VA.

ANCHOR BOLT PLAN-SHOE DETAILS-GIRDER PROFILE.

Norfolk, Va. Scales Indicated Feb. 10th 1936

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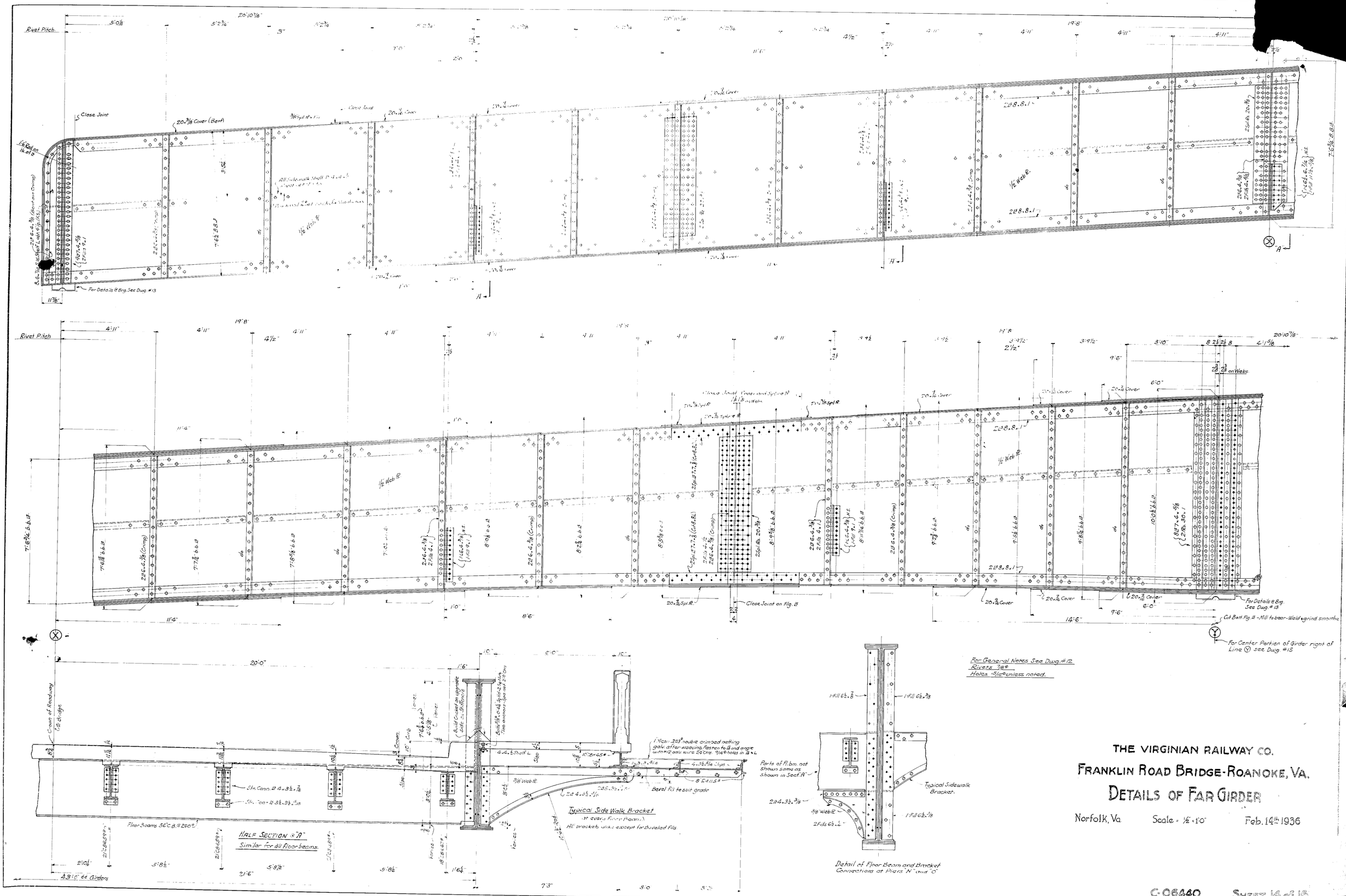


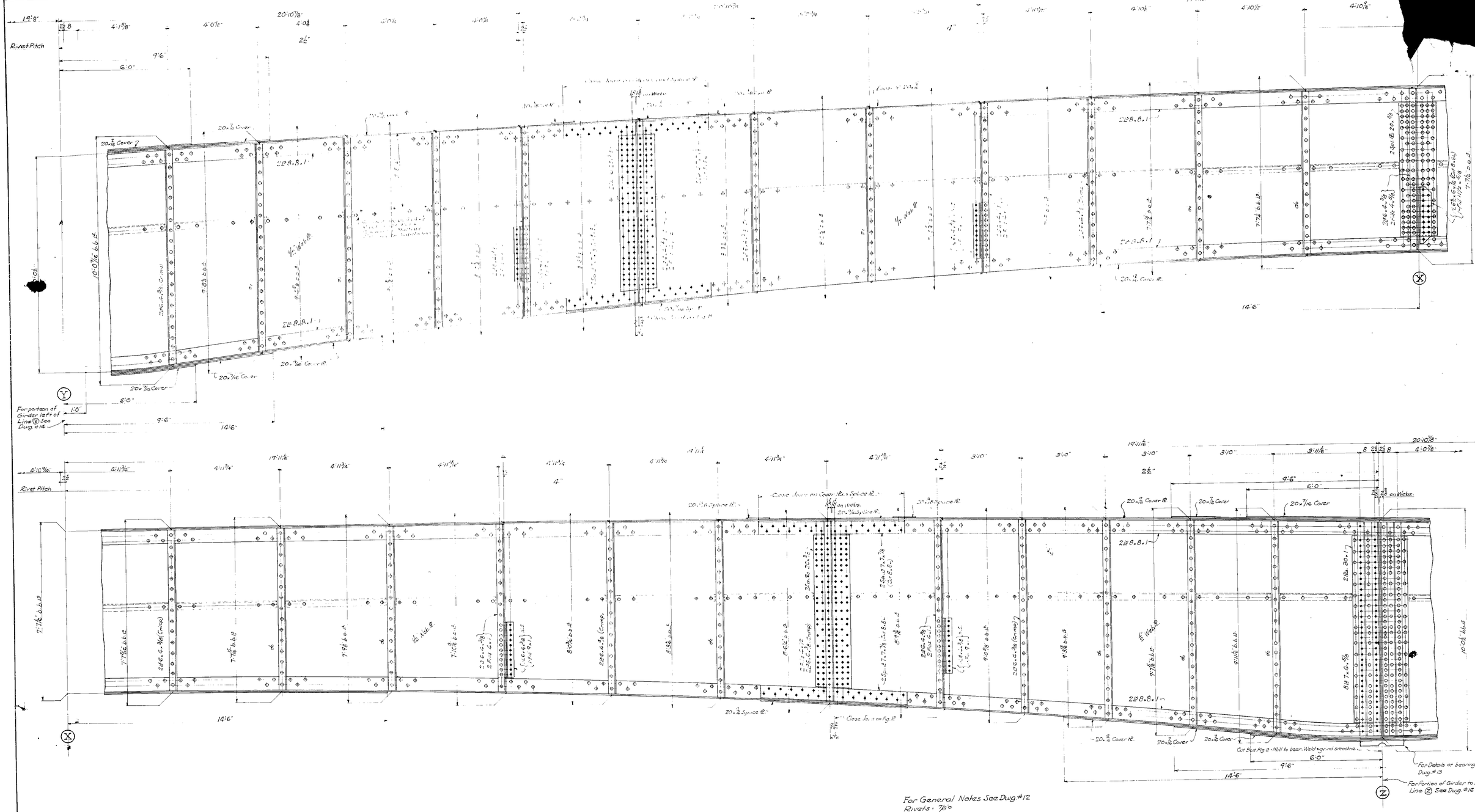
THE VIRGINIAN RAILWAY CO.

FRANKLIN ROAD BRIDGE-ROANOKE, VA.

DETAILS OF FAR GIRDER

Norfolk, Va. Scale = 1/2" = 1'-0" Feb. 14th 1936

C-06440 SHEET 14 of 16



For General Notes See Dwg. #12
Rivets - 7/8"ø
Holes - 15/16"ø unless noted.

THE VIRGINIAN RAILWAY CO.

FRANKLIN ROAD BRIDGE - ROANOKE, VA.

DETAILS OF FAR GIRDER

Norfolk, Va. Scale - ½" - 1'-0" Feb. 17th 1936.

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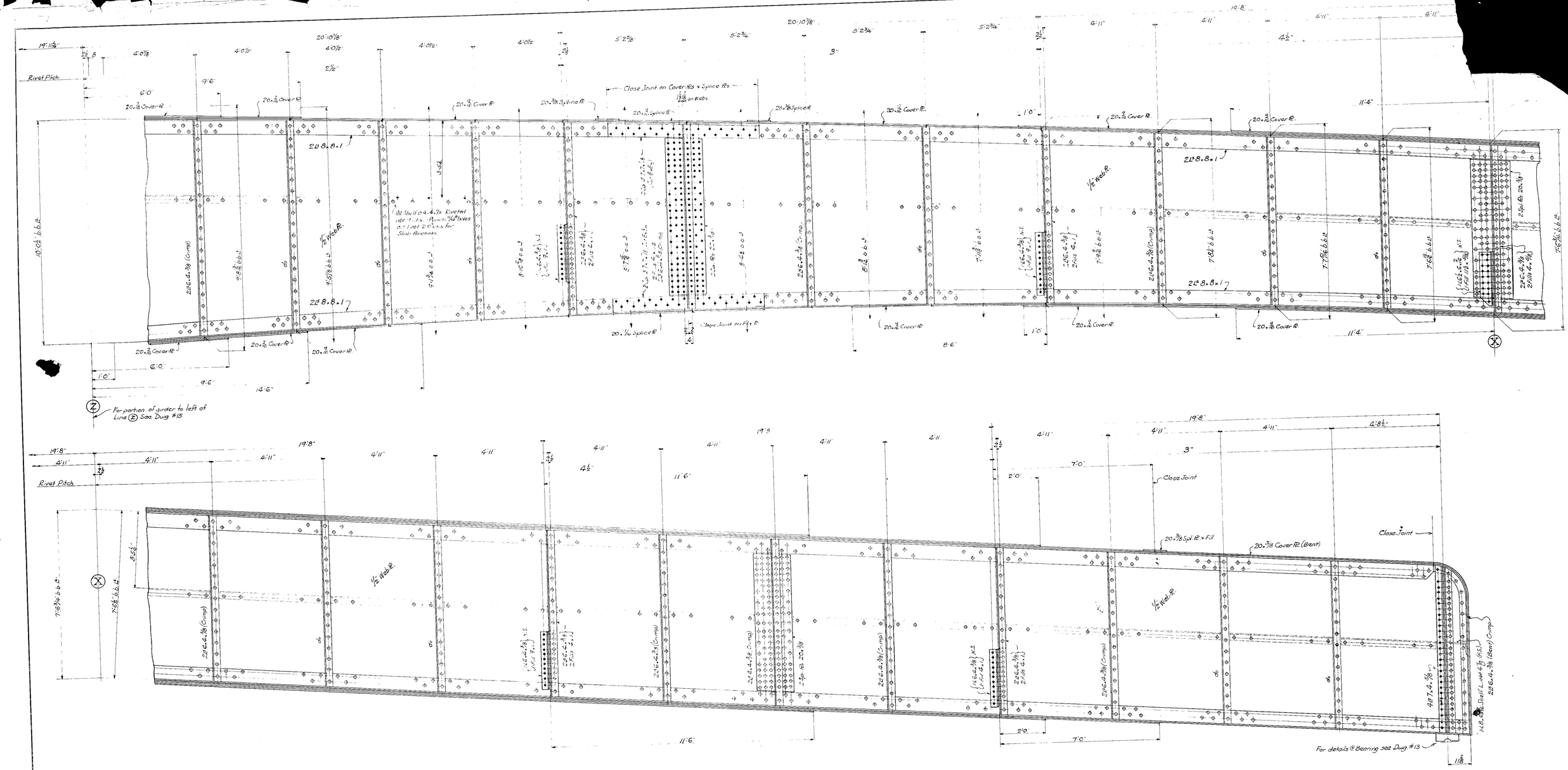

THE VIRGINIAN RAILWAY CO.

FRANKLIN ROAD BRIDGE - ROANOKE, VA.

DETAILS OF FAR GIRDER

Norfolk, Va. Scale - 1/2" = 1'-0" Feb. 17th 1936.

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