

FIELD RIVETS & BOLTS

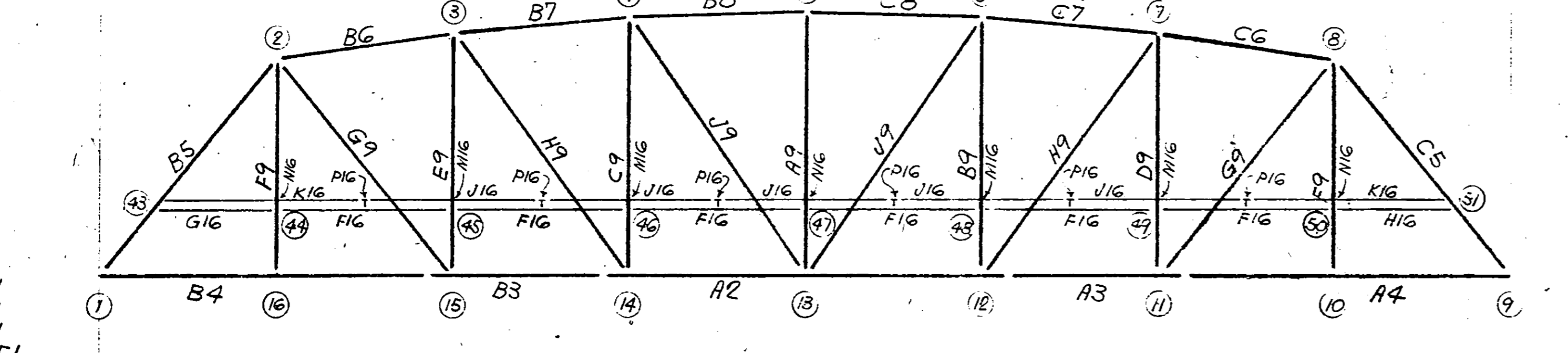
370 R.H. RIVETS	3/4" x 2"
1305 Do.	Do. 2 1/8"
840 Do.	Do. 2 1/4"
2245 Do.	Do. 2 1/2"
495 Do.	Do. 2 3/4"
405 Do.	Do. 2 7/8"
1340 Do.	Do. 2 1/2"
120 Do.	Do. 2 3/8"
360 Do.	Do. 3"
275 Do.	Do. 3 1/8"
210 Do.	Do. 3 1/4"
45 Do.	Do. 3 1/2"
60 BOLTS 3/4" x 1 1/2" S.H.&N.	
75 Do.	Do. 1 3/4" Do.
155 Do.	Do. 2" Do.
130 LOCK WASHERS 3/4"	

- 1- Shoe AI
- 1- Pin FI
- 2- Nuts GI
- 1- Lead HE EI

- 1- Shoe BI
- 1- Roller-Nest CI
- 1- End FI DI
- 1- Pin FI
- 2- Nuts GI
- 1- Lead HE EI

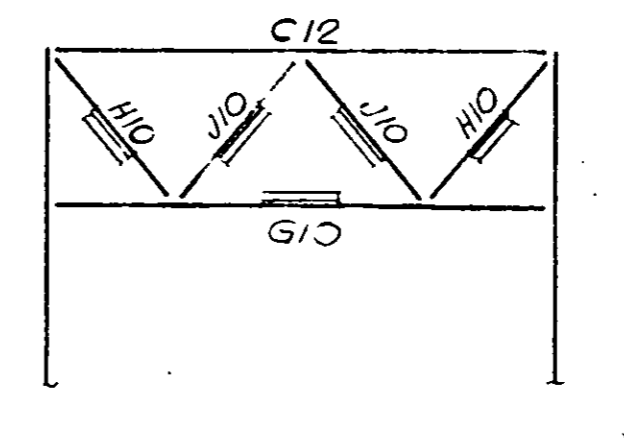
FIXED END.

Note: All members of Truss "B" take mark with prefix "F.S." - Cont. 1850 only. EXPANSION END.

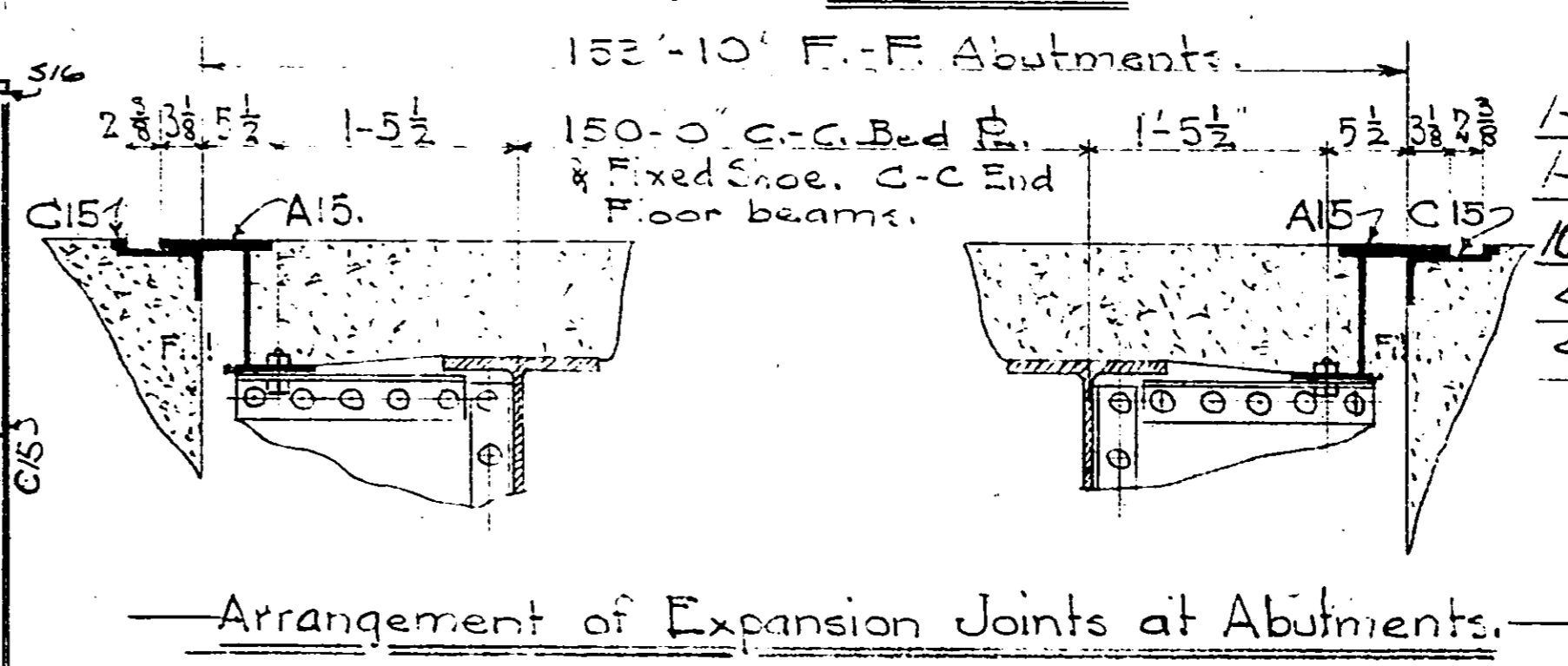
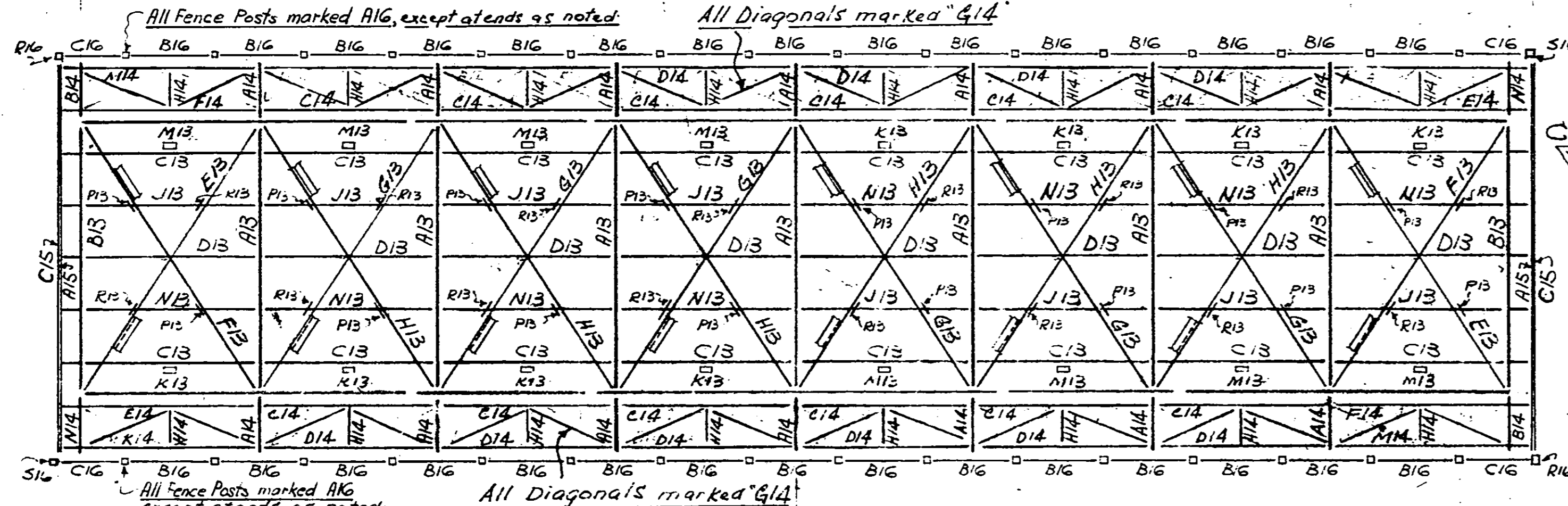


- 1- Shoe BI
- 1- Roller-Nest CI
- 1- End FI DI
- 1- Pin FI
- 2- Nuts GI
- 1- Lead HE EI

- 1- Shoe AI
- 1- Pin FI
- 2- Nuts GI
- 1- Lead HE EI

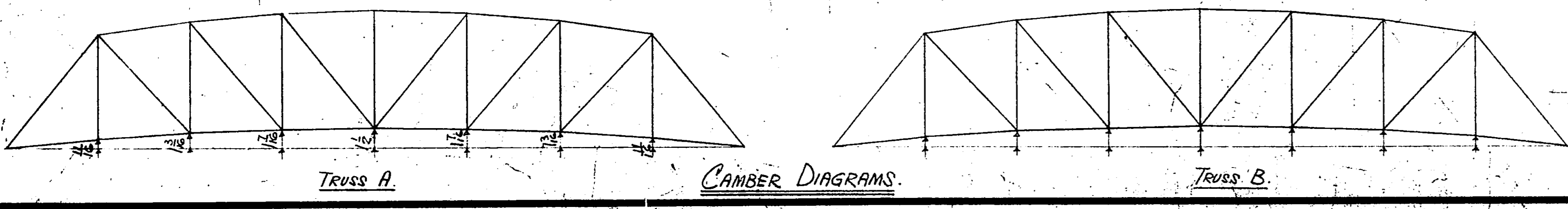


Note: Members of fence & sidewalk system on this side take mark with prefix "F.S." Cont. 1850 only.



FIELD MATERIAL

1- 2" ST. NUT	HI
1- DR. HING NUT	J1
10- EXP. JOINT SHIMS	FIS
4- Do.	G15
4- Do.	H15



Cont. 1851 - KICKING HORSE RIVER - GOLDEN, B.C. Cont. 1850 - RIVER BEND - ALBERNI.

ARC AND GAS WELDING SYMBOLS

TYPE OF WELD	SYMBOL
BEAD FILLET	(Symbol)
SHOULDER	(Symbol)
FLAT	(Symbol)
CONCAVE	(Symbol)
CONVEX	(Symbol)
FLUSH	(Symbol)
SCREED	(Symbol)
SCREED WITH BEVEL	(Symbol)
SCREED WITH BEVEL AND FLUSH	(Symbol)
SCREED WITH BEVEL AND CONCAVE	(Symbol)
SCREED WITH BEVEL AND CONVEX	(Symbol)
SCREED WITH BEVEL AND FLUSH	(Symbol)
SCREED WITH BEVEL AND CONCAVE	(Symbol)
SCREED WITH BEVEL AND CONVEX	(Symbol)

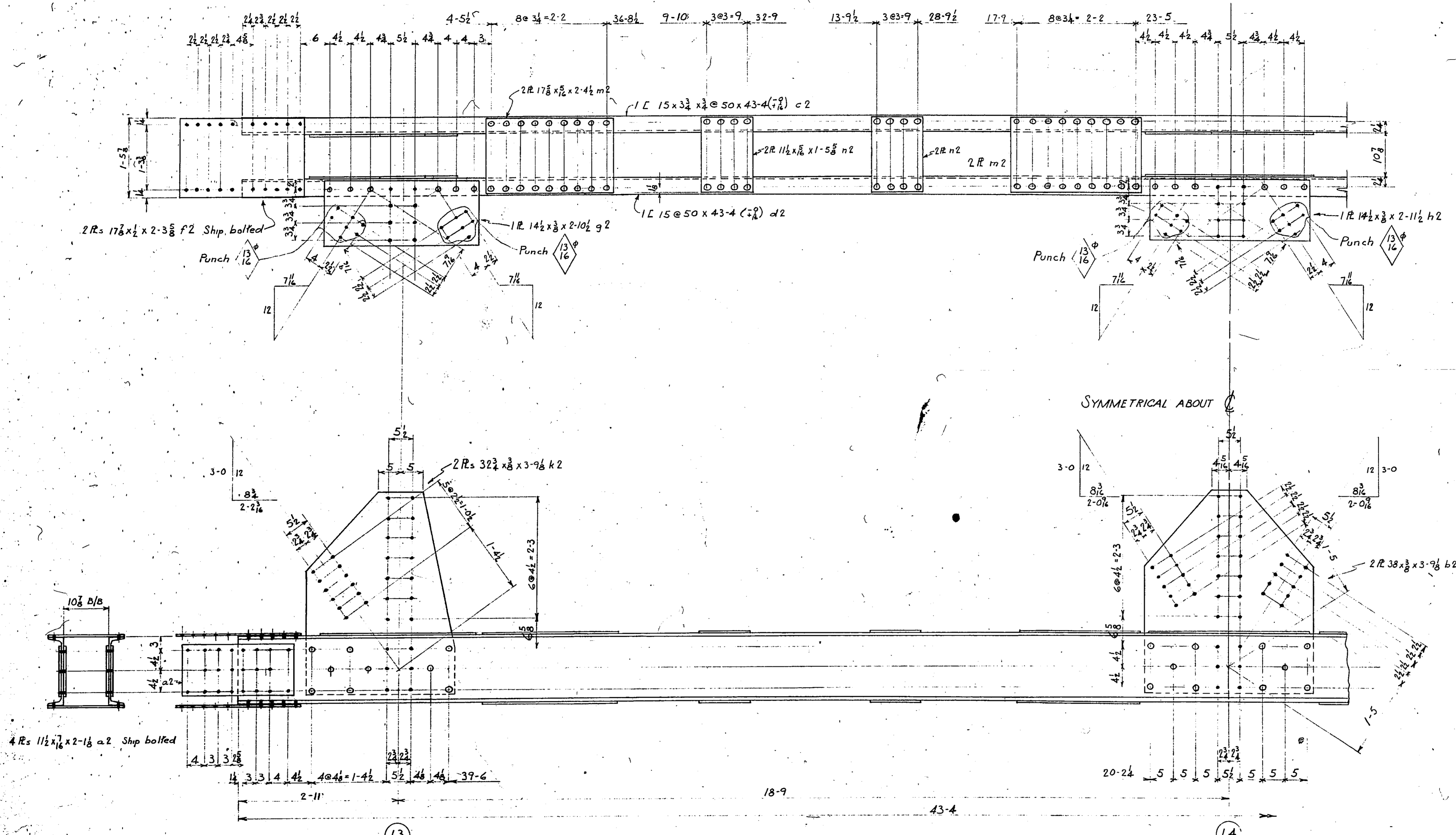
54128

Western Bridge and Steel Fabricators Ltd.
VANCOUVER - CANADA

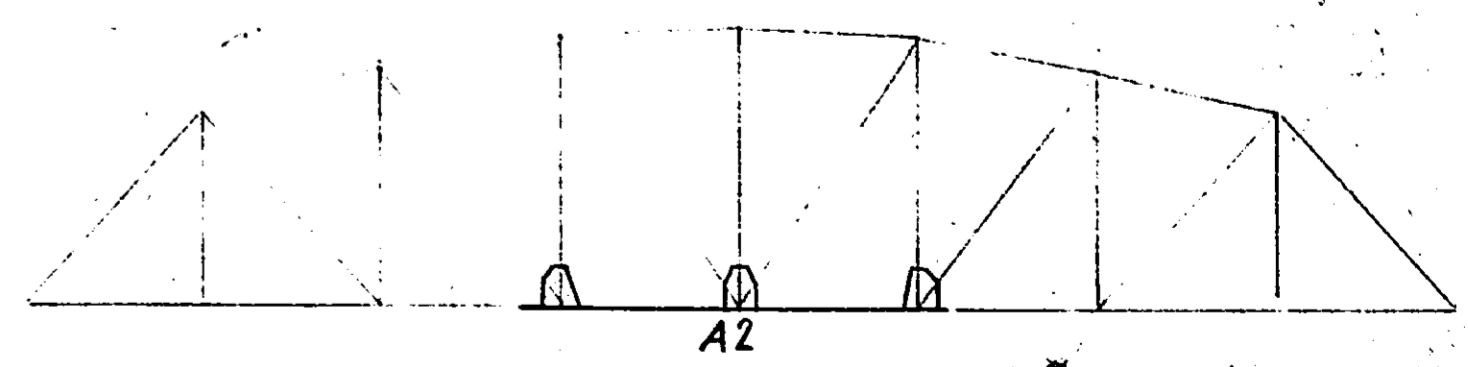
CUSTOMER: B.C. GOVT. DEPT. OF PUBLIC WORKS
NAME OF STRUCTURE: HIGHWAY BRIDGE - 150'-0" SPAN
LOCATION: _____
TITLE OF DRAWING: ERECTION DIAGRAM
MADE BY: AMB CHECKED BY: _____ DATE: _____
CONTRACT NO.: _____ W.O. _____ DRWG. NO.: _____

RIVETS _____ UNLESS NOTED
OPEN HOLES _____ UNLESS NOTED
SHOP PAINT _____

NOTES: _____



2 LOWER CHORD SECTIONS A2



1851 - Kicking Horse River - Golden, B.C.
 1850 - River Bend Bridge - ALBERNI
 1730 - Loop Bridge - FERNIE

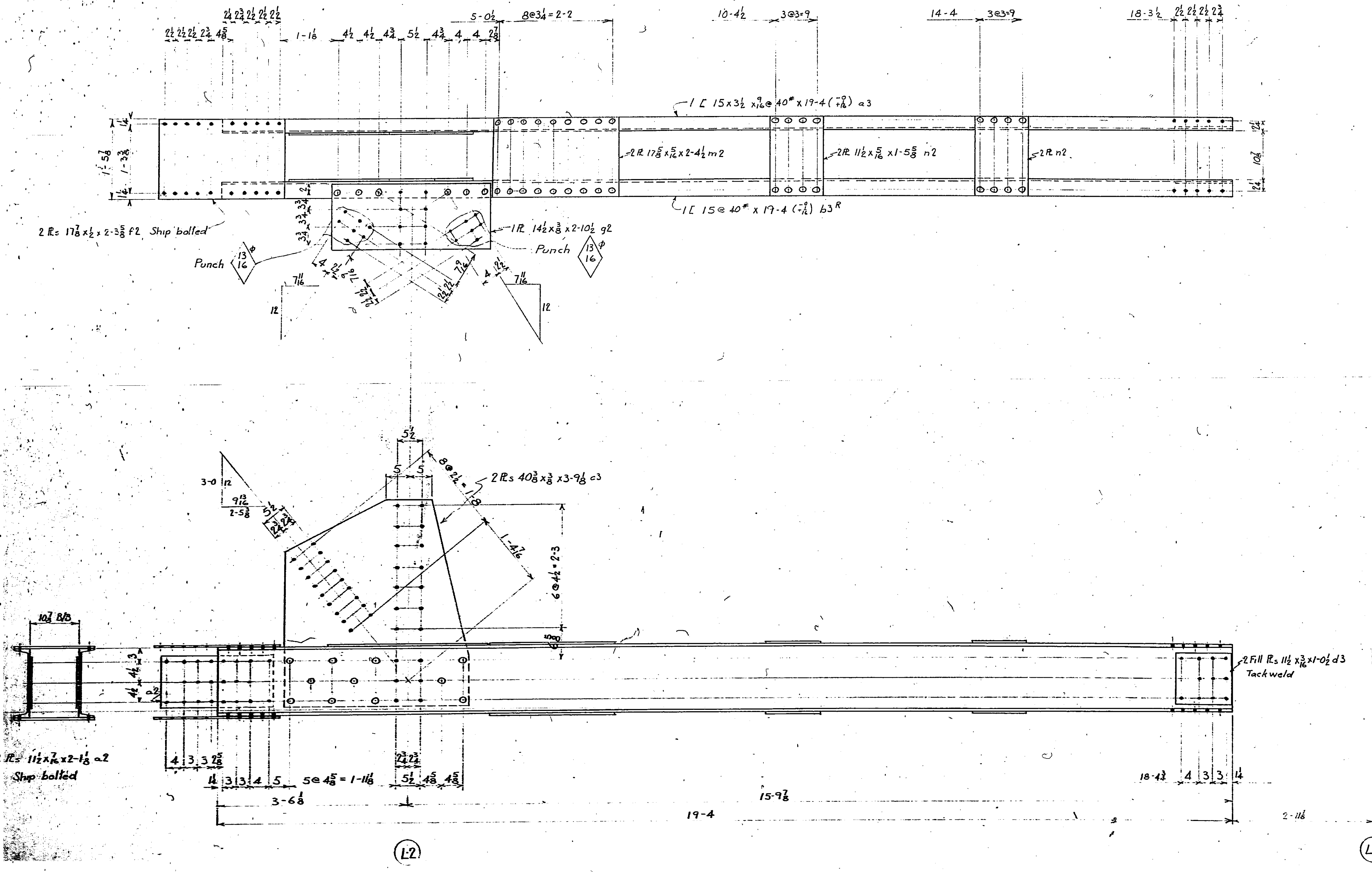
ARC AND GAS WELDING SYMBOLS			
TYPE OF WELD		LOCATION OF WELDS	
BEAD	FILLET	ARROW (OR NEAR) SIDE OF JOINT	OTHER (OR FAR) SIDE OF JOINT
REMOVE	REMOVE	SEE NOTE	SEE NOTE
FIELD WELD	FIELD WELD	WELLS ALL INCREMENTS AROUND	WELLS ALL INCREMENTS AROUND
FLUSH	FLUSH	SEE NOTE	SEE NOTE
ALL	ALL	SEE NOTE	SEE NOTE
FLUSH	FLUSH	SEE NOTE	SEE NOTE

RIVETS 3" UNLESS NOTED
 OPEN HOLES 1 1/2" UNLESS NOTED
 SHOP PAINT
 1 COAT RED LEAD
 NOTES SUB-PUNCH OPEN HOLES 7/8" & REAM TO 1 1/2" UNLESS NOTED
 REV. S/B No.

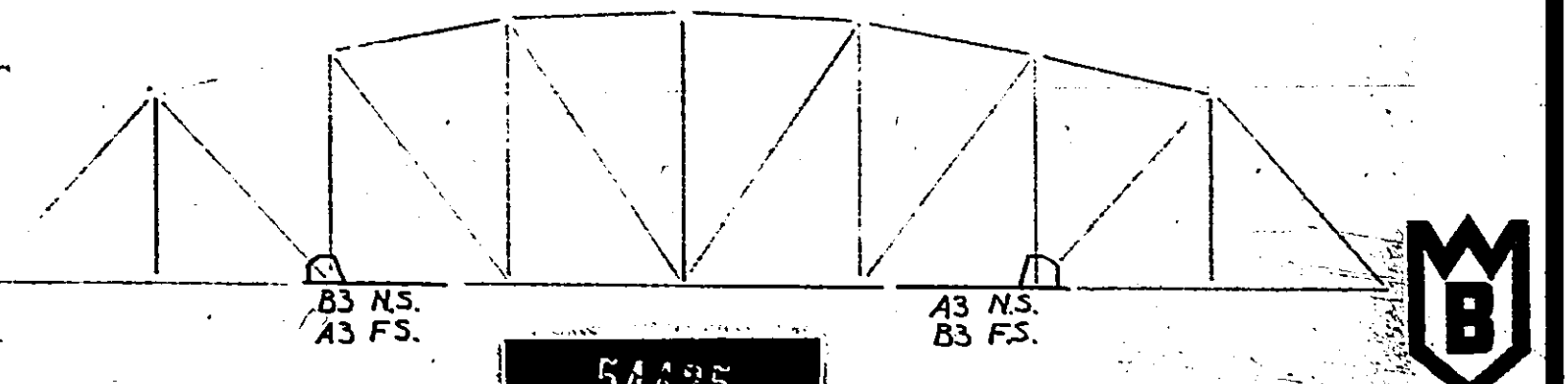
54126

Western Bridge and Steel Fabricators Ltd.
 VANCOUVER - CANADA

CUSTOMER GOVT. OF B.C. - DEPT. OF PUBLIC WORKS
 NAME OF STRUCTURE HIGHWAY BRIDGE - 150 FT. SPAN
 LOCATION
 TITLE OF DRAWING LOWER CHORD - CENTRE SECTION
 MADE BY FS CHECKED BY DATE Jan 16/50
 CONTRACT 1850-1851 W.O. DRWG. No 2



2 LOWER CHORD SECTIONS AS SHOWN A3
2 LOWER CHORD SECTIONS OPP HAND B3



1851 - Kicking Horse River - Golden, B.C.
 1850 - River Bend Bridge - Alseni
 1730 - Loop Bridge - Fernie

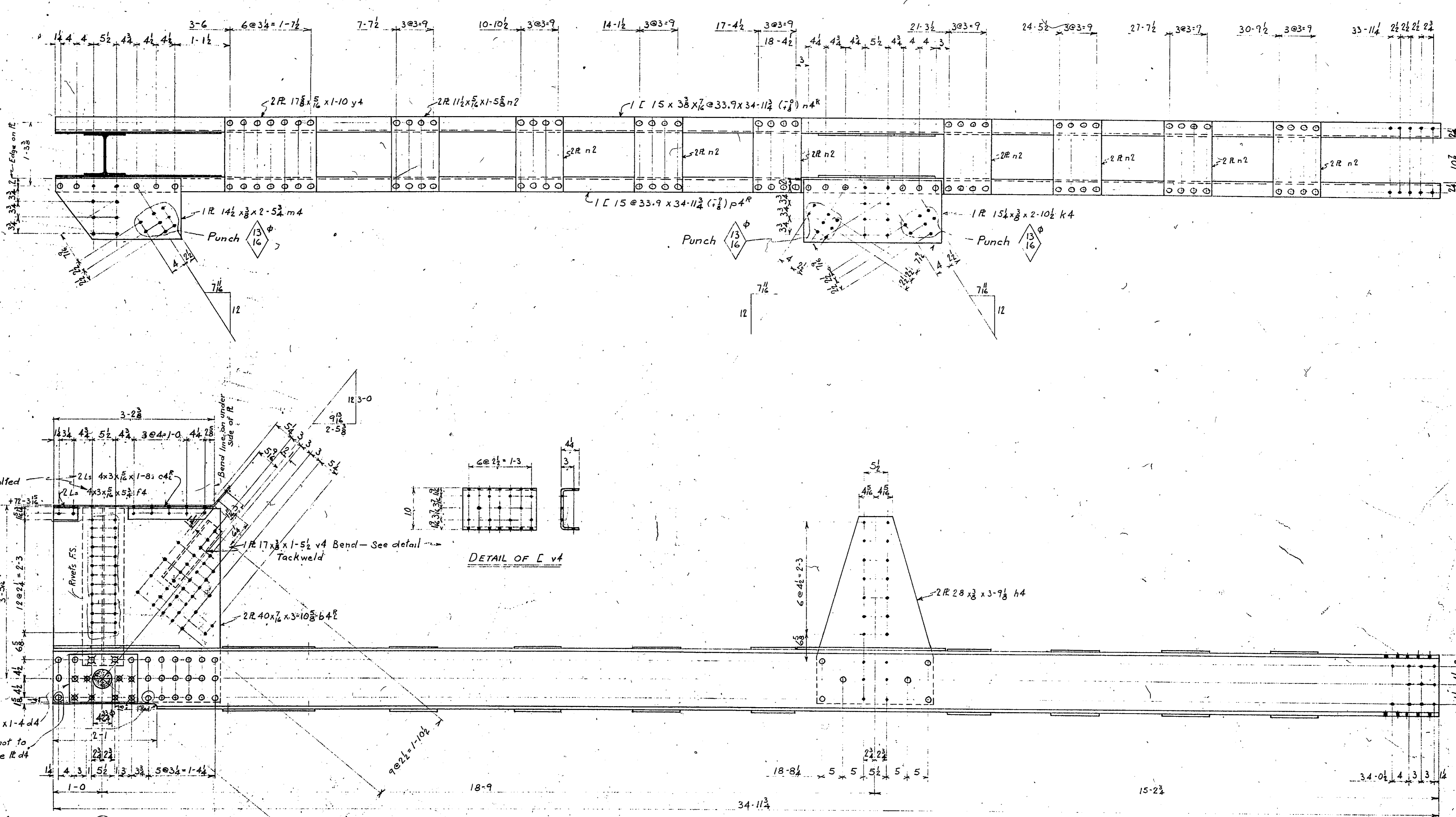
ARC AND GAS WELDING SYMBOLS	
TYPE OF WELD	SYMBOLS
BEAD	(Symbol)
FLAT	(Symbol)
CONCAVE	(Symbol)
CONVEX	(Symbol)
FLUSH	(Symbol)
FLUSH	(Symbol)
FLUSH	(Symbol)
FLUSH	(Symbol)
FLUSH	(Symbol)
FLUSH	(Symbol)

RIVETS 3 9
 UNLESS NOTED
 OPEN HOLES 13 9
 UNLESS NOTED
 SHOP PAINT
 1 COAT RED LEAD
 NOTES SUB-PUNCH OPEN
 HOLES 16 & REAM TO
 13 9
 UNLESS NOTED
 REV. 5/8 No. A

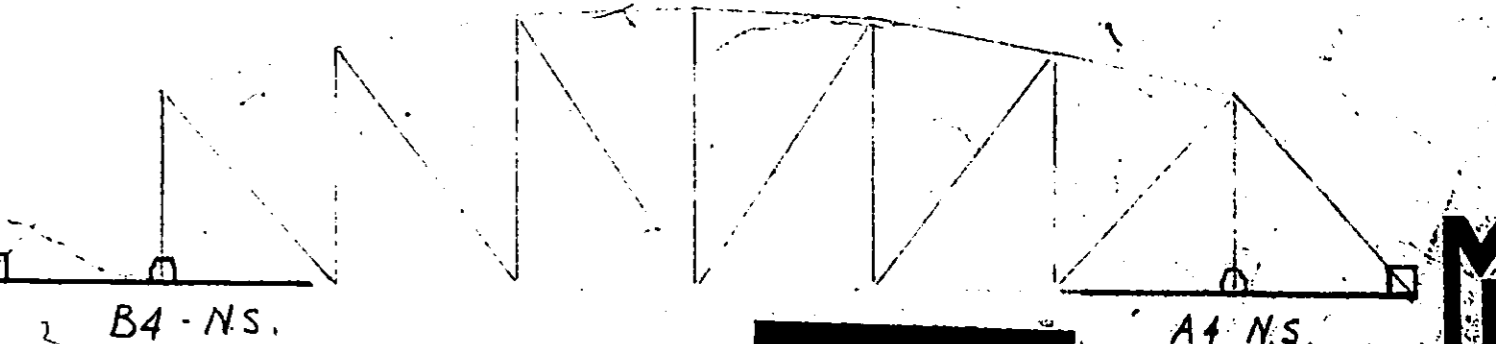
54225

Western Bridge and Steel Fabricators Ltd.
 VANCOUVER - CANADA

CUSTOMER GOVT. OF B.C. - DEPT. OF PUBLIC WORKS
 NAME OF STRUCTURE HIGHWAY BRIDGE - 150 FT. SPAN
 LOCATION
 TITLE OF DRAWING LOWER CHORD SECTIONS
 MADE BY FS CHECKED BY JK DATE Jan 16 1964
 CONTRACT 1850-1851 W.O. DRWG. No. 3



2 LOWER CHORD SECTIONS AS SHOWN A4
2 LOWER CHORD SECTIONS OPP. HAND B4



Fill 6x4x7 v4
 2Bolts 3x1/2 SH.N.
 1. Fill R 2 1/2 x 7 ab4.
 3 Bolts 3x1/2 SH.N.

1. Fill R 2 1/2 x 7 ab4.
 3 Bolts 3x1/2 SH.N.

1. Fill R 2 1/2 x 7 ab4.
 3 Bolts 3x1/2 SH.N.

With Sidewalks - 1851 - Kinkling Horse River - Golden, B.C.
 With Sidewalks - 1850 - River Bridge Brides - Alberni
 No Sidewalks - 1730 - Loop Bridge - Fernie

ARC AND GAS WELDING SYMBOLS		
BEAD	TYPE OF WELD	LOCATION OF WELDS
	BEAD FILLET GROOVE FILLET FLUSH ALL FLUSH	LOCATION OF WELDS BOTH SIDES SIDE OF JOINT OTHER (OR FACE) SIDE OF JOINT INCL. ANGLE SIZE OF WELD SIZE OF JOINT SIZE OF FLUSH SIZE OF OPENING INCREMENTS
	ARROW FOR NEAR SIDE OF JOINT FIELD WELD SIZE OF FLUSH	BOTH SIDES SIDE OF JOINT OTHER (OR FACE) SIDE OF JOINT INCL. ANGLE SIZE OF WELD SIZE OF JOINT SIZE OF FLUSH SIZE OF OPENING INCREMENTS

RIVETS 3/8" UNLESS NOTED
 OPEN HOLES 1 1/2" UNLESS NOTED
 SHIP PAINT
 1 COAT RED LEAD

NOTES
 SUB-PUNCH OPEN HOLES 1/8" & REAM TO 1/8" UNLESS NOTED

REV. S/B No. A

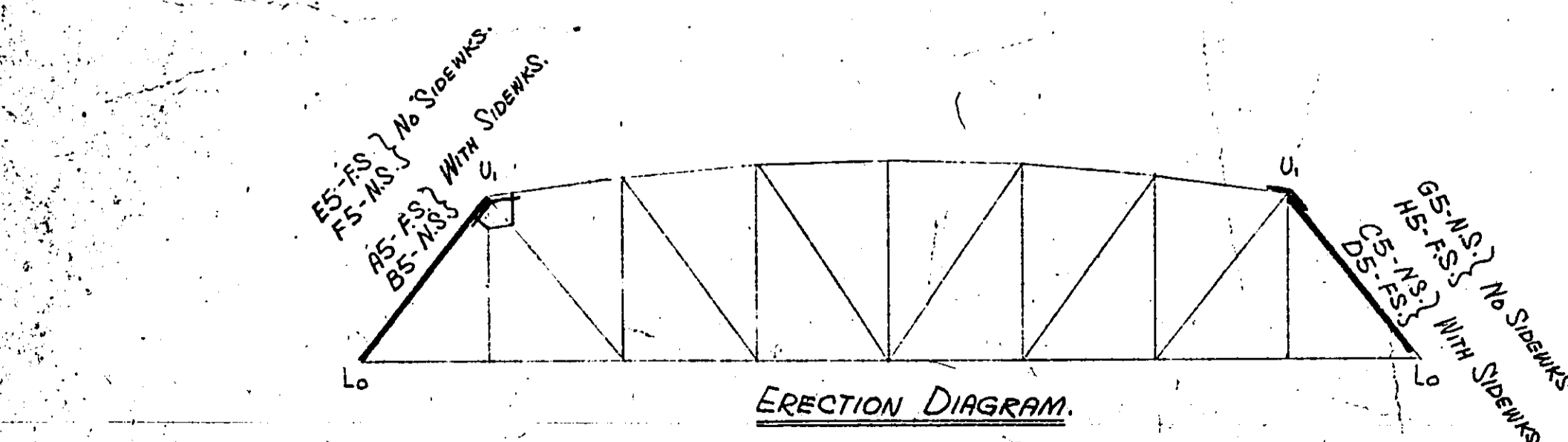
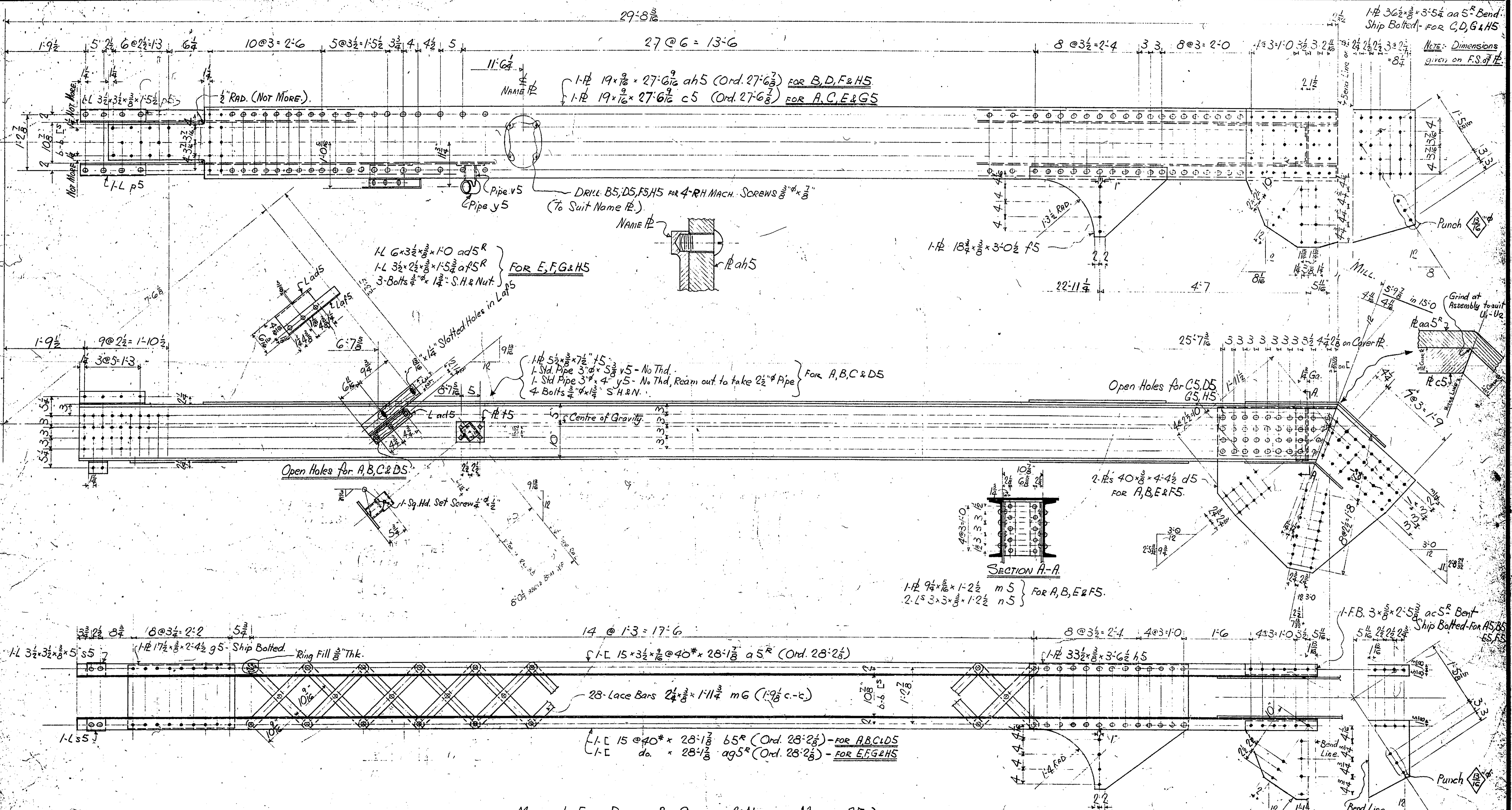
Western Bridge and Steel Fabricators Ltd.
 VANCOUVER - CANADA

CUSTOMER GOVT. OF B.C. - DEPT. OF PUBLIC WORKS
 NAME OF STRUCTURE HIGHWAY BRIDGE - 150-FT. SPAN
 LOCATION _____
 TITLE OF DRAWING LOWER CHORD - END SECTION
 MADE BY FS CHECKED BY _____ DATE JAN 1951
 CONTRACT 1850-1851 W.O. _____ DRWG. No. 4

54124

B4 - NS.
A4 - FS.

A4 NS.
B4 FS.



- MAKE 1- END POST - AS SHOWN & NOTED - MARK A5
- " 1- Do. - OPP. HAND " " " B5
 - " 1- Do. - AS SHOWN & NOTED - " C5
 - " 1- Do. - OPP. HAND " " " D5
- FOR SPANS WITH 2 SIDEWALKS.
- 1- END POST - AS SHOWN & NOTED - ES
- 1- Do. - OPP. HAND " " - FS
 - 1- Do. - AS SHOWN & NOTED - GS
 - 1- Do. - OPP. HAND " " - HS
- FOR SPANS WITHOUT SIDEWALKS.

With SIDEWALKS - 1851 - Woking Horse River - Golden, B.C.
 With SIDEWALKS - 1850 - River Bend Bridge - ALEXANDER
 No SIDEWALKS - 1730 - LOOP BRIDGE - FERNIE

ARC AND GAS WELDING SYMBOLS	
TYPE OF WELD	
BEAD FILL	BEAD
FLUSH	FLUSH
CONCAVE	CONCAVE
CONVEX	CONVEX
FLUSH	FLUSH
CONCAVE	CONCAVE
CONVEX	CONVEX
LOCATION OF WELDS	
ARROW (OR HEAD) SIDE OF JOINT	OTHER (OR TAIL) SIDE OF JOINT
FIELD	FIELD
NOTE	NOTE
SEE	SEE
NOTE	NOTE

RIVETS	UNLESS NOTED
OPEN HOLES	UNLESS NOTED
SHOP PAINT	1-COAT RED LEAD
REV.	5/8 No.

54423

Western Bridge and Steel Fabricators Ltd.
 VANCOUVER - CANADA

CUSTOMER: B.C. GOVT. DEPT. OF PUBLIC WORKS.

NAME OF STRUCTURE: HIGHWAY BRIDGE - 150'-0" SPAN.

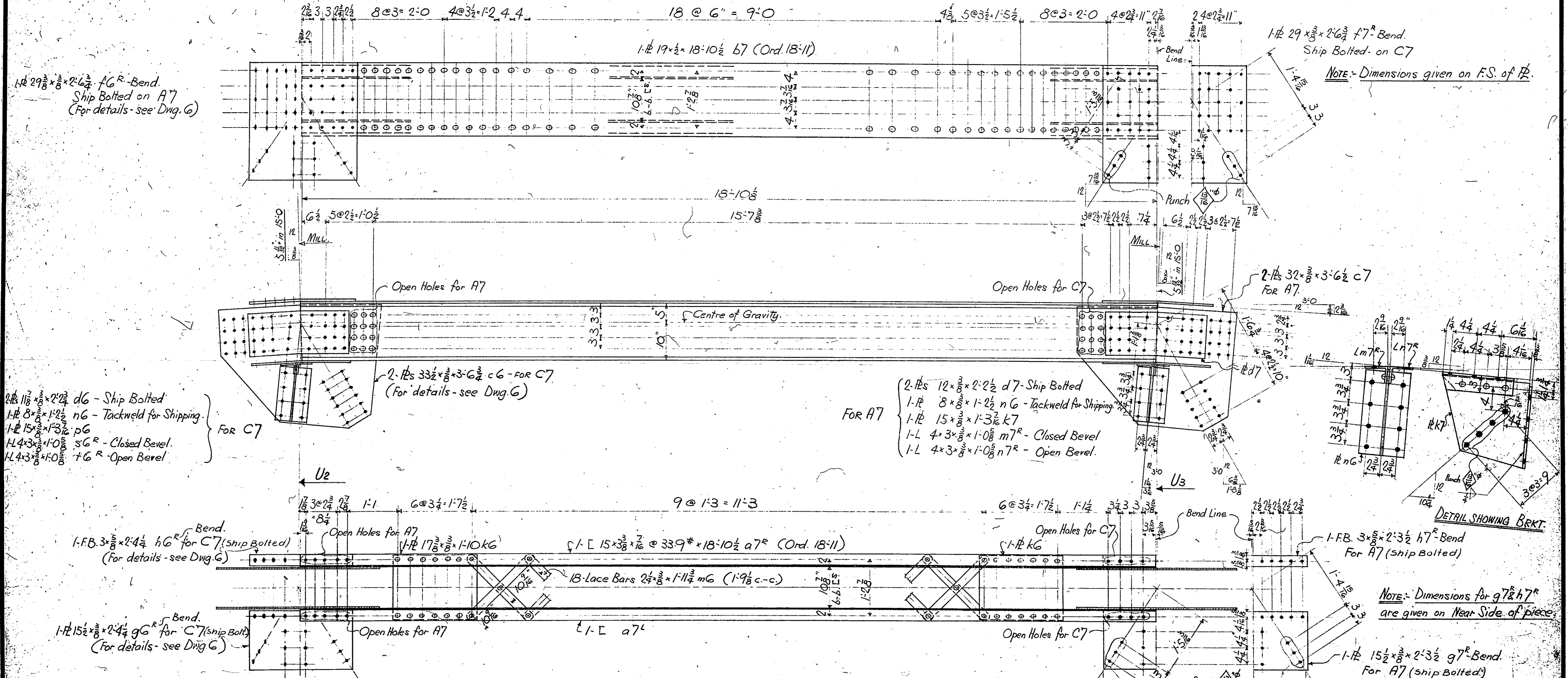
LOCATION:

TITLE OF DRAWING: END POST.

MADE BY: AMB. CHECKED BY: [Signature]. DATE: July 26, 1951.

CONTRACT: 1850-1851 W.O. DRWG. No. 15





NOTE: - Dimensions given on F.S. of #.

1-# 29 3/8 x 3/8 x 2-6 1/2 f6^R Bend.
Ship Bolted on A7
(For details - see Dwg. G)

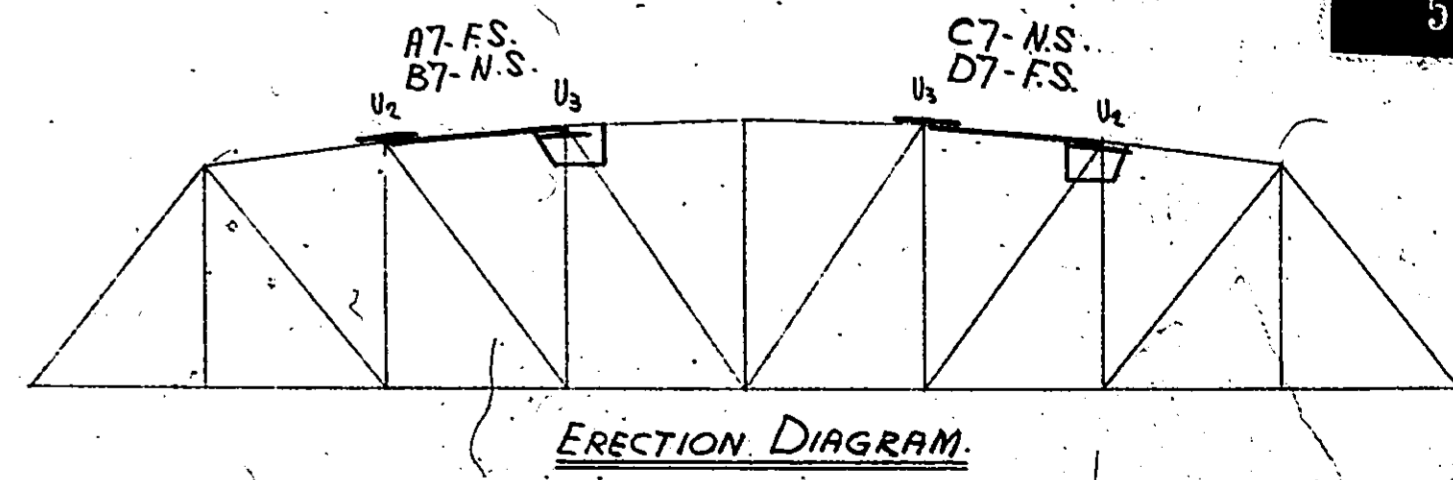
2-#s 11 3/8 x 3/8 x 2-2 1/2 d6 - Ship Bolted
1-# 8 x 3/8 x 1-2 1/2 n6 - Tackweld for Shipping
1-# 15 x 3/8 x 1-3 1/2 p6
1-# 4 x 3/8 x 1-0 s6^R - Closed Bevel
1-# 4 x 3/8 x 1-0 t6^R - Open Bevel

FOR A7
 { 2-#s 12 x 2 x 2-2 1/2 d7 - Ship Bolted
 1-# 8 x 3/8 x 1-2 1/2 n6 - Tackweld for Shipping
 1-# 15 x 3/8 x 1-3 1/2 k7
 1-L 4 x 3/8 x 1-0 m7^R - Closed Bevel
 1-L 4 x 3/8 x 1-0 n7^R - Open Bevel.

NOTE: - Dimensions for g7 & h7^R are given on Near Side of piece.

MAKE 1- TOP CHORD SECTION - AS SHOWN & NOTED - MARK A7

" 1 - Do.	- OPP. HAND TO A7 -	" B7
" 1 - Do.	- AS SHOWN & NOTED -	" C7
" 1 - Do.	- OPP. HAND TO C7 -	" D7



1851 - Kicking Horse River, Golden, B.C.
 1850 - River Bend Bridge - ALBERTA
 CONT. 1730. LOOP BRIDGE, FERNIE.

ARC AND GAS WELDING SYMBOLS			
BEAD	FLARE	TYPE OF WELD	FIELD WELD
ARROW (OR NEAR) SIDE OF JOINT	OTHER (OR FAR) SIDE OF JOINT	BOTH SIDES OF JOINT	FIELD WELD ALL FLUSH ABOVE
SEE NOTE	INCLUDED ANGLE	SIZE	WELD ALL
SIZE	FLUSH	SIZE	WELD ALL
SIZE	FLUSH	SIZE	WELD ALL

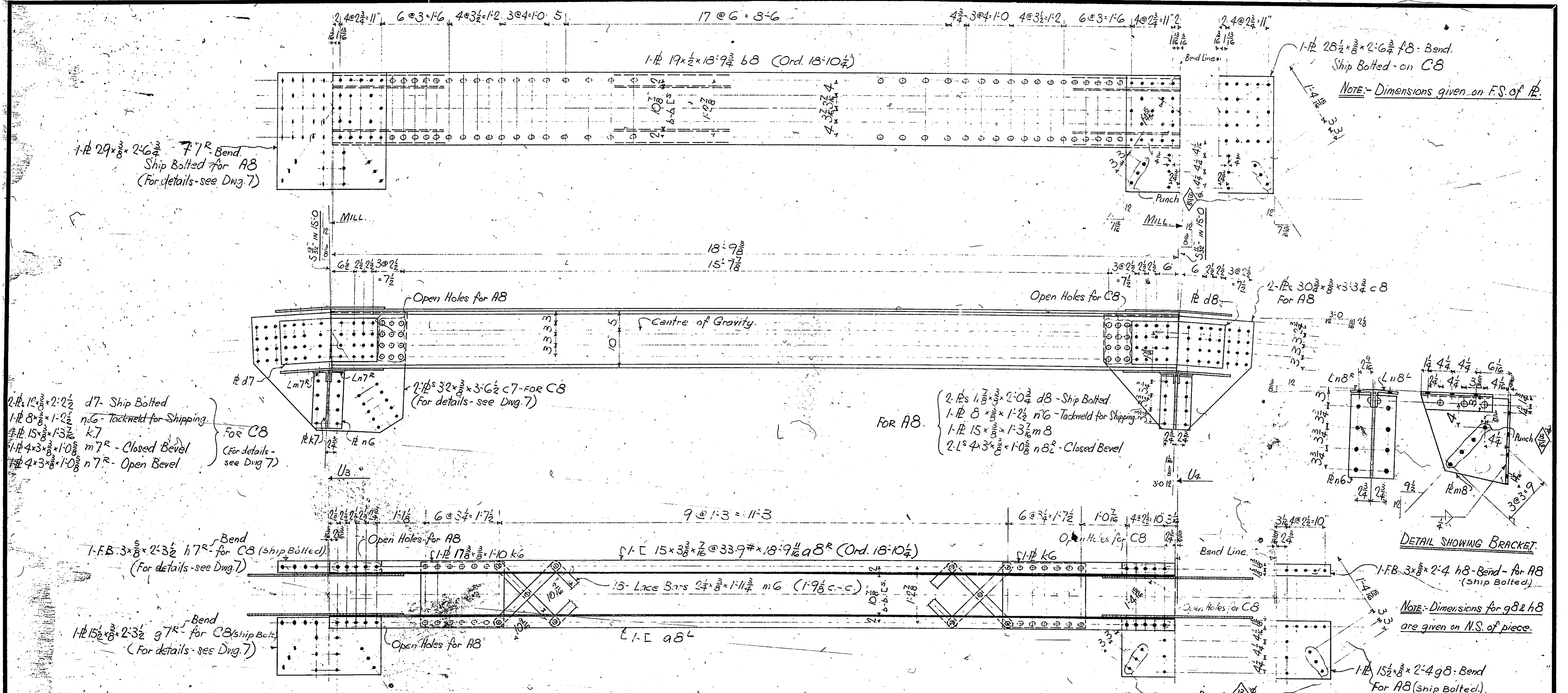
RIVETS	3/4" UNLESS NOTED
OPEN HOLES	1 1/2" UNLESS NOTED
SHOP PAINT	1-COAT RED LEAD
NOTES	SUB-PUNCH OPEN HOLES
NOTED.	9" & REAM TO 1 1/2" UNLESS
REV.	S/B No. A

Western Bridge and Steel Fabricators Ltd.
 VANCOUVER - CANADA

CUSTOMER: B.C. GOVT. DEPT. OF PUBLIC WORKS
 NAME OF STRUCTURE: HIGHWAY BRIDGE - 150'-0" SPAN
 LOCATION: TOP CHORD SECTION (U2-U3)
 TITLE OF DRAWING: TOP CHORD SECTION (U2-U3)
 MADE BY: AMB CHECKED BY: DATE: Jan 1950
 CONTRACT: 1850-1851 W.O. DRAWING: 7



54421



1-# 29 x 3/8 x 2-6 3/4 7 7/8 Bend
Ship Bolted for AB
(For details-see Dwg. 7)

2-# 1 1/8 x 2-2 1/2 d7- Ship Bolted
1-# 8 x 3/8 x 1-2 1/2 n6- Tackweld for Shipping
1-# 15 x 3/8 x 1-3 7/8 k7
1-# 4 x 3/8 x 1-0 5/8 m7R - Closed Bevel
1-# 4 x 3/8 x 1-0 5/8 n7R - Open Bevel

FOR AB:
2-#s 1 7/8 x 2-0 3/4 d8 - Ship Bolted
1-# 8 x 3/8 x 1-2 1/2 n6 - Tackweld for Shipping
1-# 15 x 3/8 x 1-3 7/8 m8
2-#s 4 x 3/8 x 1-0 5/8 n8R - Closed Bevel

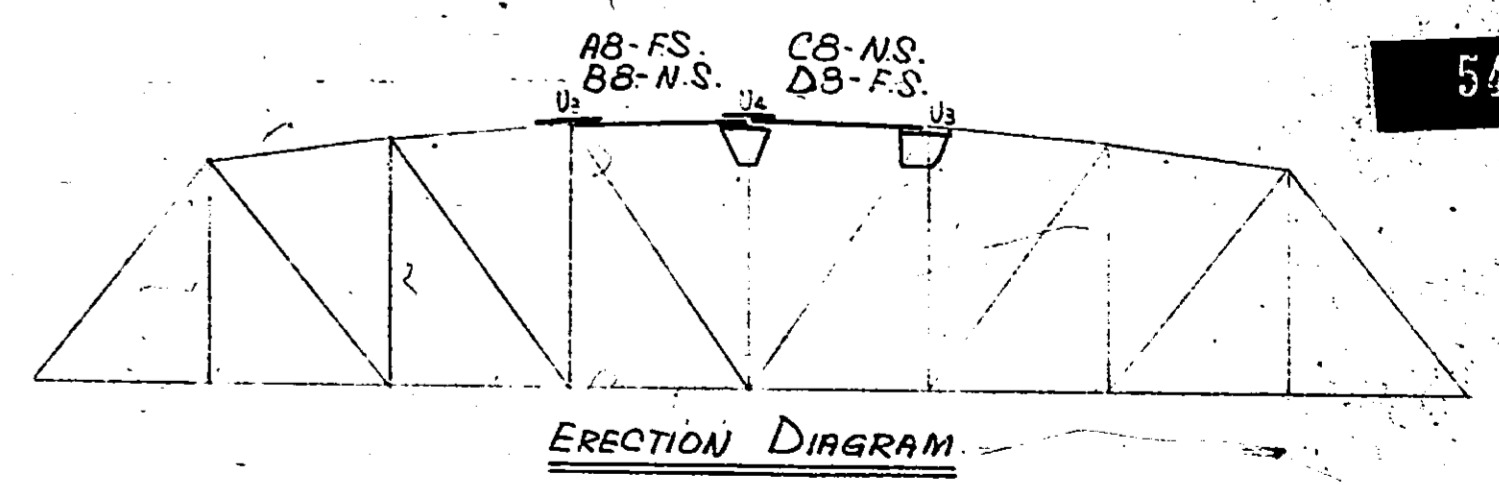
NOTE:- Dimensions given on F.S. of LB.

DETAIL SHOWING BRACKET

NOTE:- Dimensions for g8 & h8 are given on N.S. of piece.

MAKE 1- TOP CHORD SECTION - AS SHOWN & NOTED - MARK AB

"	1- Do.	- OPP. HAND TO AB -	B8
"	1- Do.	- AS SHOWN & NOTED -	C8
"	1- Do.	- OPP. HAND TO C8 -	D8



1851 - Kicking Horse River, Golden, B.C.
1850 - River Bend Bridge - ABERN
CONT. 1730. LOOP BRIDGE - FERRIE.

ARC AND GAS WELDING SYMBOLS		WELD ALL FLUSH	
BEAD FILLER	TYPE OF WELD	FLUSH WELD	WELD ALL FLUSH
ARROW (OR NEAR) SIDE OF JOINT	OTHER (OR FAR) SIDE OF JOINT	FLUSH WELD	WELD ALL FLUSH
NOTE	INCLUDED ANGLE	FLUSH WELD	WELD ALL FLUSH
SIZE	ROOT	FLUSH WELD	WELD ALL FLUSH
SIZE	ROOT	FLUSH WELD	WELD ALL FLUSH

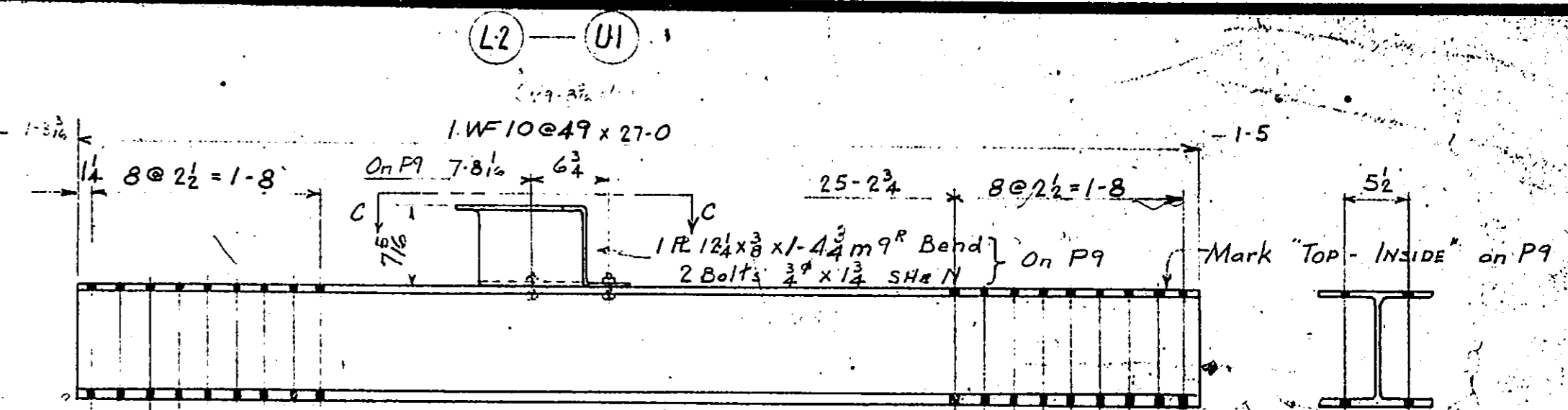
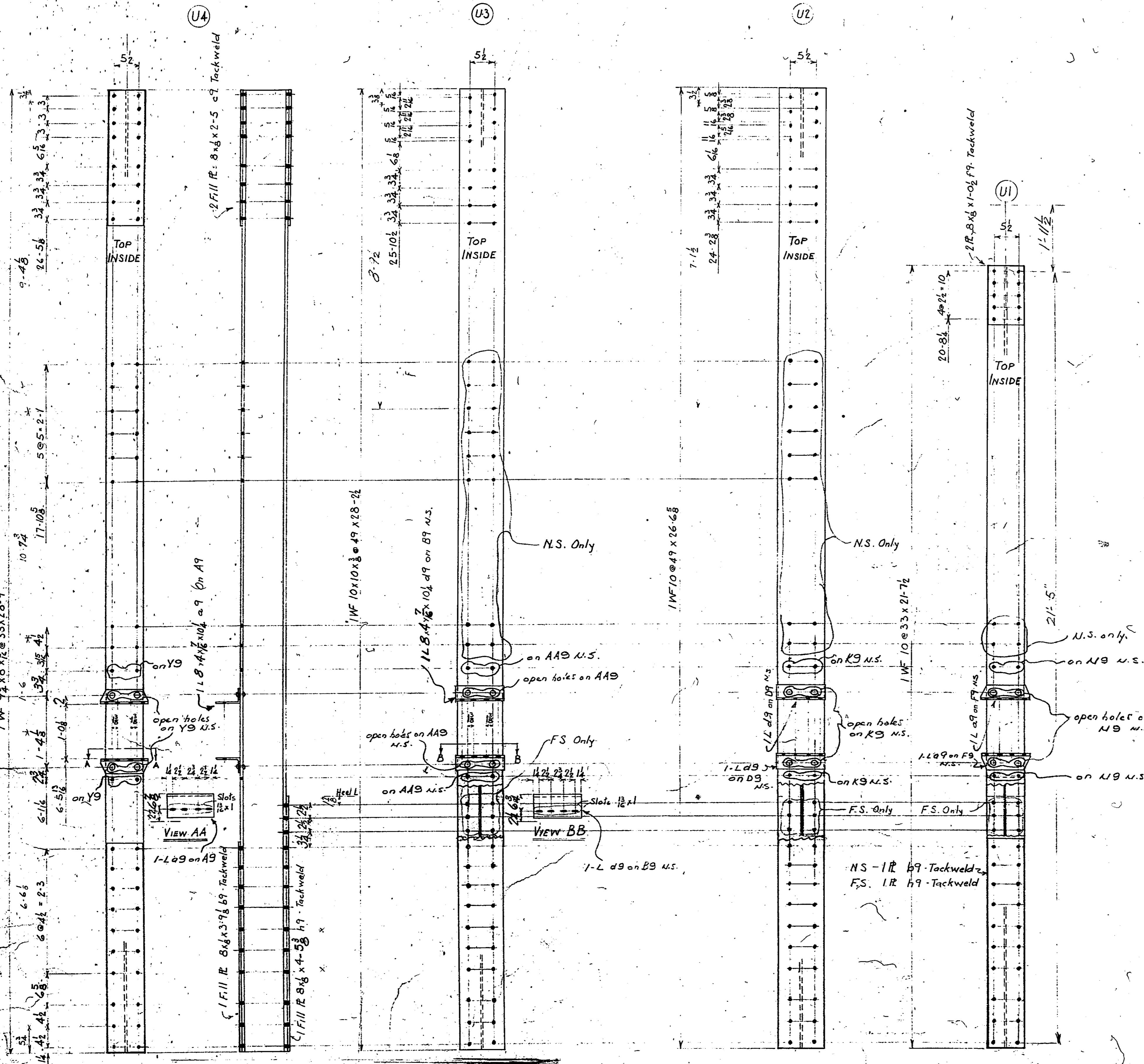
RIVETS	UNLESS NOTED
OPEN HOLES	UNLESS NOTED
SHOP PAINT	1-COAT RED LEAD
NOTES	SUB-PUNCH OPEN HOLES 1/2" & REAM TO 1/16" UNLESS NOTED.
REV.	5/8 No. A

Western Bridge and Steel Fabricators Ltd.
VANCOUVER - CANADA

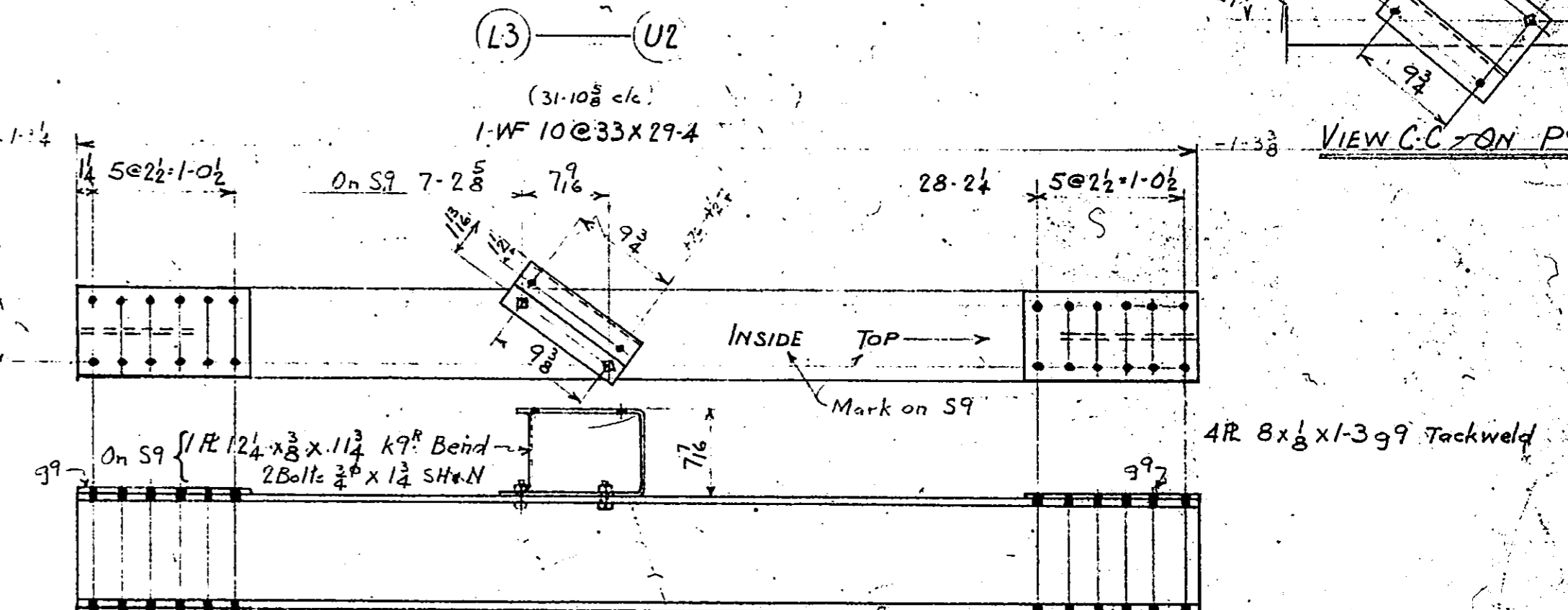
CUSTOMER: B.C. GOVT. DEPT. OF PUBLIC WORKS.
NAME OF STRUCTURE: HIGHWAY BRIDGE - 150'-0" SPAN.
LOCATION: _____
TITLE OF DRAWING: TOP CHORD SECTION. (U3-U4)
MADE BY: AMB. CHECKED BY: _____ DATE: Jan 1950
CONTRACT: 1850-1851 W.O. DRWG. No. 8

54120

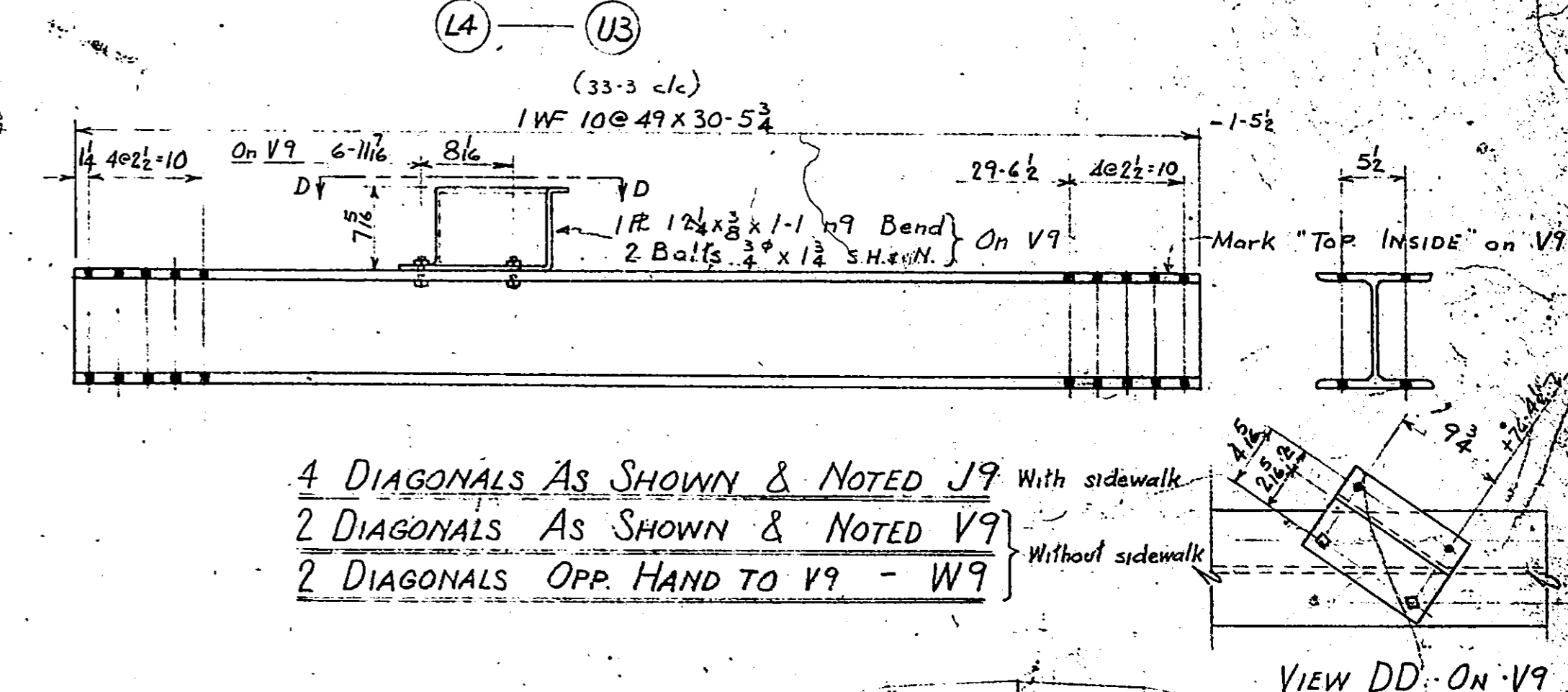




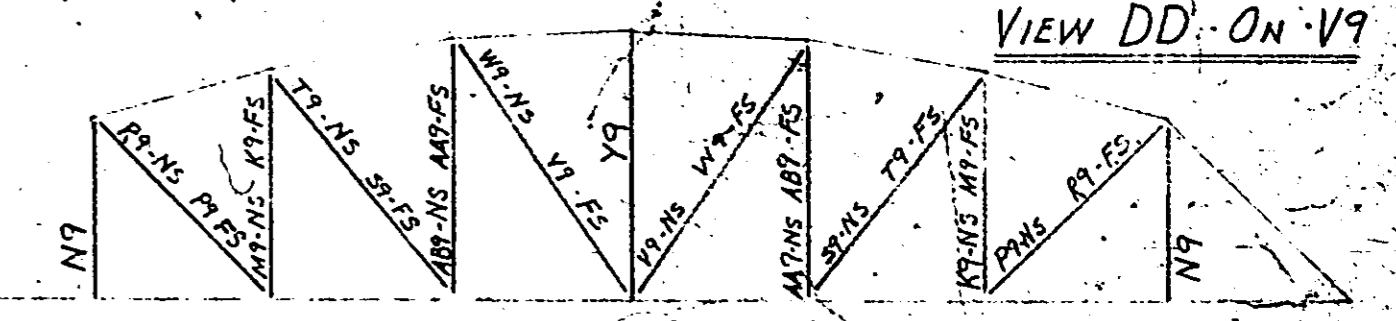
4 DIAGONALS AS SHOWN & NOTED G9 With sidewalk
 2 DIAGONALS AS SHOWN & NOTED P9 Without sidewalk
 2 DIAGONALS OPP HAND TO P9 - R9



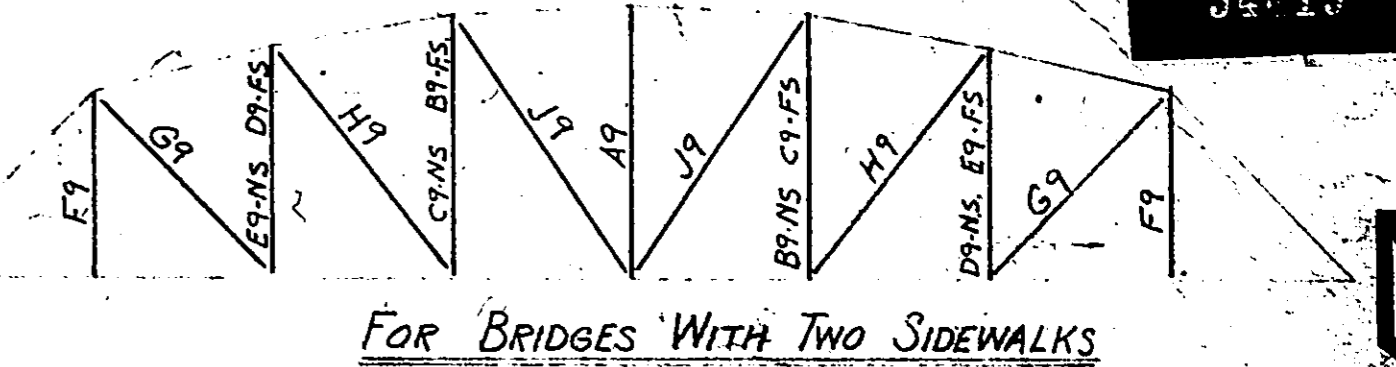
4 DIAGONALS AS SHOWN & NOTED H9 With sidewalk
 2 DIAGONALS AS SHOWN & NOTED S9 Without sidewalk
 2 DIAGONALS OPP HAND TO S9 - T9



4 DIAGONALS AS SHOWN & NOTED J9 With sidewalk
 2 DIAGONALS AS SHOWN & NOTED V9 Without sidewalk
 2 DIAGONALS OPP HAND TO V9 - W9



FOR BRIDGES WITHOUT SIDEWALKS



FOR BRIDGES WITH TWO SIDEWALKS

With sidewalk - 2 Posts As Shown & NOTED - A9
 Without sidewalk - 2 Posts As Shown & NOTED - Y9

2 Posts As Shown & NOTED B9 With sidewalk
 2 Posts Opp. Hand to B9 - C9
 2 Posts As Shown & NOTED-AA9 Without sidewalk
 2 Posts Opp. Hand to AA9 - AB9

2 Posts As Shown & NOTED D9
 2 Posts Opp. Hand to D9 - E9
 2 Posts As Shown & NOTED K9
 2 Posts Opp. Hand to K9 - M9

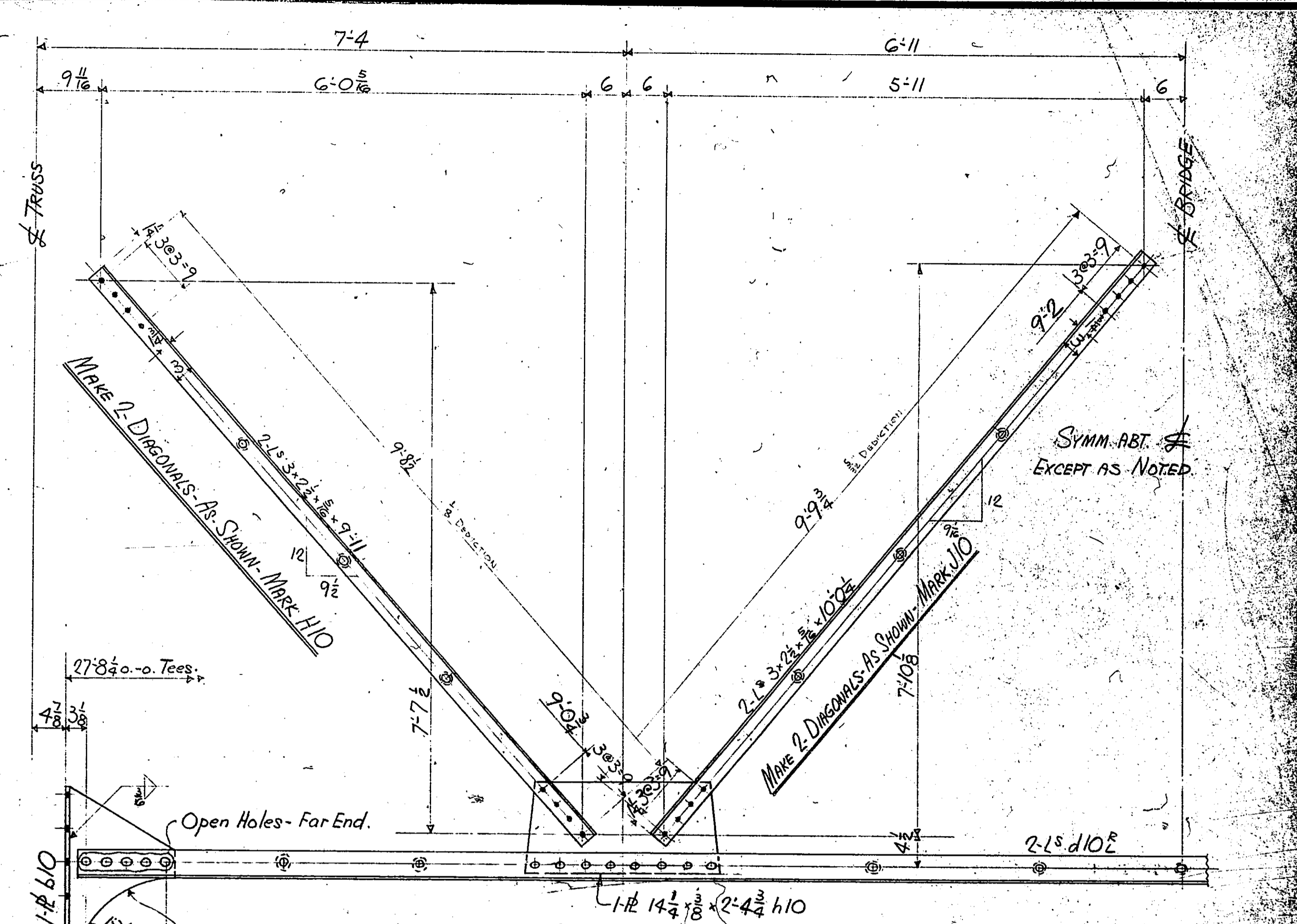
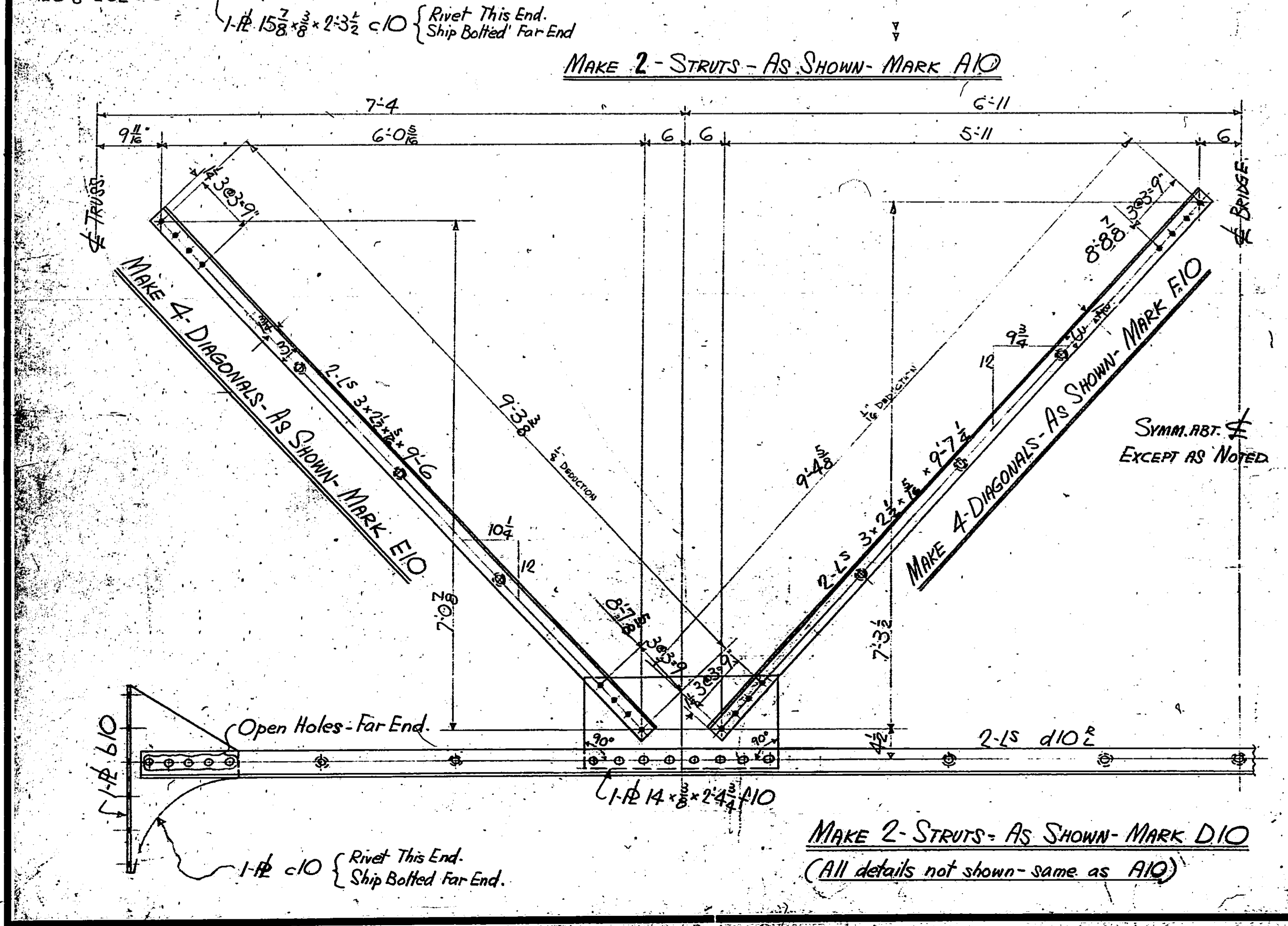
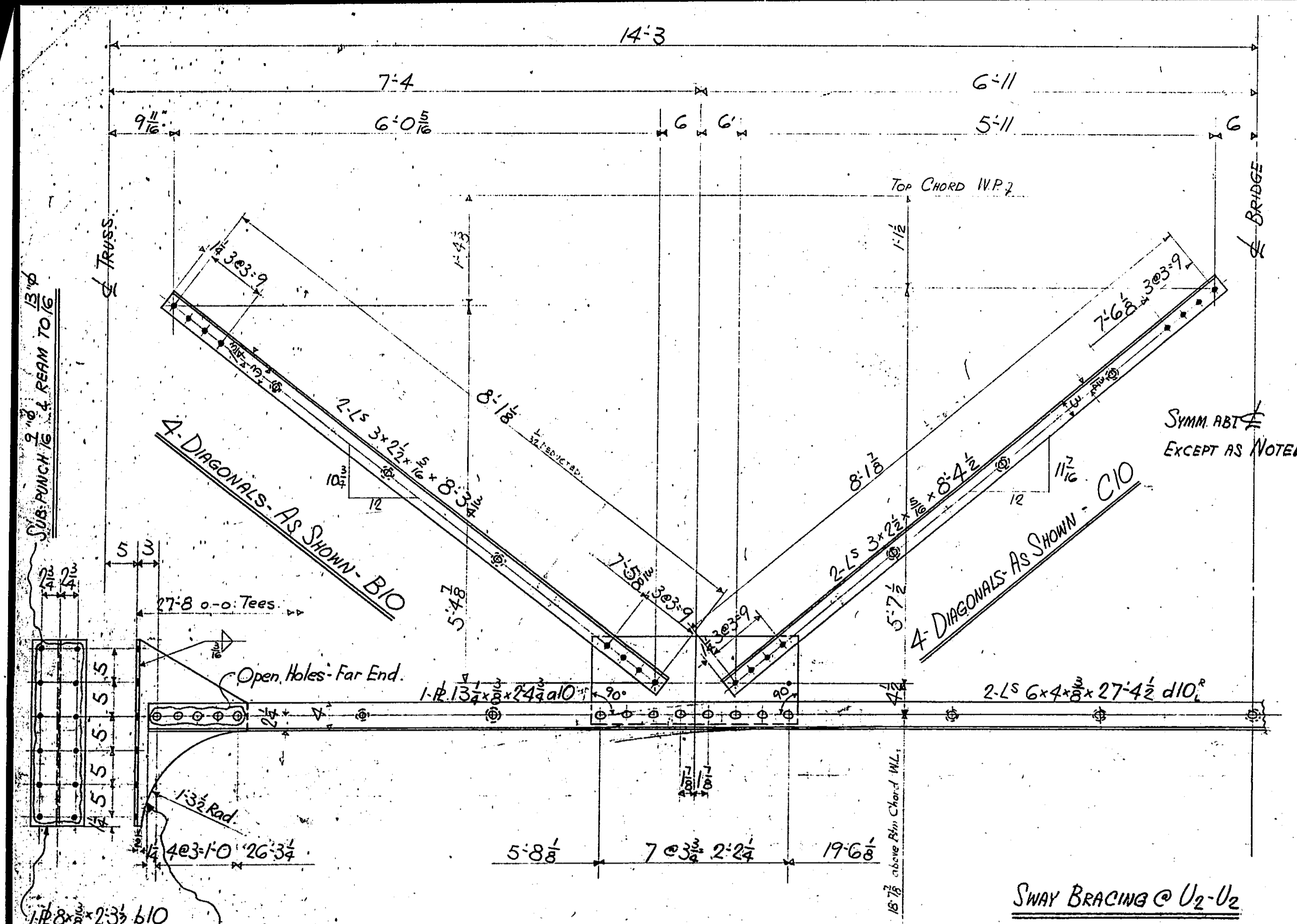
4 Posts As Shown & NOTED F9 With sidewalk
 4 Posts As Shown & NOTED N9 Without sidewalk

With Sidewalks - 1731 - Kicking Horse River, - Golden, B.C.
 With Sidewalks - 1830 - River Bend Bridge - Alberni
 No Sidewalks - 1730 - Loop Bridge - Fernie

ARC AND GAS WELDING SYMBOLS					
TYPE OF WELD:					
BEAD	FLAT	CONCAVE	CONVEX	FLUSH	PLANNED
REINFORCED	REINFORCED	REINFORCED	REINFORCED	REINFORCED	REINFORCED
LOCATIONS:	LOCATIONS:	LOCATIONS:	LOCATIONS:	LOCATIONS:	LOCATIONS:

RIVETS:	3/8"	UNLESS NOTED	Western Bridge and Steel Fabricators Ltd.
OPEN HOLES:	1 1/8"	UNLESS NOTED	
SHOP PAINT:	1 COAT RED LEAD		
CUSTOMER:	GOVT. OF B.C. - DEPT. OF PUBLIC WORKS		
NAME OF STRUCTURE:	HIGHWAY BRIDGE - 150 FT. SPAN		
LOCATION:	TRUSS WEB MEMBERS		
TITLE OF DRAWING:	MADE BY: FE CHECKED BY: DATE: July 20/50		
CONTRACT:	1730-1831 W.O. DRAWING 197		





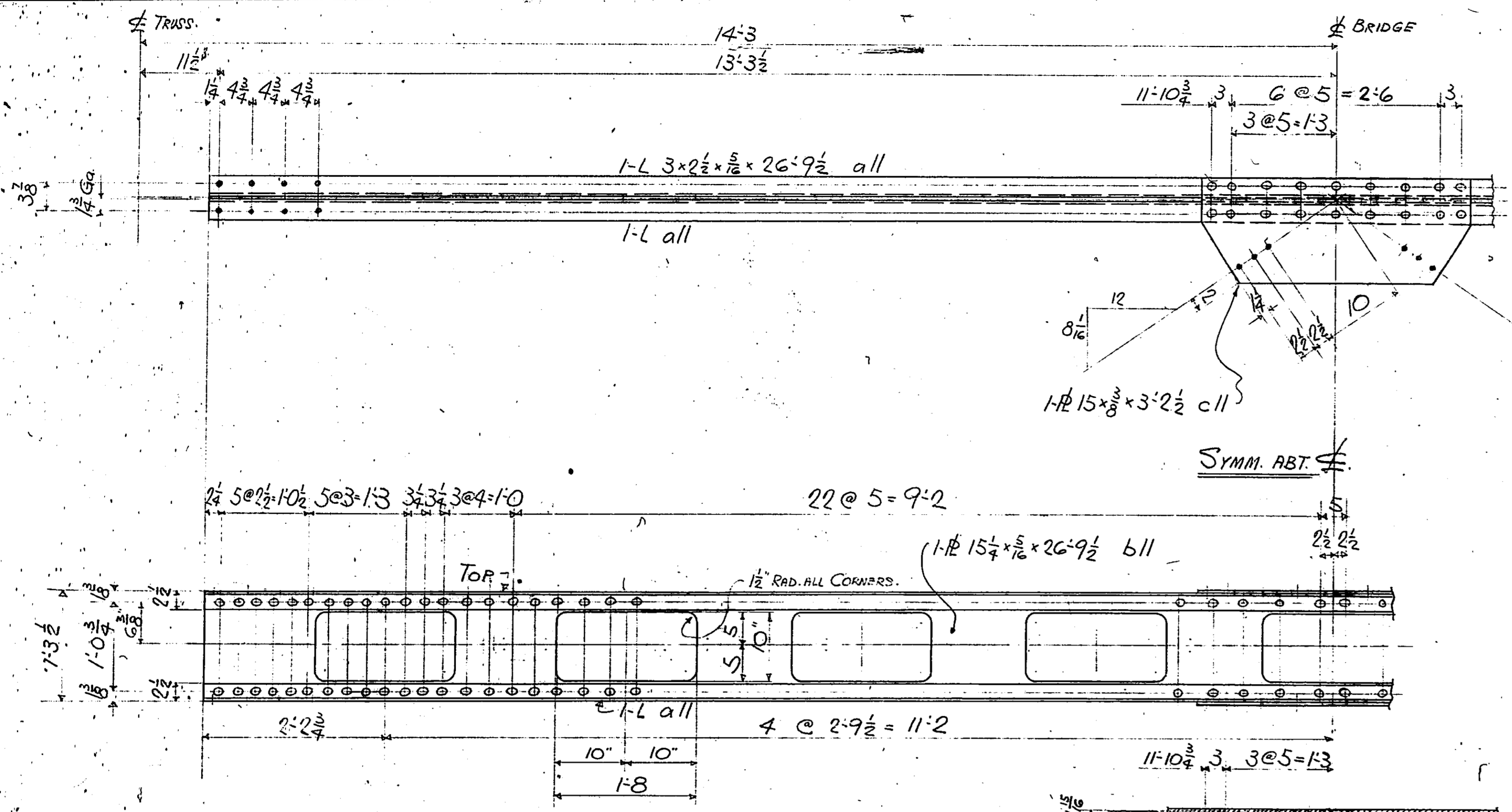
NOTE: - All Ring Fills to be $\frac{13}{16}$ " I.D. $\frac{3}{8}$ " Thick.

1851 - Kicking Horse River, Golden, B.C.
 1850 - River Bend Bridge - Alberta
 CONT. 1730 - LOOP BRIDGE, FERNIE.

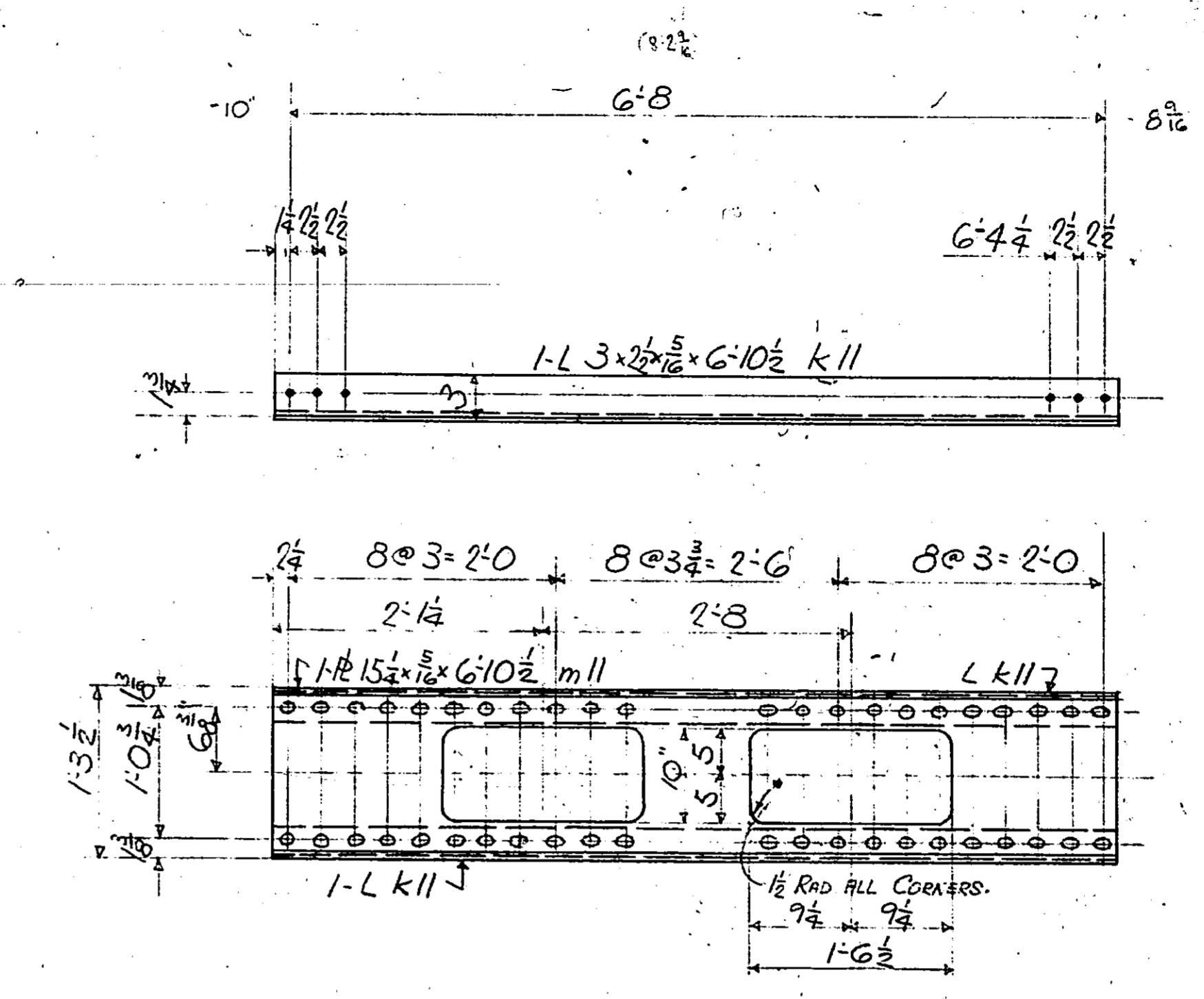
ARC AND GAS WELDING SYMBOLS		TYPE OF WELD		FIELD WELD		FLUSH WELD	
BEAD	PALETTE	SEAM	SEAM	SEAM	SEAM	SEAM	SEAM
LOCATION OF WELDS:							
ARROW (OR NEAR) SIDE OF JOINT		OTHER (OR FAR) SIDE OF JOINT		BOTH SIDES OF JOINT		WELLS	
SEE NOTE	FIELD WELD	INCLUDED ANGLE	SIZE OF WELD	SIZE OF WELD	SIZE OF WELD	SIZE OF WELD	SIZE OF WELD
SEE NOTE	FIELD WELD	SIZE OF WELD	SIZE OF WELD	SIZE OF WELD	SIZE OF WELD	SIZE OF WELD	SIZE OF WELD

Western Bridge and Steel Fabricators Ltd.
 VANCOUVER - CANADA

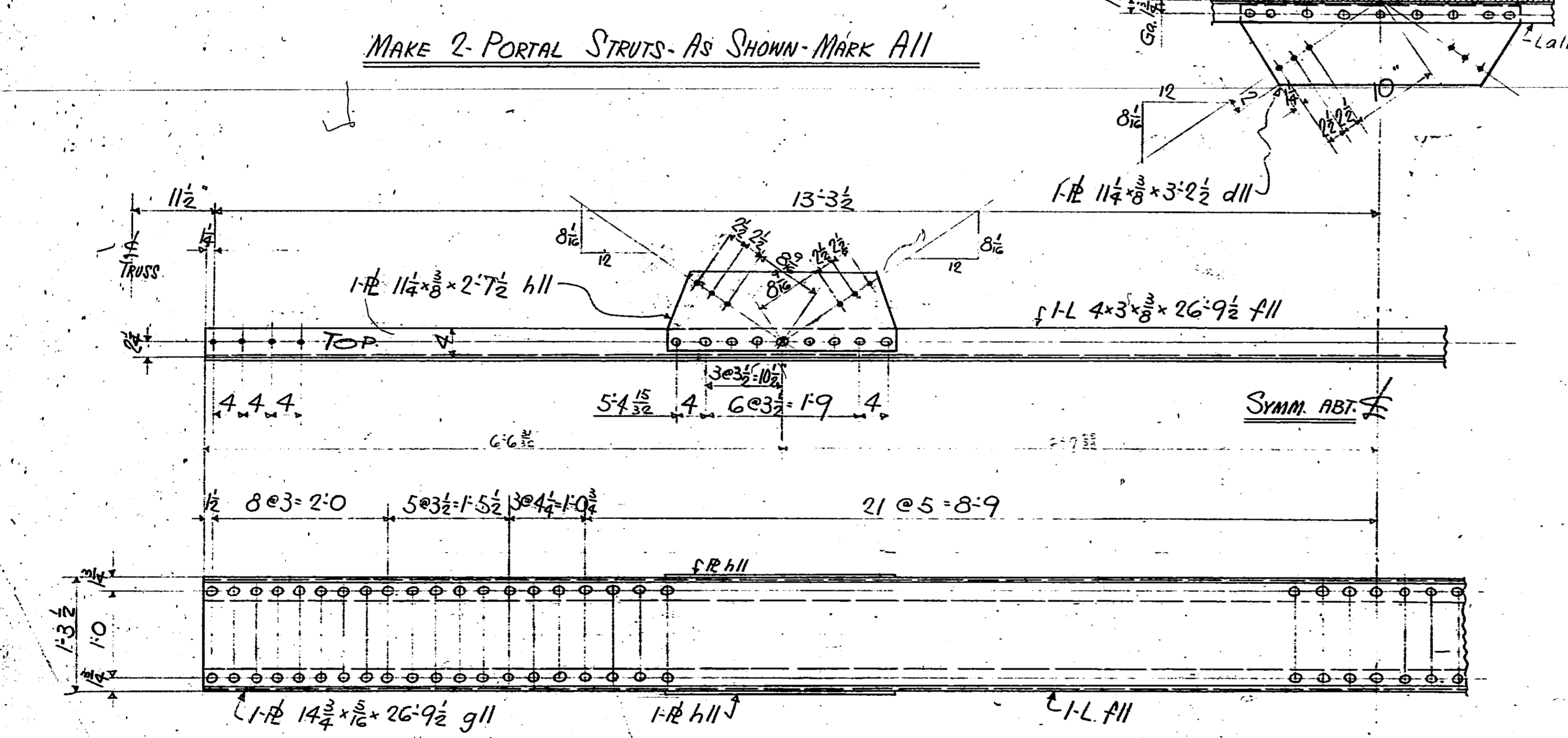
CUSTOMER: B.C. GOV. DEPT. OF PUBLIC WORKS.
 NAME OF STRUCTURE: HIGHWAY BRIDGE - 150'-0" SPAN.
 LOCATION: _____
 TITLE OF DRAWING: SWAY BRACING.
 MADE BY: A.M.B. CHECKED BY: _____ DATE: Jan 17/50
 CONTRACT: 1850/1851 W.O. _____ DRWG. NO. 10



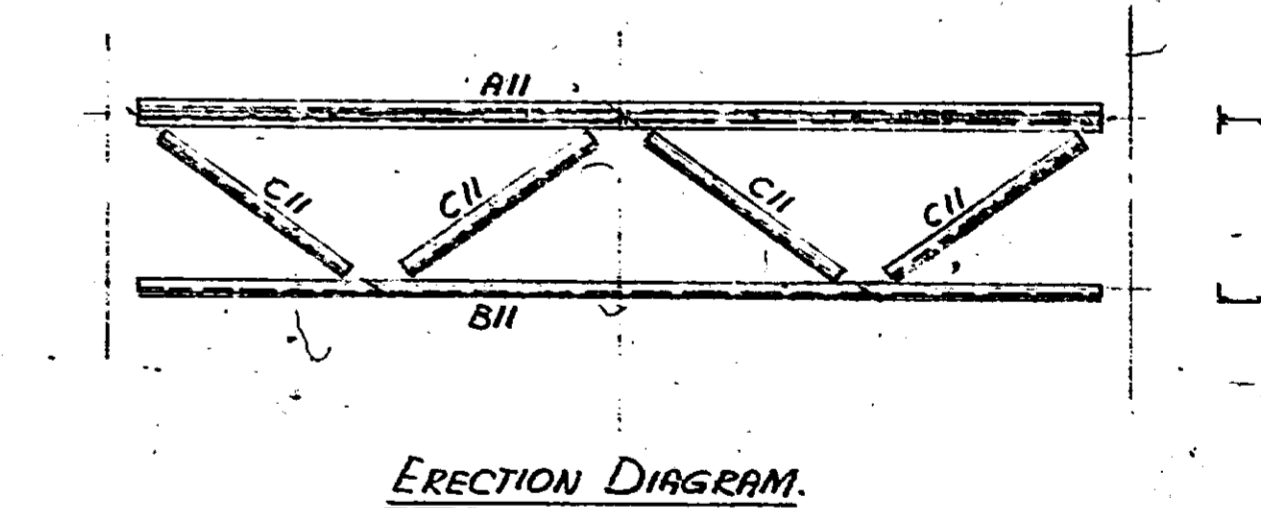
MAKE 2- PORTAL STRUTS- AS SHOWN- MARK A11



MAKE 8- PORTAL DIAGONALS- AS SHOWN- MARK C11



MAKE 2- PORTAL STRUTS- AS SHOWN- MARK B11

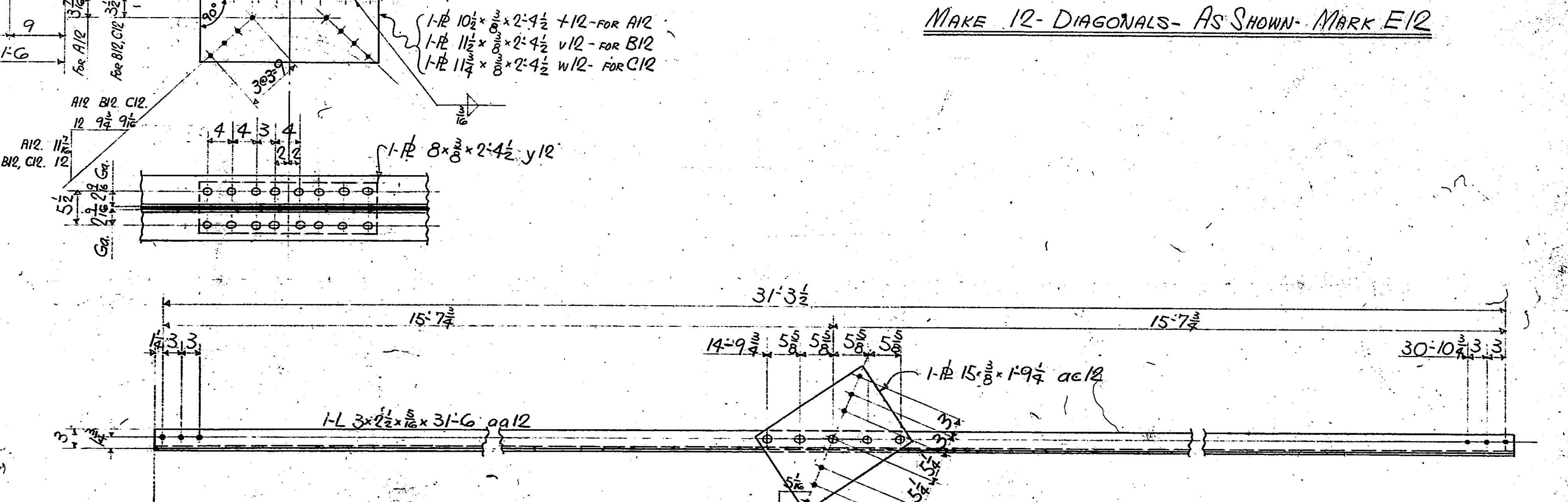
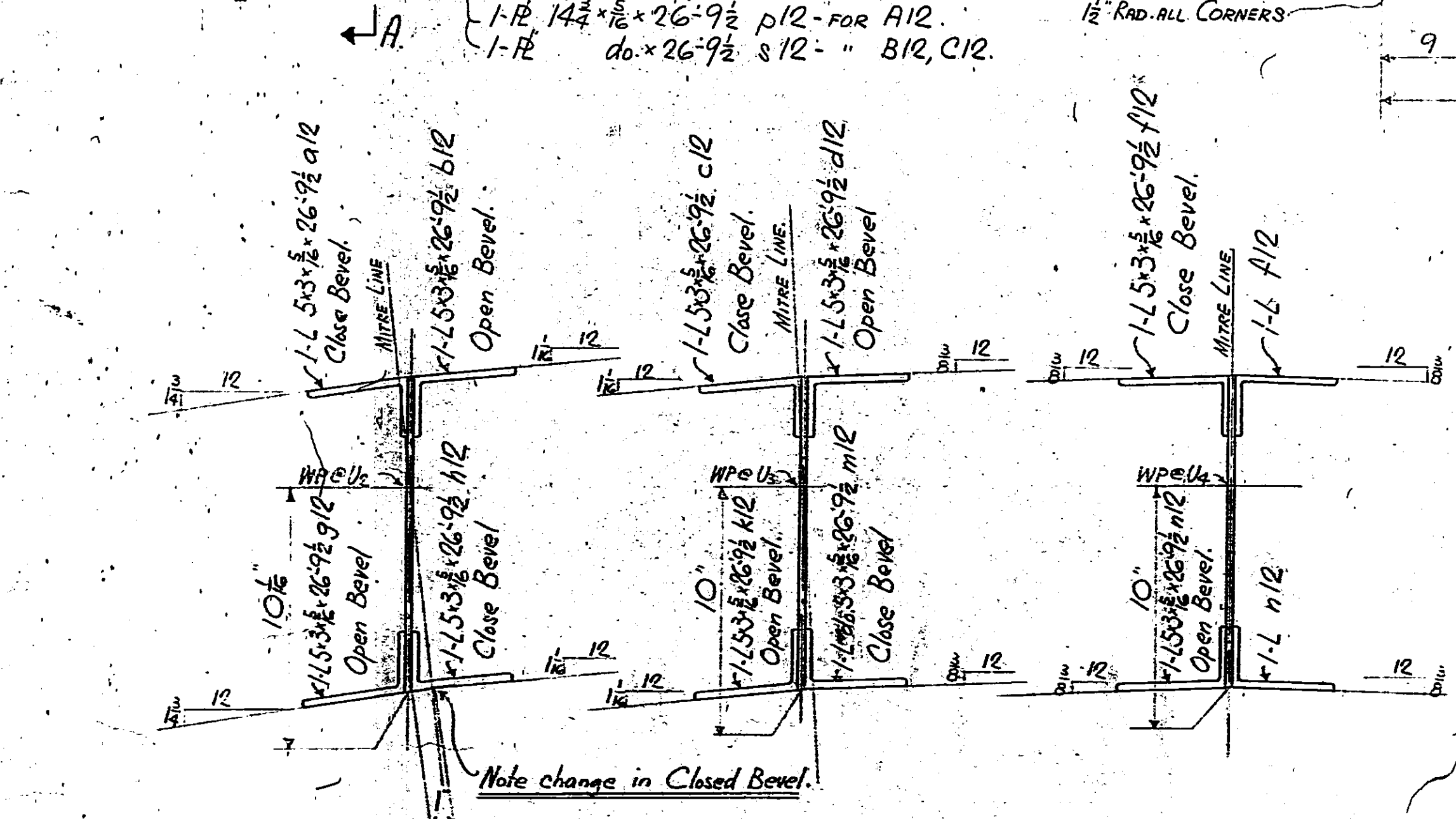
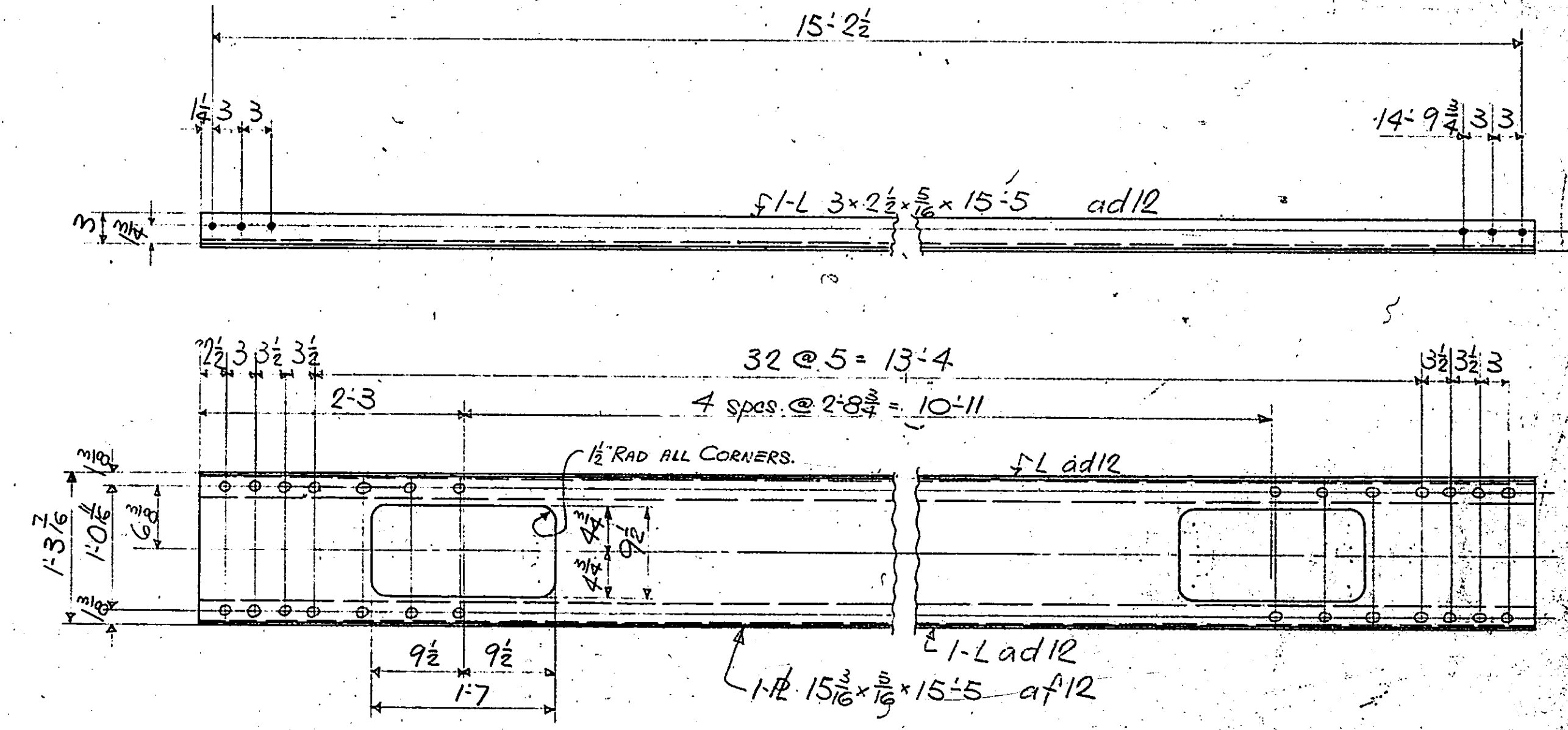
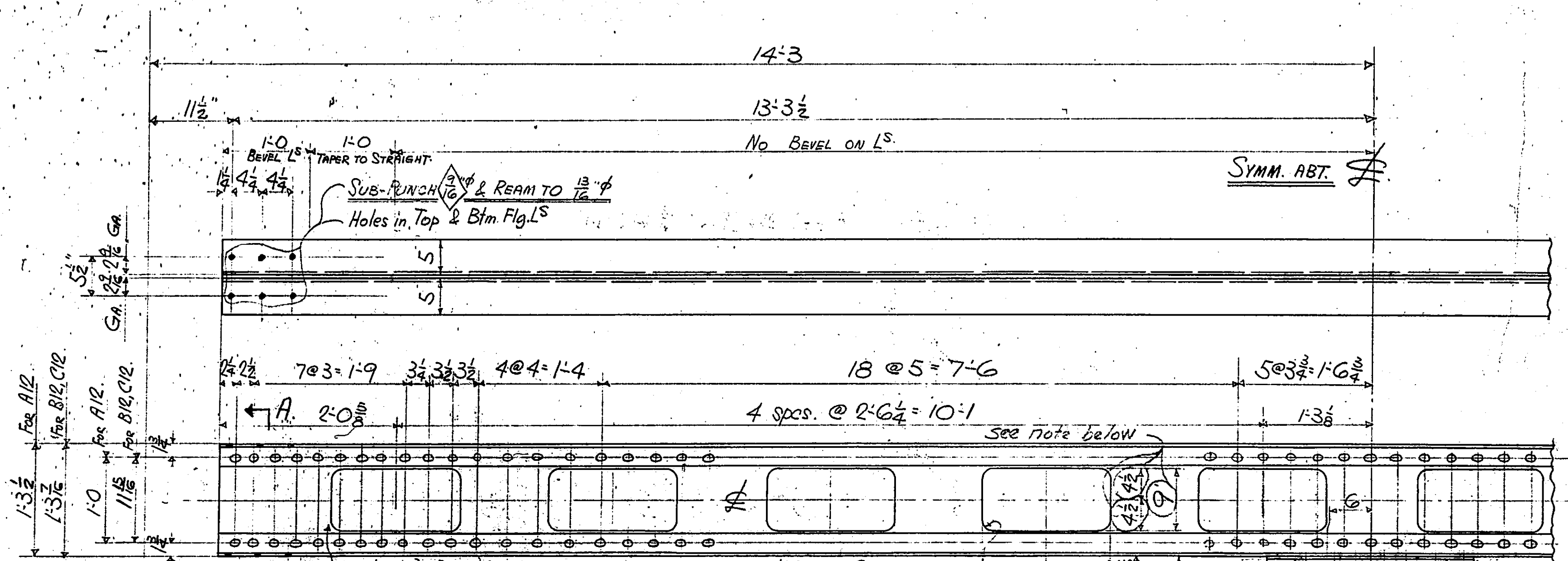


1351 - Pickin's Horse River - Golden B.C.
 1850 - River Bend Bridge - ALBERTA
 1730 - LOOP BRIDGE - FERNIE

ARC AND GAS WELDING SYMBOLS			
TYPE OF WELD			
BEAD-FILL	REINFORCING	REINFORCING	REINFORCING
FLUSH	FLUSH	FLUSH	FLUSH
FLUSH	FLUSH	FLUSH	FLUSH
FLUSH	FLUSH	FLUSH	FLUSH
FLUSH	FLUSH	FLUSH	FLUSH

RIVETS	UNLESS NOTED	$\frac{3}{8}$ "
OPEN HOLES	UNLESS NOTED	$\frac{13}{16}$ "
SHOP PAINT	1-COAT RED LEAD.	
NOTES: SUB-PUNCH OPEN HOLES 9" & REAM TO 13" & REAM TO 13"		
REV	S/B No. A	

Western Bridge and Steel Fabricators Ltd.	
VANCOUVER - CANADA	
CUSTOMER	B.C. GOVT. DEPT. OF PUBLIC WORKS
NAME OF STRUCTURE	HIGHWAY BRIDGE - 150'-0" SPAN
LOCATION	
TITLE OF DRAWING	PORTAL BRACING
MADE BY	AMB.
CHECKED BY	
DATE	
CONTRACT	1850-1731
NO.	11

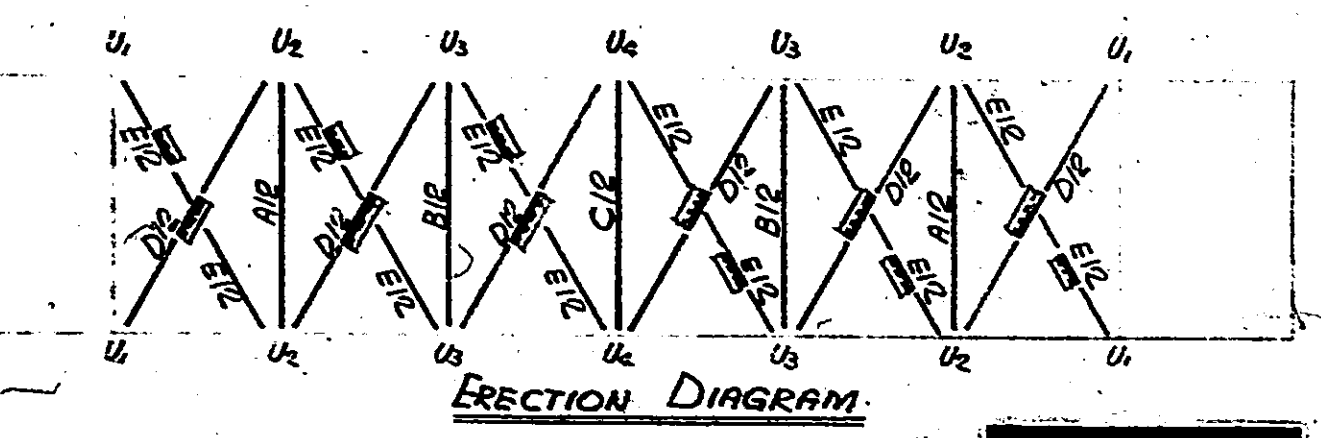


SECT. A-A FOR A12 SECT. A-A FOR B12 SECT. A-A FOR C12

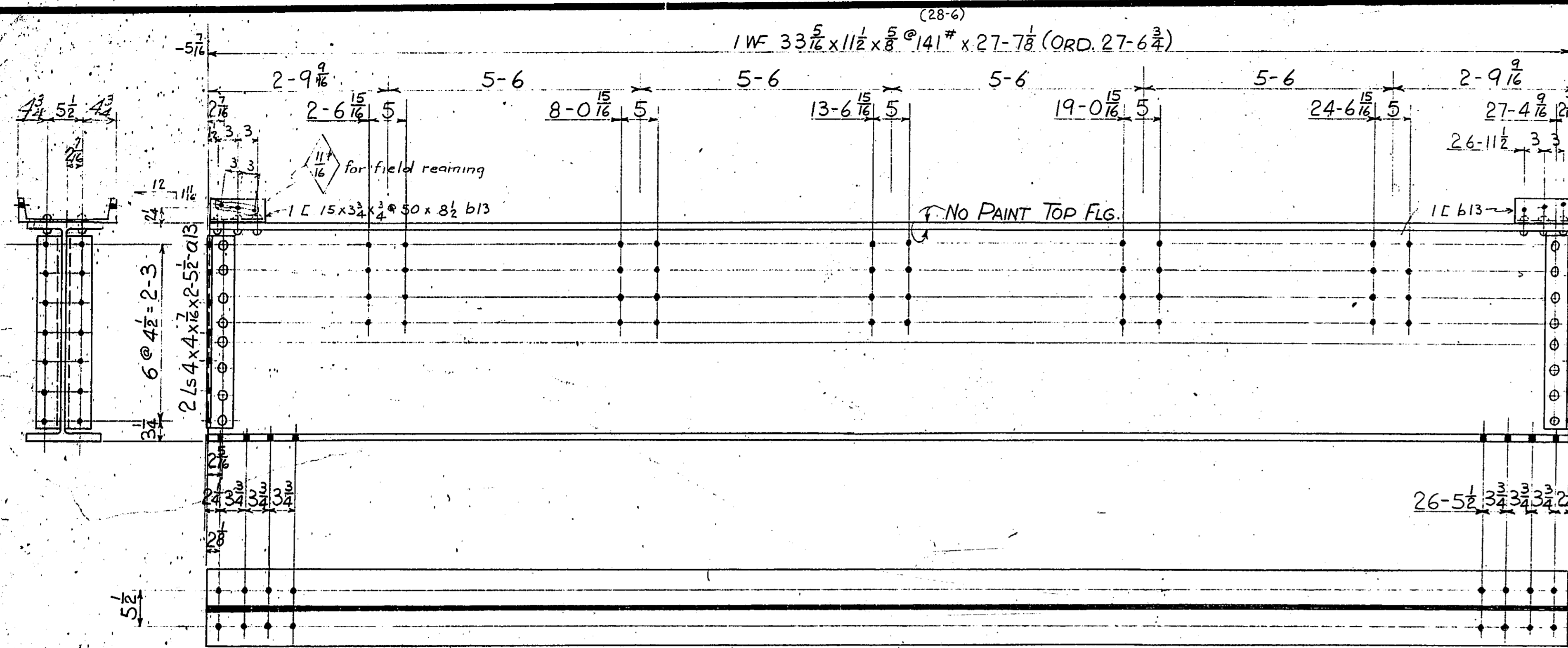
- MAKE 2 STRUTS - AS SHOWN & NOTED - MARK A12
- " 2 DO. " " " " " B12
- " 1 STRUT " " " " " C12

NOTE:
 SUBSTITUTION FOR CONT. 1730 & 1850 & 1851
 5x3 3/8 L'S TO BE SUBSTITUTED FOR 5x3 1/2 L'S
 PERFORATIONS TO BE 8 1/2 x 1-5 INSTEAD OF 9 x 1-6

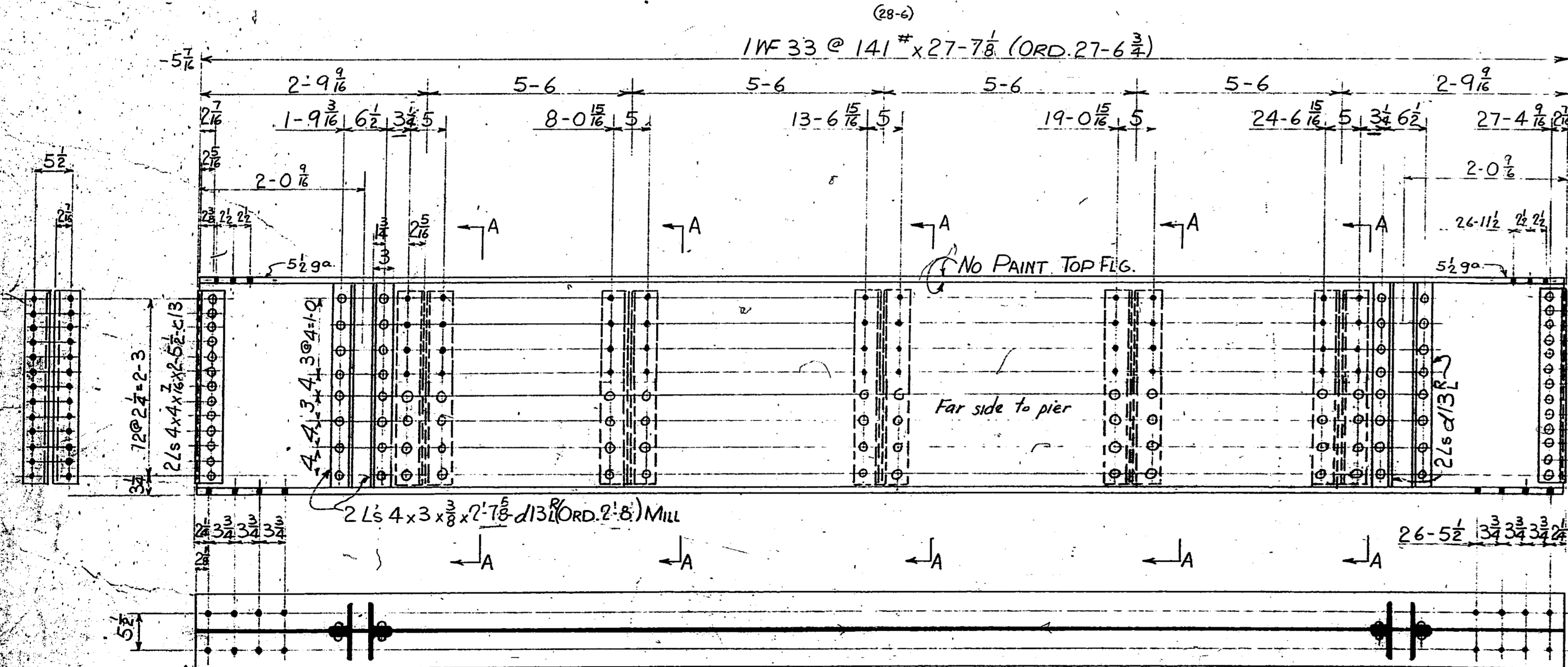
MAKE 6 DIAGONALS - AS SHOWN - MARK D12



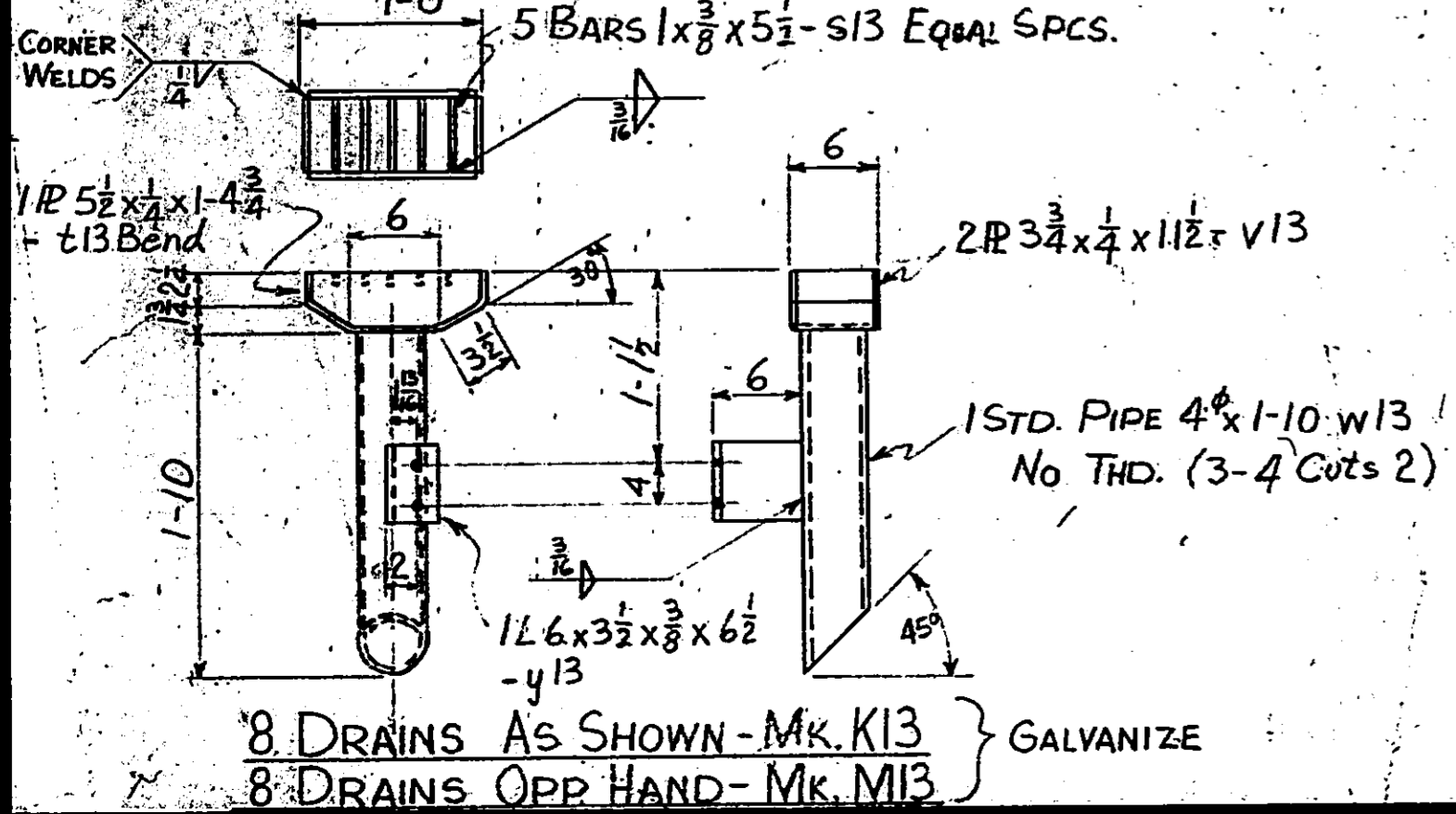
1851 - Kicking Horse River - Golden, B.C. 1850 - River Road Bridge, ALBERTA 1730 - LOOP BRIDGE, FERNIE		RIVETS: 3/4" UNLESS NOTED OPEN HOLES: 1/8" UNLESS NOTED SHOP PAINT: 1-COAT RED LEAD	Western Bridge and Steel Fabricators Ltd. VANCOUVER - CANADA CUSTOMER: B.C. GOVT. DEPT. OF PUBLIC WORKS NAME OF STRUCTURE: HIGHWAY BRIDGE, 150' O.D. BRIDGE LOCATION: _____ TITLE OF DRAWING: STRUTS & TOP LATERAL BRACING MADE BY: A.M.B. CHECKED BY: _____ DATE: _____ CONTRACT: 1850-1851 W.O.
ARC AND GAS WELDING SYMBOLS TYPE OF WELD: BEAD, FILLET, FLARE, GROOVE, PLAIN, PLAIN LOCATION OF WELD: BEAD, FILLET, FLARE, GROOVE, PLAIN, PLAIN OTHER (OFF-FAB) WELDS: BEAD, FILLET, FLARE, GROOVE, PLAIN, PLAIN		NOTES: _____ REV: 5/8 No. A.B.	



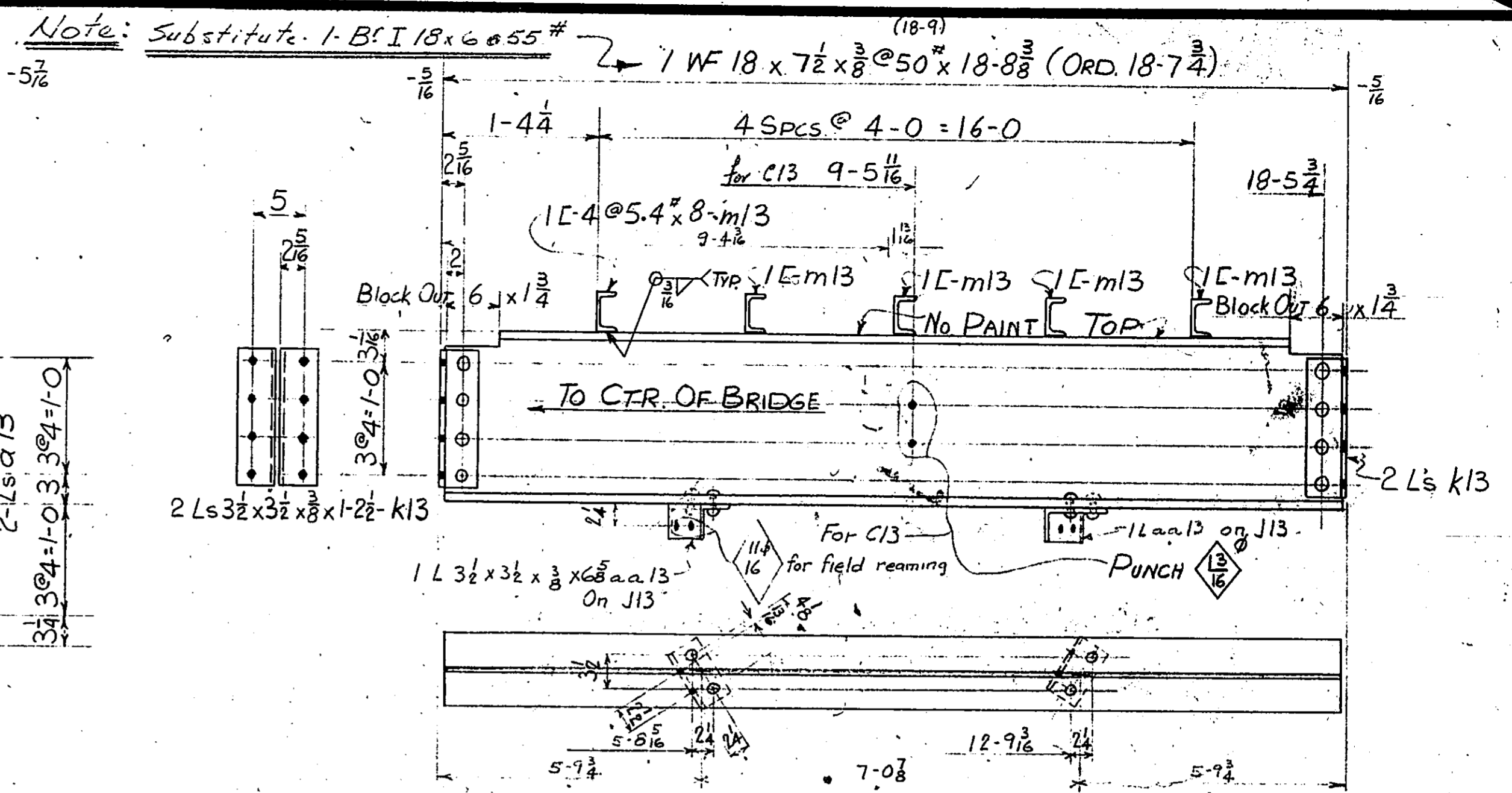
7 FLOOR BEAMS - Mk. A13



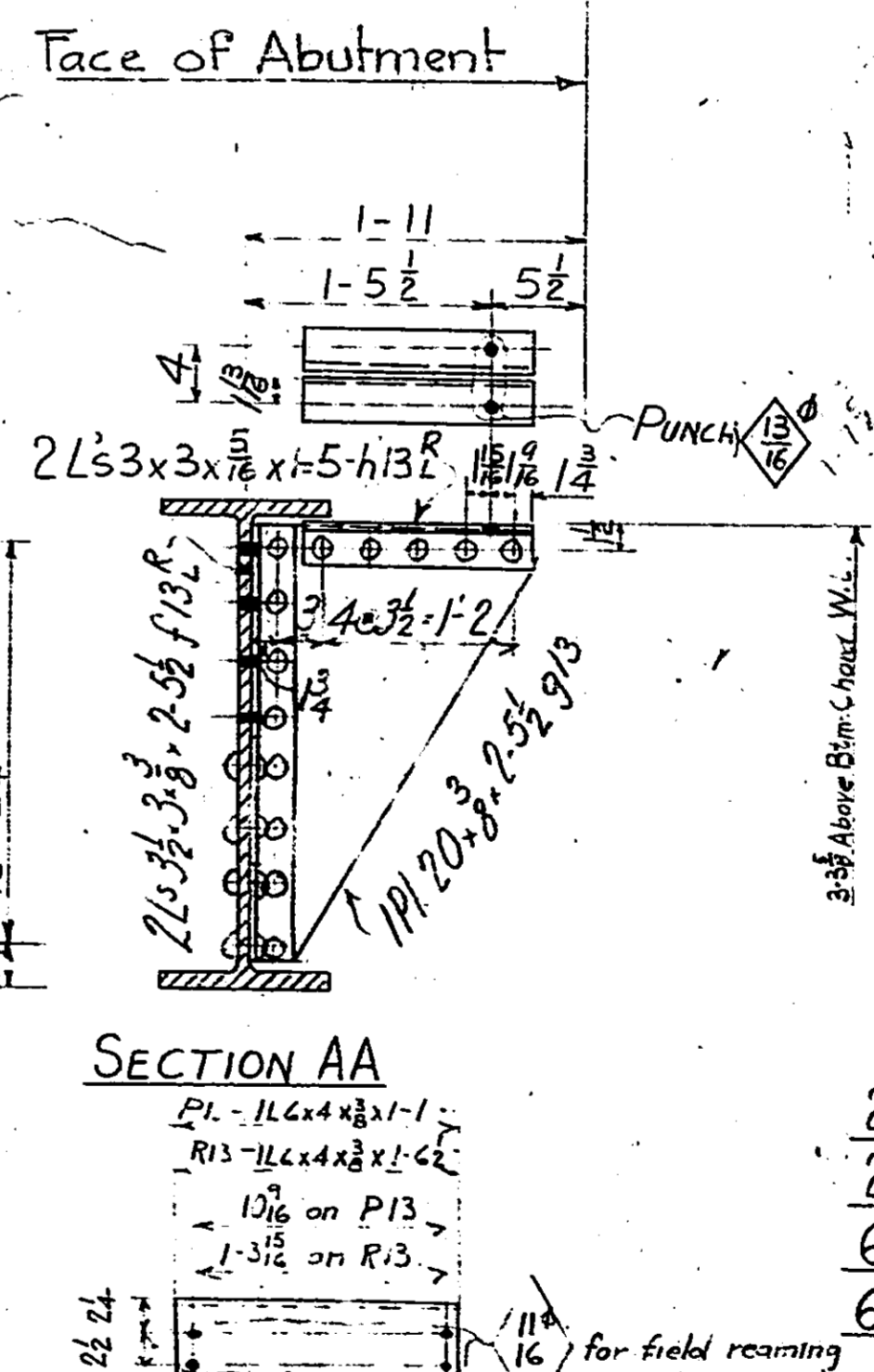
2 FLOOR BEAMS - Mk. B13



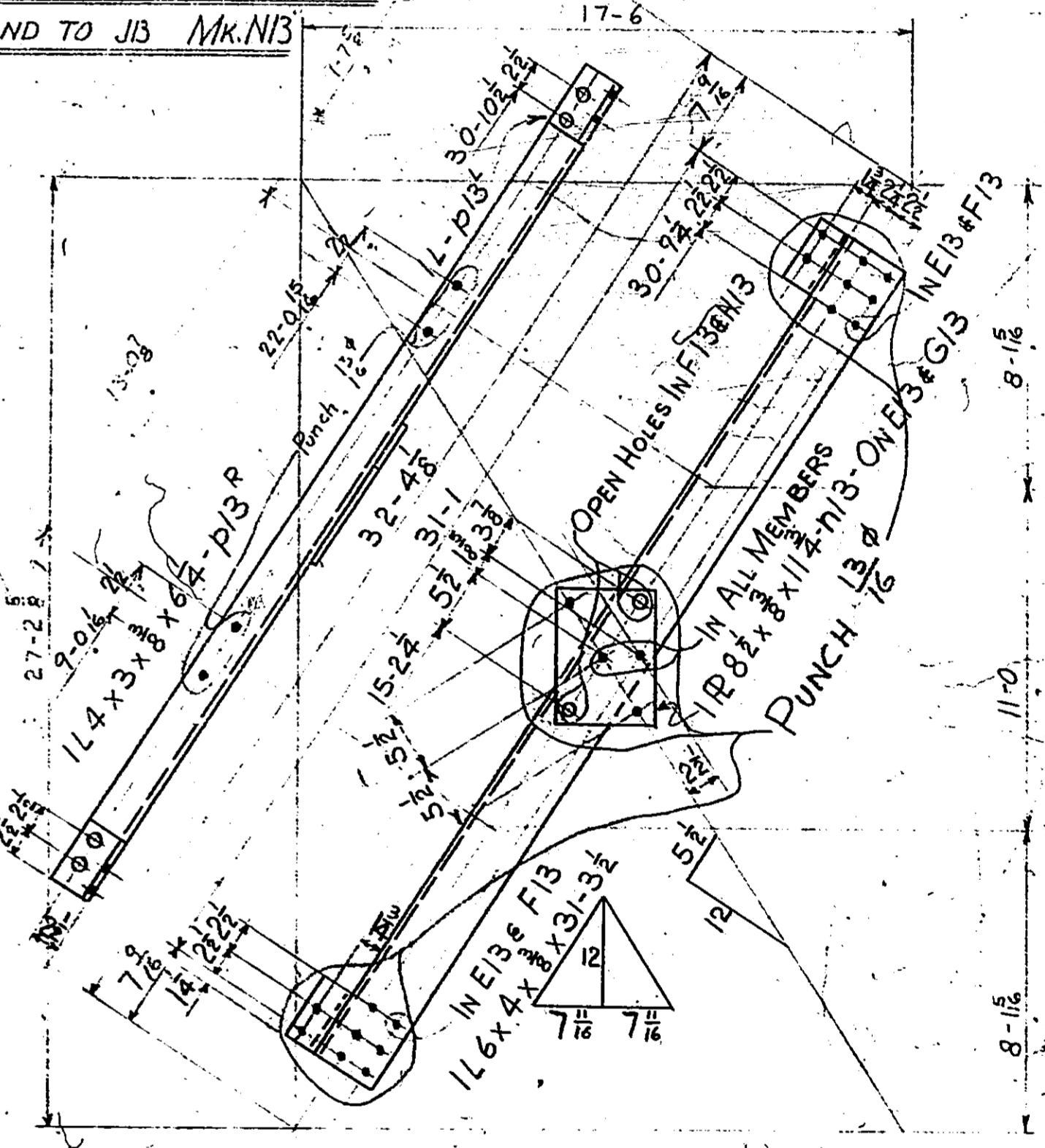
8 DRAINS AS SHOWN - Mk. K13
8 DRAINS OPP HAND - Mk. M13 GALVANIZE



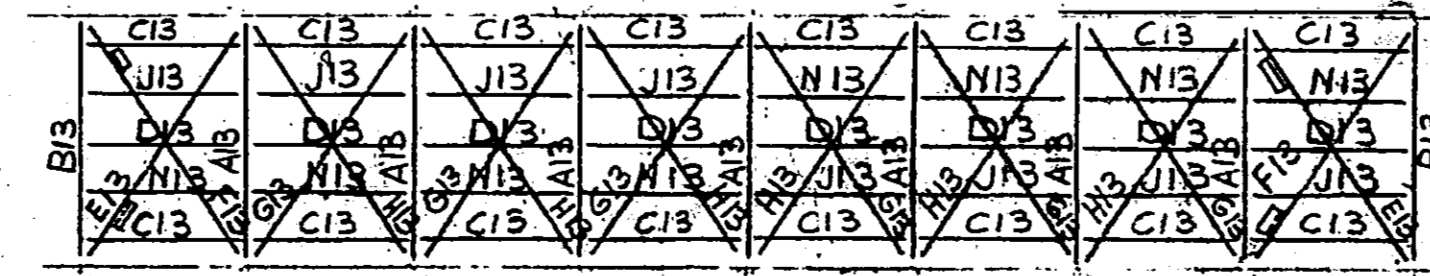
16 STRINGERS AS SHOWN & NOTED C13
8 STRINGERS " " " " " " D13
8 STRINGERS " " " " " " J13
8 STRINGERS OPP. HAND TO J13 MK. N13



SECTION AA
PL - 11 Lx4 x 1/2 - 1
R13 - 11 Lx4 x 1/2 - 1
1 1/2 on P13
1-3/4 on R13

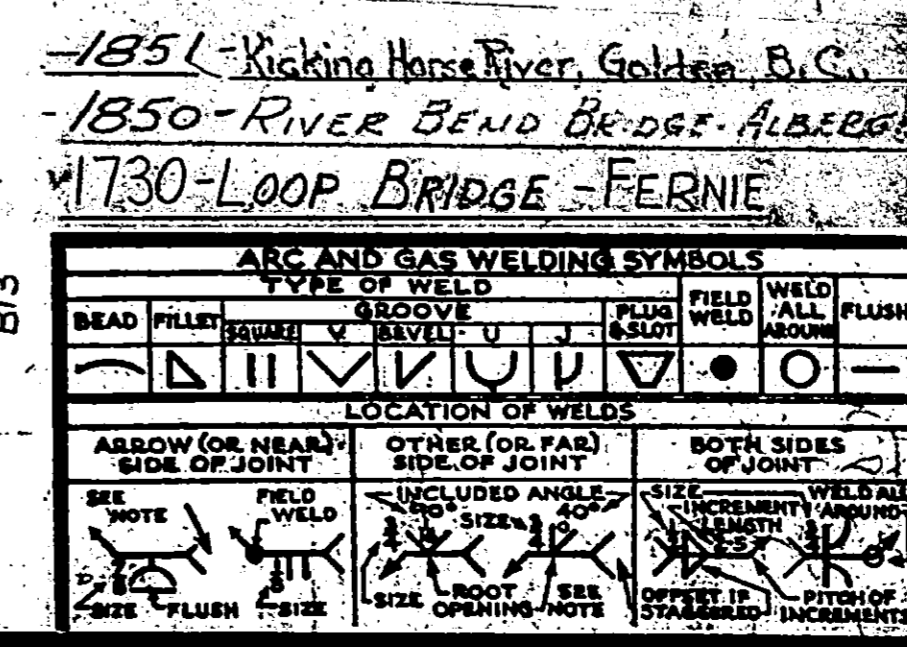


2 LOWER CHORD LATERALS AS SHOWN & NOTED - Mk. E13
2 " " " " " " Mk. F13
6 " " " " " " Mk. G13
6 " " " " " " Mk. H13



ERECTOR DIAGRAM

16 HANGERS AS SHOWN & NOTED P13
16 HANGERS AS SHOWN & NOTED R13



RIVETS	3/4" UNLESS NOTED
OPEN HOLES	1 1/8" UNLESS NOTED
SHOP PAINT	1 COAT RED LEAD, EXCEPT WHERE NOTED
NOTES	NOTES SUB-PUNCH OPEN
HOLES	9/8" & REAM TO 1 1/8"
EXCEPT WHERE NOTED	
REV	5/8 No. A, B

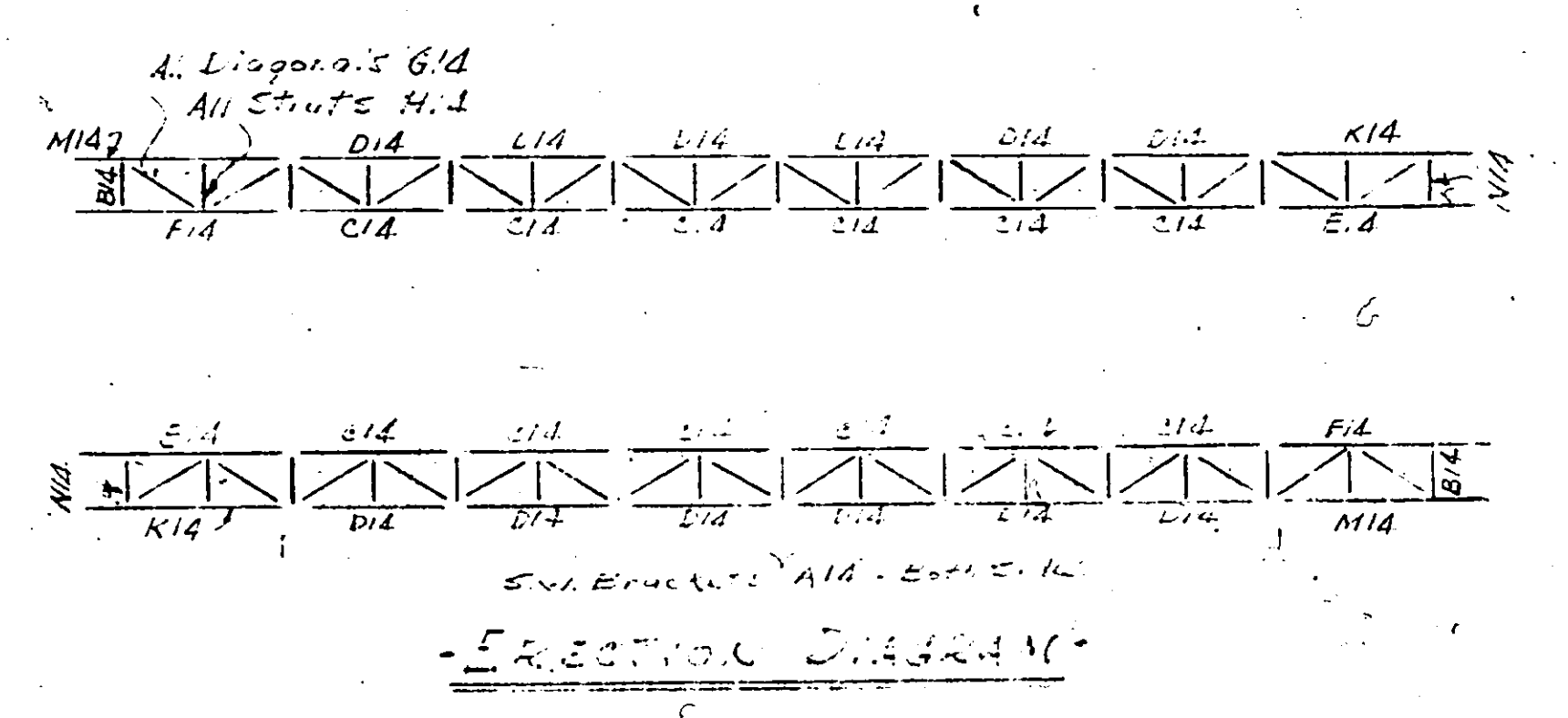
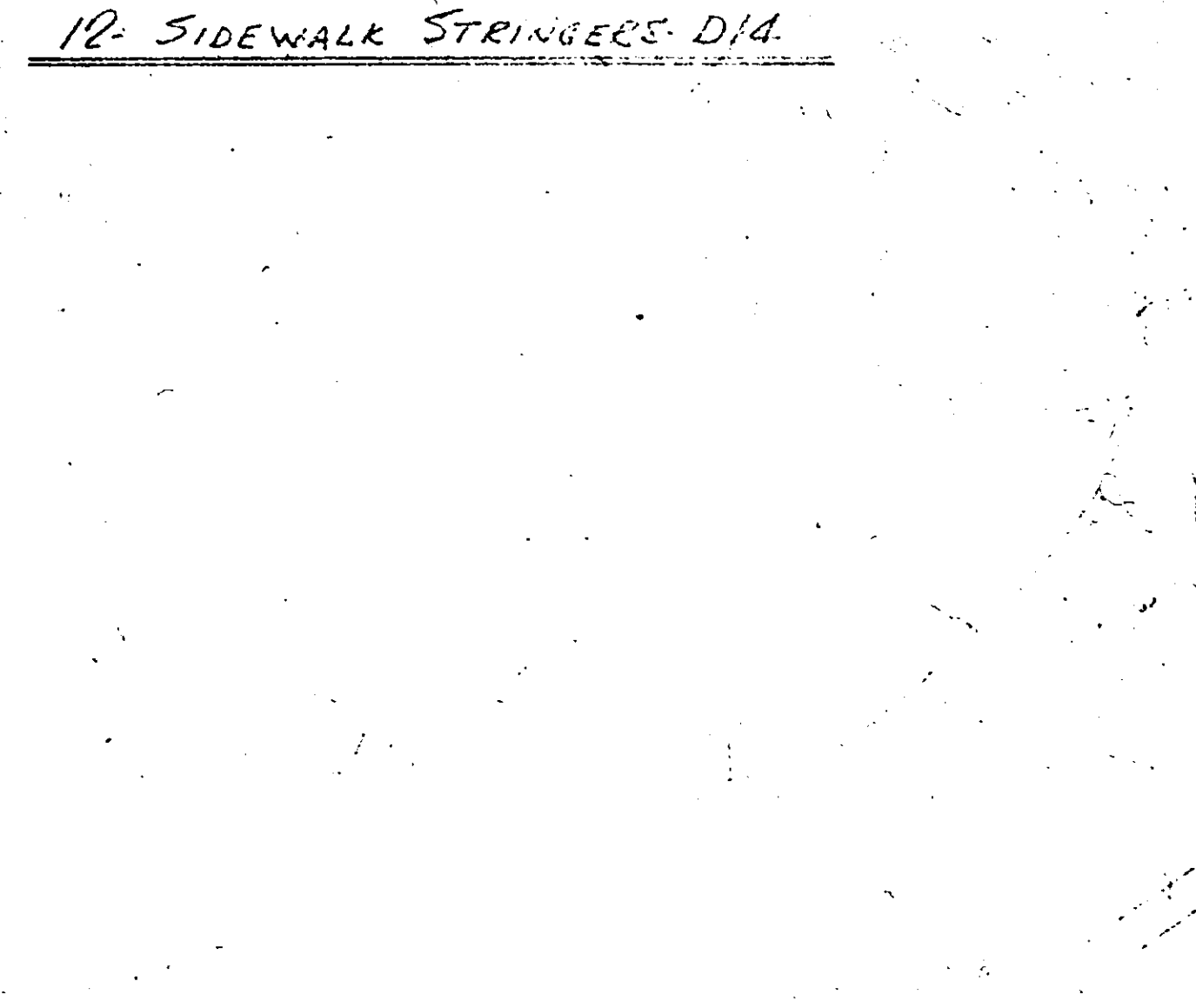
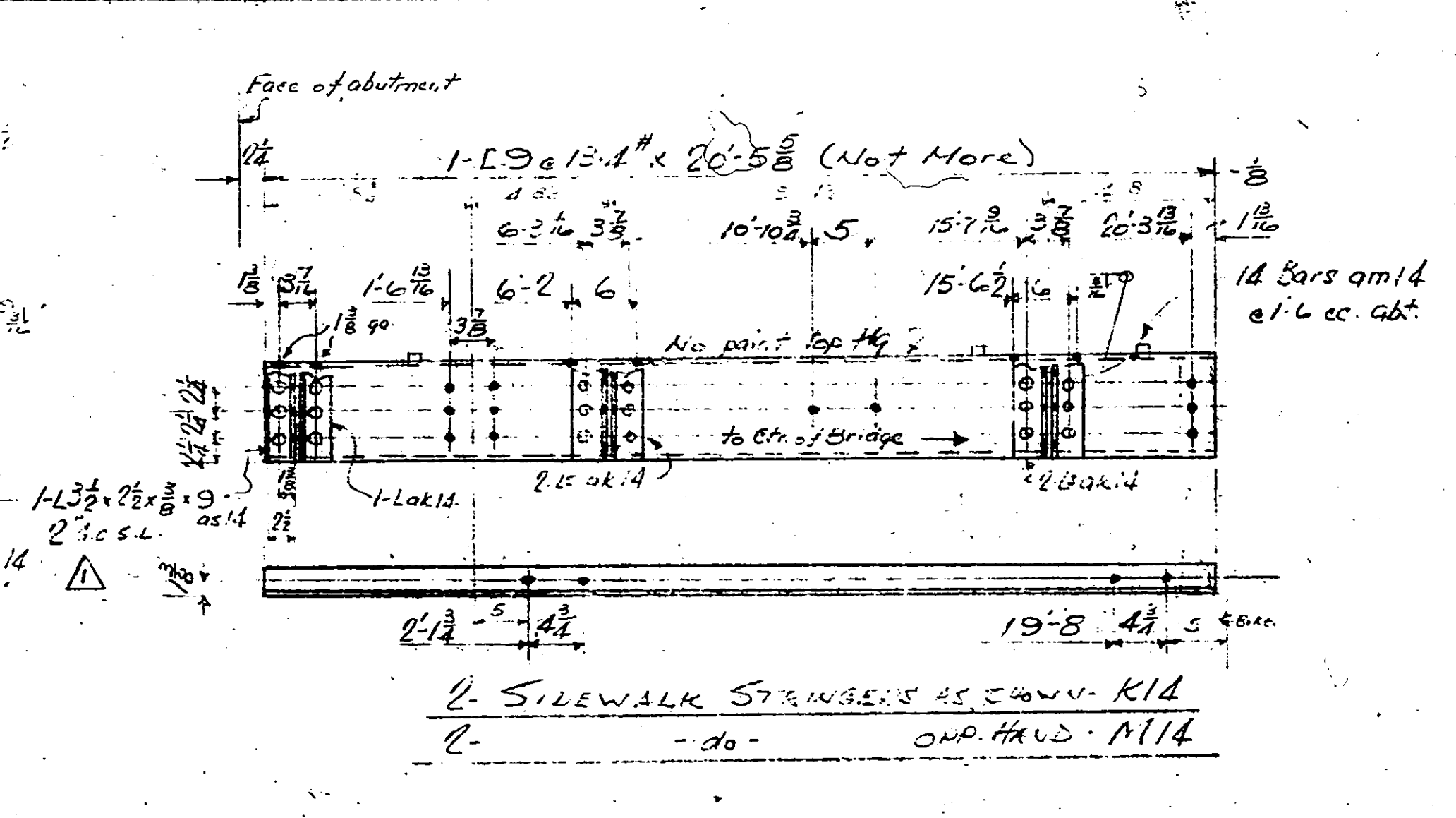
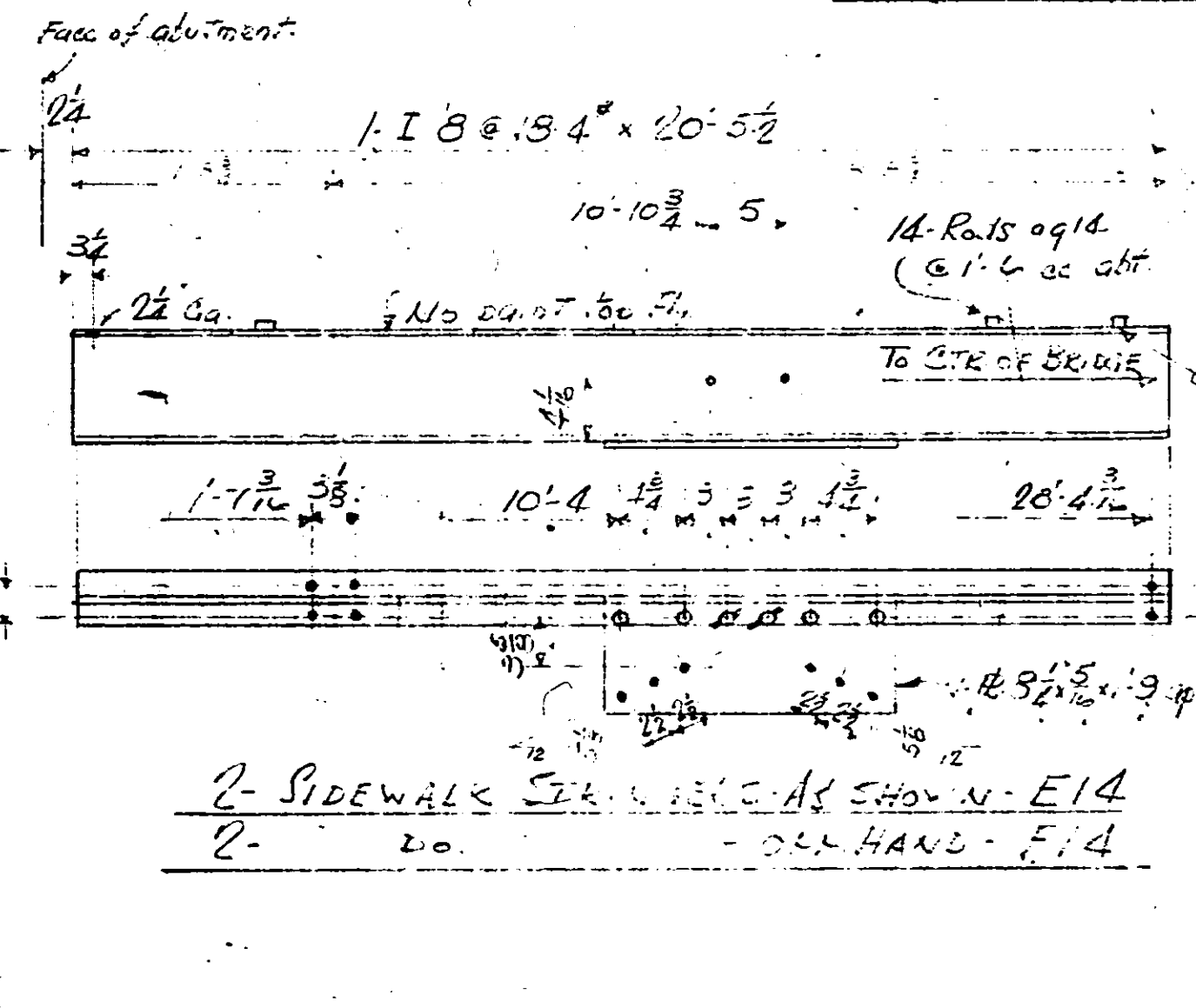
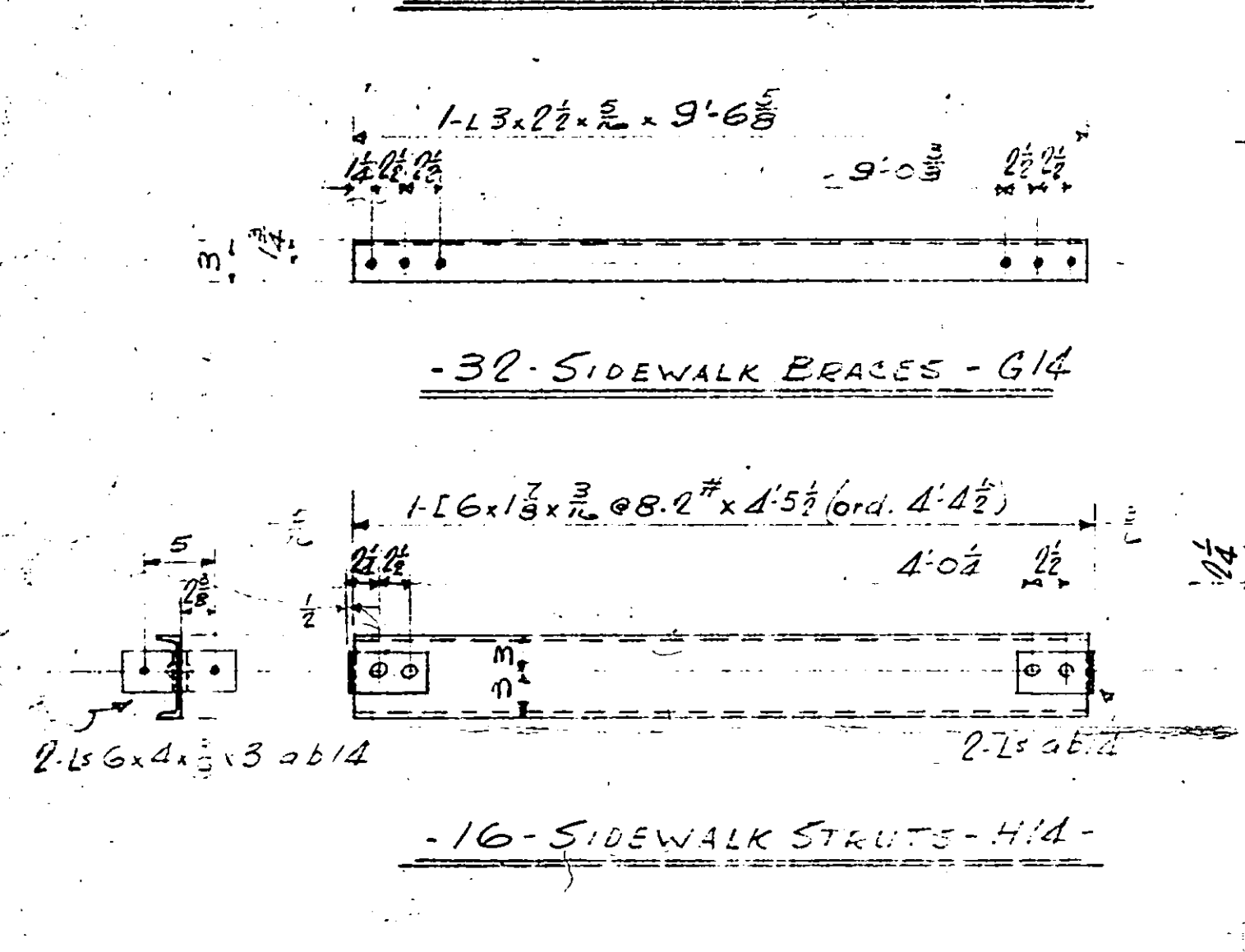
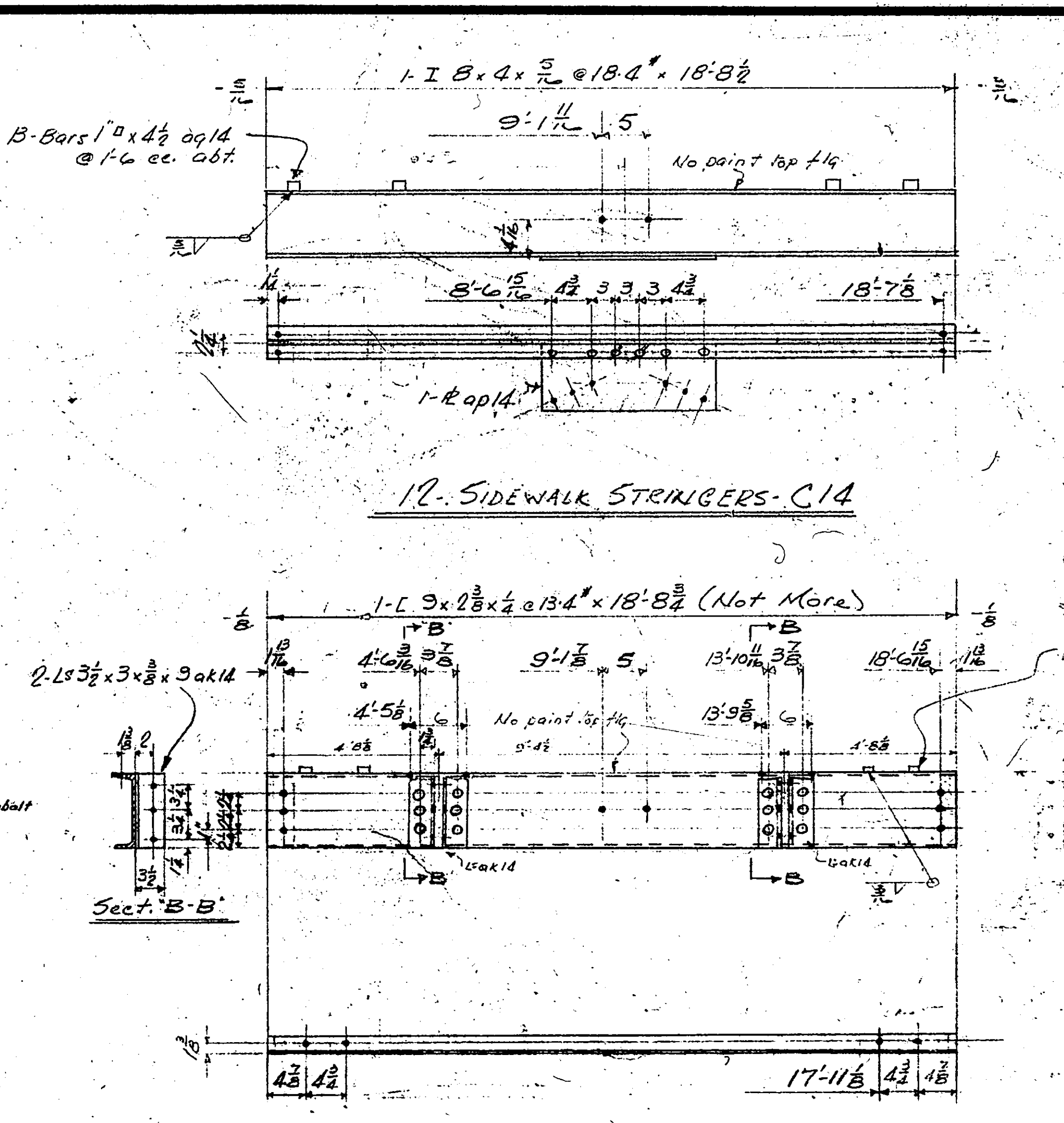
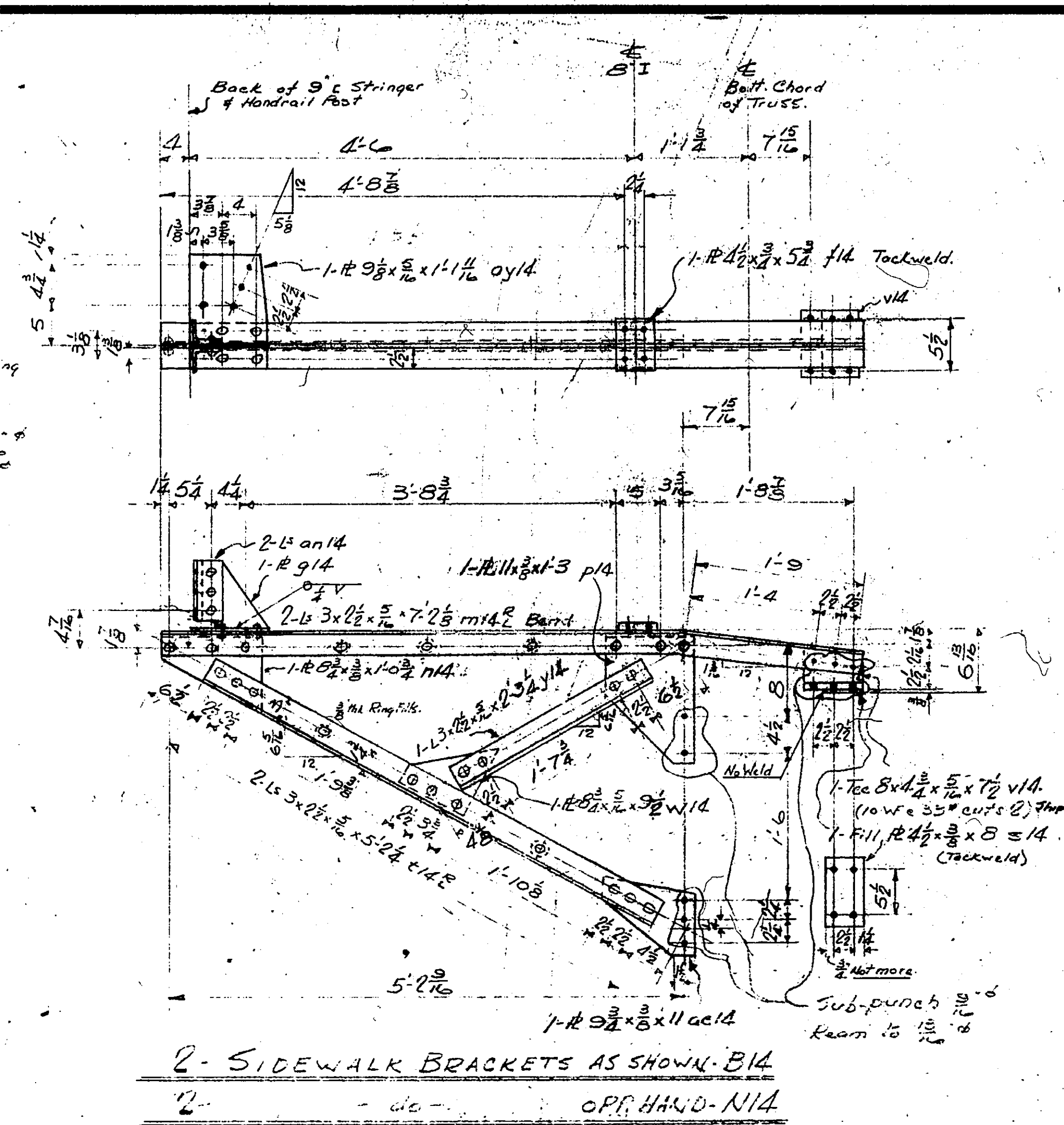
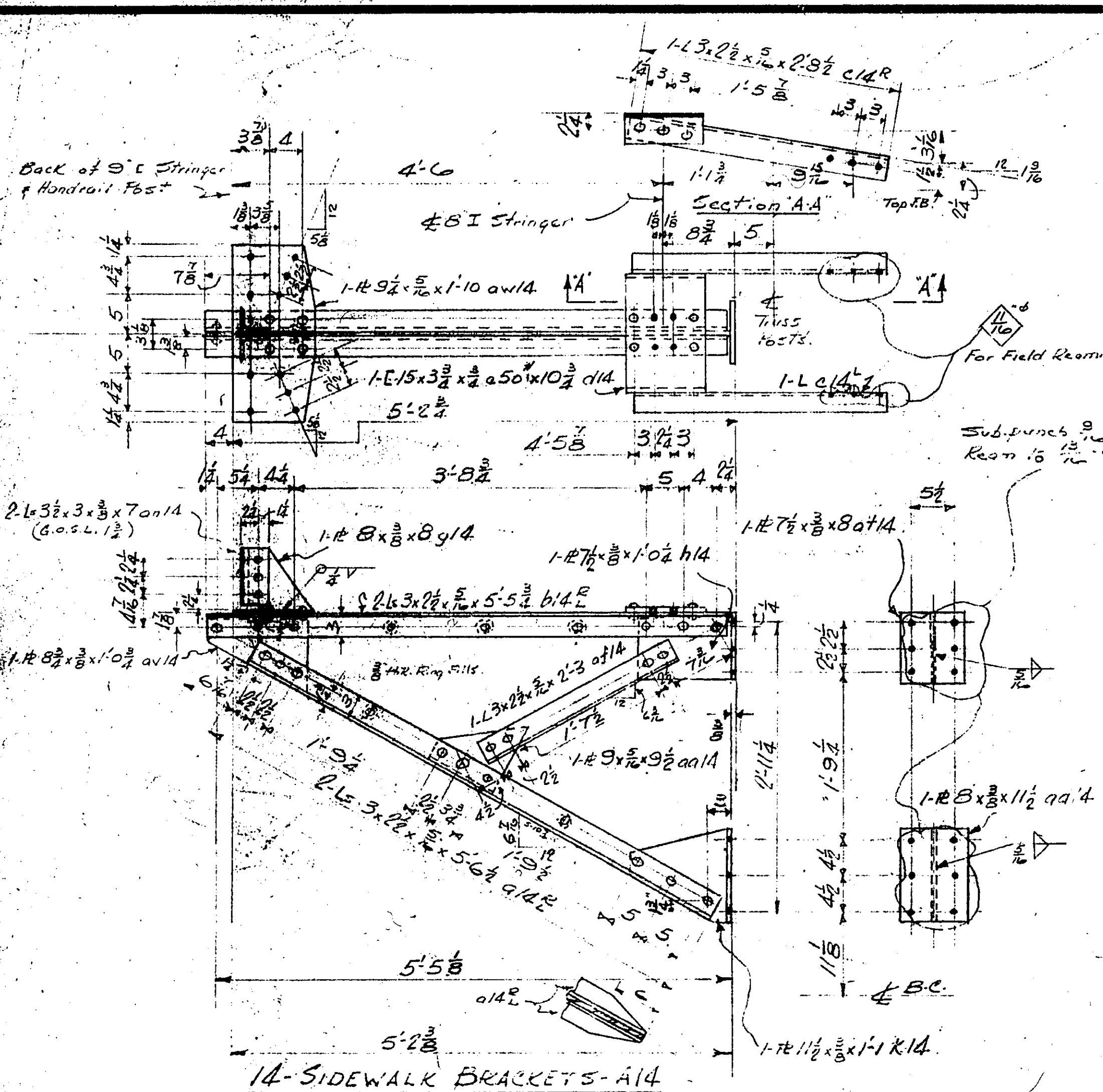
1851 - Kicking Horse River, Golden, B.C.
1850 - RIVER BEND BRIDGE - ALBERG
1730 - LOOP BRIDGE - FERNE

Western Bridge and Steel Fabricators Ltd.
VANCOUVER - CANADA

CUSTOMER: B.C. GOVT., DEPT. OF PUBLIC WORKS
NAME OF STRUCTURE: HIGHWAY BRIDGE 150-0 SPAN
LOCATION: _____
TITLE OF DRAWING: FLOOR BEAMS, STRINGERS & BTM LAT.
MADE BY: _____ CHECKED BY: _____ DATE: Jan 24/50
CONTRACT: 1850/1851, W.O. DRAWING NO: 13

54115





Revisions
24-1-51 Δ L 4514 member 1-3 3/4 x 3/8 x 9

54414

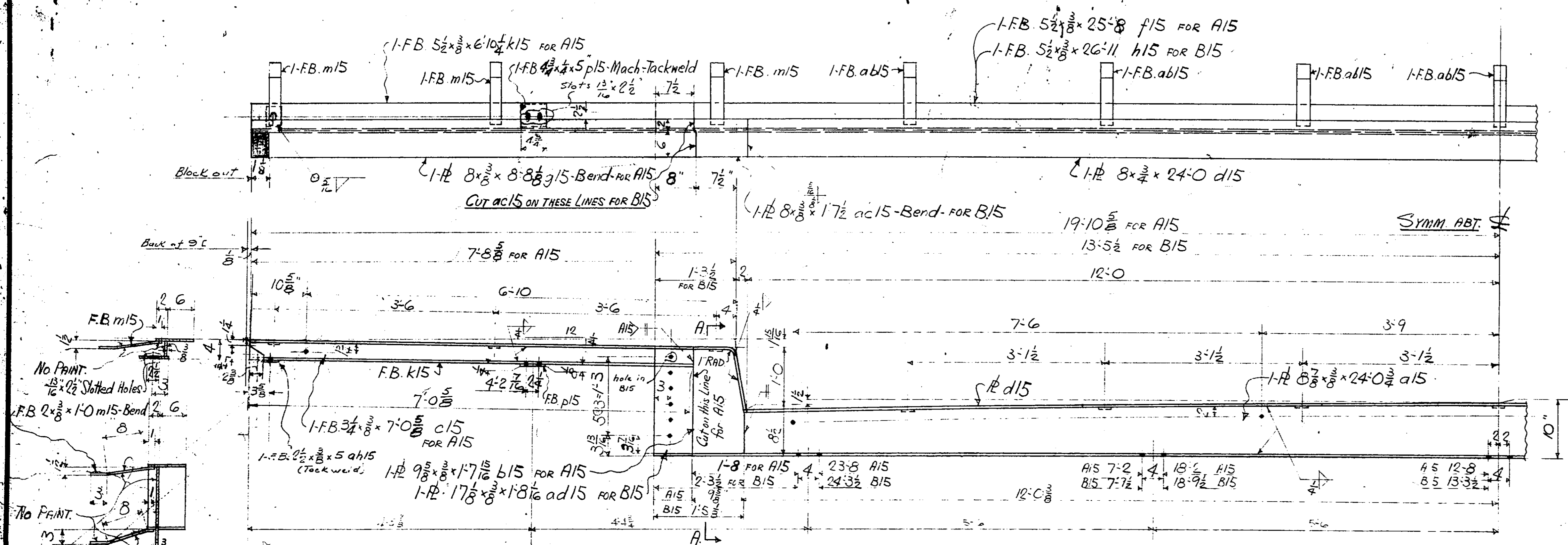
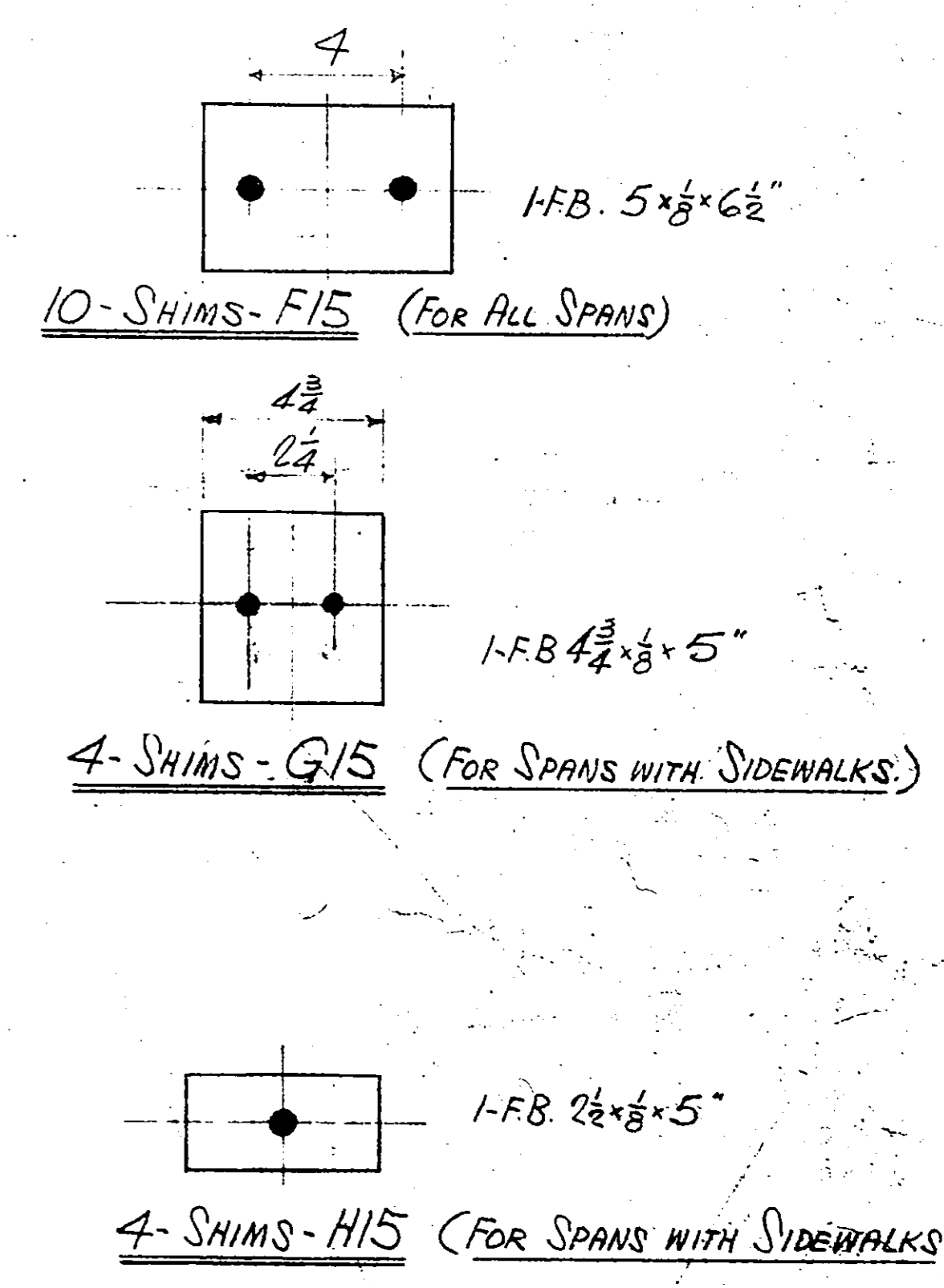
Western Bridge and Steel Fabricators Ltd.
VANCOUVER - CANADA

Courtesy: 1851 - Rickino Horse River - Golden, B.C.
Cont. 1850 - RIVER BEND BRIDGE - ALBERNI

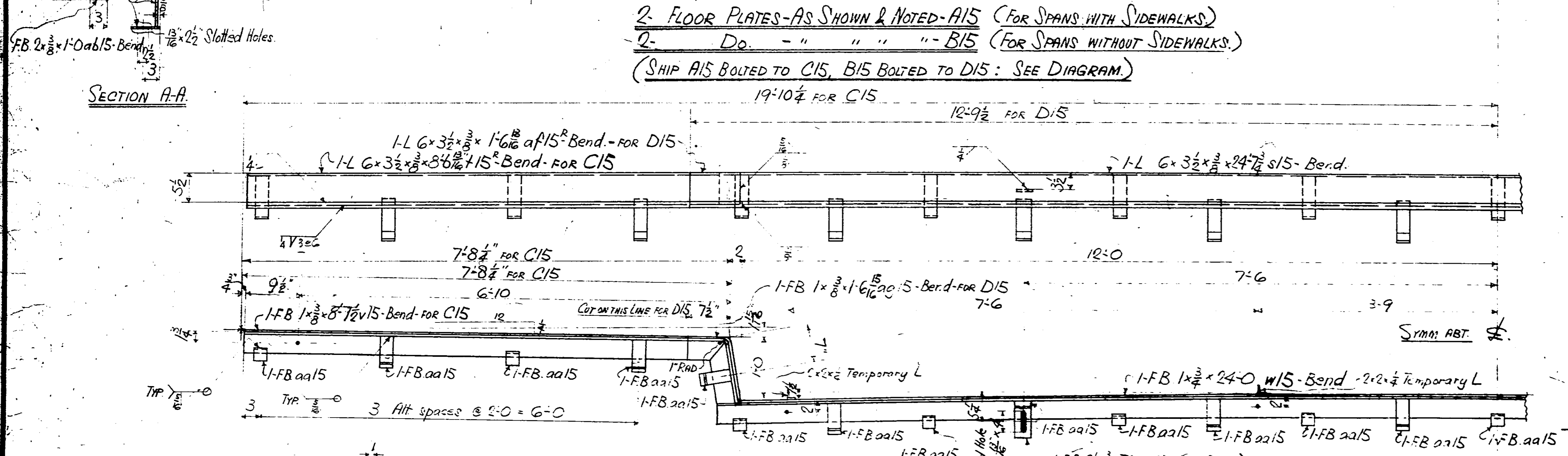
CUSTOMER: B.C. GOVT. DEPT. OF PUBLIC WORKS
NAME OF STRUCTURE: HIGHWAY BRIDGE - 150' SPAN
LOCATION: SIDEWALK BRACKETS & STRINGERS
TITLE OF DRAWING: SIDEWALK BRACKETS & STRINGERS
MADE BY: S.V. No. A.B.C. CHECKED BY: DATE: 23/10/50
CONTRACT: 1850-1851 W.O. 1851-X3 DRAWING No. 14

RIVETS		UNLESS NOTED	
OPEN HOLES	1/8"	UNLESS NOTED	
SHOP PAINT	1-Coat	Special Brown	
		Primacon Primer	

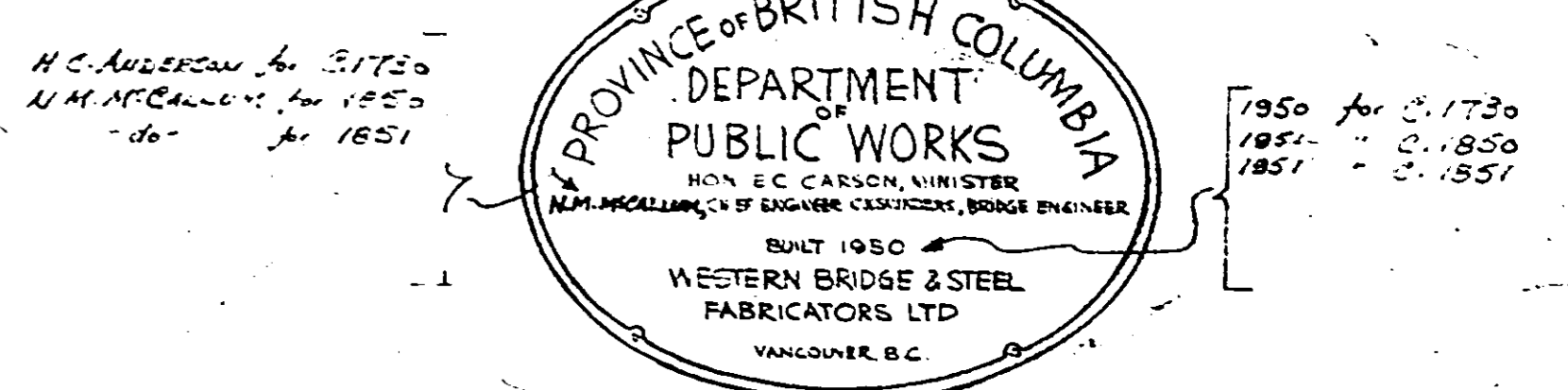
ARC AND GAS WELDING SYMBOLS		TYPE OF WELD		LOCATION OF WELDS	
BEAD	FLUSH	BEVEL	FLUSH	BEAD	FLUSH
ARROW (OR NEAR) SIDE OF JOINT	OTHER (OR FAR) SIDE OF JOINT	BOTH SIDES			
WELD	WELD	WELD	WELD	WELD	WELD
SIZE	SIZE	SIZE	SIZE	SIZE	SIZE



2- FLOOR PLATES-AS SHOWN & NOTED- A15 (FOR SPANS WITH SIDEWALKS.)
 2- Do. - " " " - B15 (FOR SPANS WITHOUT SIDEWALKS.)
 (SHIP A15 BOLTED TO C15, B15 BOLTED TO D15: SEE DIAGRAM.)



2- PROTECTION ANGLES- AS SHOWN & NOTED - C15 (FOR SPANS WITH SIDEWALKS.)
 2- Do. - " " " " - D15 (FOR SPANS WITHOUT SIDEWALKS.)
 (SHIP C15 BOLTED TO A15, D15 BOLTED TO B15: SEE DIAGRAM)



2- CAST BRONZE NAME PLATES - (Std. Pattern #343)
 Buff face of lettering & margin - no other finish.
 Assemble on Right-Hand End Posts.

Cont. 1851 - X1 & X3 - See special memo.

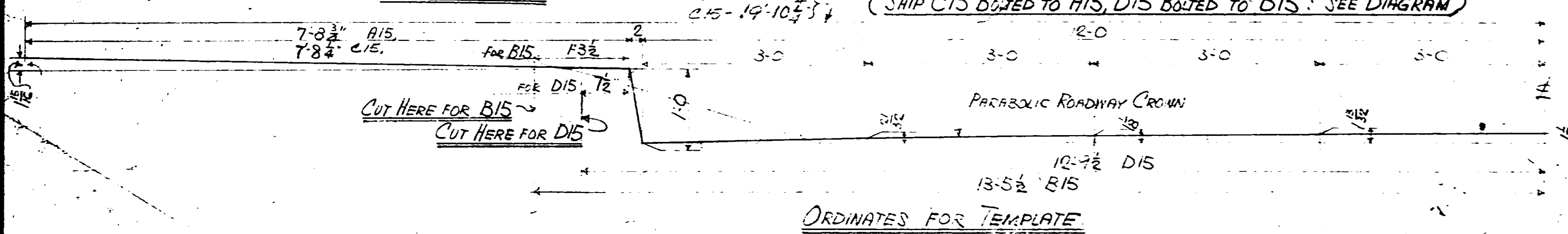


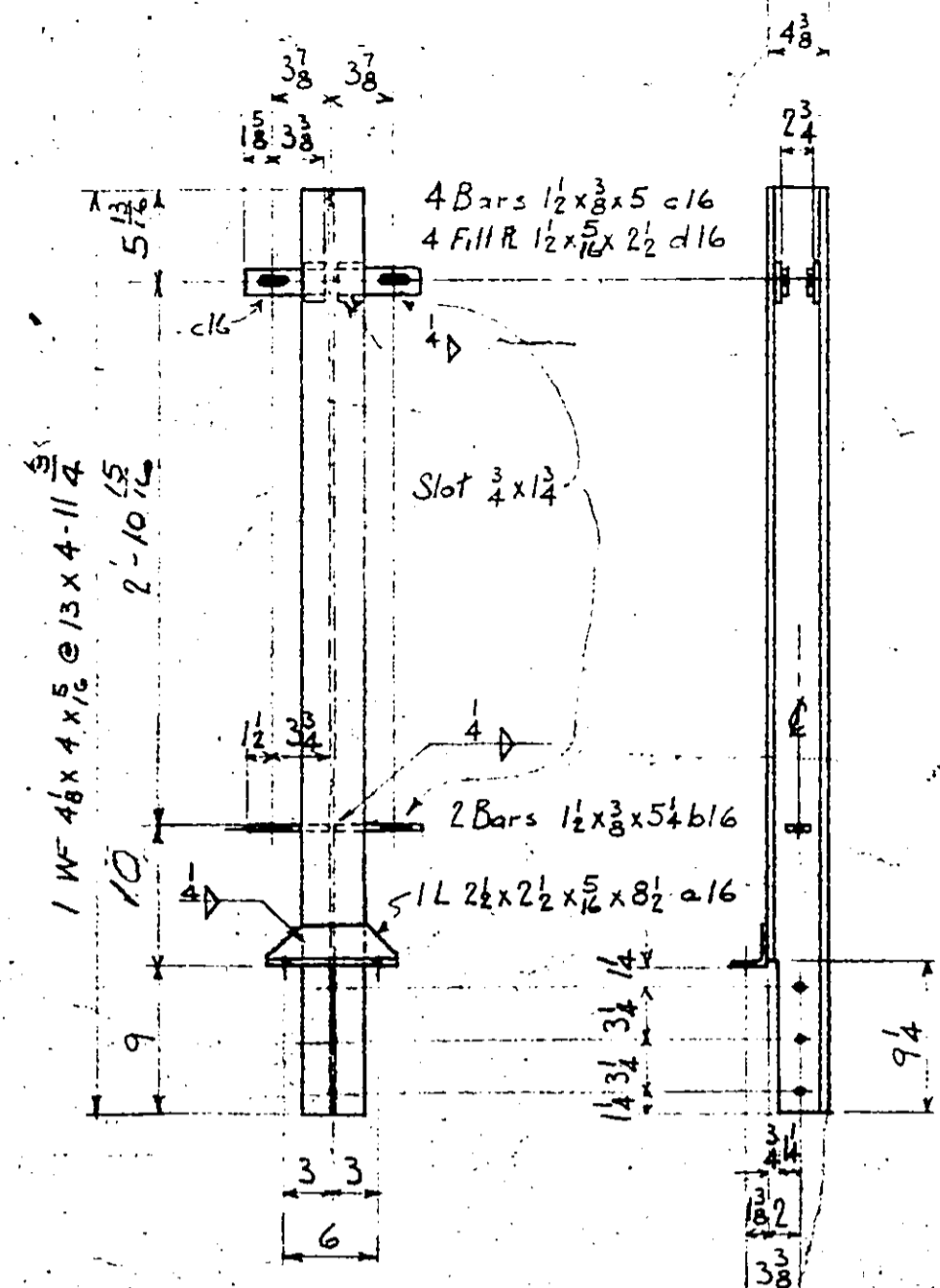
DIAGRAM SHOWING MEMBERS BOLTED TOGETHER FOR SHIPMENT.

MEMBER	POSITION	WELD TYPE	WELD SIZE
1	1	2	3
2	1	2	3
3	1	2	3
4	1	2	3
5	1	2	3
6	1	2	3
7	1	2	3
8	1	2	3
9	1	2	3
10	1	2	3
11	1	2	3
12	1	2	3

Western Bridge and Steel Fabricators Ltd.
 VANCOUVER - CANADA

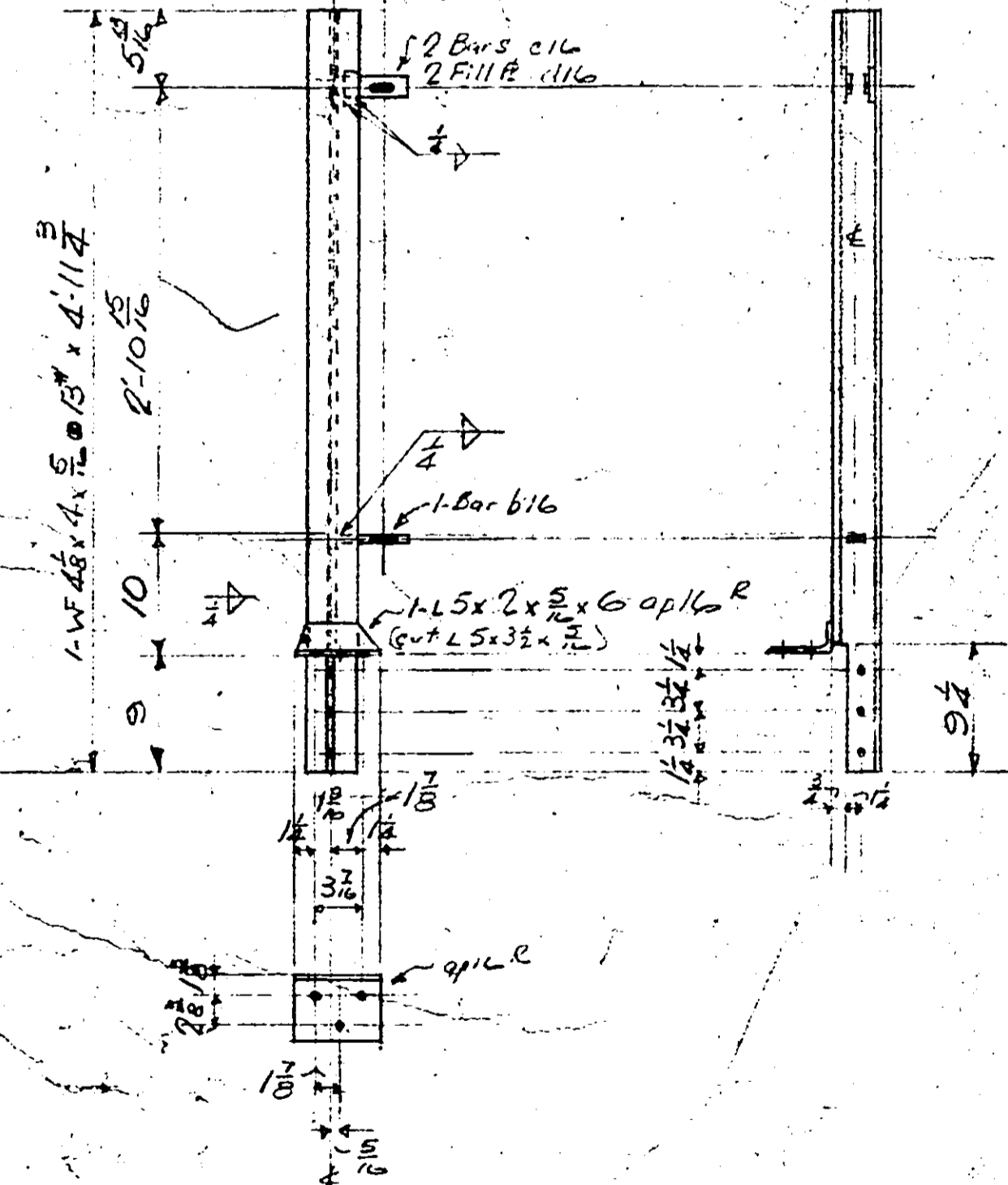
CUSTOMER: B.C. GOVT. DEPT. OF PUBLIC WORKS
 NAME OF STRUCTURE: HIGHWAY BRIDGE - 150'-0" SPAN
 LOCATION: EXPANSION JOINTS, NAME RD.
 MADE BY: A.M.B. CHECKED BY: J.W. DATE: FEB 28 1951
 CONTRACT: 1851-X1 & X3-DWG. NO. 15

(Part 341) - 1 Cast steel post cap - F16
Light cont. weld to post in shop

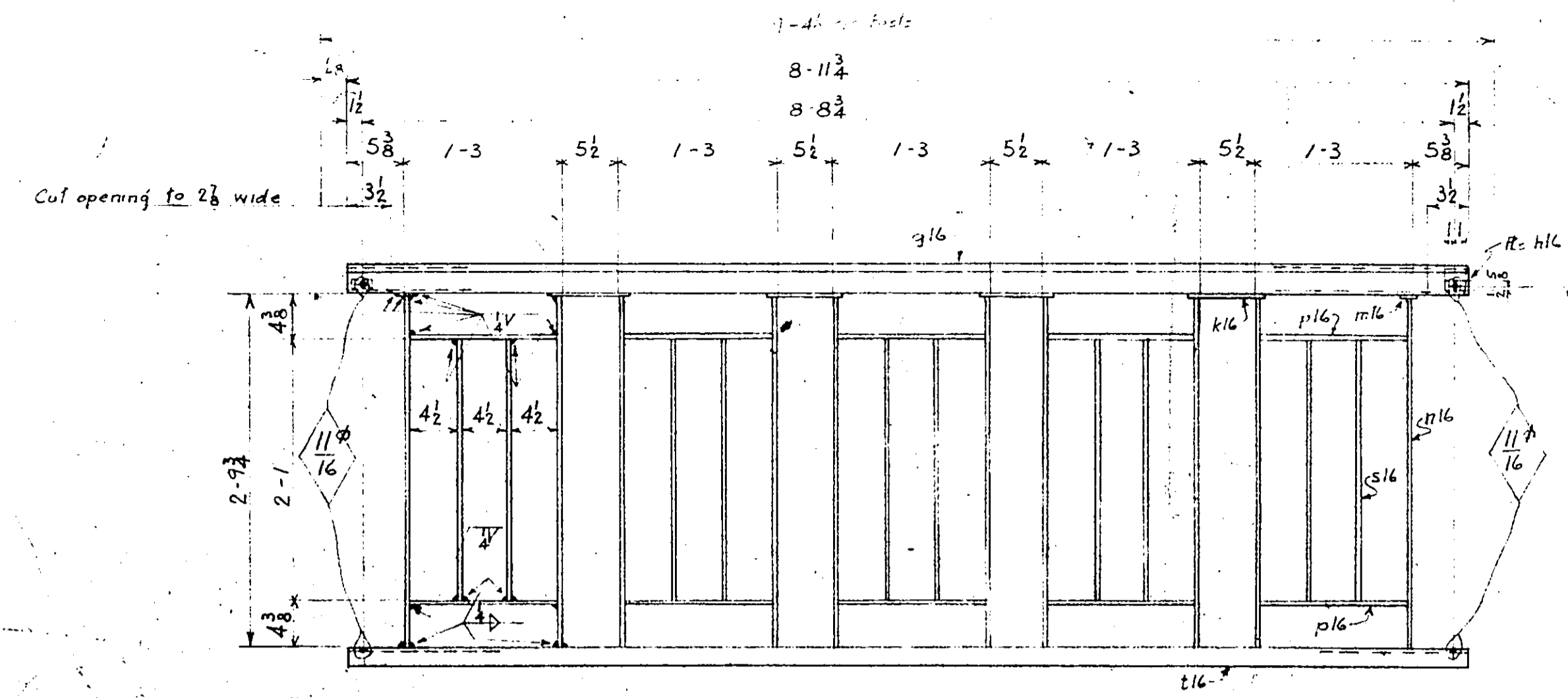


32 POSTS - A16

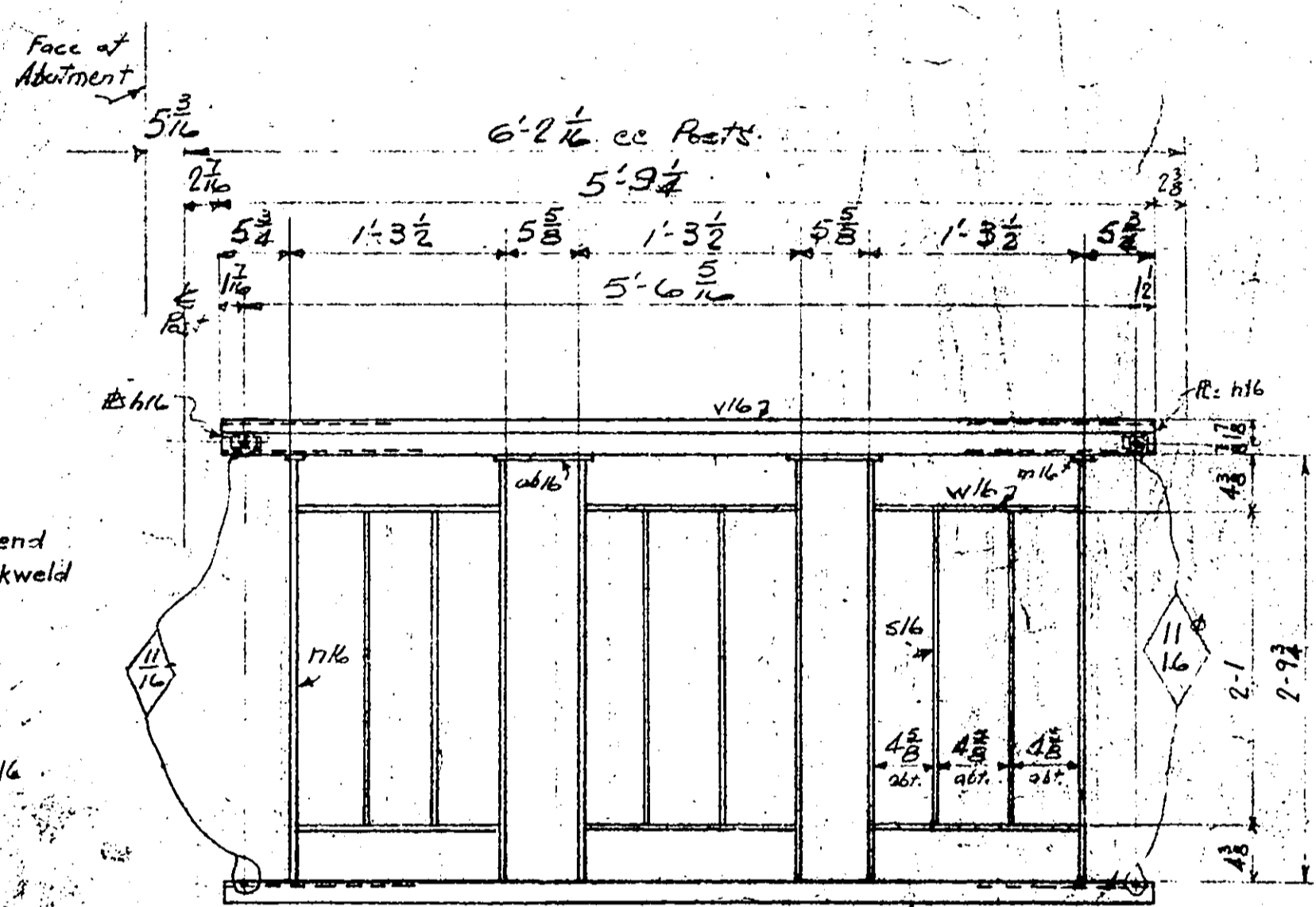
(Part 341) - 1 Cast Steel Post Cap - F16
Light cont. weld to post in shop



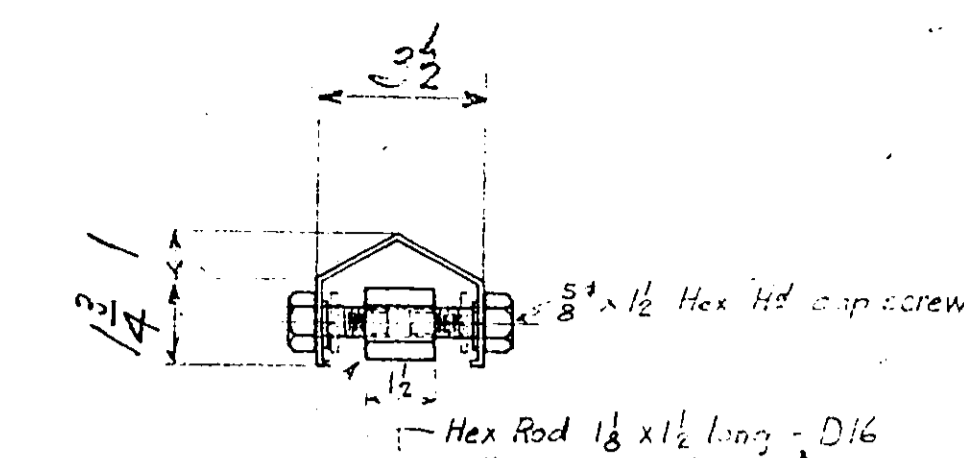
2 - POSTS AS SHOWN - R16
2 - DO OPP. HD. - S16



30 FENCE SECTIONS B16



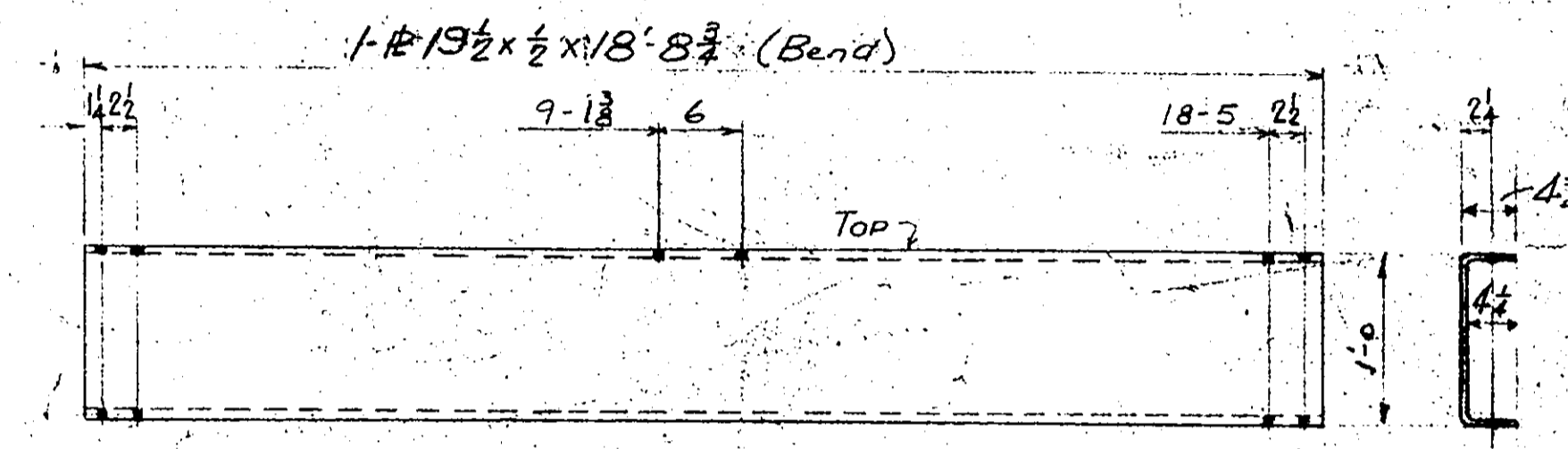
4 FENCE SECTIONS C16



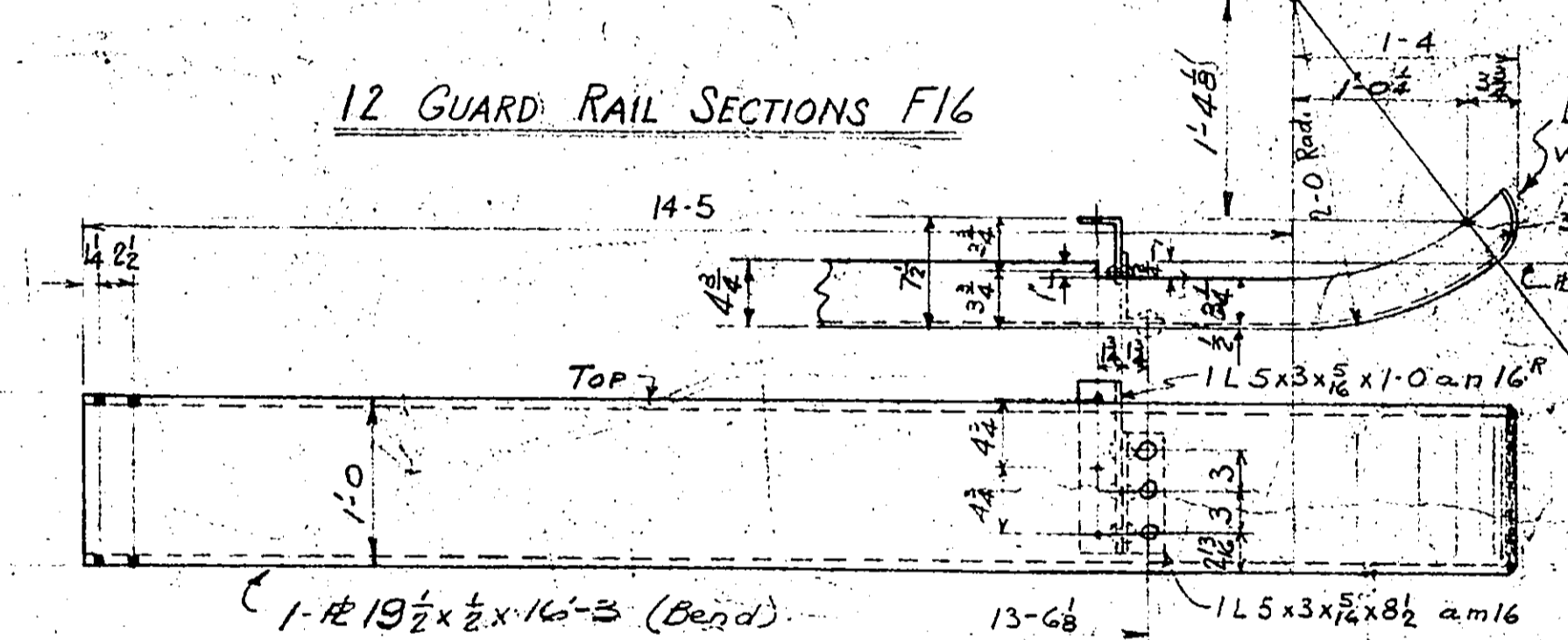
- 1 R 9 x 7/8 x 8 11/4 g16 Bend
- 4 Filler 1 1/2 x 3/8 x 2 h16 Tackweld
- 4 R 2 1/2 x 3/4 x 7 h16
- 2 R 1 1/2 x 1/2 m16
- 10 Bars 1 1/2 x 3/8 x 2-9 1/2 n16
- 10 Bars 1 1/2 x 3/8 x 1-2 1/4 p16
- 1 L 3 x 1 1/2 x 5 x 8 11/4 t16

FIELD ASSEMBLY TO POSTS
(See field material list for quantities)

Guard rails were painted with Epoxy



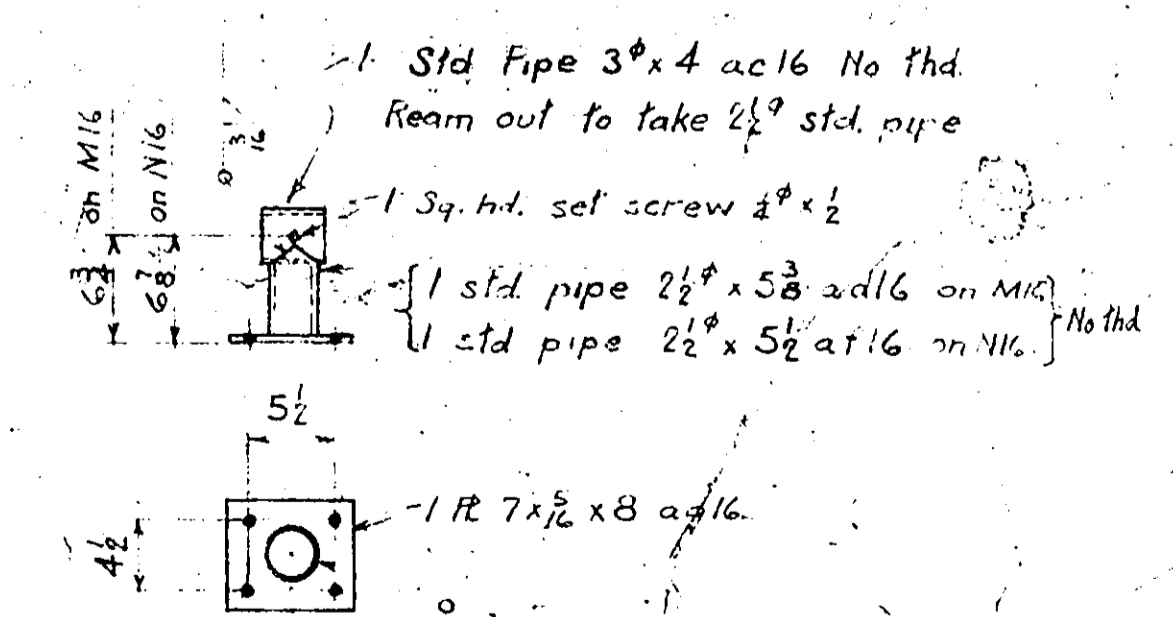
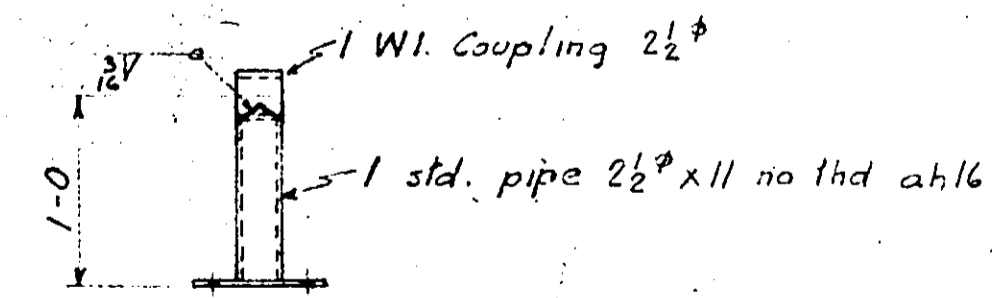
12 GUARD RAIL SECTIONS F16



2 GUARD RAIL SECTIONS AS SHOWN G16
2 GUARD RAIL SECTIONS OPP. HAND H16

- 1 R 9 x 7/8 x 5-9 1/4 v16 Bend
- 4 Filler h16 Tackweld
- 2 R m16
- 2 R 2 1/2 x 3/4 x 7 a b16
- 6 Bars n16
- 6 Bars 1 1/2 x 3/8 x 1 1/2 w16
- 6 Bars s16
- 1 L 3 x 1 1/2 x 5-9 1/4 y16

This end view same as B1C above
All welding same as B14



FIELD MATERIAL LIST

- 68 Nuts D16
- 136 Cap Screws 3/8 x 1 1/2 Hex. Hd 1/2 Thd
- 68 Bolts 5/8 x 1 1/2 Hex. Hd & Nut
- 68 Lock washers 5/8
- 10 Std Pipes 2 1/2 x 18-7 1/2 - Loose thd both ends J16
- 4 Std Pipes 2 1/2 x 28-0 - Thd both ends K16
- 4 Pipe Caps 2 1/2 - 1-0 on K16

12 Posts R16

8 Posts As Shown & Noted - M16
6 Posts As Shown & Noted - N16

1851 - KICKING HORSE RIVER - GOLDEN, BC
1850 - RIVER BEND BRIDGE - ALICORN

ARC AND GAS WELDING SYMBOLS					
TYPE OF WELD					
BEAD FILLET					
BEAD					
RIDGE					
GROOVE					
PLUS WELD					
FIELD WELD					
FLUSH WELD					
BOTH SIDES OF JOINT					
OTHER (OR FAS) SIDE OF JOINT					
BOTH SIDES OF JOINT					

LOCATION OF WELDS

ARROW (OR NEAR) SIDE OF JOINT	OTHER (OR FAS) SIDE OF JOINT	BOTH SIDES OF JOINT
(Symbol)	(Symbol)	(Symbol)
SEE NOTE	SEE NOTE	SEE NOTE
SEE NOTE	SEE NOTE	SEE NOTE

REVISIONS

NO.	DESCRIPTION
1	AS SHOWN

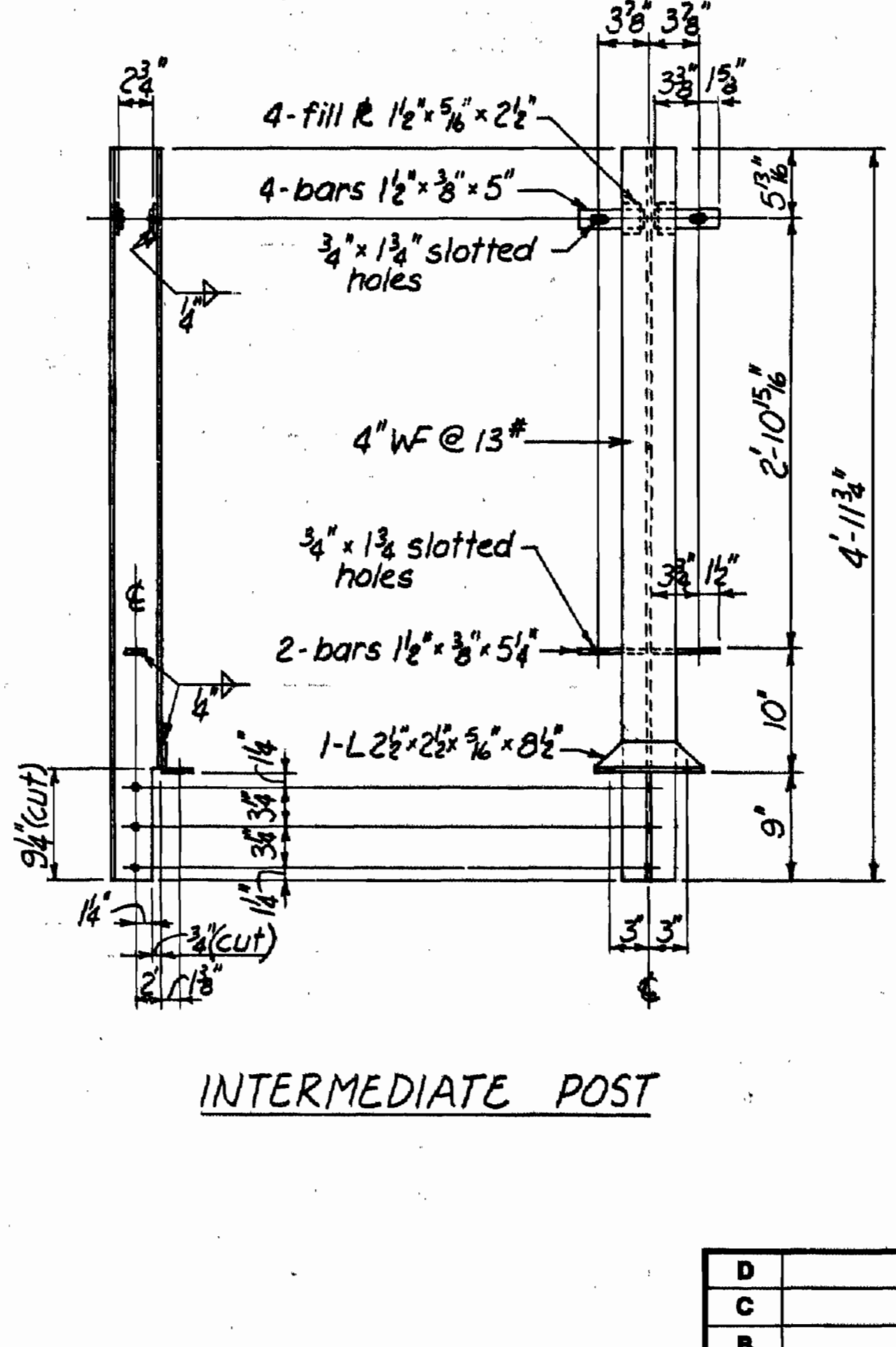
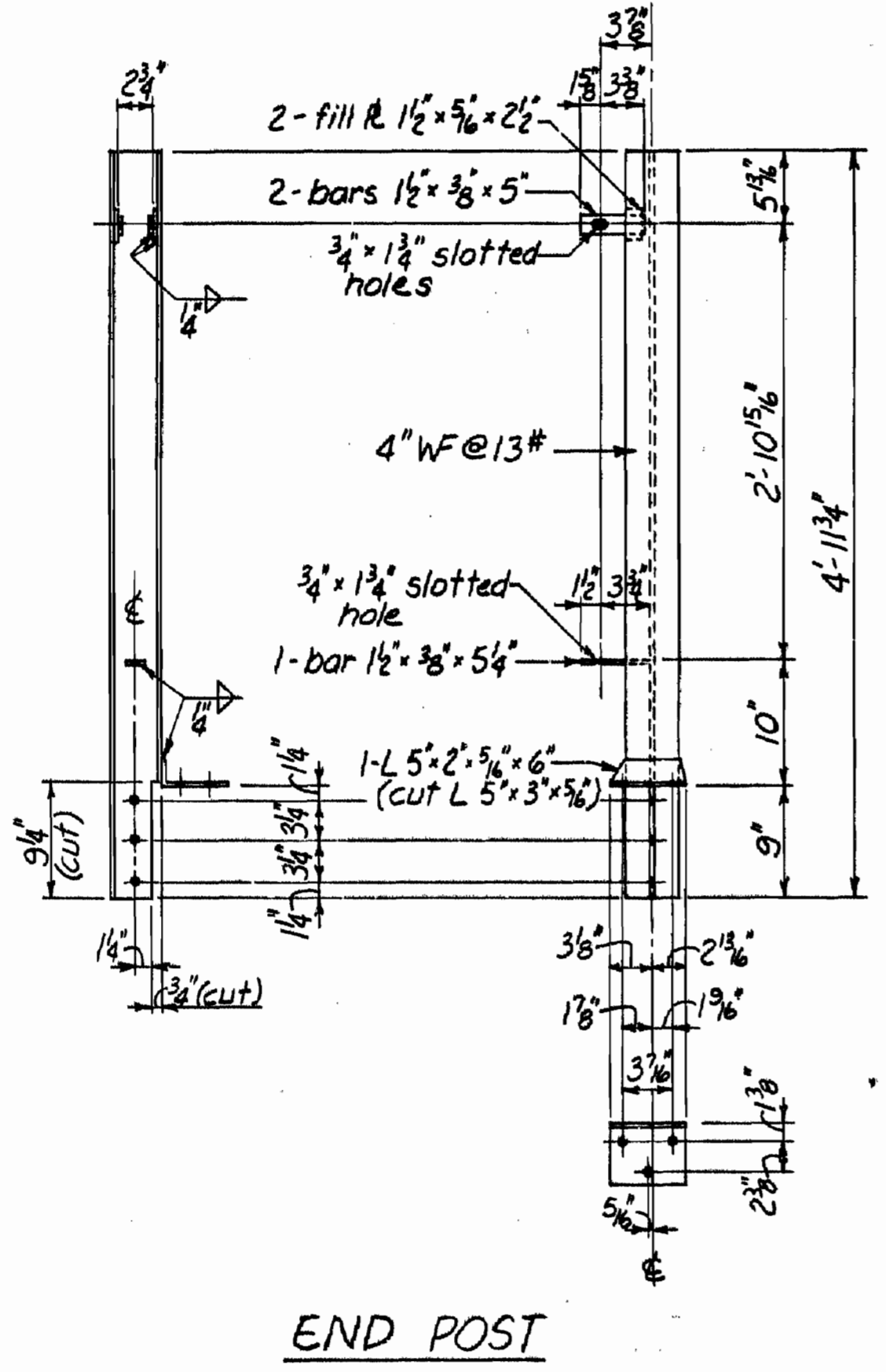
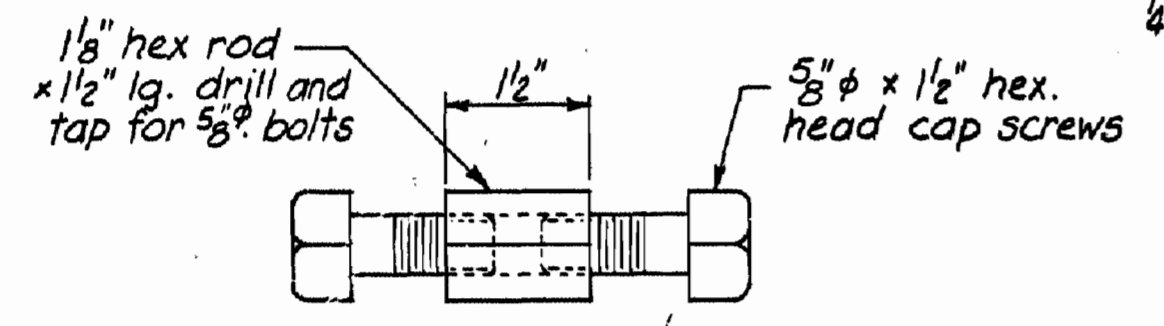
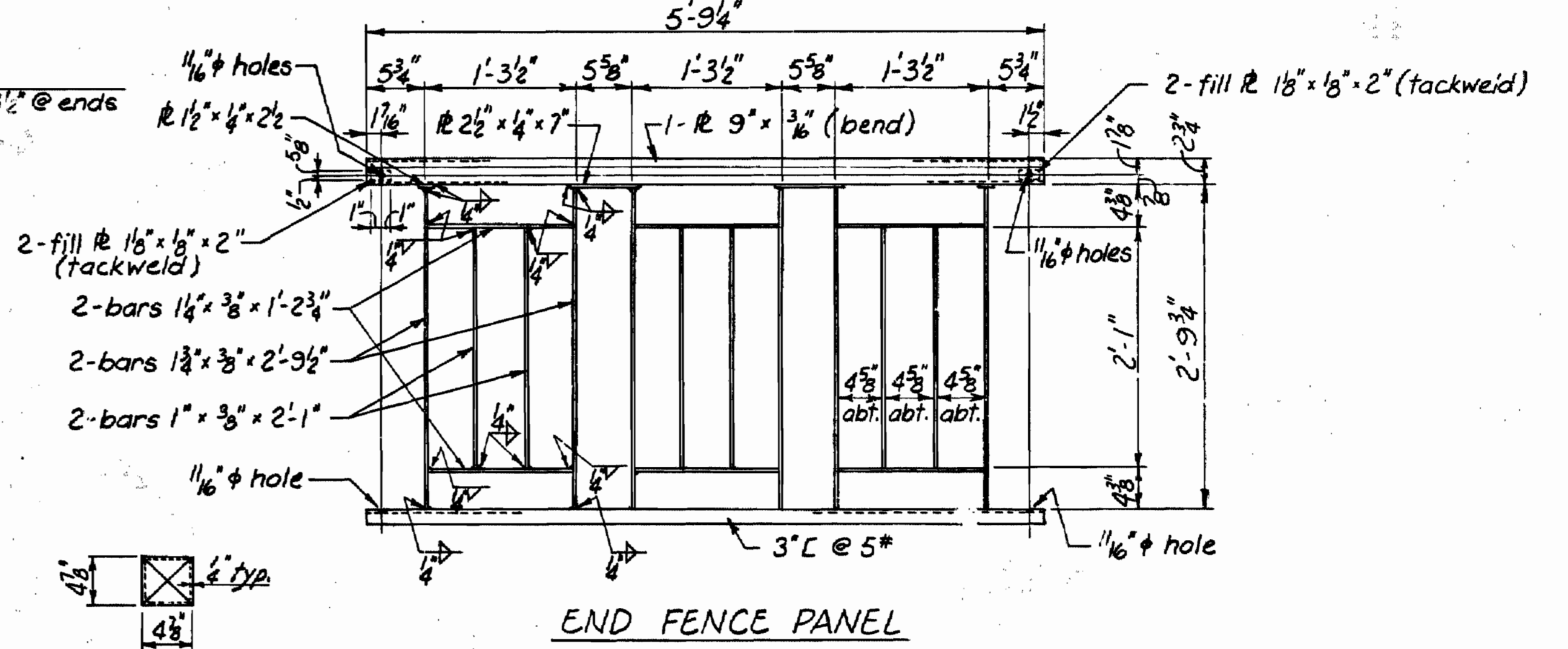
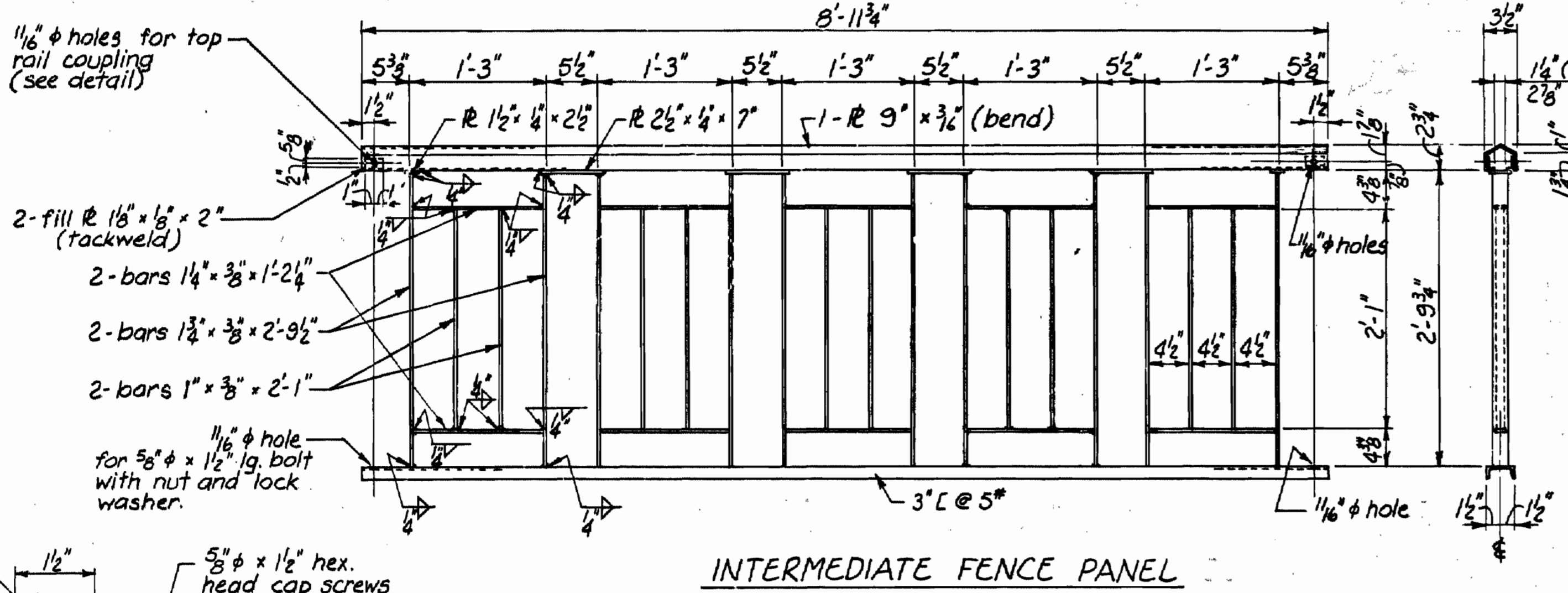
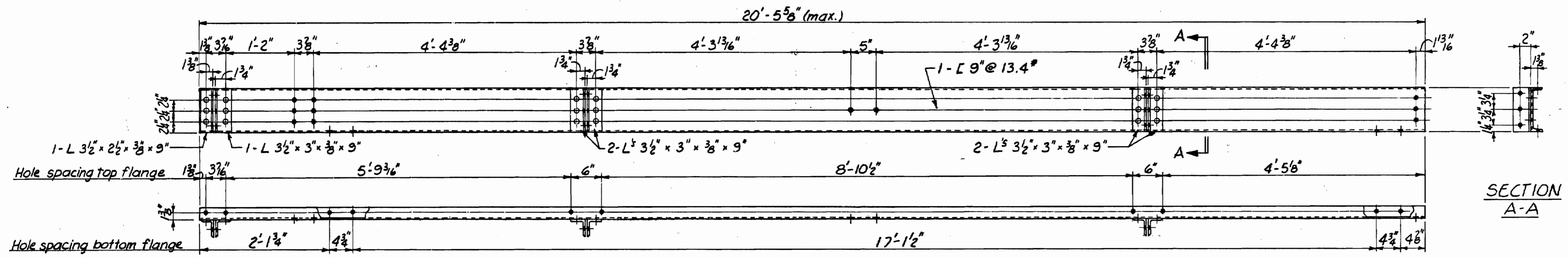
54412



RIVETS: 3 UNLESS NOTED
OPEN HOLES: 13 UNLESS NOTED
SHOP PAINT: 1 Coat
Special Brown
Pinnacle Primer

WESTERN BRIDGE AND STEEL FABRICATORS LTD.
VANCOUVER - CANADA

CUSTOMER: GOVT. OF BC - DEPT. OF PUBLIC WORKS
NAME OF STRUCTURE: HIGHWAY BRIDGE, 150 FT. SPAN
LOCATION: ...
TITLE OF DRAWING: FENCES AND GUARDS
MADE BY: 1850 CHECKED BY: DATE: 1/15
CONTRACT: 1851 W.O. 1851X3 DRWG. NO. 1851



- FIELD CONNECTIONS REQUIRED:**
- 11 - 3/4" phi x 13" H.T. bolts 6.1 lb.
 - 10 - 3/4" phi x 2" H.T. bolts 5.8 lb.
 - 9 - 3/4" phi x 2 1/2" H.T. bolts 5.5 lb.
 - 20 - R.P. washers for 3/4" phi bolts 1.0 lb.
 - 10 - Beveled washers for 3/4" phi bolts 2.1 lb.
 - 4 - Top rail couplings (see Detail) 3.0 lb.
 - 4 - Bottom rail couplings (see Fence Detail) 1.5 lb.

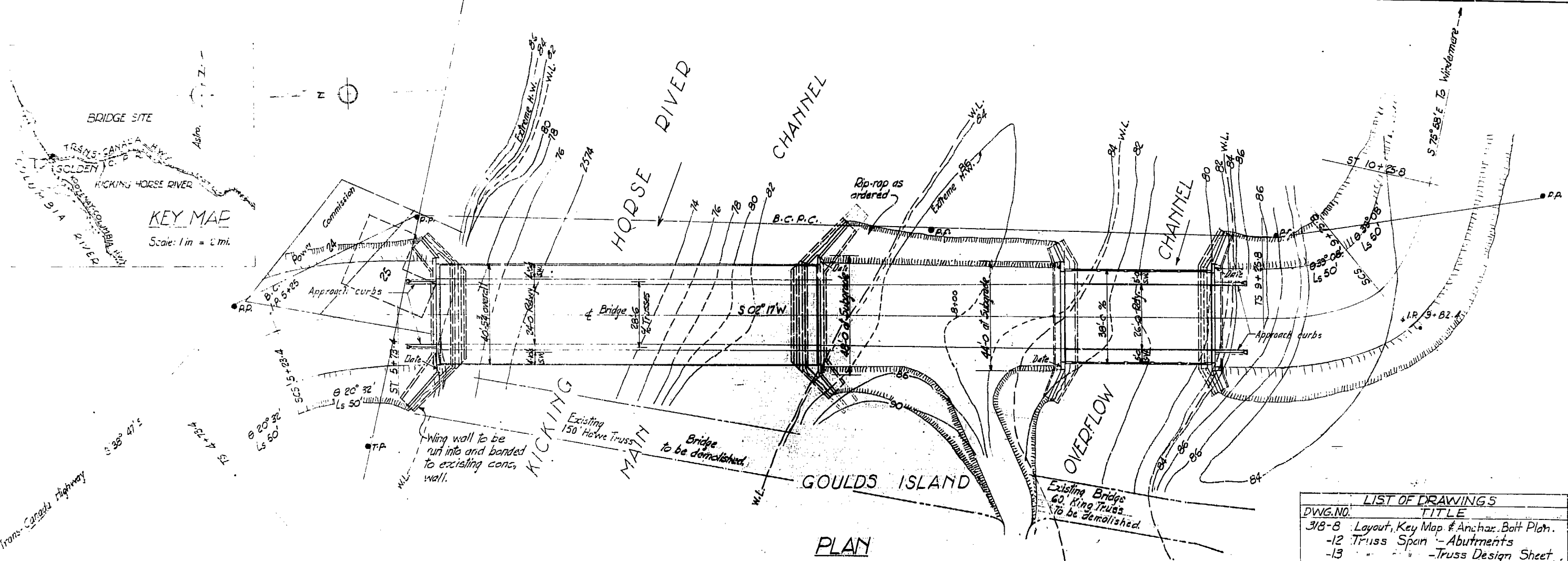
- NOTES:**
1. Material to conform to C.S.A. Specification G40.21 Grade 44W.
 2. Open holes to be 1 3/16" phi except as noted.
 3. Connections to be 3/4" phi H.T. bolts except as noted.
 4. Paint all steelwork one shop coat red lead Alkyd/Oil paint designation M.O.H. A2.

- ESTIMATED WEIGHTS:**
1. Sidewalk stringer 350 lb. (4w shop fasteners)
 2. Intermediate fence panel 195 lb.
 3. End fence panel 125 lb.
 4. Intermediate post (incl. cap) 80 lb.
 5. End post (incl. cap) 75 lb.

GOVERNMENT OF BRITISH COLUMBIA
MINISTRY OF TRANSPORTATION AND HIGHWAYS
BRIDGE ENGINEERING BRANCH

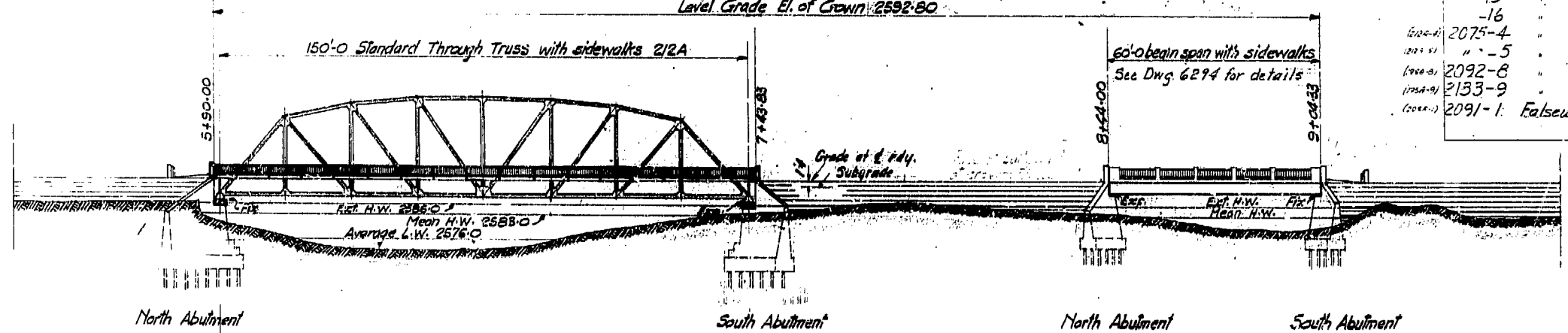
GOLDEN DISTRICT
RADIUM GOLDEN HIGHWAY No 95
KICKING HORSE RIVER BRIDGE No 4
FENCE REPAIRS

D		PREPARED UNDER THE DIRECTION OF	DATE	SCALE: 1" = 1'-0"	NEG. No. 274439
C		SENOR BRIDGE DESIGN ENGINEER	4/2/81	DRAWN B.F.B. 81-5-5	CHECKED W.M.S. 81/5/15
B		APPROVED FOR USE IN CONSTRUCTION	DATE	EXAMINED AND ACCEPTED	DATE
A		L. G. Johnson	4/6/81	EXECUTIVE DIRECTOR OF ENGINEERING	318-20
REVISIONS					

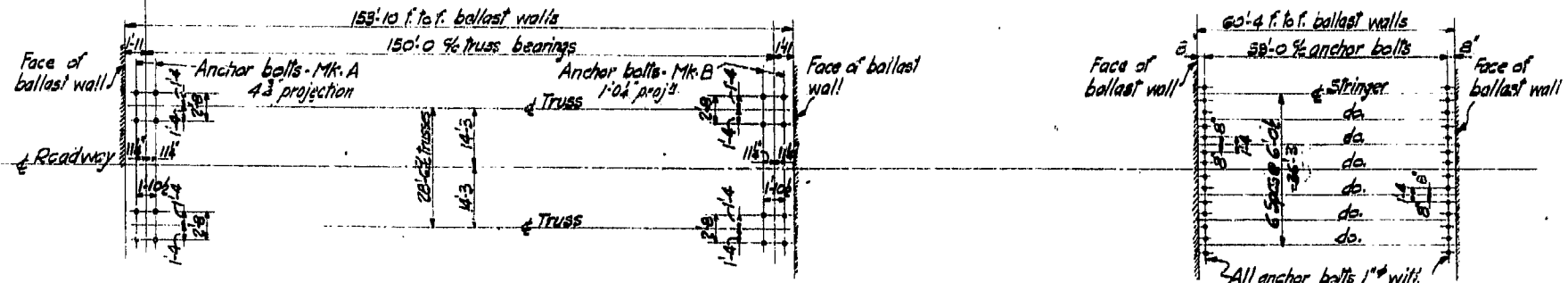


PLAN

Level Grade El. of Crown 2592.80



ELEVATION



ANCHOR BOLT PLAN

Not to scale

LIST OF DRAWINGS	
DWG. NO.	TITLE
318-8	Layout, Key Map & Anchor Bolt Plan.
-12	Truss Span - Abutments
-13	Truss Design Sheet
-14	Typical Span Details
-15	Deck Details
-16	Approach Curbs
2075-4	Truss Opening Guards
" -5	Anchor Bolt Assembly
2092-8	Prot. Angle Anchor
2133-9	Copper Water Stop
2091-1	Falsework

COLUMBIA DISTRICT
 KOOTENAY-COLUMBIA HIGHWAY
 KICKING HORSE RIVER BRIDGE N°4
 AT GOLDEN

LAYOUT, KEY MAP
 & ANCHOR BOLT PLAN

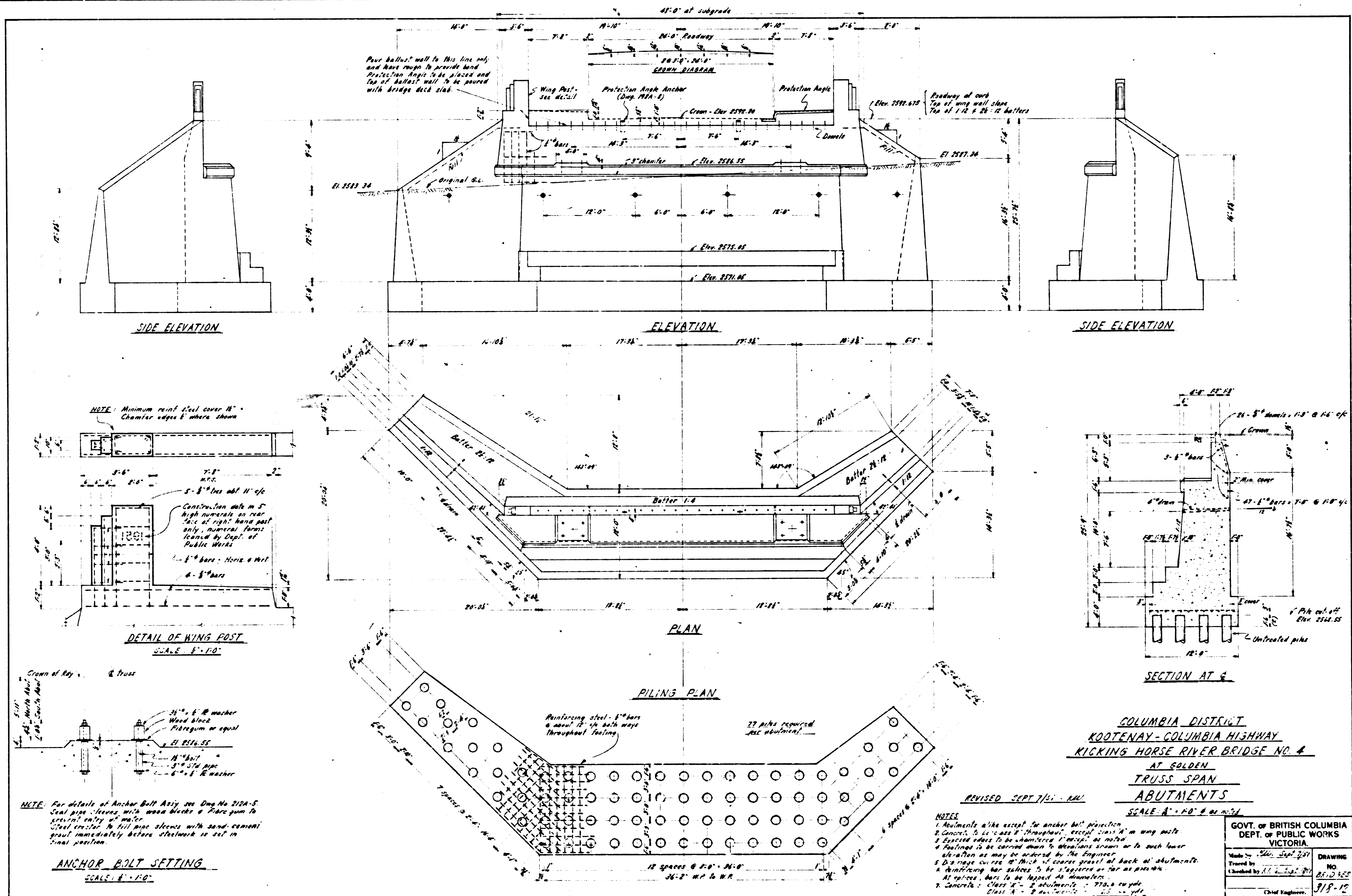
Scale: 1" = 20'-0" & as noted

20267

GOVT. OF BRITISH COLUMBIA DEPT. OF PUBLIC WORKS VICTORIA.	
Made by H.C. May 15-51	DRAWING NO.
Traced by	BRIDGES
Checked by A.B.G. June 1951	318-8
Chief Engineer.	

Datum: Geol. Survey 3-M-273C
 El. 2590.69
 Survey: By A.E.W. Jan. 15-1951.
 Spec: Dept. of Public Works

Revised Sept. 11, 51 - Grade changed; N.O.



Pour ballast wall to this line only and leave rough to provide bond. Protection Angle to be placed and top of ballast wall to be poured with bridge deck slab.

SIDE ELEVATION

ELEVATION

SIDE ELEVATION

NOTE: Minimum reinf. steel cover 1 1/2". Chamfer edges & where shown

DETAIL OF WING POST
SCALE: 8" = 1'-0"

PLAN

PILING PLAN

SECTION AT G

COLUMBIA DISTRICT
KOOTENAY-COLUMBIA HIGHWAY
KICKING HORSE RIVER BRIDGE NO. 4
AT GOLDEN
TRUSS SPAN
ABUTMENTS

REVISED SEPT 7/51 - KAW

SCALE: 8" = 1'-0" as noted

NOTE: For details of Anchor Bolt Assy see Dwg No 212A-5. Seal pipe sleeves with wood blocks & Fibregum to prevent entry of water. Steel creostat to fill pipe sleeves with sand-cement grout immediately before steelwork is set in final position.

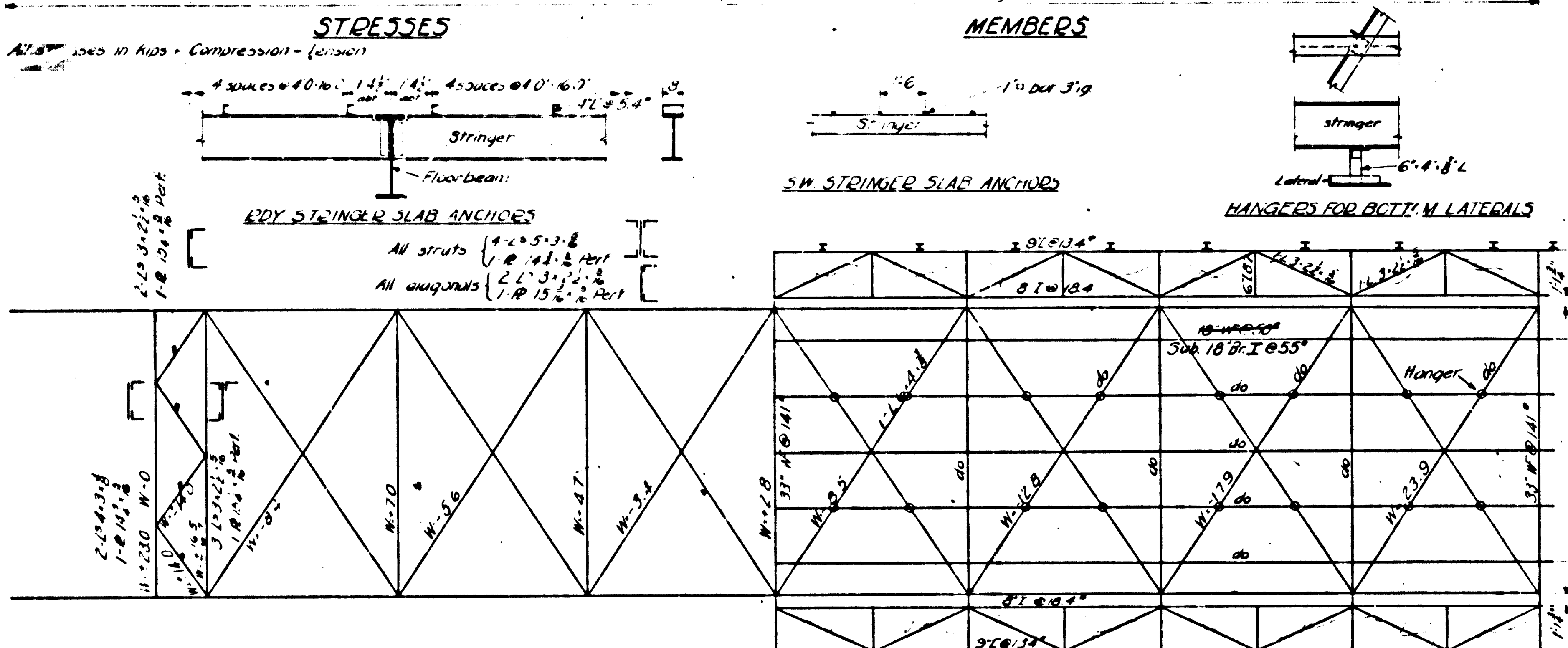
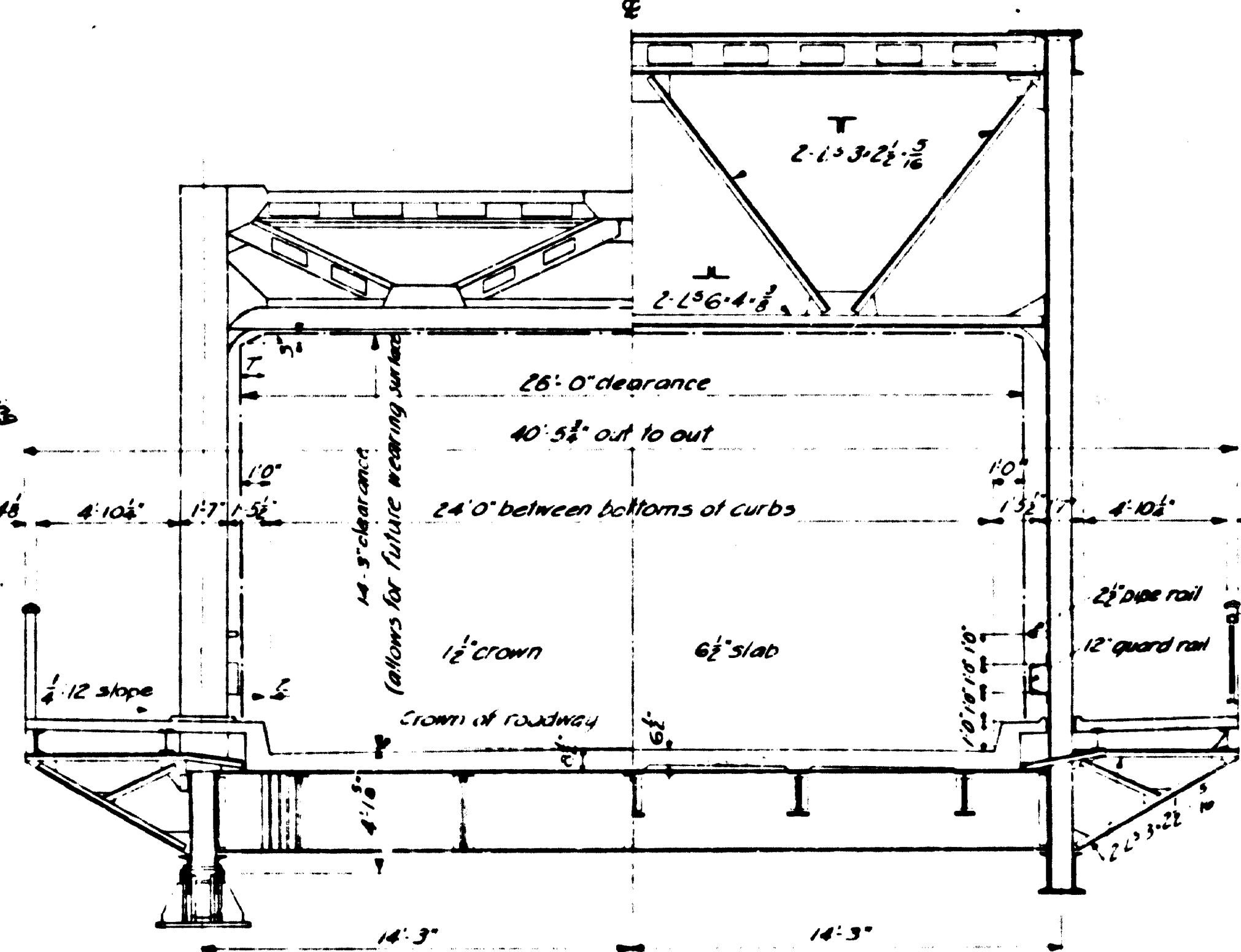
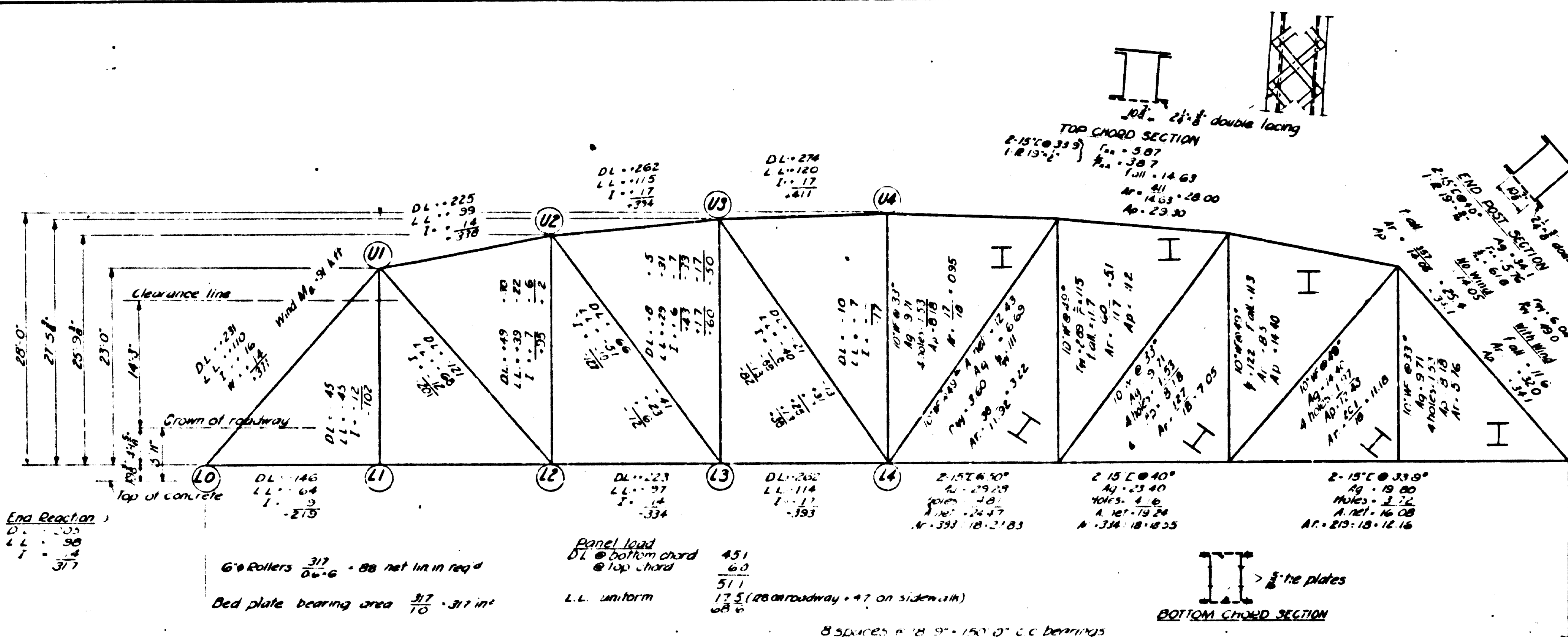
ANCHOR BOLT SETTING
SCALE: 8" = 1'-0"

NOTES

1. Abutments alike except for anchor bolt projection.
2. Concrete to be Class A throughout, except Class A in wing posts.
3. Exposed edges to be chamfered 1" except as noted.
4. Footings to be carried down to elevations shown or to such lower elevation as may be ordered by the Engineer.
5. Drainage course 12" thick of coarse gravel at back of abutments.
6. Reinforcing bar splices to be staggered as far as possible.
7. At splices, bars to be lapped 40 diameters.
8. At splices, bars to be lapped 40 diameters.
9. Concrete: Class A - 2 abutments - 770 cu yds.
10. Class A - 2 abutments - 225 cu yds.

GOVT. OF BRITISH COLUMBIA
DEPT. OF PUBLIC WORKS
VICTORIA.

Made by: S. J. ... Sept 2/51
Traced by: A. J. ... Sept 2/51
Checked by: A. J. ... Sept 2/51
Chief Engineer: ...
NO. BRID 925
9/8-15



Dead Load:
 Concrete & wearing surface 1860°/ft/Truss
 Floor steel and fence 367°/ft
 Truss and bracing 438°/ft
 2725°/ft

Live Load:
 On roadway, in each lane either (a) 1std. M 20-44 truck or (b) Uniform load of 640°/lin ft of lane combined with conc load of 18000°/lane for moment or 26000°/lane for shear.
 On sidewalk - 85° ft² for floor system, 50°/ft² for trusses.

Wind Load:
 150°/lineal ft. on top chord
 305°/ft on bottom
 200°/ft moving load 6 ft above roadway

Unit Stresses:
 Tension 18000°/in²
 Compression 15000°/in² (1 1/3)
 Unit stresses increased 25% for DL-LL-Impact-Wind.

Specification: AASHO 1949 Standard Specifications for Highway Bridges.

Notes:
 Rivets 3/4" diameter
 Gussets 3/8" thick minimum
 Minimum thickness of metal 5/16" except webs of rolled shapes - minimum thickness 0.23"

SIDEWALK STRINGER - IN. IDE		ROADWAY STRINGER		FLOORBEAM - INTERMEDIATE	
SF	M	SF	M	SF	M
DL 2280°	10,700°	DL 6000°	27,900°	DL 32,000°	276,000°
LL 2190°	10,200°	LL 17100°	82,500°	LL 36,400°	316,000°
I 4470°	20,900°	I 5100°	24,700°	I 10,900°	95,000°
8" x 18" x 12	17,100°/lin	28200°	135,100°	79,300°	647,000°
1" - 20,900° - 12 = 142	17,100°/lin	18" x 50"	5,446.8 m³	33" x 141"	5,446.8 m³
		1" - 135,100° - 12 = 830	18,200°/lin	1" - 647,000° - 12 = 446.8	174,000°/lin

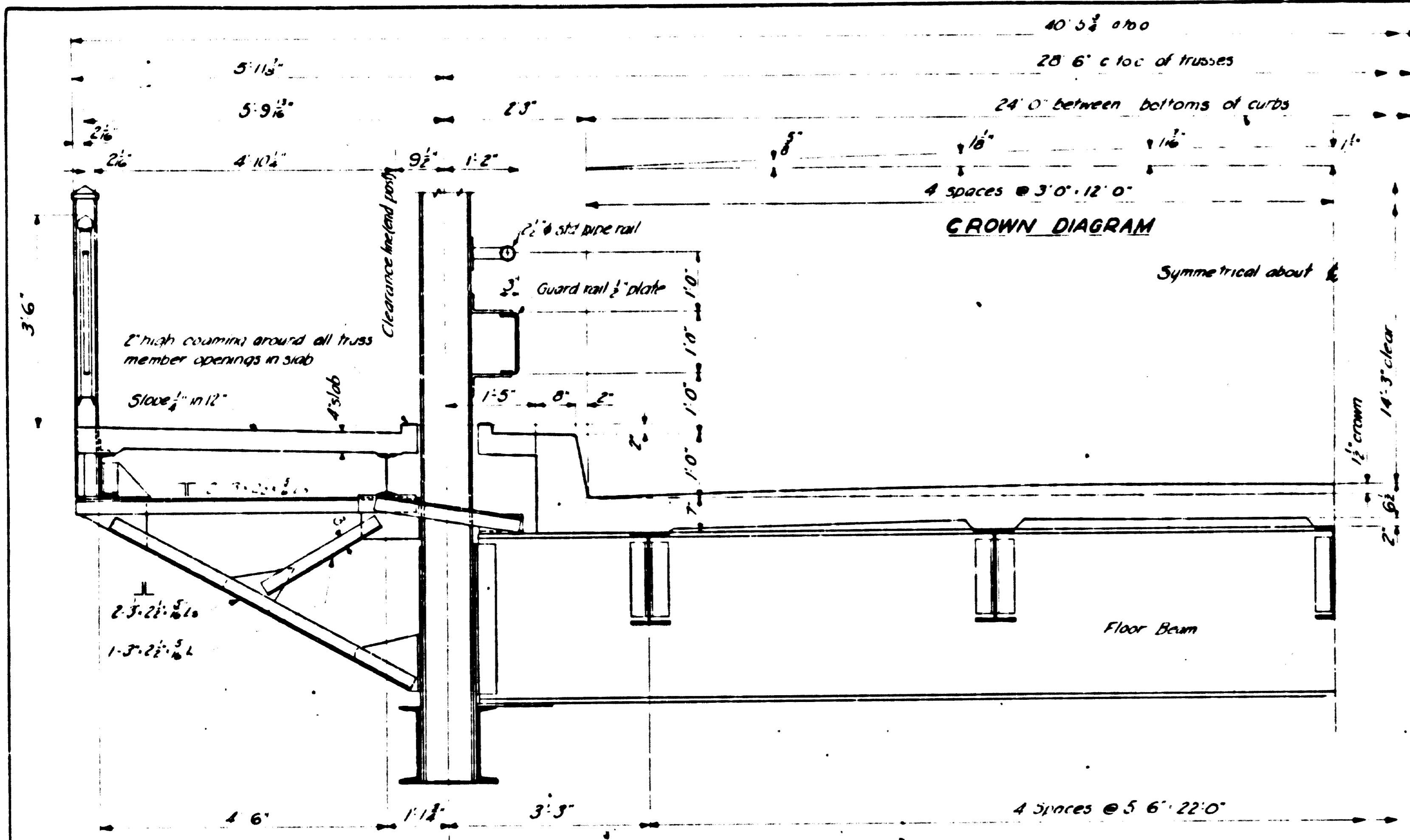
SIDEWALK STRINGER OUTSIDE		FLOORBEAM - END	
SF	M	SF	M
DL 1630°	7610°	Jacking load	204,500°
LL 1230°	6320°	33" x 141"	5,446.8 m³
I 3120°	16,000°	Follow (for b = 11.5')	15(18,000 - 5(17.5)) * 7.20, 410°/lin
9" x 13.4"	5,10.5 m³	1" - 613,500° - 12 = 446.8	16,500°/lin
1" - 16,000° - 12 = 105	18,300°/lin		

STANDARD 150 FT. THROUGH SPAN WITH SIDEWALKS TRUSS DESIGN SHEET FOR COLUMBIA DISTRICT KICKING HORSE RIVER BRIDGE

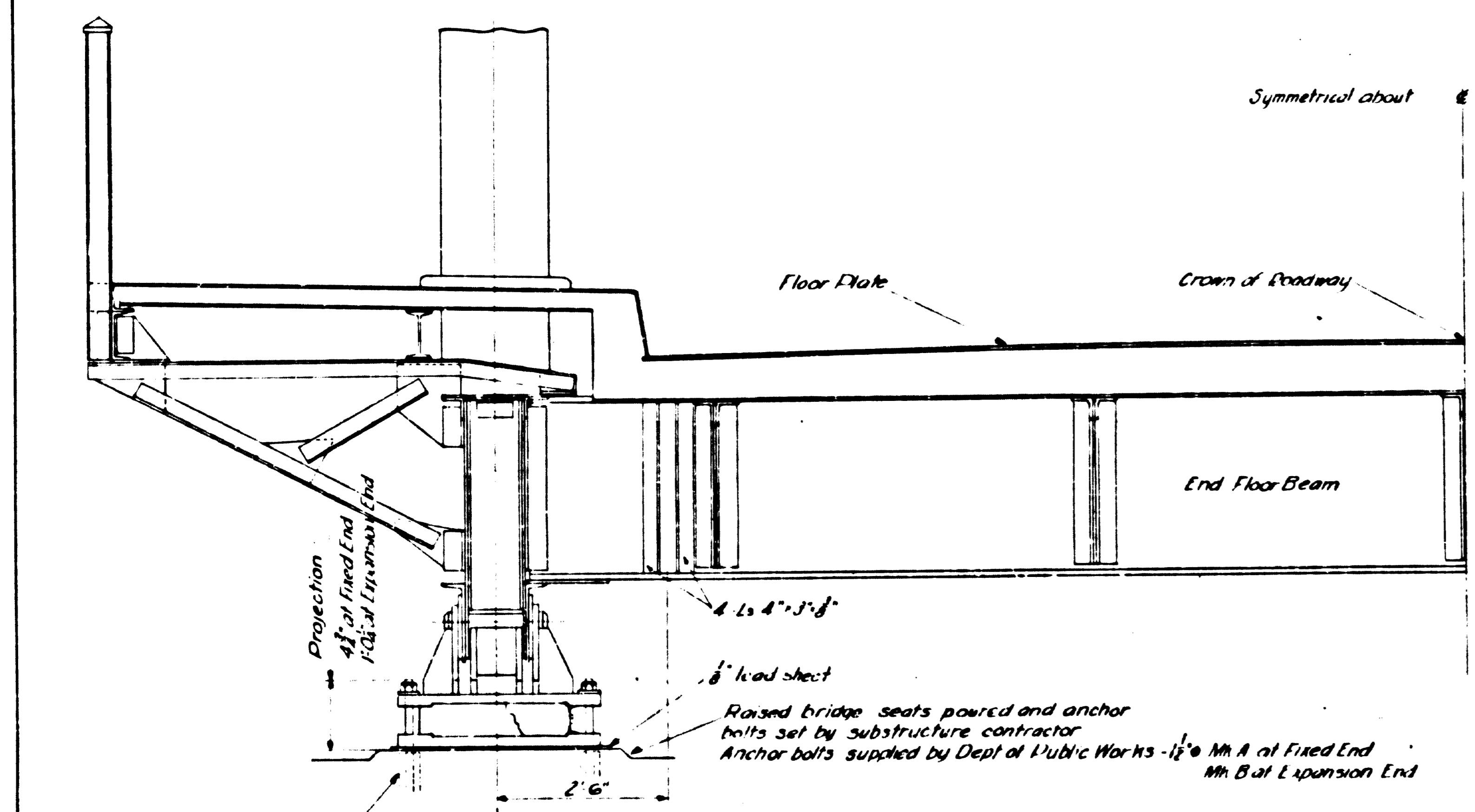
GOVT. OF BRITISH COLUMBIA DEPT. OF PUBLIC WORKS VICTORIA

Estimated weight of steelwork including floorplate, pier members, sidewalk and roadway fences, and drains - 255,000 lbs.

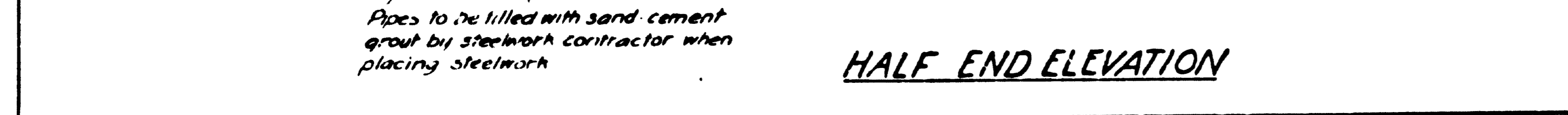
DRAWING NO. BRIDGES 319-13



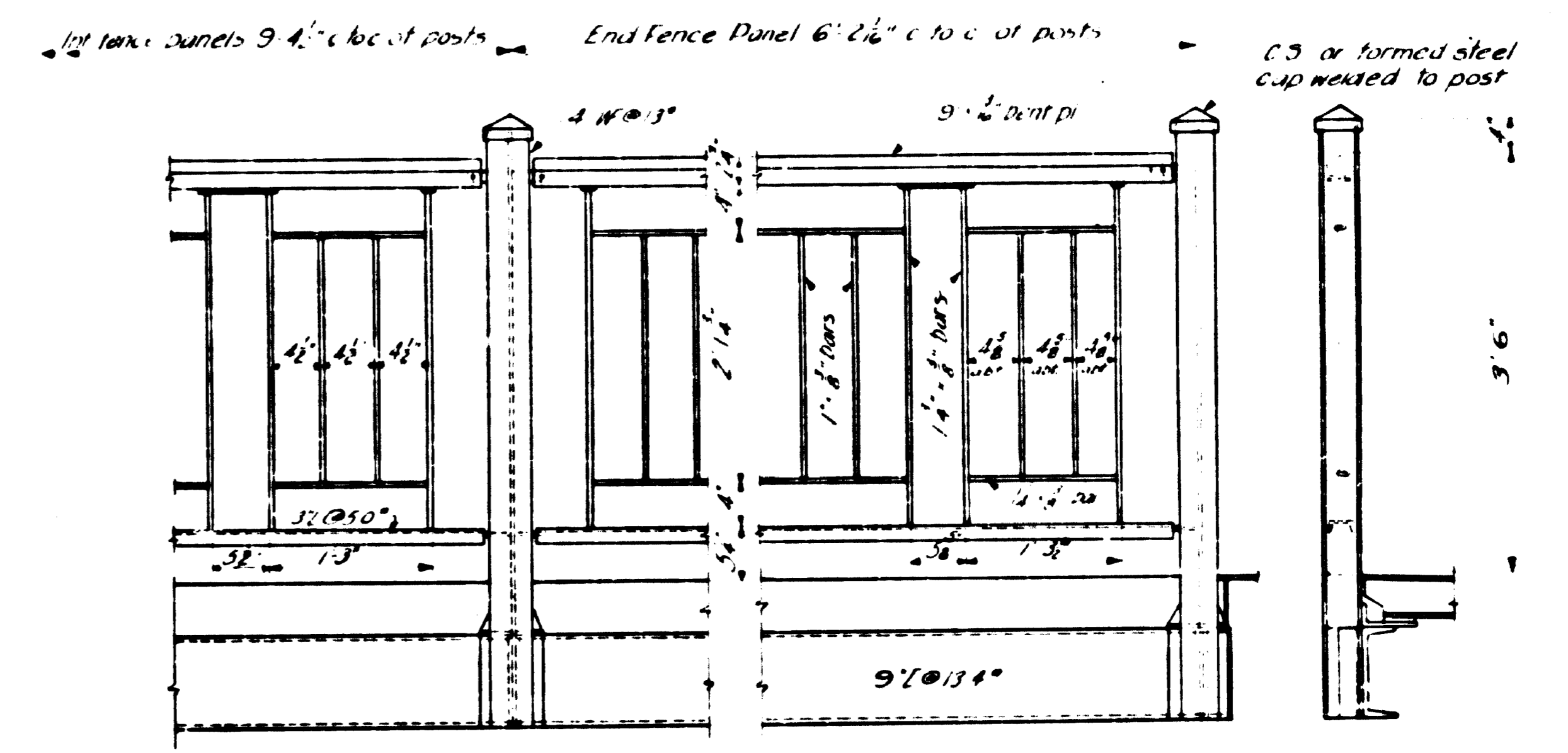
CROWN DIAGRAM



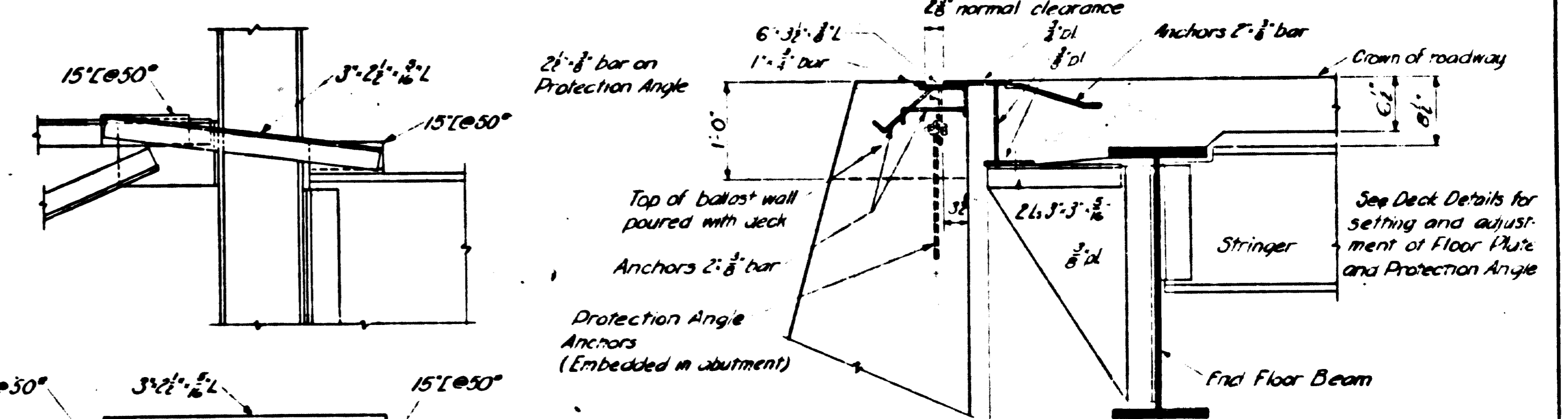
HALF CROSS SECTION



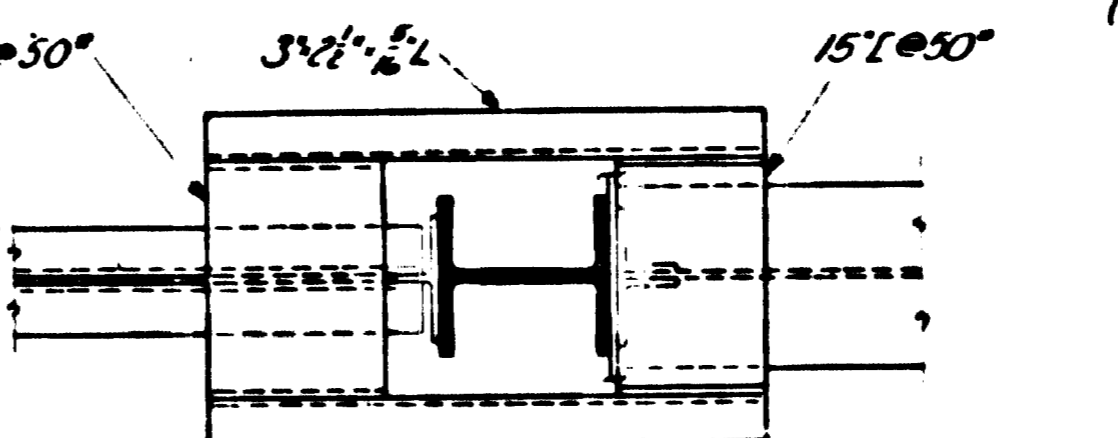
HALF END ELEVATION



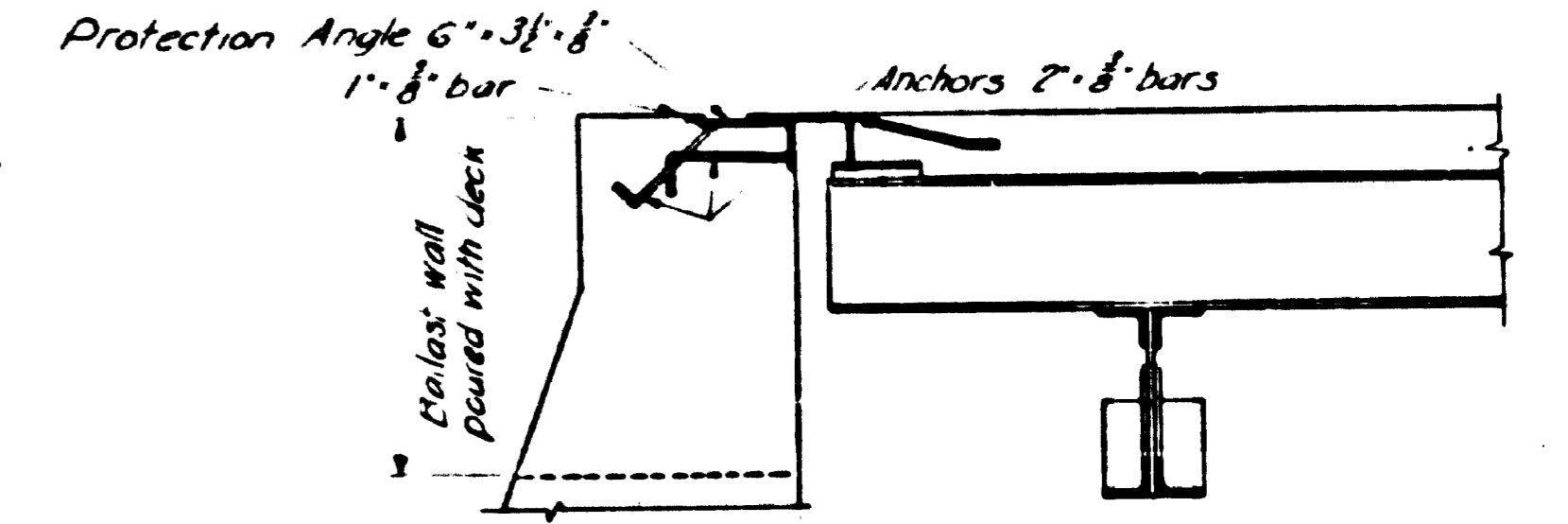
DETAIL OF FENCE AND FENCE POST CONNECTION



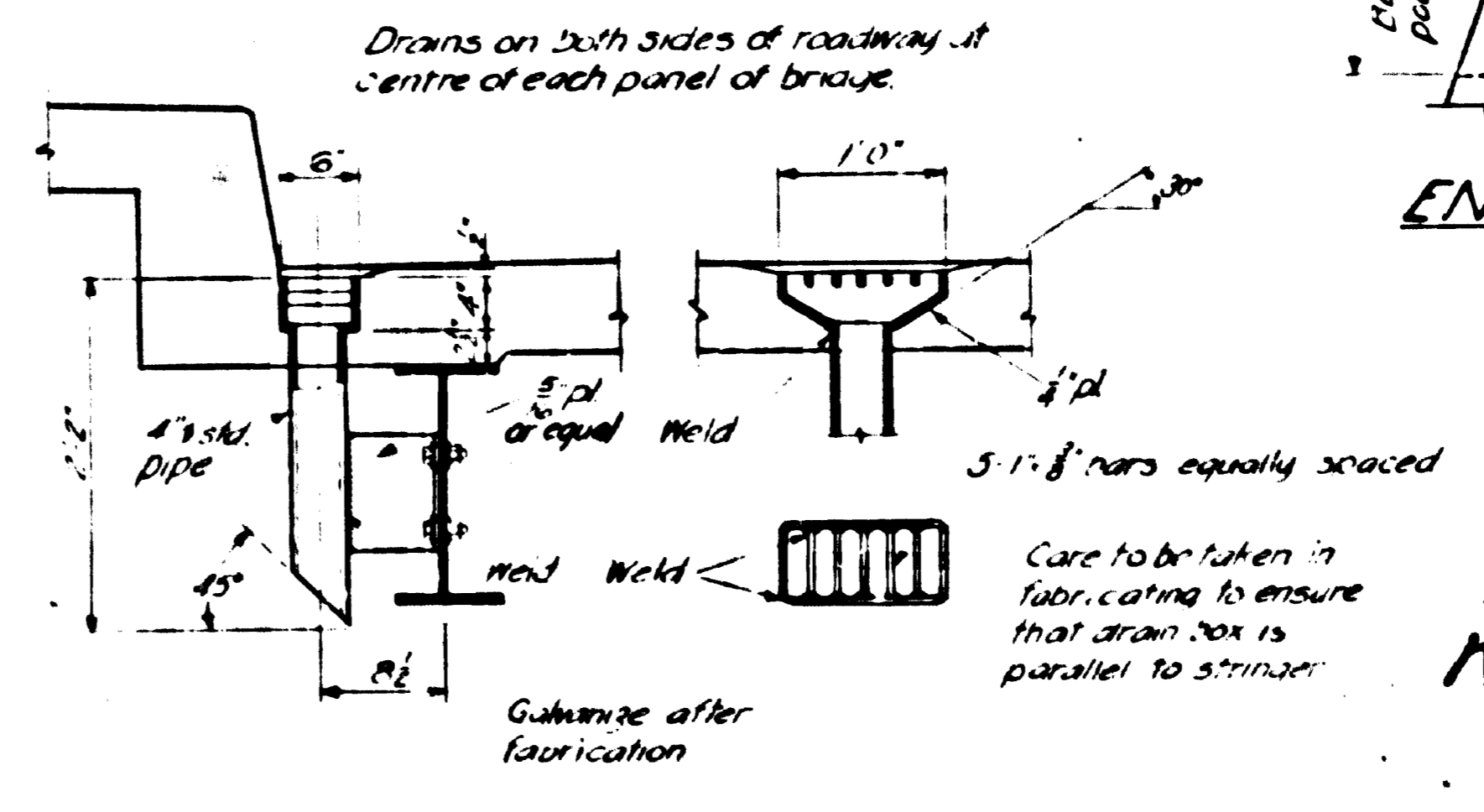
END SECTION-ROADWAY AT CROWN



DETAIL OF SIDEWALK BRACKET CONNECTION TO TRUSS



END SECTION-THROUGH SIDEWALK



DETAIL OF DRAIN

**STANDARD 150 FT. THROUGH SPAN
(WITH SIDEWALKS)
TYPICAL SPAN DETAILS
FOR
COLUMBIA DISTRICT
KICKING HORSE RIVER BRIDGE**

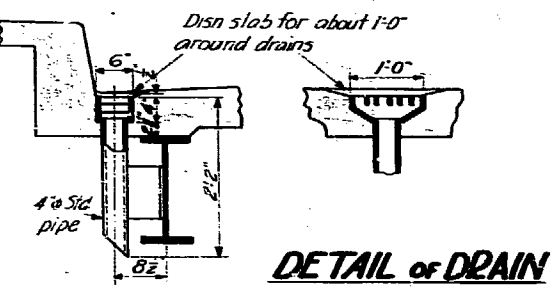
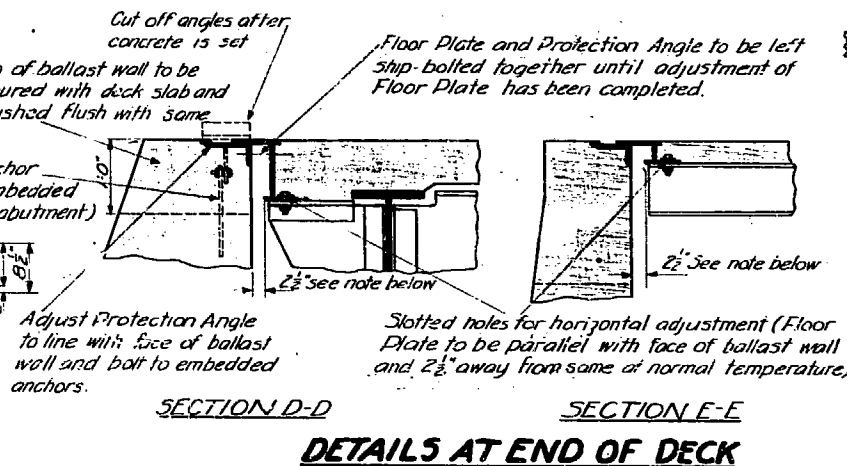
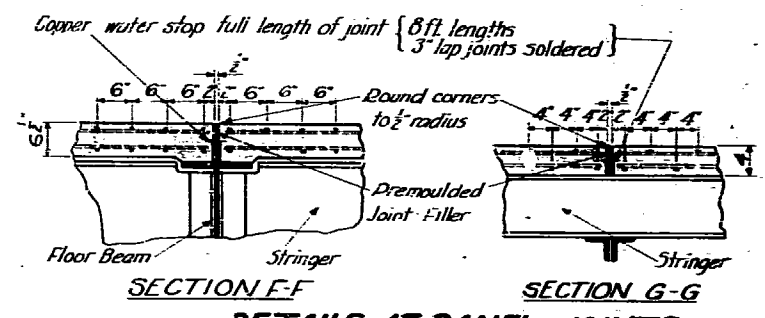
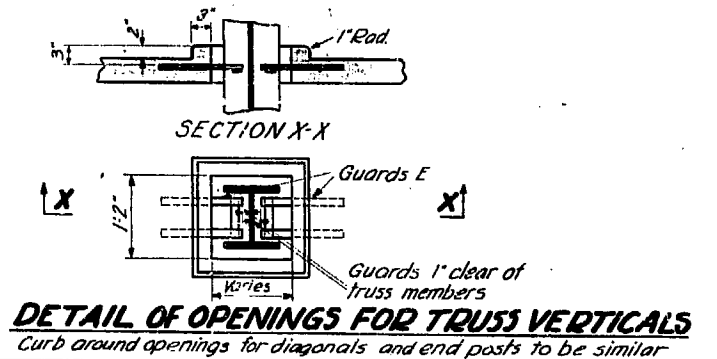
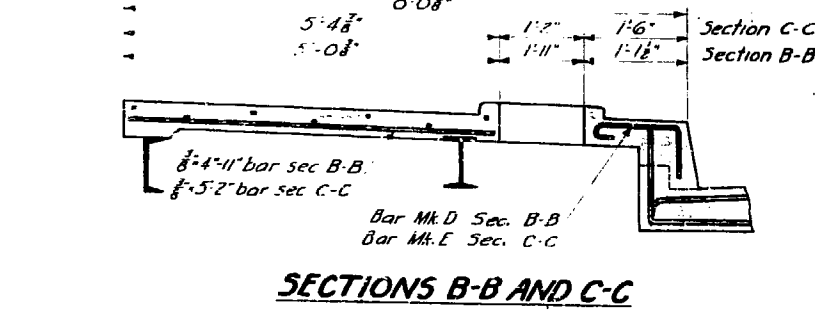
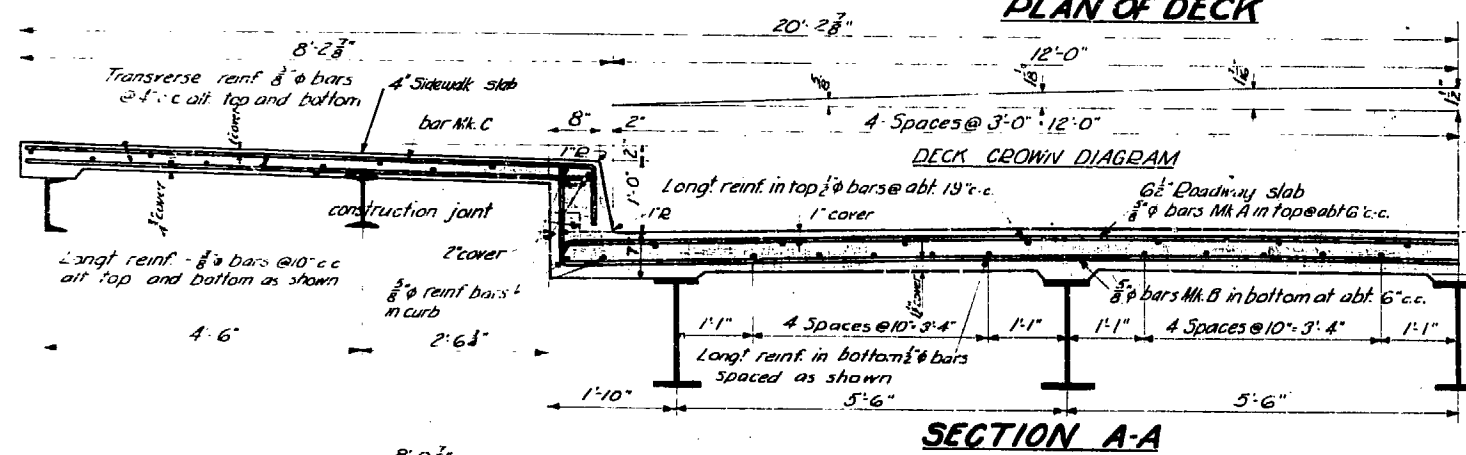
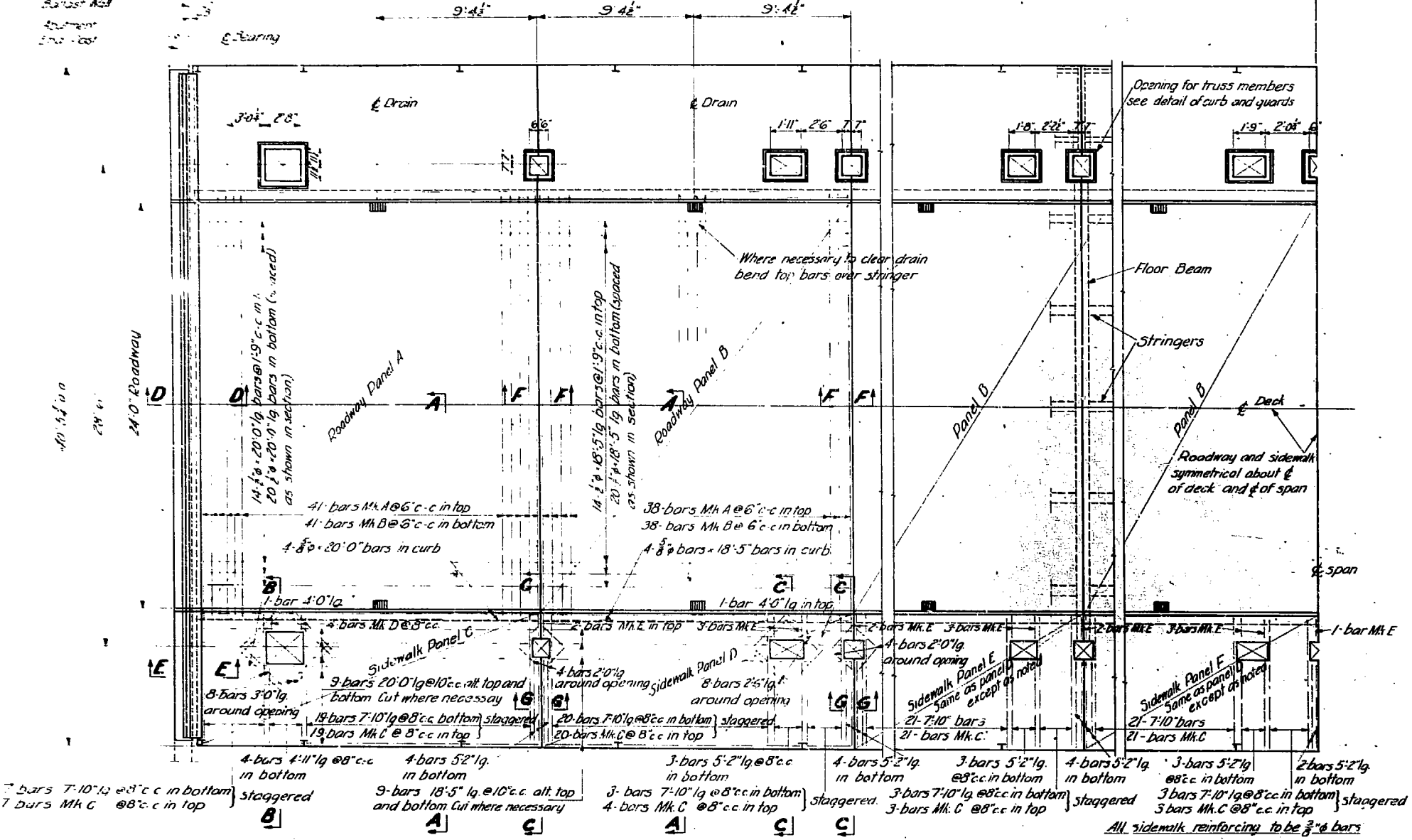
Scale: 3/4" and 1" = 10"

Anchor Bolt Details Dwg No 212A-5

GOVT. OF BRITISH COLUMBIA DEPT. OF PUBLIC WORKS VICTORIA	
Made by: G.I. D Dec 13, 1950 Traced by: W. Sull Jan 19, 51 Checked by: G.I. 10/2/51	DRAWING NO BRIDGES 318-44
Chief Engineer	

153'-10" face to face of Ballast Walls
4 Panels @ 18'-9" = 75'-0"

LIST OF REINFORCING STEEL						
LOCATION	MARK	NUMBER	SIZE	LENGTH	BENDING DIAGRAM	WEIGHT
Top Transverse in Roadway Slab	A	310	$\frac{3}{4}$ "	26'-5"		8,540
Bottom	B	310	-	27'-7"		8,920
Top Transverse in Sidewalk Slab All panels	C	392	$\frac{7}{8}$ "	8'-7"		1,265
do Panel C	D	16	-	2'-0"		12
do All panels	E	64	-	2'-5"		58
Longitudinal in curbs - Panel A		16	$\frac{3}{8}$ "	20'-0"	Straight bars	334
do Panel B		48	-	18'-5"	do	922
Longitudinal Roadway Slab - Panel A		68	$\frac{1}{2}$ "	20'-0"	do	908
do Panel B		204	-	18'-5"	do	2,510
Longitudinal in Sidewalk Slab - Panel C		36	$\frac{3}{8}$ "	20'-0"	do	270
do Panels D,E,F		109	-	18'-5"	do	748
Bottom Transverse in Sidewalk Slab - All Panels		388	-	7'-10"	do	1,140
do All panels		92	-	3'-2"	do	178
do Panel C		16	"	4'-11"	do	30
Around openings in Sidewalk Panel C		32	"	3'-0"	do	36
do All Panels		96	-	2'-6"	do	90
do - All Panels		56	-	2'-0"	do	42
do - All Panels		16	-	4'-0"	do	24
				260 lb. #15 ga. black annealed wire		260
						26,287



STANDARD 150' THROUGH SPAN WITH SIDEWALKS DECK DETAILS FOR COLUMBIA DISTRICT KICKING HORSE RIVER BR.

- Notes:-
- All concrete to be class A
 - Reinforcing to have $\frac{1}{2}$ " cover unless otherwise noted.
 - All reinforcing to be structural grade and bars to be plain.
 - All exposed edges of concrete to have $\frac{1}{2}$ " chamfer unless otherwise noted.
 - Estimated quantity of concrete in deck including tops of ballast walls 123 cu yds.
 - For details of curbs for truss member openings see drawing No. 212A-4.

GOVT. OF BRITISH COLUMBIA
DEPT. OF PUBLIC WORKS
VICTORIA.

Made by W. Salt, Nov. 25/50
Traced by W. Salt, Jan. 31/51
Checked by H. B. [unclear] 3/51

DRAWING No. BRIDGES 318-15
Chief Engineer

GOVERNMENT OF BRITISH COLUMBIA
DEPARTMENT OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE

BILL No. 22-X2 A
SHEET No. 1 of 1
FILE No. 5388
MADE BY: A.S.
DATE: 29/4/63
CHECKED BY: P.P.
DATE: 7/5/63

BILL OF: REINFORCING STEEL FOR DECK

NAME OF WORK: CANAL FLATS BRIDGE
COLUMBIA DISTRICT
KOOTENAY-COLUMBIA HIGHWAY

REVISIONS
Rev. Made by Checked by Date
A. NW P.P. 12/12/63
B.
C.

CANCEL PRINTS BEARING EARLIER LETTER

ITEM	QUANTITY	SIZE	LENGTH	DESCRIPTION
			TOTAL	
1.		#6	62,710 lin. ft.	Cut and bent to suit
2.		#5	39,500 "	Dwg. No 22-26 & SK. 22-27 and
3.		#4	12,270 "	Dept. of Highways General
4.		#3	1,200 "	Specifications Section 212.
			Total weight 144,000 lbs.	

Reinforcing shall be in accordance with the Department's General Specifications Section 302. All bars shall be intermediate grade billet steel and deformed.

GOVERNMENT OF BRITISH COLUMBIA
DEPARTMENT OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE

BILL No. 22-X3
SHEET No. 1 of 1
FILE No. 5388
MADE BY: D.D.
DATE: 1/5/63
CHECKED BY: P.P.
DATE: 8/5/63

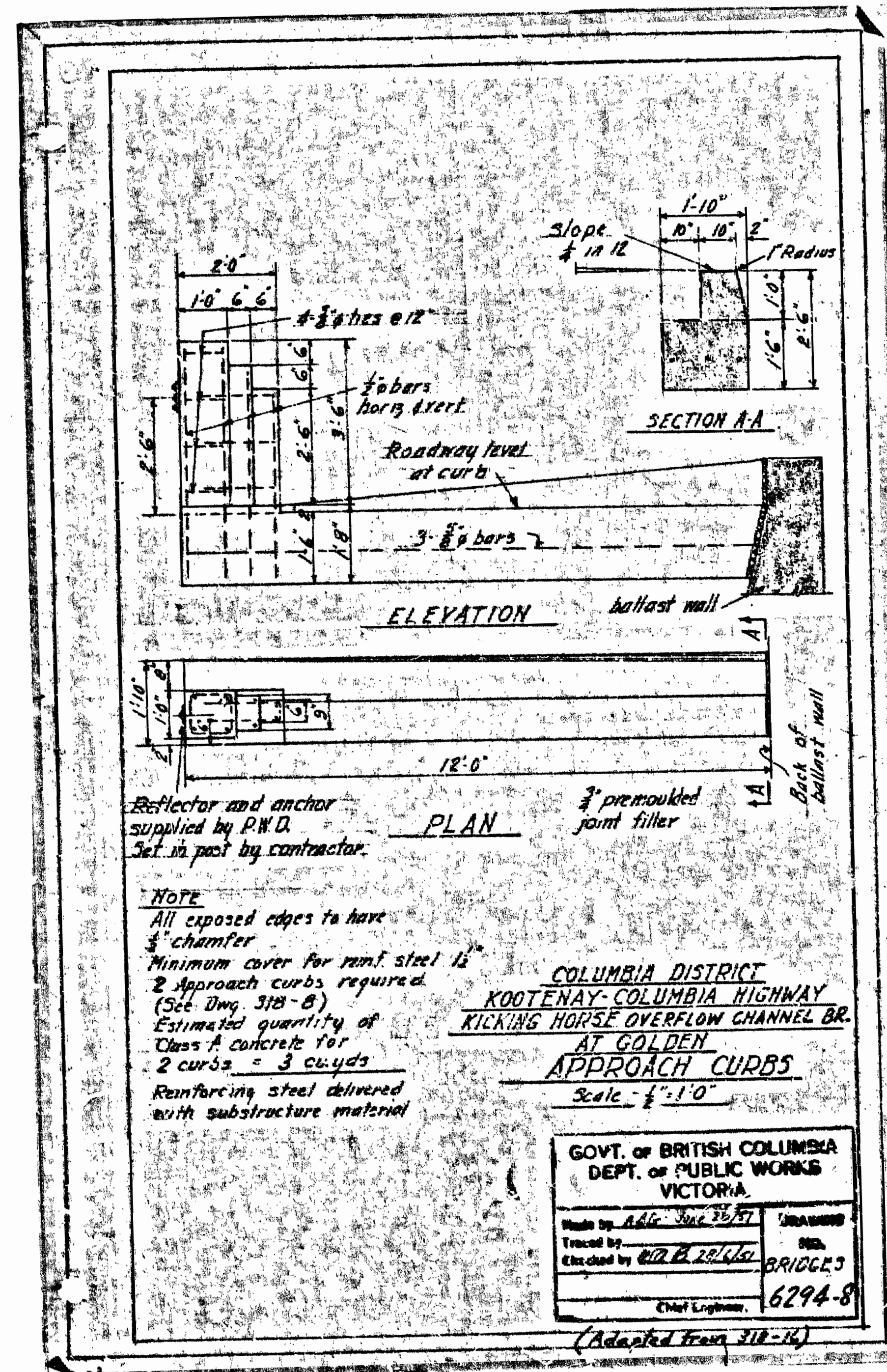
BILL OF: FENCE PANELS

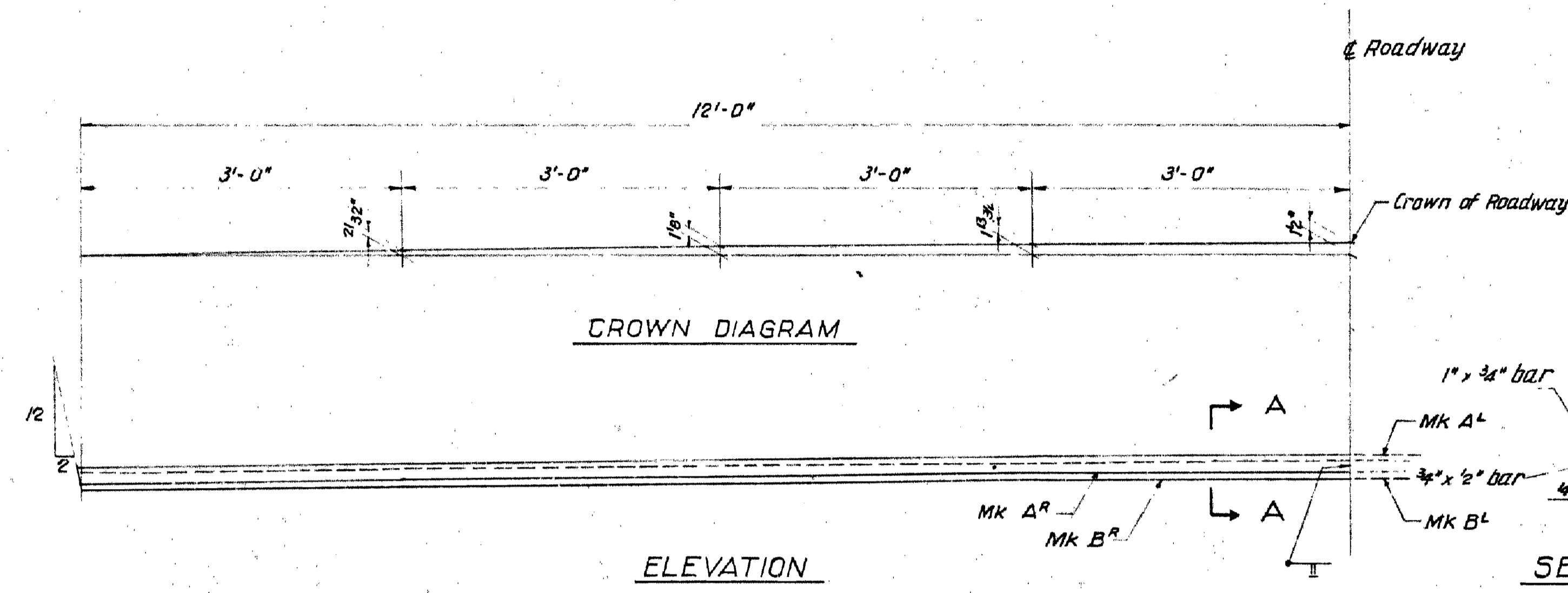
NAME OF WORK: CANAL FLATS BRIDGE
COLUMBIA DISTRICT
KOOTENAY-COLUMBIA HIGHWAY

REVISIONS
Rev. Made by Checked by Date
A.
B.
C.

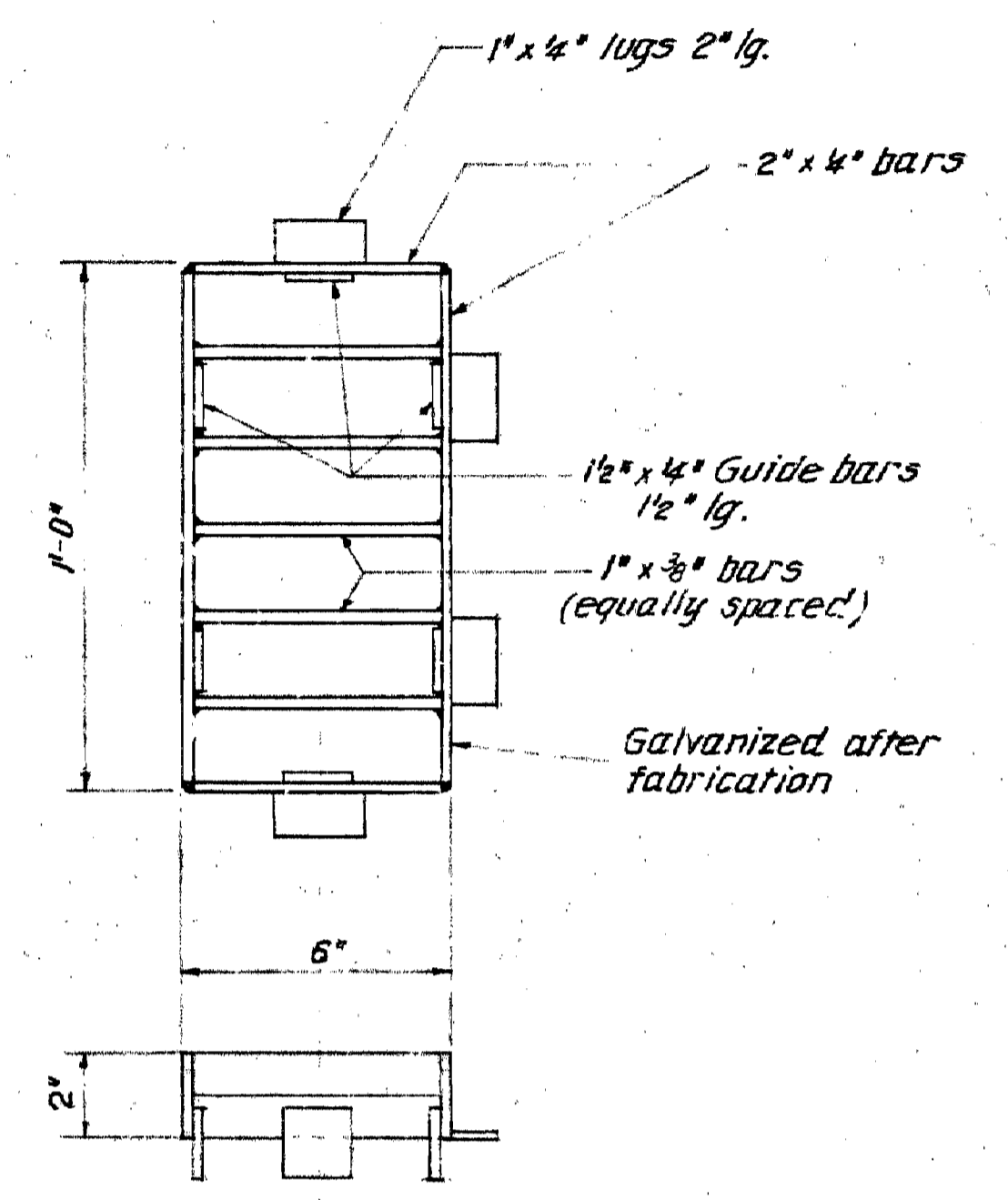
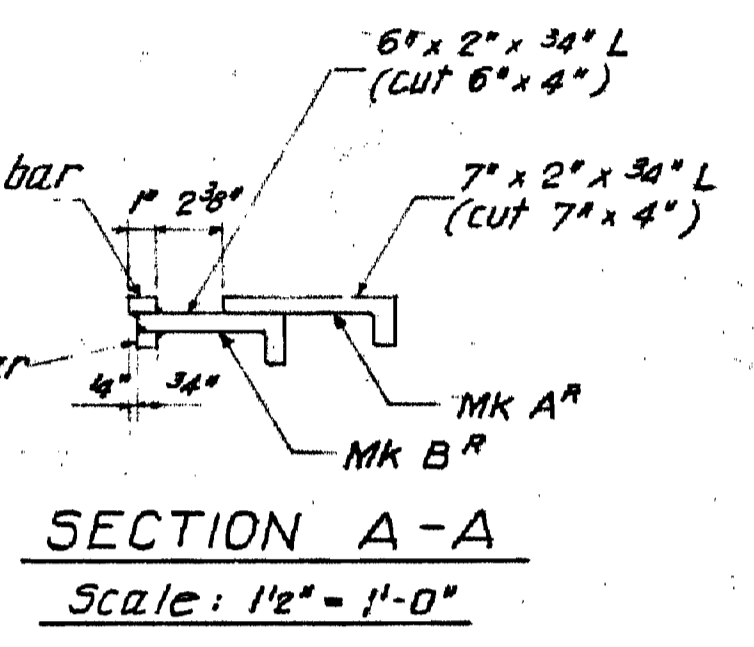
ITEM	QUANTITY	A	B	C	D	N	WEIGHT PER UNIT	TOTAL WEIGHT
	50	4'8"	4'2"	1'-2"	12'-9 1/4"	8	4.95	27,720
A1	4						3.7	15
A2	4						6.1	24
A3	108						6.0	648
A4	54						6.0	324
							Total (incl. fastenings)	29,000 lbs

NOTES
1. With each panel two top rail couplings and two bottom rail bolts are furnished
2. All in accordance with Dwg. # 1810-76

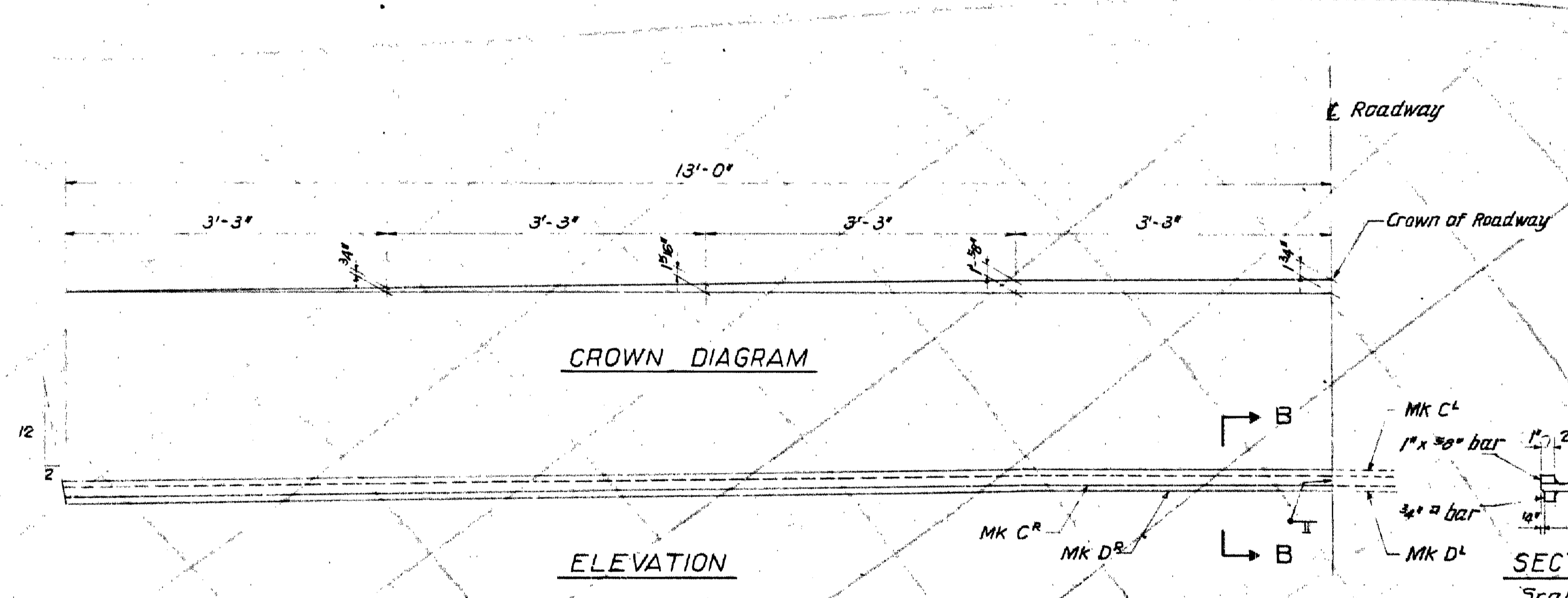




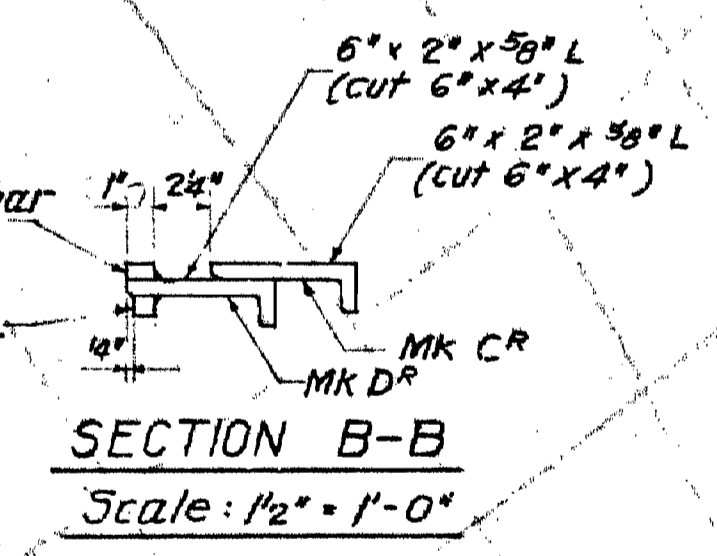
EXPANSION JOINT (TRUSS-SPAN)
 2 REQ'D. EACH OF MK A^R & B^R as shown
 2 REQ'D. EACH OF MK A^L & B^L opp. hand.
 Total weight: 2690 lbs.



DRAIN ADDITION
 Scale: 3/4" = 1'-0"
 16 REQ'D. - Total weight 186 lbs.



EXPANSION JOINT (BEAM-SPAN)
 1 REQ'D. EACH OF MK C^R & D^R as shown
 1 REQ'D. EACH OF MK C^L & D^L opp. hand.
 Total weight: 1204 lbs.

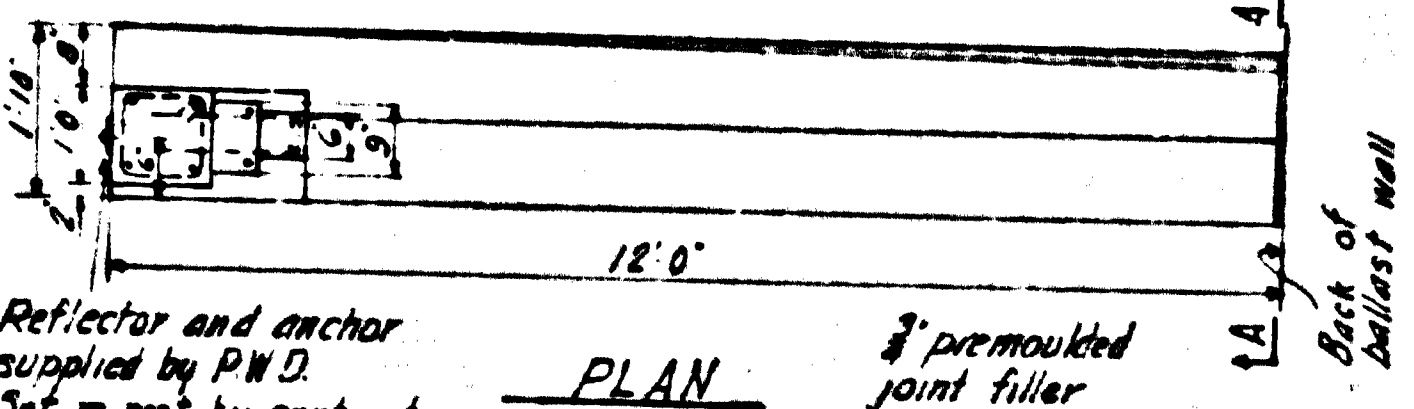
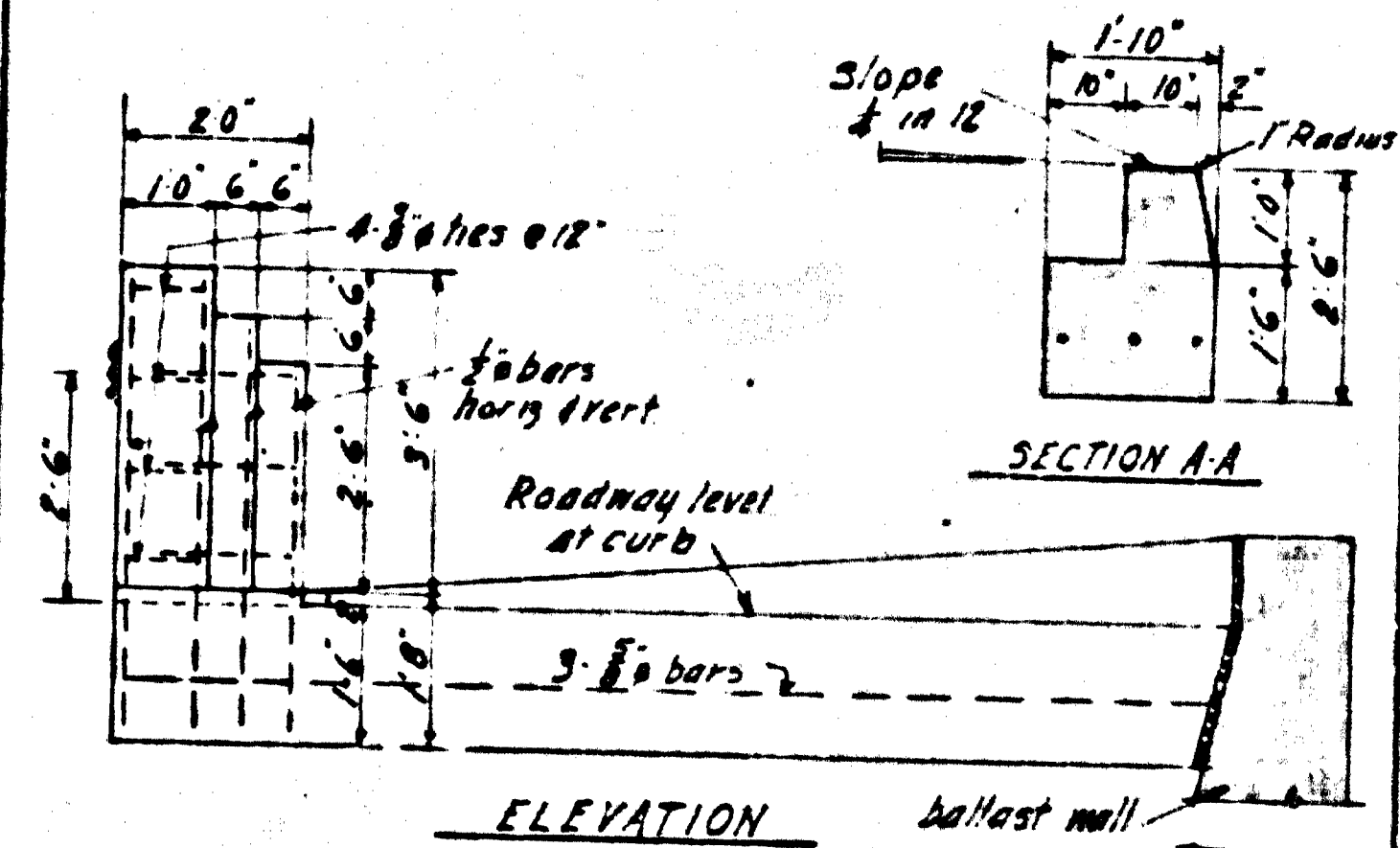


FOR AS BUILT DETAILS
 SEE SHOP DRAWING

PAINT:
 1 Shop coat red lead except area of field weld as shown on Dwg. M. 616-1

COLUMBIA DISTRICT
 KOOTENAY-COLUMBIA HIGHWAY
 KICKING HORSE RIVER BRIDGE No 4
 EXP. JOINT & DRAIN ADDITION
 Scale: 1/2" = 1'-0" & as noted.

REVISIONS				GOVT. OF BRITISH COLUMBIA DEPT. OF HIGHWAYS BRIDGE ENGINEER'S OFFICE
Rev.	Particulars	Init.	Date	
				Made by <i>A. Sch.</i> <i>July 53</i> Checked by <i>D. C.</i> <i>9 July 53</i> Approved: No. <i>BRIDGES</i> <i>318-18</i>



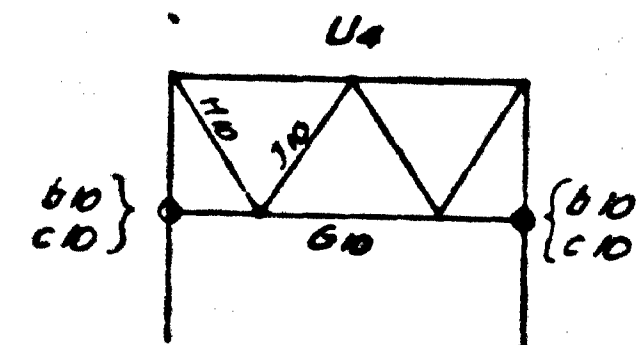
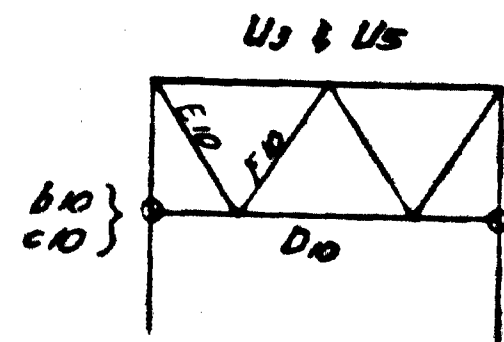
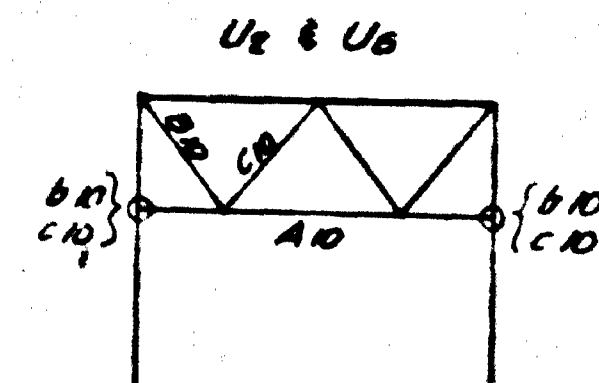
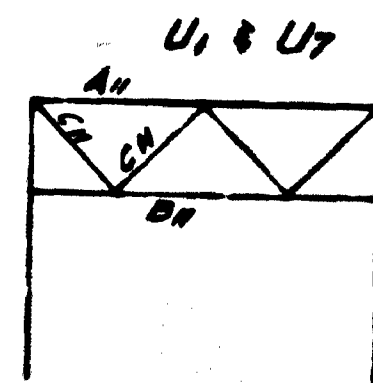
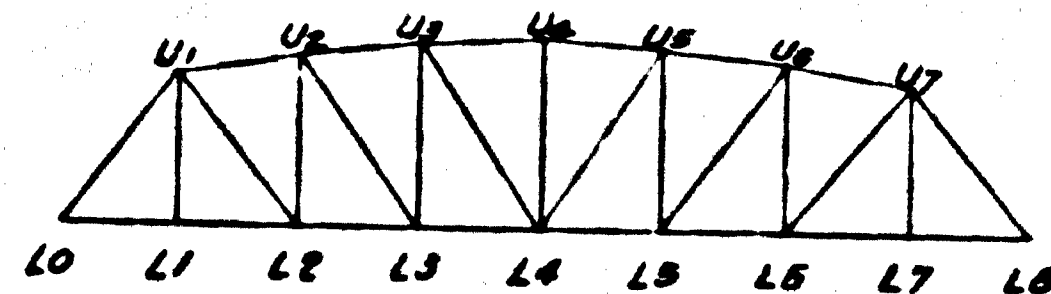
Reflector and anchor supplied by P.W.D. Set in post by contractor.

NOTE

All exposed edges to have 1/2" chamfer
 Minimum cover for reinf. steel 1 1/2"
 2* Approach curbs required (See Uing 318-B)
 Estimated quantity of Class A concrete for 2* curbs = 3 cu. yds
 Reinforcing steel delivered with substructure material

COLUMBIA DISTRICT
 KOOTENAY-COLUMBIA HIGHWAY
 KICKING HORSE RIVER BRIDGE No. 4
 AT GOLDEN
 APPROACH CURBS
 Scale - 1/4" = 1'-0"

GOVT. OF BRITISH COLUMBIA DEPT. OF PUBLIC WORKS VICTORIA	
Made by: A.S. June 20/51	DRAWING
Traced by: [Signature]	No.
Checked by: [Signature]	BRIDGE 3
Chief Engineer	318-16



Replace:

- 2 Struts A10
- 2 Struts D10 (Existing b10 & c10 to be re-used).
- 1 Strut G10

Straighten in field:

B10, C10, E10, F10, H10, J10, B11 & C11.

GOVT. OF BRITISH COLUMBIA. DEPT. OF HIGHWAYS
 BRIDGE ENGINEER'S OFFICE

COLUMBIA DISTRICT
 KOOTENAY-COLUMBIA HIGHWAY
 KICKING HORSE RIVER BRIDGE No. 4
 REPAIRS - MAY 1966

MADE BY	CHECKED BY
INIT DATE INIT DATE	INIT DATE
A.S. 25/1/66	
APPROVED	

SK.
318-10

GOVERNMENT OF BRITISH COLUMBIA.
DEPARTMENT OF PUBLIC WORKS.

P.W. 49A

BILL No. 318-x1
DATE May 4/51
DWG. No. 318-9,10
FILE No. 736
MADE BY H.O.
CHECKED BY A.B.G.

BILL OF UNTREATED PILING FOR 60' BEAM SPAN
FOR KICKING HORSE RIVER BRIDGE NO. 4, COLUMBIA DISTRICT.

NO. PIECES	SIZE	LENGTH	DESCRIPTION	Total Lin. Ft.
140		20'	Fir Piles (Incl. 10% Spares) All in accordance with attached Specifications for untreated piles, Section 304 of General Specifications.	2,800

BM 48-797

GOVERNMENT OF BRITISH COLUMBIA.
DEPARTMENT OF PUBLIC WORKS.


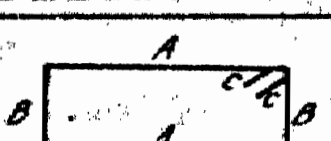
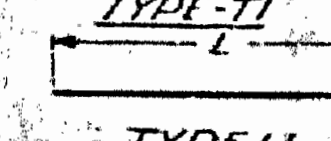

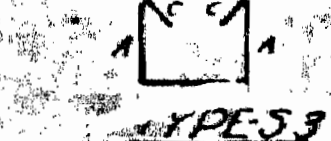
P.W. 49A

BILL No. 318-x2
DATE May 11/51
DWG. No. 318-13
FILE No. 736
MADE BY H.O.
CHECKED BY A.B.G.

BILL OF UNTREATED PILING FOR 150' THROUGH TRUSS SPAN
FOR KICKING HORSE RIVER BRIDGE NO. 4, COLUMBIA DISTRICT.

NO. PIECES	SIZE	LENGTH	DESCRIPTION	Total Lin. Ft.
207		20'	Fir Piles (incl. 10% Spares) All in accordance with attached specifications for untreated piles, Section 304 of General Specifications.	4,140

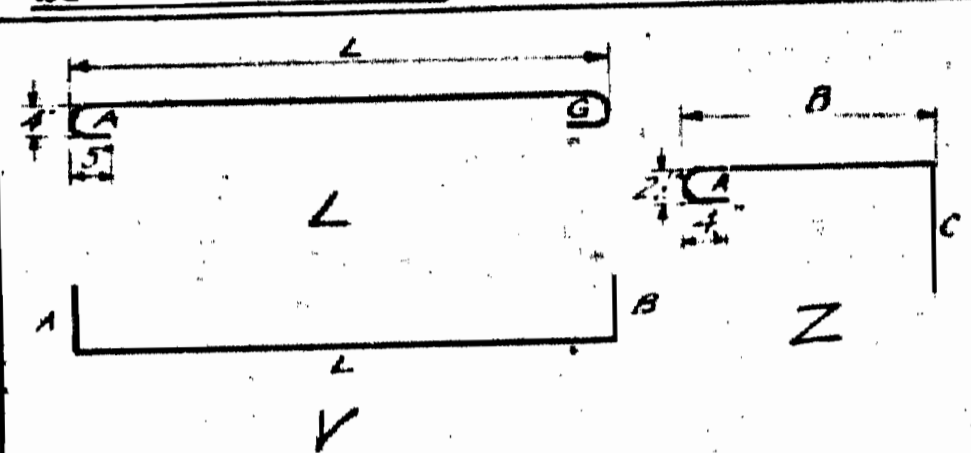
BM 48-797

BILL OF REINFORCING STEEL												34																																																																																																																																																																																																																																																												
PROJECT: DECK FOR 60 FT BEAM SPAN WITH SIDEWALKS						BILL No. 218A-X2																																																																																																																																																																																																																																																																		
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LETTER FILE No. _____						MADE BY W. Scott																																																																																																																																																																																																																																																																		
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Structural grade conforming to C.S.A. Spec. G30																																																																																																																																																																																																																																																																								

20273

BILL OF REINFORCING STEEL

Deck for Standard 150 Through Span (With Sidewalk) BILL NO. 318-X3
 PROJECT Kicking Horse River Bridge
 SHEET NO. 318
 DRAWING FILE NO. 318
 LETTER FILE NO. 736
 MADE BY: W. Salt
 CHECKED BY: W. B.
 DATE:



STANDARD HOOKS

Bar Size	U	V	A, G, E, F
1/4"	8"	5"	1-3"
1/2"	8"	4 1/2"	1-2 1/2"
3/4"	8"	4"	1-0 1/2"
1"	6"	3 1/2"	1-0 1/2"
1 1/4"	5"	3"	9"
1 1/2"	4"	2 1/2"	7"
2"	2 1/2"	2"	5"

All dimensions are out to out
 Bars to be grade reinforcing steel

ITEM	DESCRIPTION			LENGTH	BENDS											WEIGHT	
	MADE	TYPE	No.		A	B	C	D	E	F	G	H	L				
1	A	L	310	7													25.4
2	B	V	310	1.3"	1.3"												25.4
3	C	V	392	10"													7.10
4	D	Z	16	5"	10"	10"											
5	E	Z	64	5"	1.3"	10"											
6			16	20.0'	Straight bars												
7			48	18.5'													
8			68	20.0'													
9			204	18.5'													
10			36	20.0'													
11			108	18.5'													
12			388	7.10"													
13			92	5.2"													
14			16	4.11"													
15			32	3.0"													
16			96	2.6"													
17			56	2.0"													
18			16	4.0"													
19			260	15 ga	black annealed wire											Total Wt	26,800

Structural grate conforming to C.S.A. Spec 6.30

SCHEDULE OF MATERIALS

KICKING HORSE RIVER BRIDGE N°4

BEAM SPAN

SHEET NO. 1 of 2
 DWG. FILE NO. 318
 CORR. FILE NO. 736
 MADE BY: H.C.
 CHECKED BY: A.S.
 DATE: June 22/71

ITEM	QUANTITY	DESCRIPTION	BILL NO.	DWG. NO.	WEIGHT
SUBSTRUCTURE					
1	1 lot	Foundation piles	318-X1		
2	2350 sks.	Cement (Revised Abut ^s)			
3	1 set	Date numerals 1951-5" high			
4	25 lbs.	Black annealed wire 15 ga.			25
5	4	Protection angle anchors	198A-8		46
6	180 lin. ft.	Agricultural drain tile 4" φ			
7	23 only	Anchor bolt assemblies	195A-10		728
8	48 pcs.	Reinforcing bars - 3/4" x 1'-3"			90
9	220 lin. ft.	do. do. - 3/4"			230
10	3200 do.	do. do. - 3/4"			2270
11	150 do.	do. do. - 3/4"			55
(Reinf. steel for approach curbs included)					
SUPERSTRUCTURE					
12	1 set	Steelwork for 60' beam span	318-11		65,870
13	1 set	Fence panels & anchors	218A-8		2837
14	1 set	Protection angle & floor plate	218A-6		2070
15	12 gals.	Aluminum paint N°2			
16	2 gals.	Exterior bronzing liquid			
17	16 lbs.	Aluminum bronze			
18	3 gal.	late green paint N°1			
19	2 gal.	do. do. do. N°2			
20	1 pint	Cobalt drier			
21	1 gal.	Red lead N°1			
DECK					
22	500 sks.	Cement			
23	2 only	Stimsonite reflectors			
24	2 "	Reflector anchors	590 M		
25	1 lot	Reinforcing steel for 60' beam span	218A-X2		12,100
26	35 lin. ft.	Premoulded joint filler 3"x10"			
27	12 "	do. do. 3"x8"			
28	6 pcs.	Copper water stop 8' long	195A-9		

SCHEDULE OF MATERIALS

KICKING HORSE RIVER BRIDGE N°4

TRUSS SPAN

SHEET NO. 2 of 2
 DWG. FILE NO. 318
 CORR. FILE NO. 736
 MADE BY: H.C.
 CHECKED BY: A.S.
 DATE: June 22/71

ITEM	QUANTITY	DESCRIPTION	BILL NO.	DWG. NO.	WEIGHT
SUBSTRUCTURE					
29	1 lot	Foundation piles	318-X2		
30	4300 sks.	Cement (Revised Abut ^s)			
31	1 set	Date numerals 1951-5" high			
32	50 lbs.	Black annealed wire 15 ga.			50
33	4 only	Protection angle anchors	198A-8		46
34	90 lin. ft.	Agricultural drain tile 4" φ			
35	16 sets	Anchor bolt assemblies	218A-5		528
36	52 pcs.	Reinforcing bars - 3/4" x 1'-3" (Dowels)			
37	270 lin. ft.	do. do. - 3/4"			4320
38	5400 do.	do. do. - 3/4"			
39	150 do.	do. do. - 3/4" (incl. ties of 3-0)			
(Reinf. steel for approach curbs included)					
SUPERSTRUCTURE					
40	1 set	Steelwork for 150 ft. Std. Through Truss (incl. Fence)	318-13,14		155,000
41	54 gals.	Aluminum paint N°2			
42	36 gals.	Exterior bronzing liquid			
43	72 lbs.	Aluminum bronze			
44	3 gals.	late green paint N°1			
45	2 gals.	do. do. do. N°2			
46	1 pint	Cobalt drier			
47	2 gals.	Red lead N°1			
DECK					
48	900 sks.	Cement			
49	2 only	Stimsonite reflectors			
50	2 "	Reflector anchors	590 M		
51	1 lot	Reinforcing steel for 150 ft. Std. Through Truss Deck	318-X3		16,300
52	190 lin. ft.	Premoulded joint filler 6"x9"			
53	130 "	do. do. 6"x8"			
54	1 set	Truss Opening Guards	218A-4		234
55	42 pcs.	Copper water stop 8' long	195A-9		

BILL OF REINFORCING STEEL

PROJECT DECK FOR STANDARD 40FT. BEAM SPAN

BILL NO. 2092-X4

SHEET NO. 1

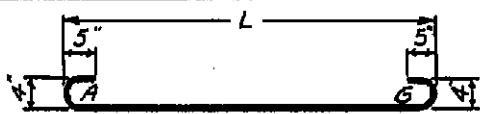
DRAWING FILE NO. 198A

MADE BY: G.E.D.

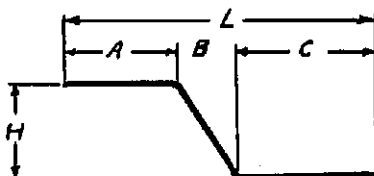
LETTER FILE NO. _____

CHECKED BY: W.A.B.

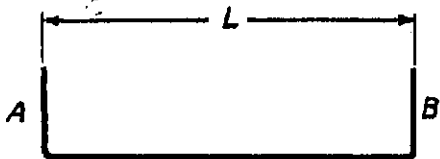
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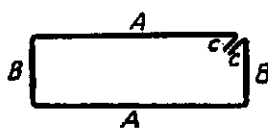
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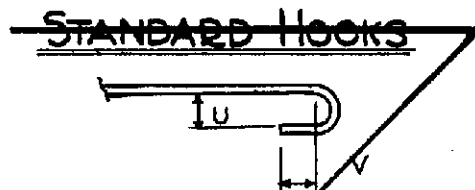
TYPE J



TYPE V



TYPE T

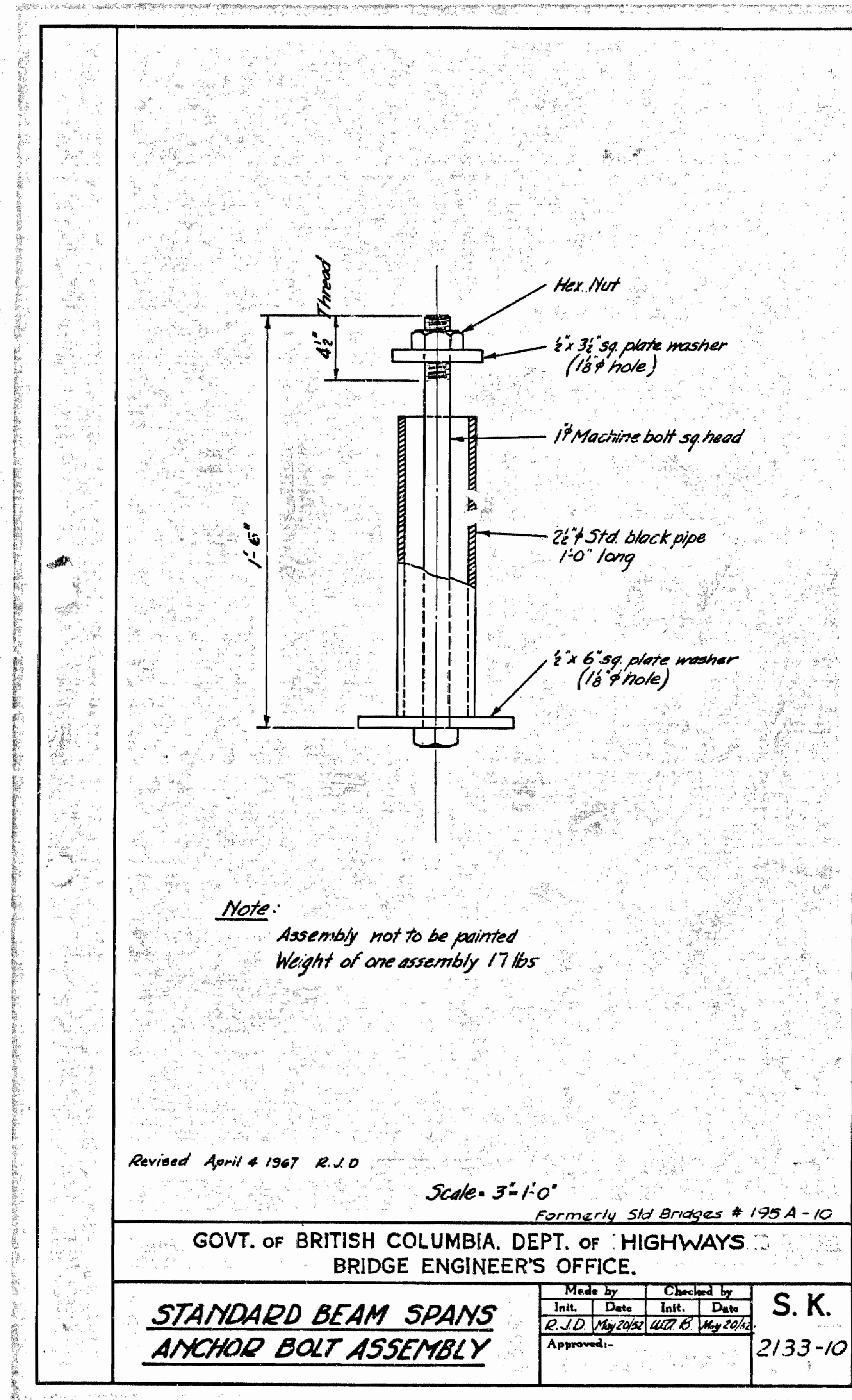
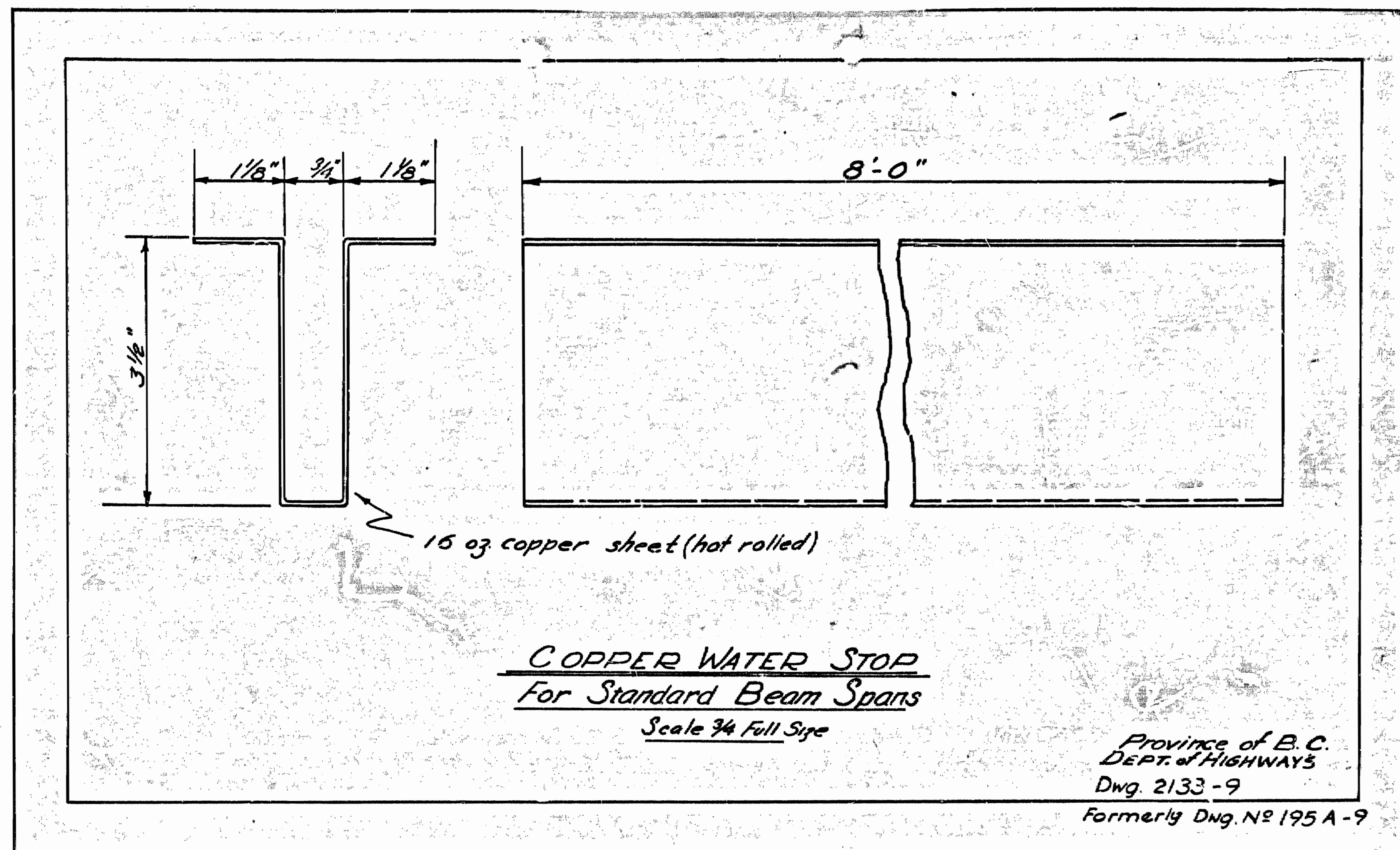


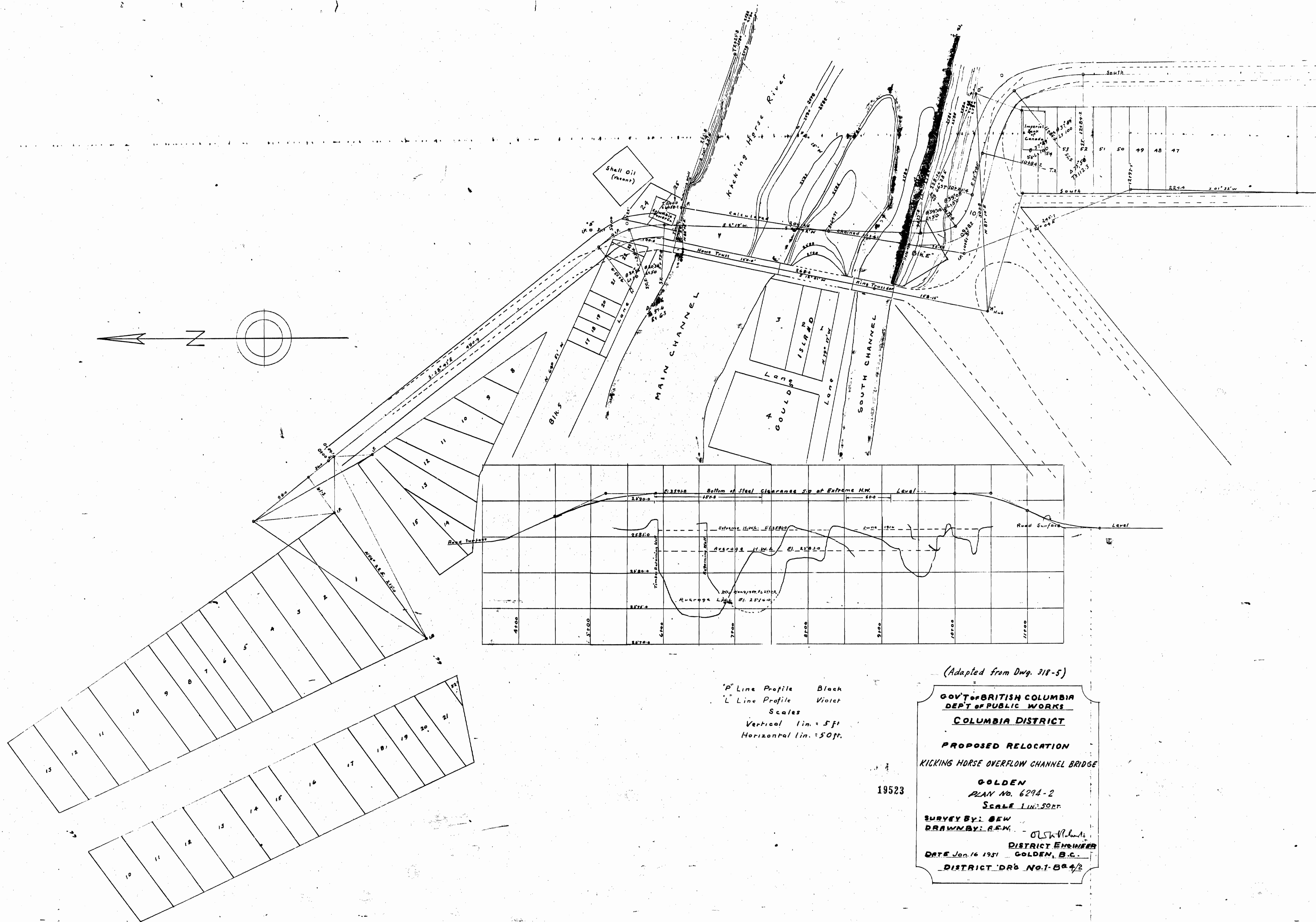
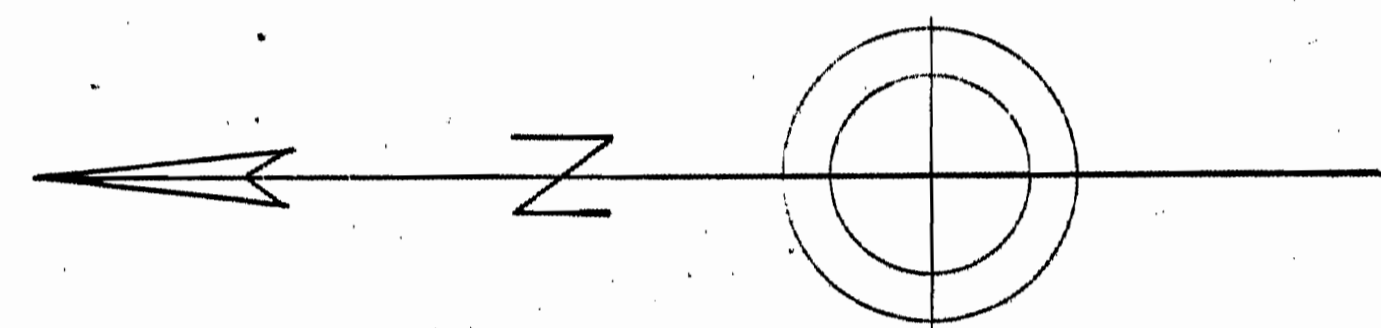
Bar Size	U	V	A, G, E, F
1/4"	8"	5"	1'-3"
1/8"	8"	4 1/2"	1'-2 1/2"
1"	7"	4"	1'-0 1/2"
7/8"	6"	3 1/2"	10 3/4"
3/4"	5"	3"	9"
5/8"	4"	2 1/2"	7"
1/2"	3"	2"	5"
3/8"	2 1/2"	2"	5"

All dimensions are out to out
Bars to be Structural grade reinforcing steel

ITEM	DESCRIPTION					BENDS									WEIGHT
	MARK	TYPE	No	SIZE	LENGTH	A	B	C	D	E	F	G	H	L	
1	A	L	71	#5		6 1/2"						6 1/2"		28'-8"	
2	B	V	71	#5		1'-3"	1'-3"							28'-8"	
3	C	J	70	#4		1'-0"	2 1/2"	1'-3"					1'-3"	2'-5 1/2"	
4	T1	T	16	#3		1'-3"	7"	4"							
5	T3	T	16	#3		2'-8 1/4"	7"	4"							
6				#5	360	Straight bars (Lin. ft.)									
7				#4	1820	do do do									
8	D	L	48	#4		6"								4'-6"	
Total Weight (Lbs.)													6490		

Rev. Nov. 15, 1954
Rev. Sept 24, 1954
Rev. May 19, 1950



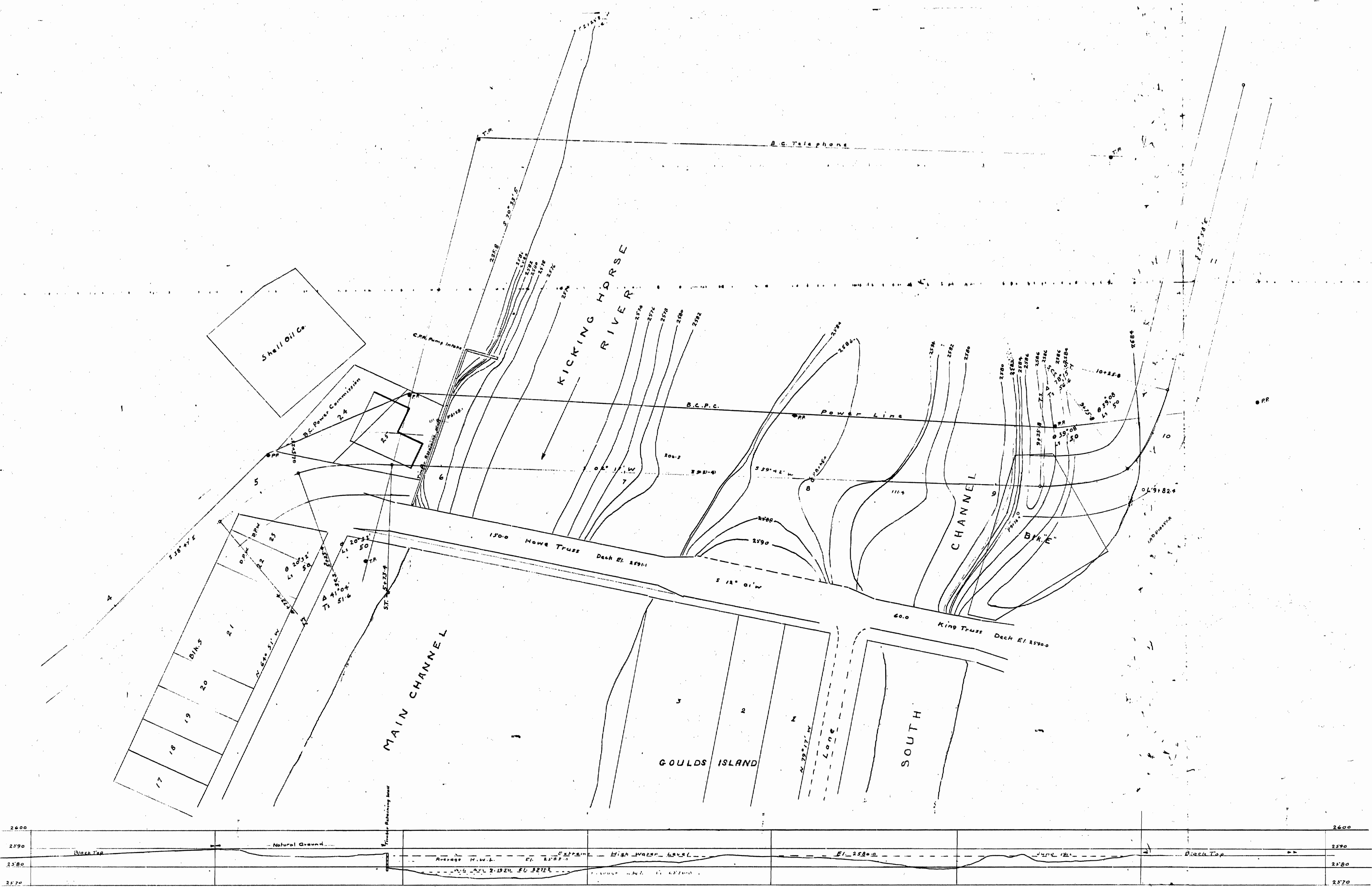


(Adapted from Dwg. 318-5)

P Line Profile Black
 L Line Profile Violet
 Scales
 Vertical lin. = 5 ft
 Horizontal lin. = 50 ft.

GOV'T OF BRITISH COLUMBIA
 DEPT OF PUBLIC WORKS
COLUMBIA DISTRICT
 PROPOSED RELOCATION
 KICKING HORSE OVERFLOW CHANNEL BRIDGE
 GOLDEN
 PLAN No. 6294-2
 SCALE 1 in. = 50 ft.
 SURVEY BY: B.E.W.
 DRAWN BY: R.E.W. - O.L.S. W.L.H.
 DATE Jan. 16 1951 DISTRICT ENGINEER
 GOLDEN, B.C.
 DISTRICT DRG No. T-6294/2

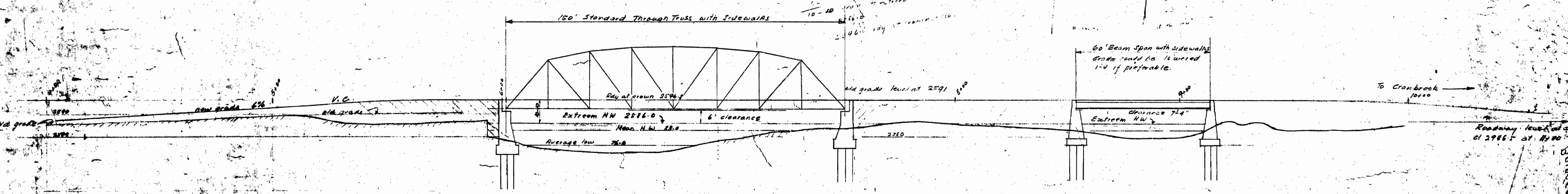
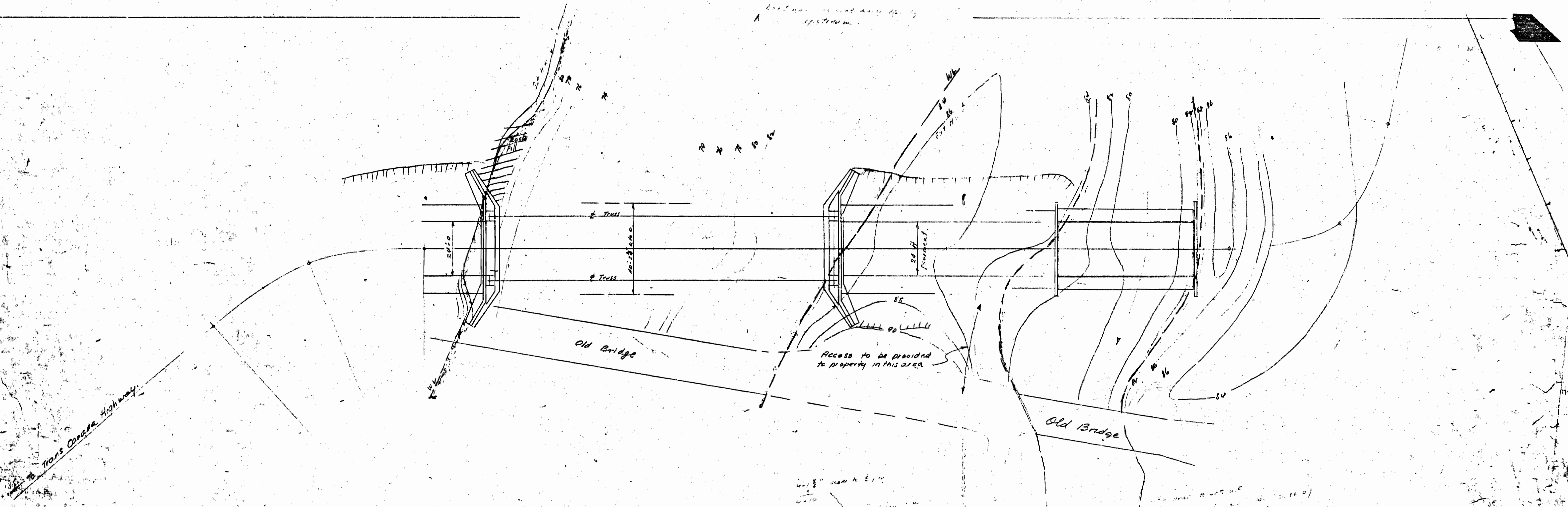
19523



Natural Scale 1 in. = 20 ft.
 Original Datum
 Geological Survey BM. 273C
 El. 2590.698 April 19, 1948

19524

(Adapted from Dwg. 318-6)
GOVT. of BRITISH COLUMBIA
DEPT. of PUBLIC WORKS
COLUMBIA DISTRICT
PROPOSED RELOCATION
KICKING HORSE OVERFLOW CHANNEL BRIDGE
GOLDEN
 Plan No. 6293-3
 Scale 1 in. = 20 ft.
 Survey By A.E.W.
 Drawn By A.E.W. *A.E.W.*
DISTRICT ENGINEER
 GOLDEN BC
 DISTRICT DRG. NO. 1-6293/1



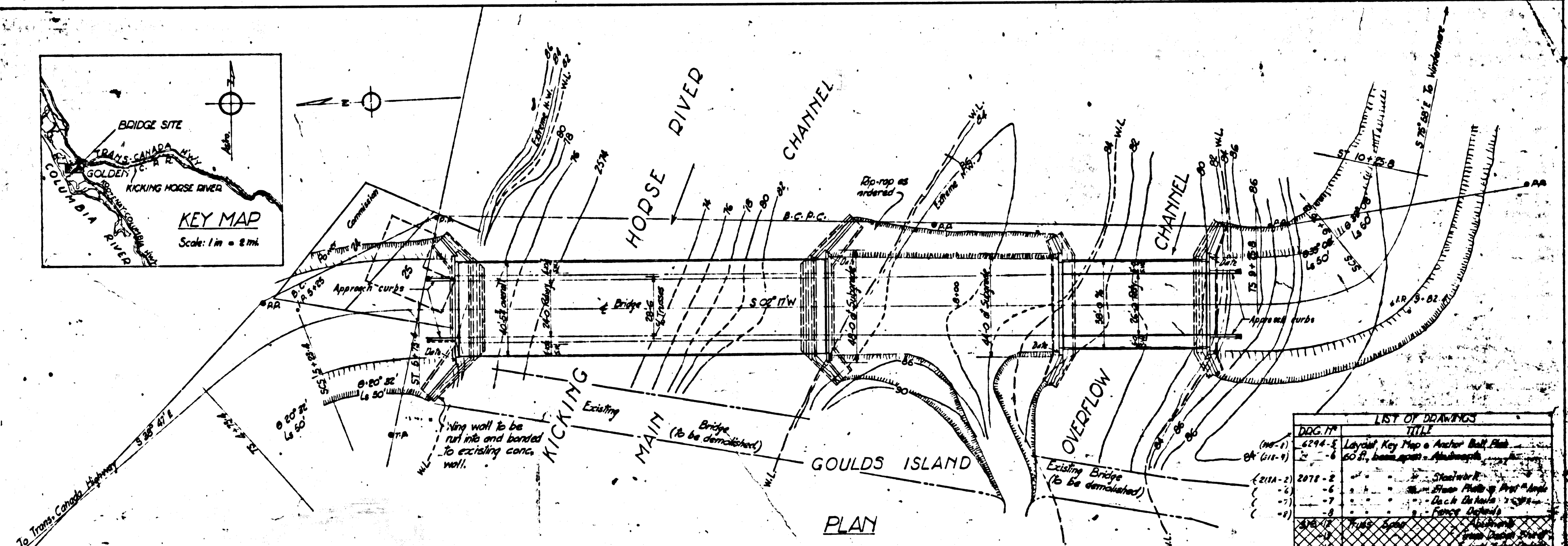
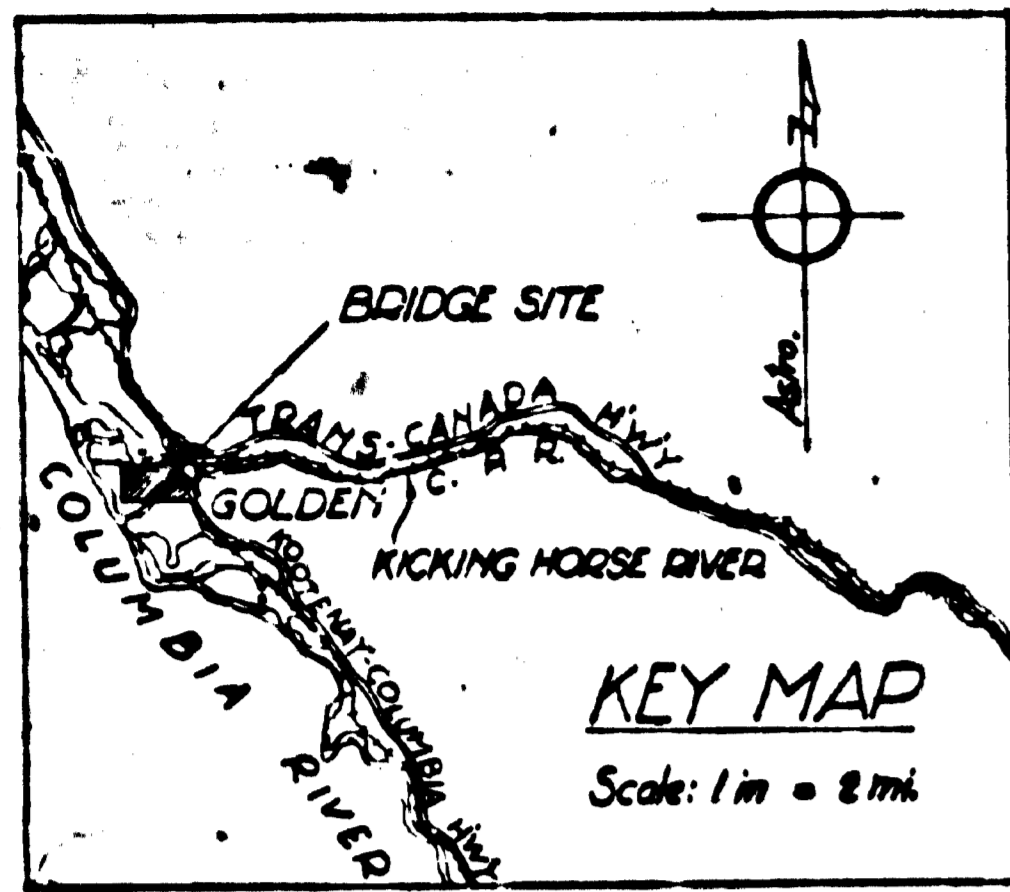
PROPOSED LAYOUT (OF 150' THRU TRUSS & 60' BEAM SPAN)
 Kicking Horse Overflow Channel Bridge
 Kootenay-Columbia Highway
 at Golden

20' = 1"

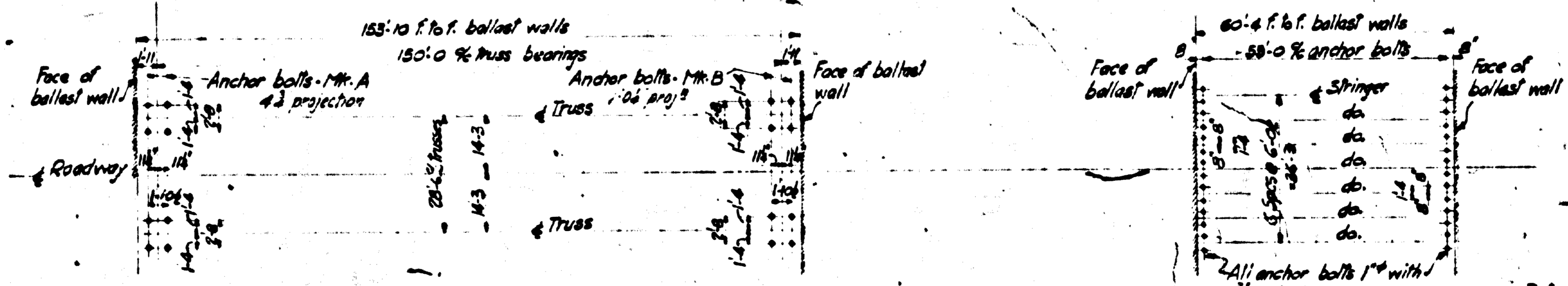
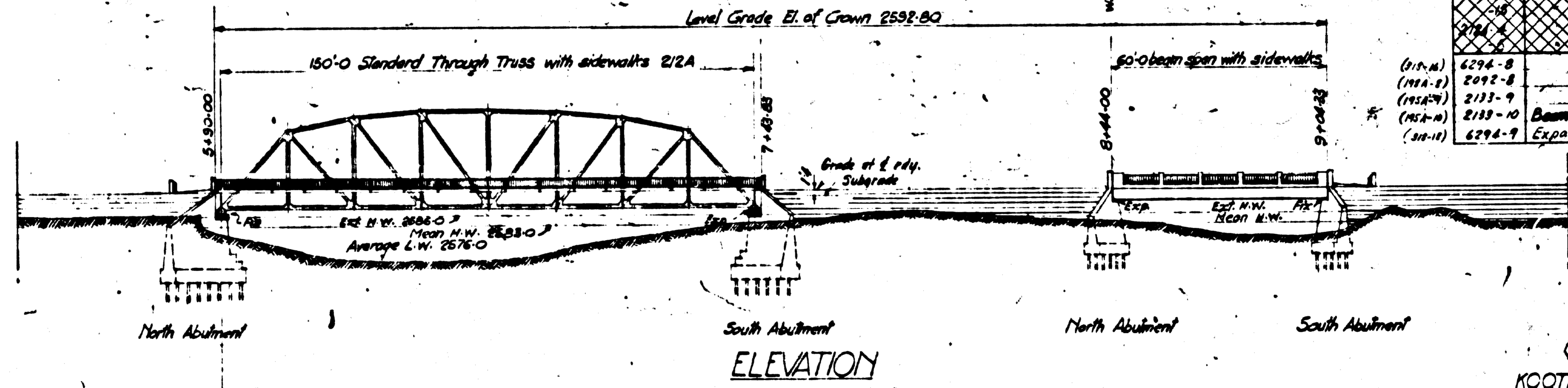
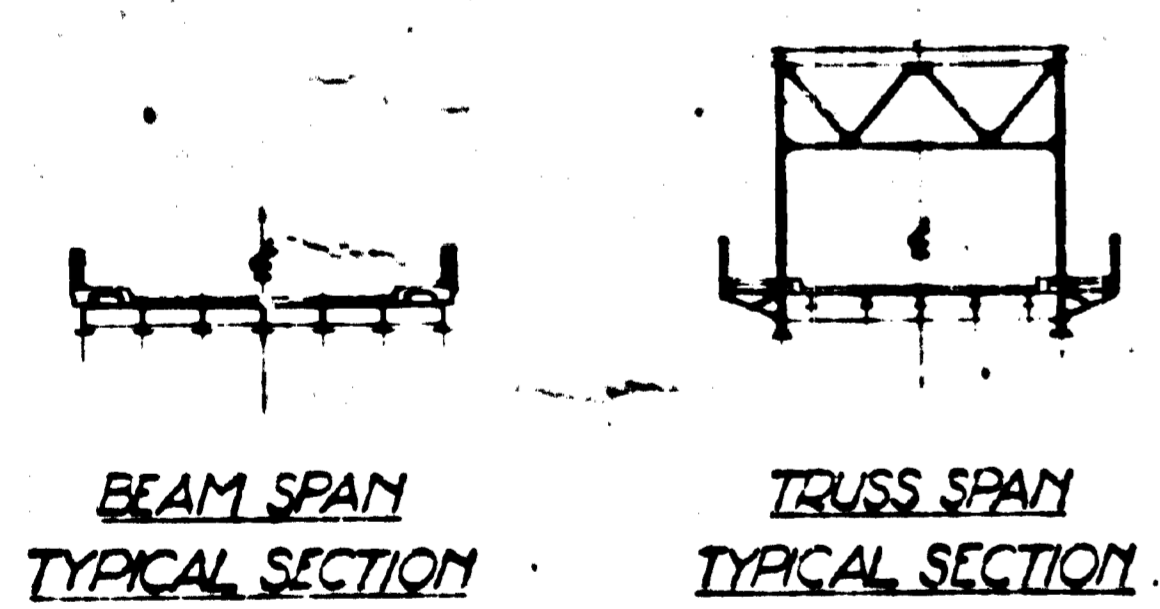
19525

(Adapted from Dwg. 318-7)

GOVT. OF BRITISH COLUMBIA DEPT. OF PUBLIC WORKS VICTORIA.	
Made by <u>J.B.C. Mac. B.S.L.</u>	DRAWING No. <u>BR10545</u>
Traced by _____	Checked by _____
Chief Engineer	6294-4



DOC. NO.	TITLE
6294-5	Layout, Key Map & Anchor Bolt Plan
2078-2	Steelwork
2092-8	Beam span - Approach Curbs
2133-9	Beam span - Anchor Bolt
2133-10	Beam span - Anchor Bolt
6294-9	Expansion Joint & Drain Addition



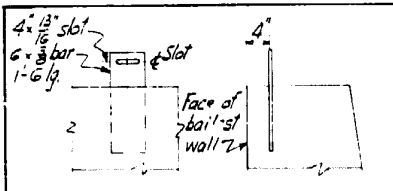
COLUMBIA DISTRICT
 KOOTENAY-COLUMBIA HIGHWAY
 KICKING HORSE OVERFLOW CHANNEL BR.
 AT GOLDEN
 LAYOUT, KEY MAP
 & ANCHOR BOLT PLAN
 Scale: 1" = 20'-0" as noted

19526	GOVT. OF BRITISH COLUMBIA DEPT. OF PUBLIC WORKS VICTORIA
Drawn by: M.C. May 1951	Checked by: A.R. Jones 1951
Scale: 1" = 20'-0"	6294-5

19526
 Datum: Geol. Survey B.M. 278C
 El. 2590.65
 Survey: By A.E.W. Jan 10, 1951
 Spec. Dept. of Public Works
 (Adapted from Dwg. 318-8)

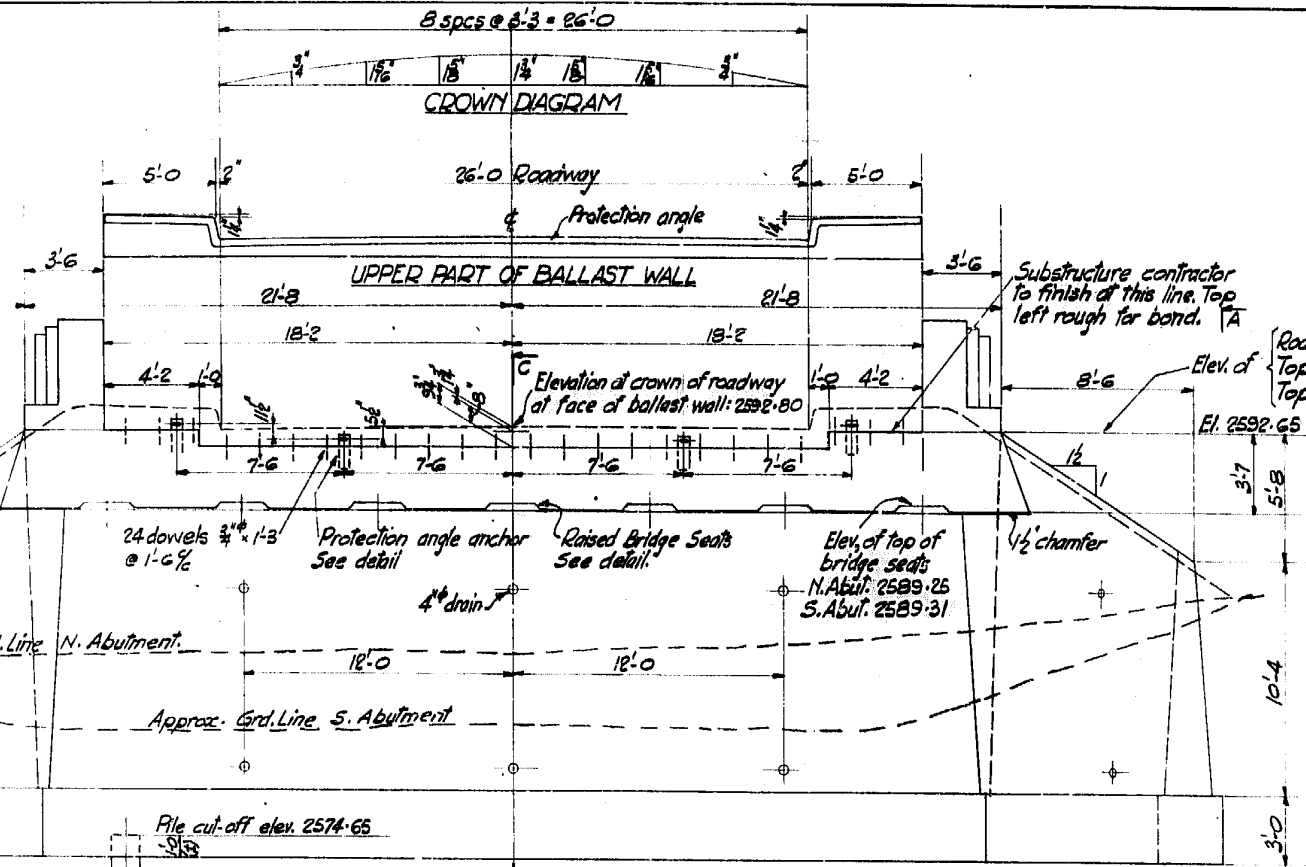
Revised: Sep. 11, 51. Grade changed: N.O.

ANCHOR BOLT PLAN
 Not to scale



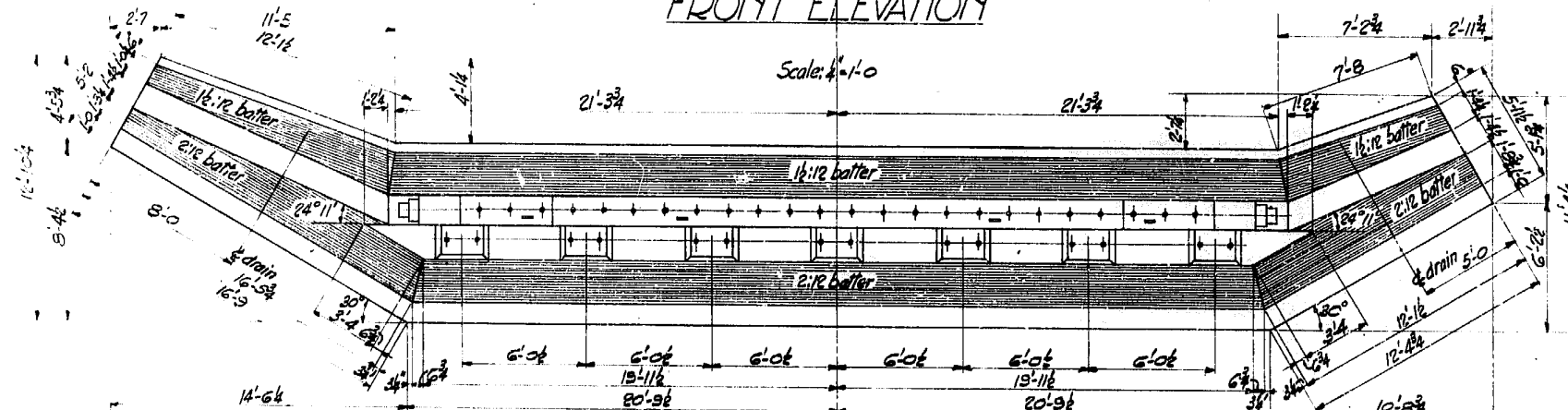
SETTING OF PROTECTION ANGLE ANCHORS

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

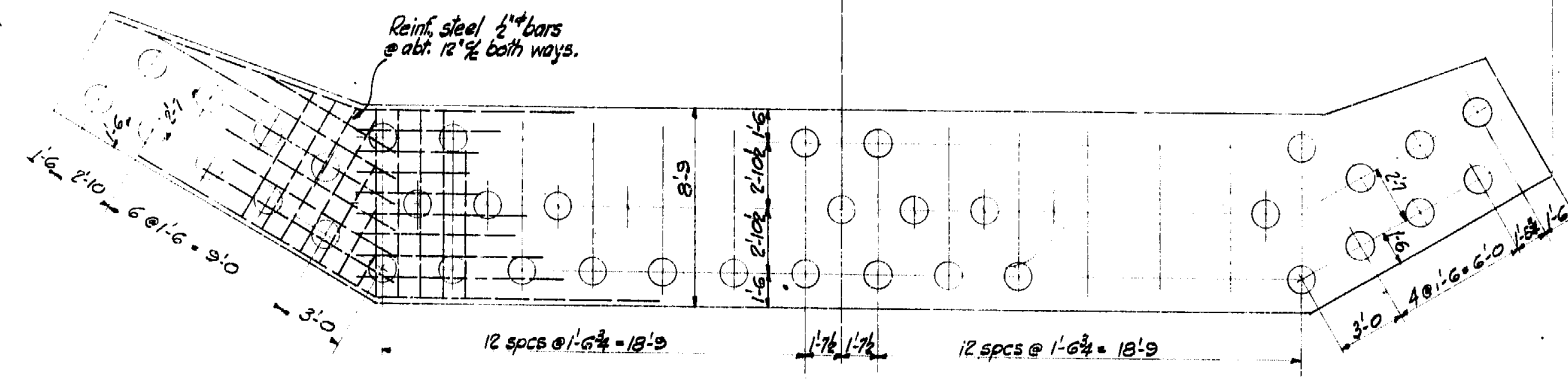


FRONT ELEVATION

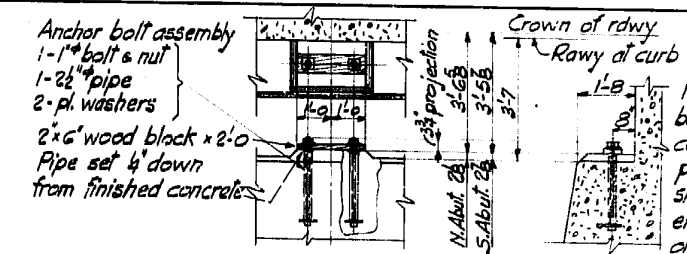
Scale: 3/4" = 1'-0"



PLAN

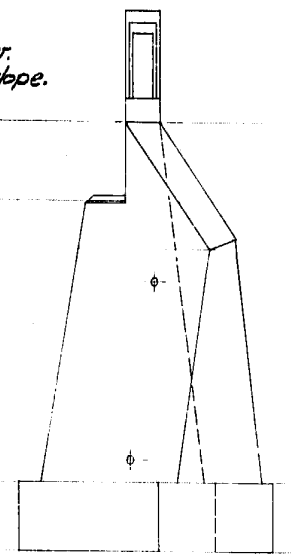


PIILING PLAN

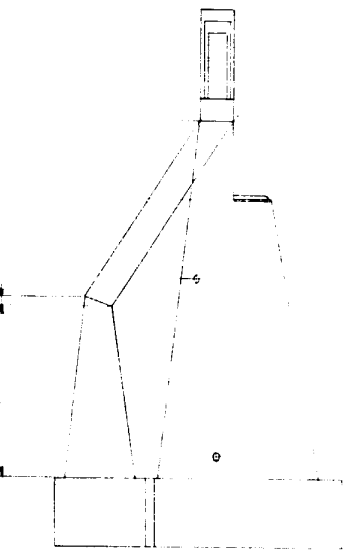


RAISED BRIDGE SEATS

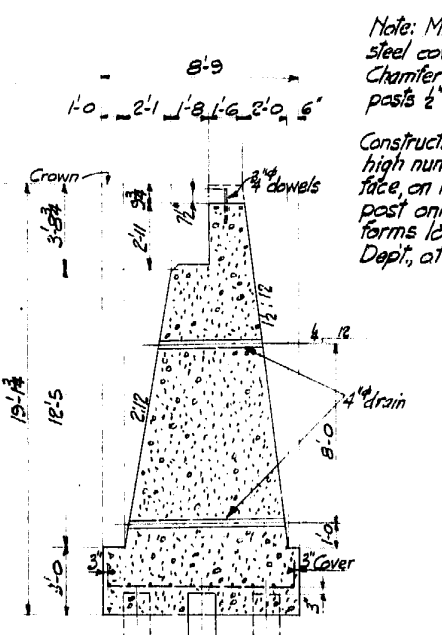
Scale: 3/8" = 1'-0"



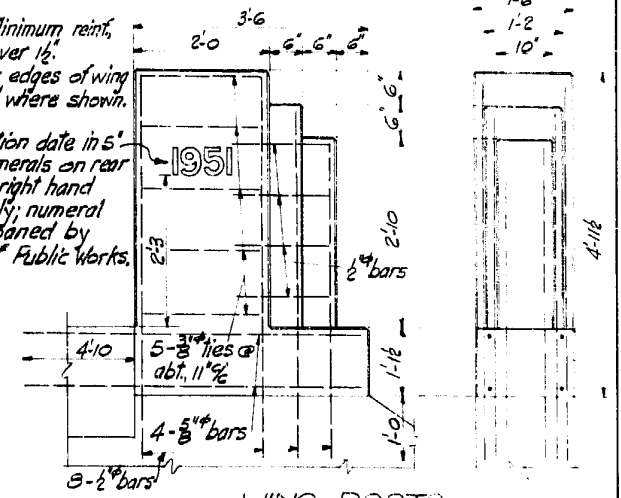
ELEV. A-A



ELEV. B-B



SECT. C-C



WING POSTS

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

Note: Minimum reinf. steel cover 1 1/2". Chamfer edges of wing posts 1/2" where shown. Construction date in 5' high numerals on rear face, on right hand post only; numeral forms loaned by Dept. of Public Works.

COLUMBIA DISTRICT
KOOTENAY-COLUMBIA HIGHWAY
KICKING HORSE OVERFLOW CHANNEL BR.
AT GOLDEN

BEAM SPAN
ABUTMENTS

Scales: as noted

- Notes:
1. Abutments similar except as indicated.
 2. Concrete: wing posts Class A; remainder Class X.
 3. Exposed edges chamfered 1" except where noted.
 4. Toolings to be carried down to elevations shown or to such lower elevations as may be ordered by the Engineer.
 5. Drainage course, 12" thick, of coarse gravel to be placed at back of abutments.
 6. Anchor bolt pipes to be filled with sand-cement grout by erector of steelwork immediately before stringers are set in final positions.
- Estimated concrete quantity (excluding upper part of ballast wall):
- | | |
|---------|----------------|
| Class A | 4 cu. yds. |
| Class X | 4 1/4 " |
| Total | 4 1/8 cu. yds. |
- 112 untreated piles required for 2 abutments

Revised Sept. 11/61 - This drg. cancels N4318-10. H.O.

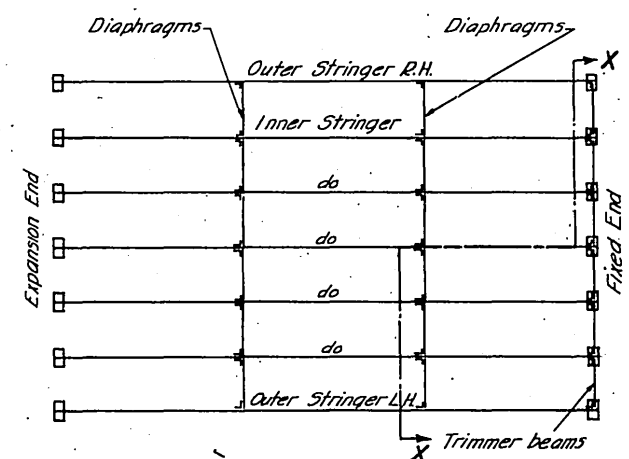
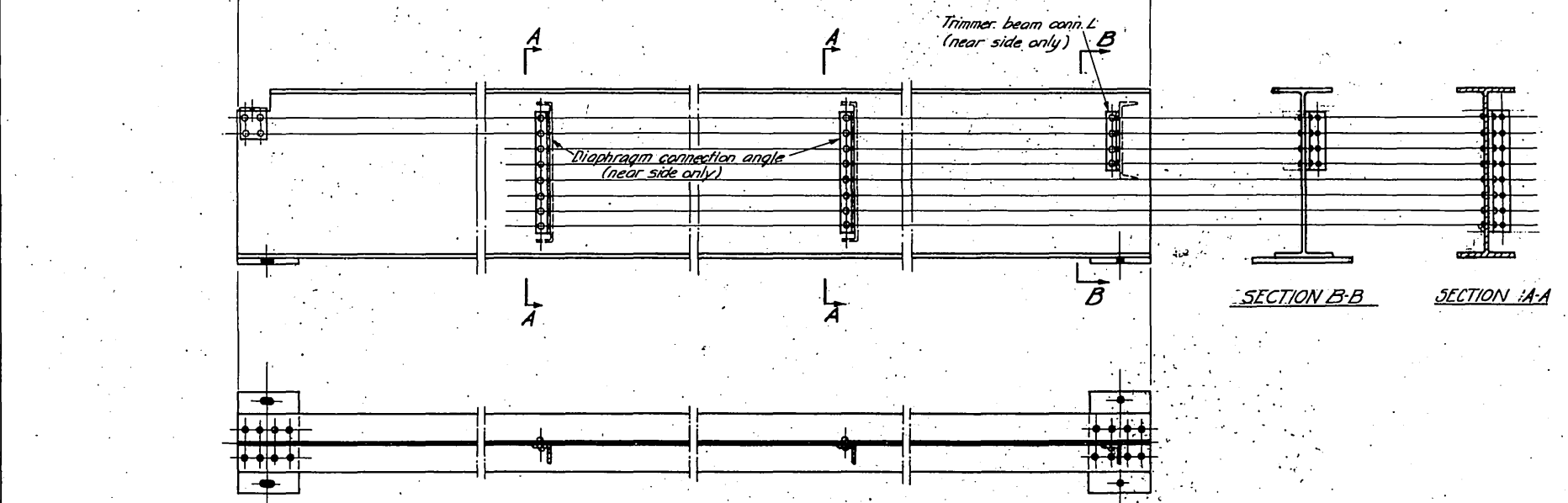
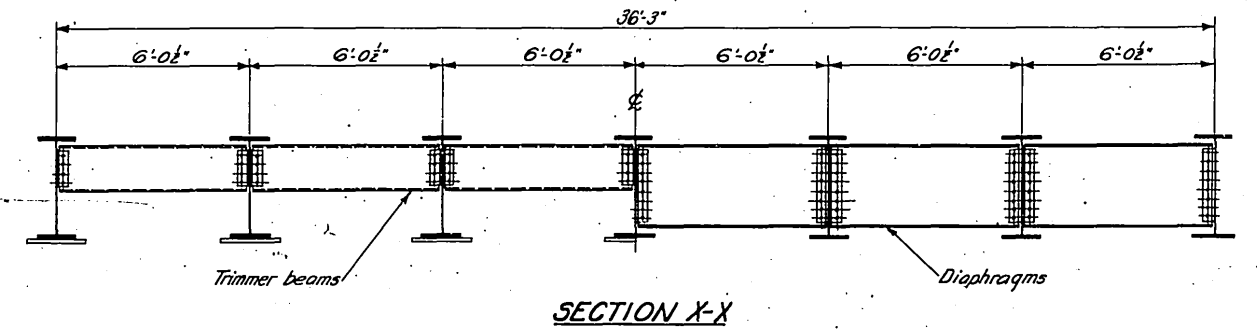
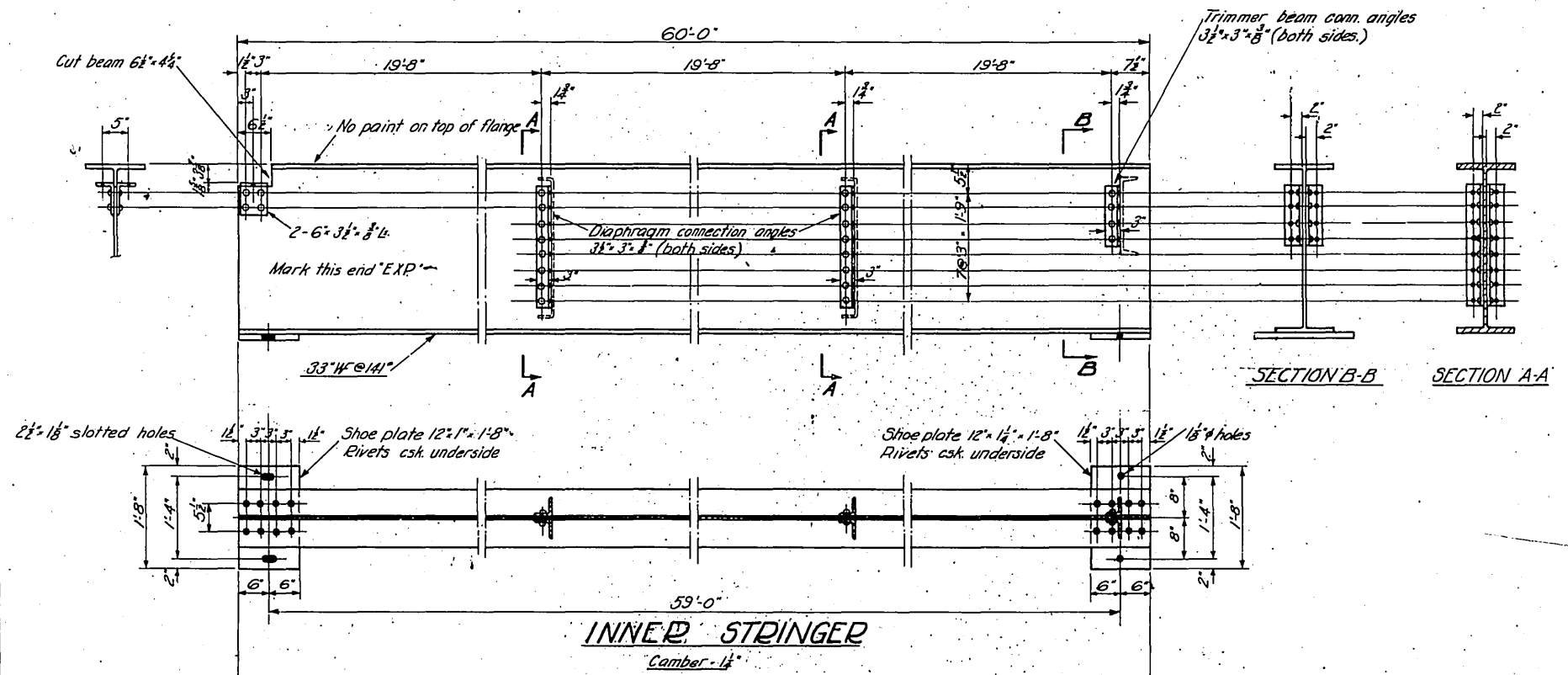
19527

GOVT. OF BRITISH COLUMBIA DEPT. OF PUBLIC WORKS VICTORIA.	
Made by H.O. S.P. 1951	DRAWING NO. BRIDGES
Traced by A.C. 1951	6-74-6
Checked by A.C. 1951	Chief Engineer.

(Adapted from Dwg. 318.9)

QUANTITIES REQUIRED FOR ONE BRIDGE

DESCRIPTION	№ REQ'D
Stringer, Inner-Complete with shoe plates and connection angles for floor plates, diaphragms and trimmer beams.	5
Stringer, Outer - R.H. (as drawn) complete as above	1
Stringer, Outer - L.H. (opposite hand) complete as above	1
Trimmer Beam	6
Diaphragm	12
Bed Plate	7
Lead Sheet	14
Field bolt - $\frac{3}{8}'' \phi \times 1\frac{1}{2}''$ lg. with nut & washer (including 5% spares)	252
do do - $\frac{3}{4}'' \phi \times 2\frac{1}{2}''$ lg. threaded 2" with nut and washer (for floor plate)	16



LIST OF CONTRACTS

NAME	DWG. FILE NR
Kicking Horse River Bridge "A"	318
Revision A - Polonium shop coat added	
Mark Creek Bridge at Marquette	1978
Revision B - Bed pl., Lead Sheet, weight	

Erection Note:- Anchor bolts to be grouted immediately before final positioning of stringers

OUTER STRINGER

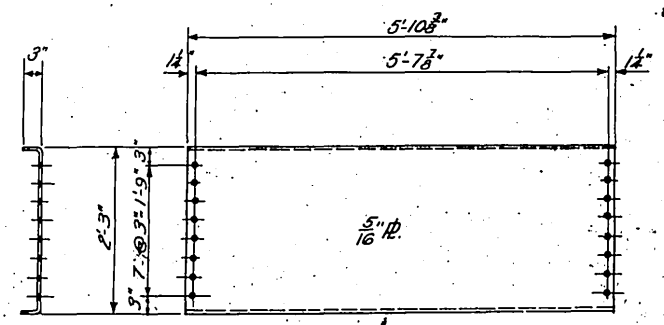
Same as Inner Stringer except as noted

STANDARD BEAM SPANS

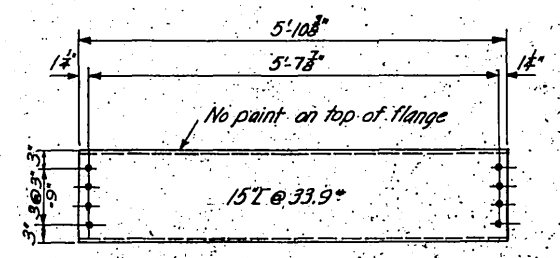
(WITH SIDEWALKS)

60' SPAN STEELWORK DETAILS

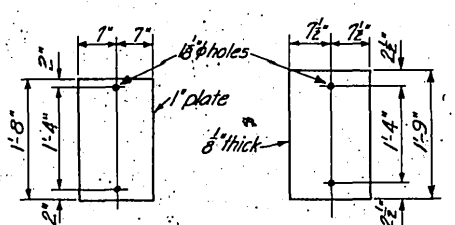
Scale - 1/4" = 1'-0"



DIAPHRAGM



TRIMMED BEAM



BED PLATE No paint
LEAD SHEET No paint

NOTES:-

Rivets $\frac{3}{8}''$ - open holes $\frac{13}{16}'' \phi$. Field cans bolted. Shoe plates may be welded to stringers instead of riveted as shown. In either case underside of plate must be flat. Paint all steelwork one shop coat red lead and one shop coat aluminum #2, except where noted. Estimated weight of steelwork: 66,300 lbs.

REDUCED PLAN
APPROX. HALF SIZE

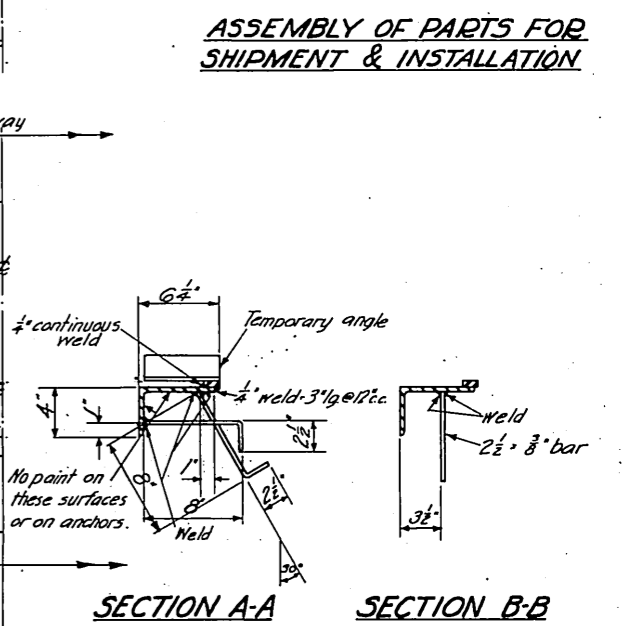
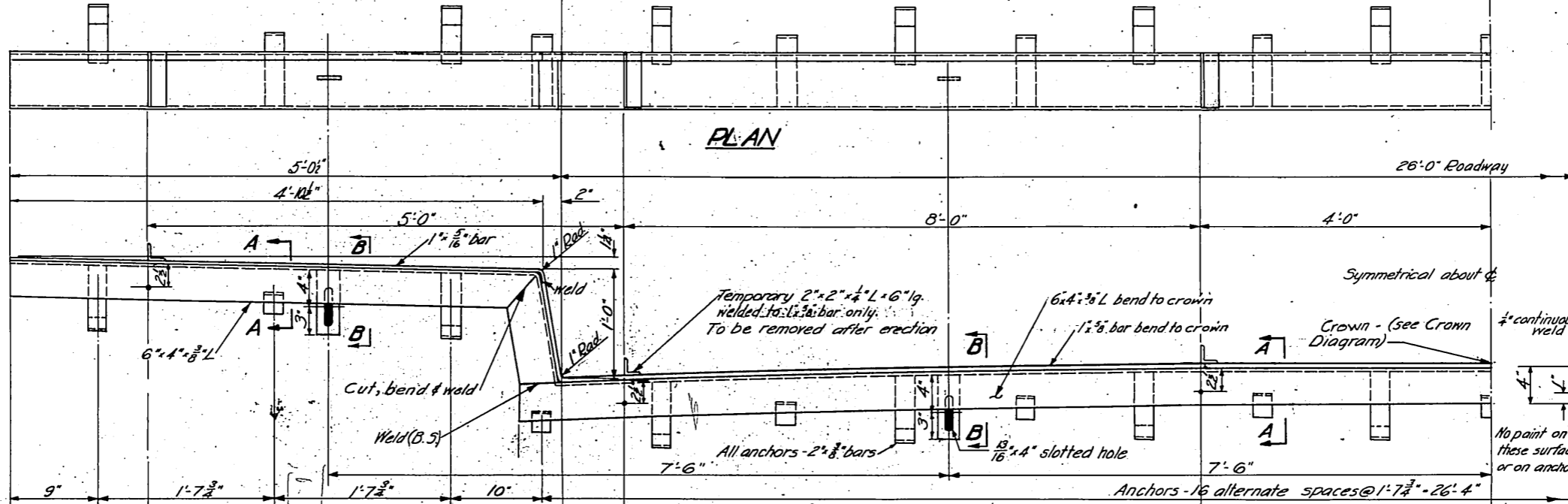
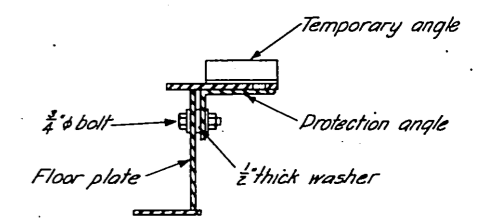
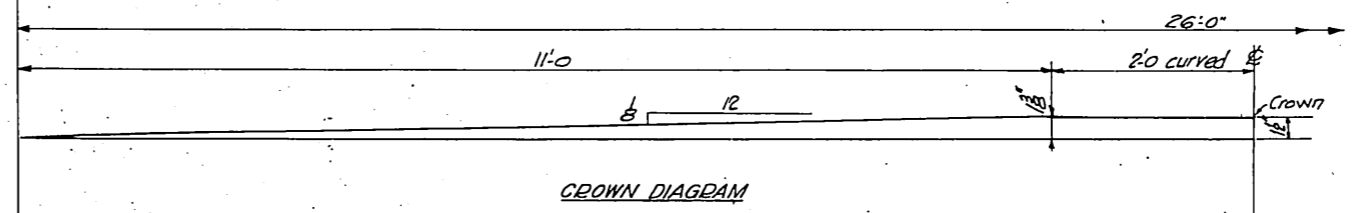
GOVT. OF BRITISH COLUMBIA
DEPT. OF PUBLIC WORKS
VICTORIA.

Made by K.W. May 15, 1950
Traced by W. Salt July 14, 50
Checked by P.H. 30 Sept. 1950

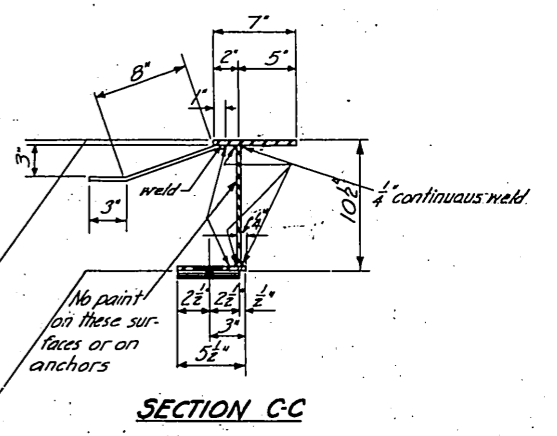
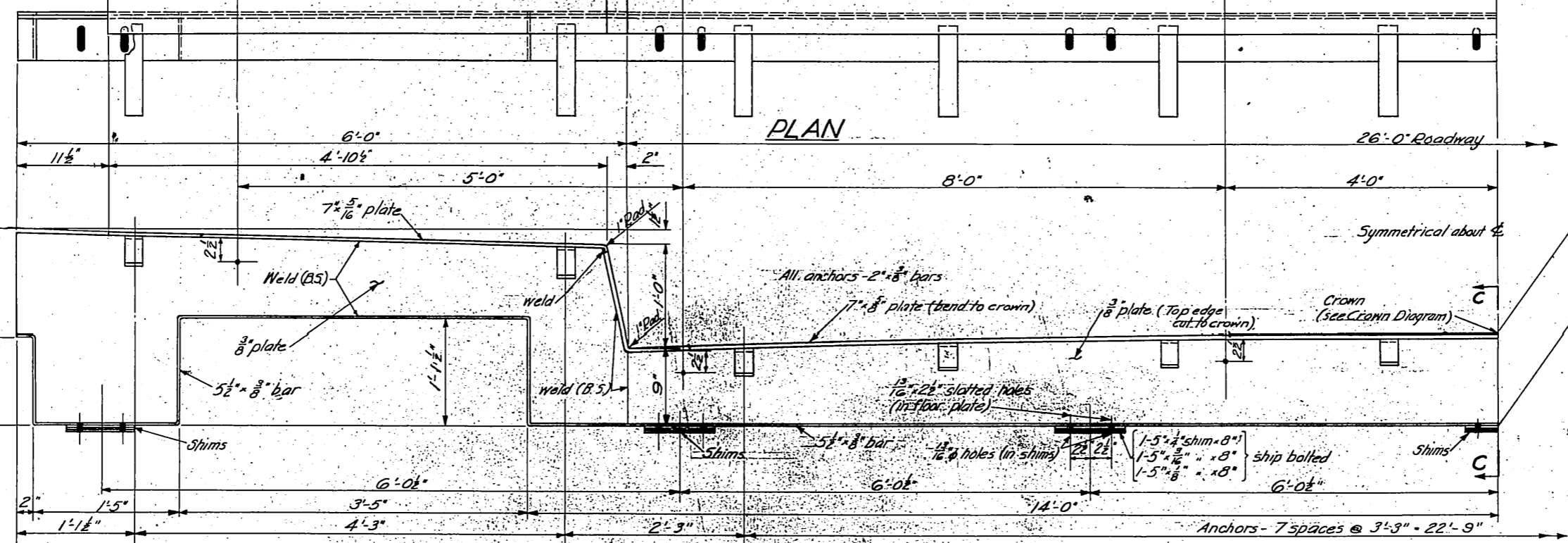
Chief Engineer.

DRAWING NO. 2078-2

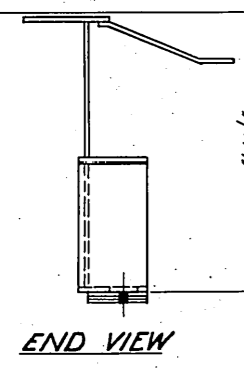
LIST OF CONTRACTS	
NAME	DWG. FILE NO.
KICKING HORSE RIVER BRIDGE 1944	318
REVISION A: #2 aluminum shop coat added	
Mark Creek Bridge at Marysville	1393
REVISION B - Crown & Crown Diagram	



ELEVATION BALLAST WALL PROTECTION ANGLE
 1" REQUIRED PER BRIDGE (EXCEPT 30'x40' SPANS) WT. 628 lbs.



STANDARD BEAM SPANS (WITH SIDEWALKS) DETAILS OF PROTECTION ANGLE AND FLOOR PLATE
 NOT TO SCALE



ELEVATION FLOOR PLATE
 1" REQUIRED PER BRIDGE (EXCEPT 30'x40' SPANS) WT. 1452 lbs.

REDUCED PLAN APPROX. HALF SIZE

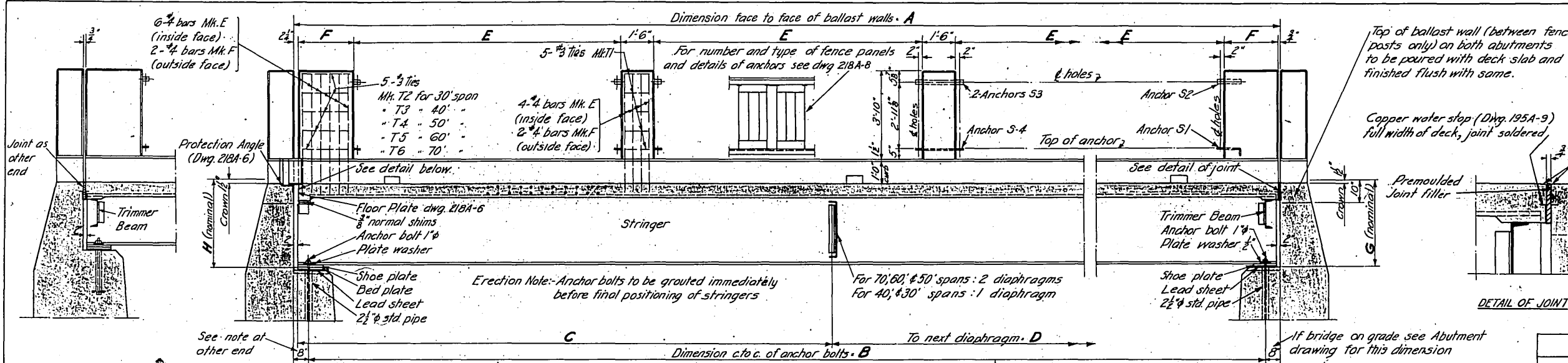
Formerly Std. Bridges 218A-G-B
 NOTES:
 All holes 1/2" φ except where noted.
 Paint all steelwork one shop coat red lead and one shop coat aluminum #2 except where noted.

GOVT. OF BRITISH COLUMBIA
 DEPT. OF PUBLIC WORKS
 VICTORIA

Made by M. Salt 16 Aug. 1950
 Traced by M. Salt 19 Aug. 1950
 Checked by P.H. 30 Sept. 1950

To the Max. Call
 Chief Engineer.

DRAWING NO. 2078-6



STRINGER DIMENSIONS

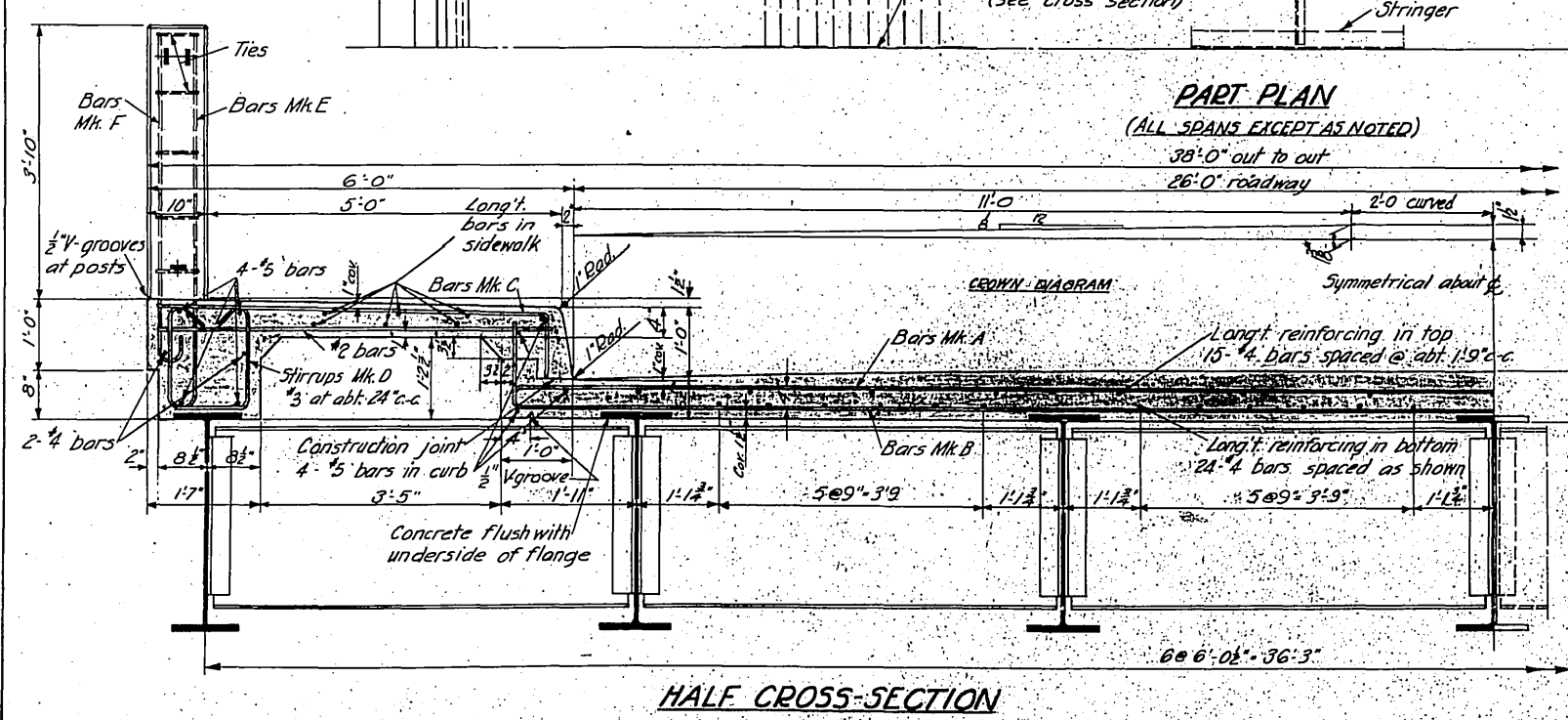
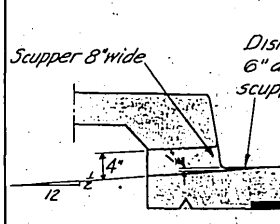
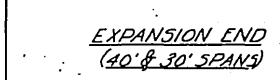
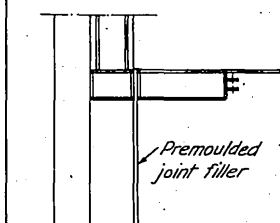
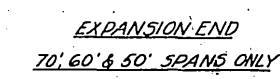
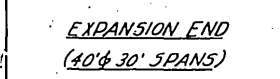
BRIDGE	BEAM SIZE	DEPTH	FLANGE WIDTH	FLANGE THICKNESS	WEB THICKNESS
70 ft. std.	36" W 182"	36 3/8"	12 1/2"	1 1/8"	3/8"
60 ft. std.	33" W 141"	33 1/2"	11 1/2"	1 1/8"	3/8"
50 ft. std.	30" W 116"	30"	10 1/2"	1 1/8"	3/8"
40 ft. std.	27" W 94"	26 3/4"	10"	1 1/8"	3/8"
30 ft. std.	21" W 73"	21 1/2"	8 1/2"	1 1/8"	3/8"

TABLE OF DIMENSIONS

BRIDGE	A	B	C	D	E	F	G	H	J	K
70 ft. std.	70'-4"	69'-0"	23'-4"	23'-0"	11'-10"	2'-3 1/2"	3'-2 1/2"	3'-9 1/2"	4'-3"	20'-6"
60 ft. std.	60'-4"	59'-0"	20'-0"	19'-8"	10'-0"	2'-0"	3'-5 1/2"	3'-6 1/2"	4'-0"	17'-4"
50 ft. std.	50'-4"	49'-0"	16'-0"	16'-4"	10'-0"	2'-9 1/2"	3'-2 1/2"	3'-5 1/2"	4'-0"	14'-0"
40 ft. std.	40'-4"	39'-0"	20'-0"	-	10'-5"	2'-11 1/2"	2'-11 1/2"	3'-0"	10'-0"	20'-0"
30 ft. std.	30'-4"	29'-0"	15'-0"	-	11'-10"	2'-6 1/2"	2'-5 1/2"	2'-6 1/2"	7'-6"	15'-0"

CONCRETE QUANTITIES FOR ONE BRIDGE

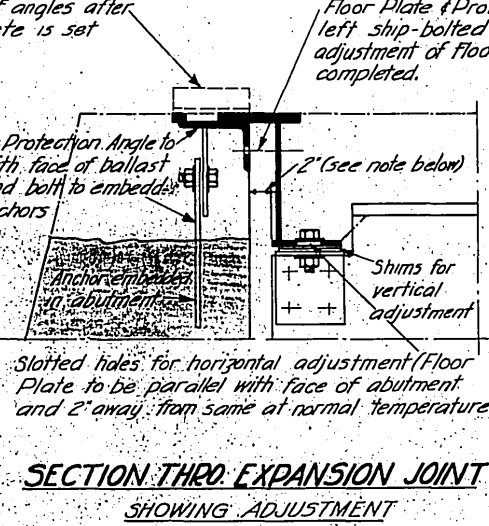
ITEM	70 FT. STD. CU. YDS.	60 FT. STD. CU. YDS.	50 FT. STD. CU. YDS.	40 FT. STD. CU. YDS.	30 FT. STD. CU. YDS.
DECK, SIDEWALKS AND POSTS	74	63	53	43	32
TOPS OF BALLAST WALLS	3	3	3	3	3
TOTAL	77	66	56	46	35



LONGITUDINAL SECTION AT CURB (ALL SPANS EXCEPT AS NOTED)

PART PLAN (ALL SPANS EXCEPT AS NOTED)

SECTION A-A



REINFORCING STEEL FOR ONE BRIDGE

LOCATION	MK.	SIZE	BENDING DIAGRAM	70' 70' 70'	60' 60' 60'	50' 50' 50'	40' 40' 40'	30' 30' 30'
TRANSVERSE REINFORCING	A	#5	2'-8" L=28'9"	141	121	101	81	61
	B	#5	2'-8" L=28'9"	141	121	101	81	61
	C	#2	10" L=6'3"	282	242	202	162	122
STIRRUPS IN SIDEWALK STRINGER	D	#3	13" L=5'-0"	72	62	52	42	32
	E	#4	5" L=5'-10"	56	56	48	40	32
VERTICAL REIN. IN POSTS	F	#4	5" L=5'-0"	24	24	20	16	12
	do	#4	5" L=5'-0"	24	24	20	16	12
HORIZONTAL TIES IN INTER POSTS	T1	#3	12" L=4'-0"	40	40	30	20	10
	T2	#3	12" L=6'-0"					20
	T3	#3	12" L=6'-11"					20
	T4	#3	12" L=6'-7"				20	
	T5	#3	12" L=5'-11"			20		
	T6	#3	12" L=5'-11"			20		
REINFORCING IN CURB AND S.W. STRINGER				1240	1060	880	720	480
REINFORCING IN SLAB S.W. & S.W. STRINGER				1200	3500	2980	2330	1650
BOTTOM TRANSVERSE BAR IN SIDEWALK				1625	1400	1175	950	700
TOTAL WEIGHT OF REINFORCING STEEL FOR ONE BRIDGE (LBS.)				18870	11880	9530	7990	6880

LIST OF CONTRACTS

NAME	SPAN	DATE	NAME	SPAN	DATE
Kicking Horse River Bridge #4	60'-0"	1918			
Mark Creek Bridge at Marysville	40'-0"	1919			
Rev. A - Rein. steel w/ls.					

STANDARD BEAM SPANS (WITH SIDEWALKS) DECK DETAILS
 APPROX. HALF SIZE
 Not to scale

Notes:
 All concrete in slab, sidewalks & fence posts to be class A. Roadway slab & sidewalk slab respectively to be poured in one continuous operation if possible, otherwise a construction joint is to be placed at centre of span. Edges of this joint to be given 2" radius.
 All exposed edges of concrete to have 1/2" chamfer unless shown otherwise.
 Reinforcing generally to have 1 1/2" cover except where noted. All reinforcing steel to be structural grade.
 Formerly, Std. Bridges 218A-7A

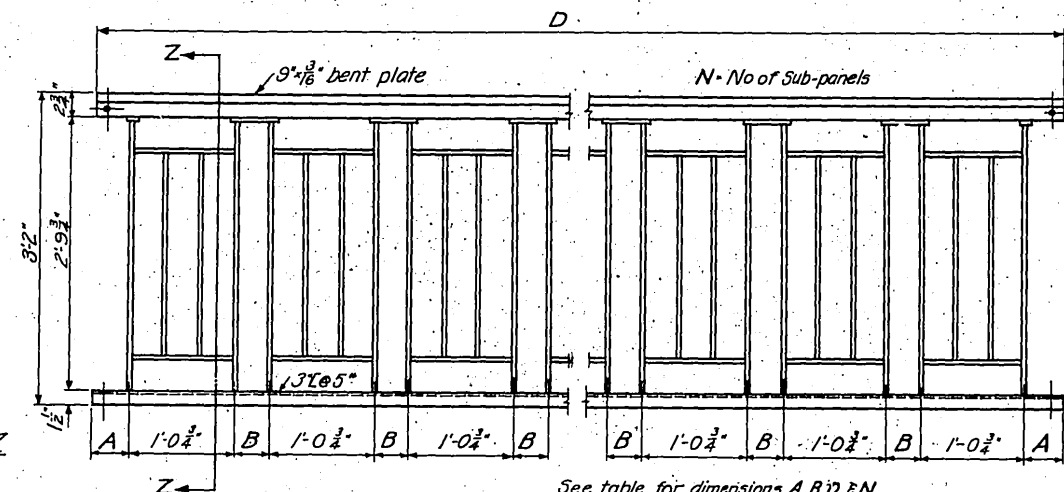
GOVT. OF BRITISH COLUMBIA DEPT. OF PUBLIC WORKS VICTORIA.
 Made by: K.W. May 15, 1950
 Traced by: W. Sell Aug 14, 50
 Checked by: R.H. Scott 1950
 2018-7
 Chief Engineer

QUANTITIES REQ^d FOR ONE BRIDGE

DESCRIPTION	No ^s REQUIRED				
	70'Span	60'Span	50'Span	40'Span	30'Span
Panel P1	10				4
P2				6	
P3		10	8		
Anchor S-1	4	4	4	4	4
S-2	4	4	4	4	4
S-3	16	16	12	8	4
S-4	8	8	6	4	2
Coupling Nut	20	20	16	12	8
Bolt $\frac{5}{8}$ " x 1 $\frac{1}{2}$ " lg. (no nut)	40	40	32	24	16
Bolt $\frac{5}{8}$ " x 2'lg. nut & lock washer	20	20	16	12	8
Total Weight lbs.	3257	2837	2270	1727	1304

LIST OF CONTRACTS

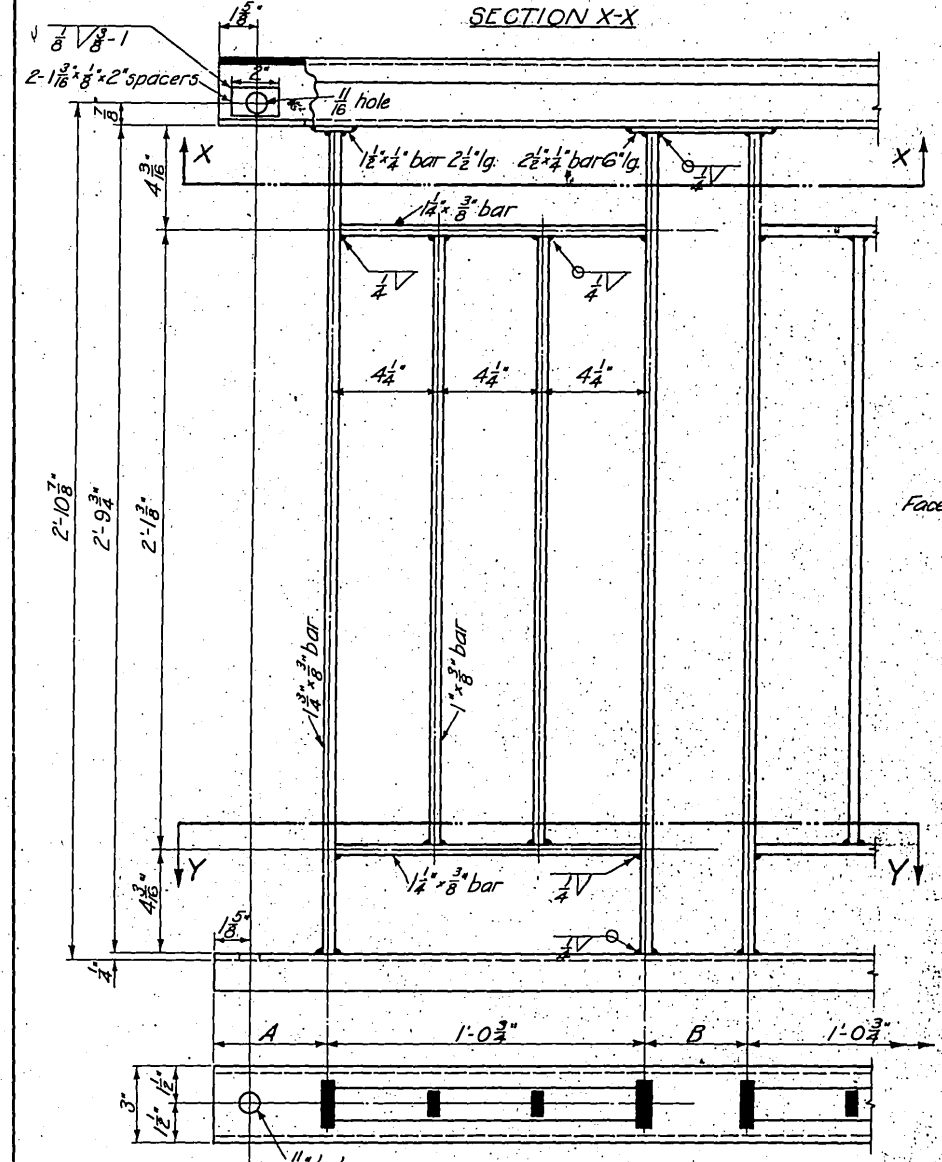
NAME	Span	Dwg. File No
Kicking Horse River Bridge 1944	60'-0"	318
Revision A - Aluminum shop coat added		
Mark Creek Bridge at Marysville	60'-0"	1393
150 MILE CREEK BRIDGE	40'-0"	968
ELLIS CREEK BRIDGE	30'-0"	1467



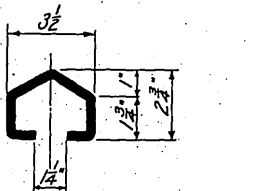
PANEL DIMENSIONS

Panel	A	B	D	N	Weight lbs.
P1	4 1/2"	4 1/2"	11 9/16"	8	311
P2	4 1/2"	4 1/2"	10 1/4"	7	273
P3	4 1/2"	3 1/2"	9 1 1/4"	7	269

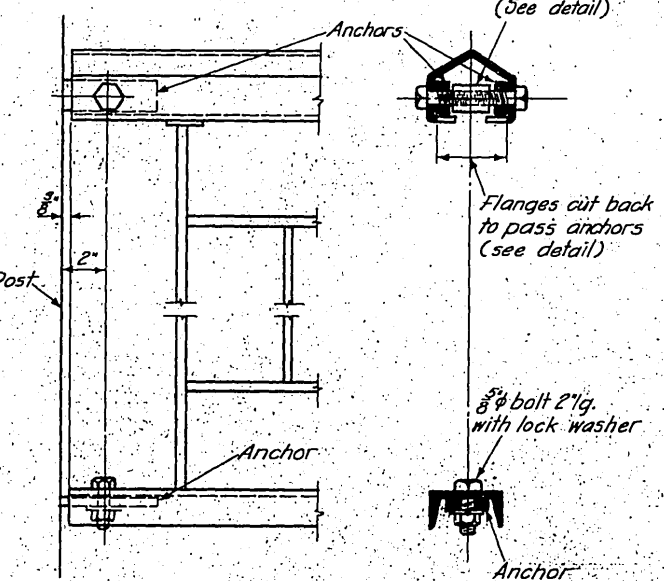
GENERAL ARRANGEMENT OF FENCE PANEL
Scale 1" = 1'-0"



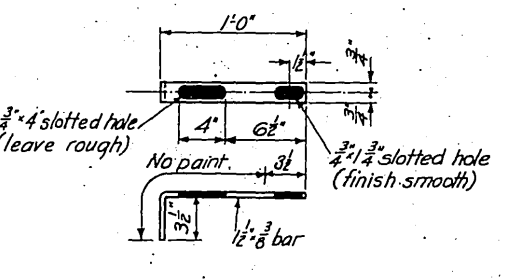
DETAILS OF PANEL
Scale 3" = 1'-0"



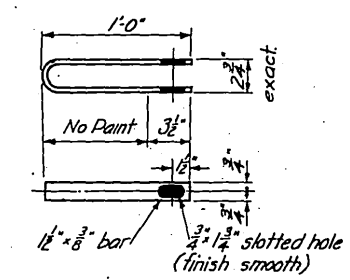
SECTION THRO' TOP RAIL
Scale 3" = 1'-0"



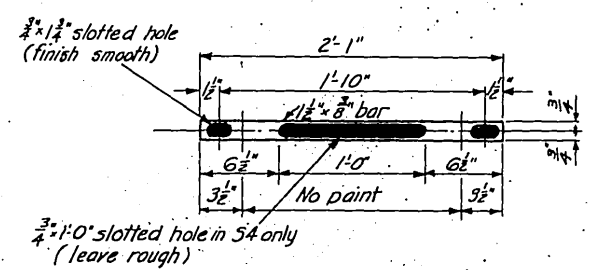
DETAIL AT PANEL CONNECTION
Scale 3" = 1'-0"



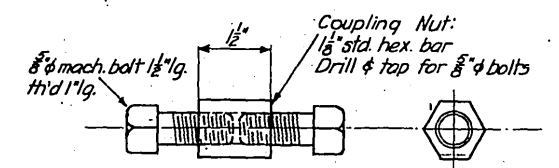
ANCHOR MK. S1
Scale 1 1/2" = 1'-0"



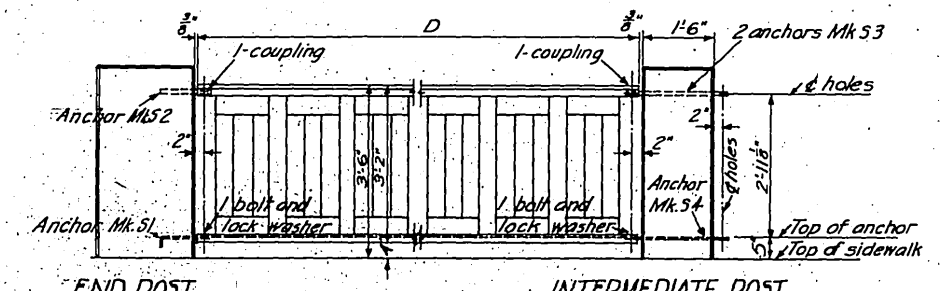
ANCHOR MK. S2
Scale 1 1/2" = 1'-0"



ANCHORS MK. S3 & S4
Scale 1 1/2" = 1'-0"



TOP RAIL COUPLING
Half Size



MOUNTING OF FENCE PANEL
Scale 1/2" = 1'-0"

REDUCED PLAN
APPROX. HALF SIZE

STANDARD BEAM SPANS
(WITH SIDEWALKS)

SIDEWALK FENCE DETAILS

Scale: As noted

Note:-
All steelwork painted one shop coat of red lead paint and one shop coat of aluminum-zinc paint, except where noted.

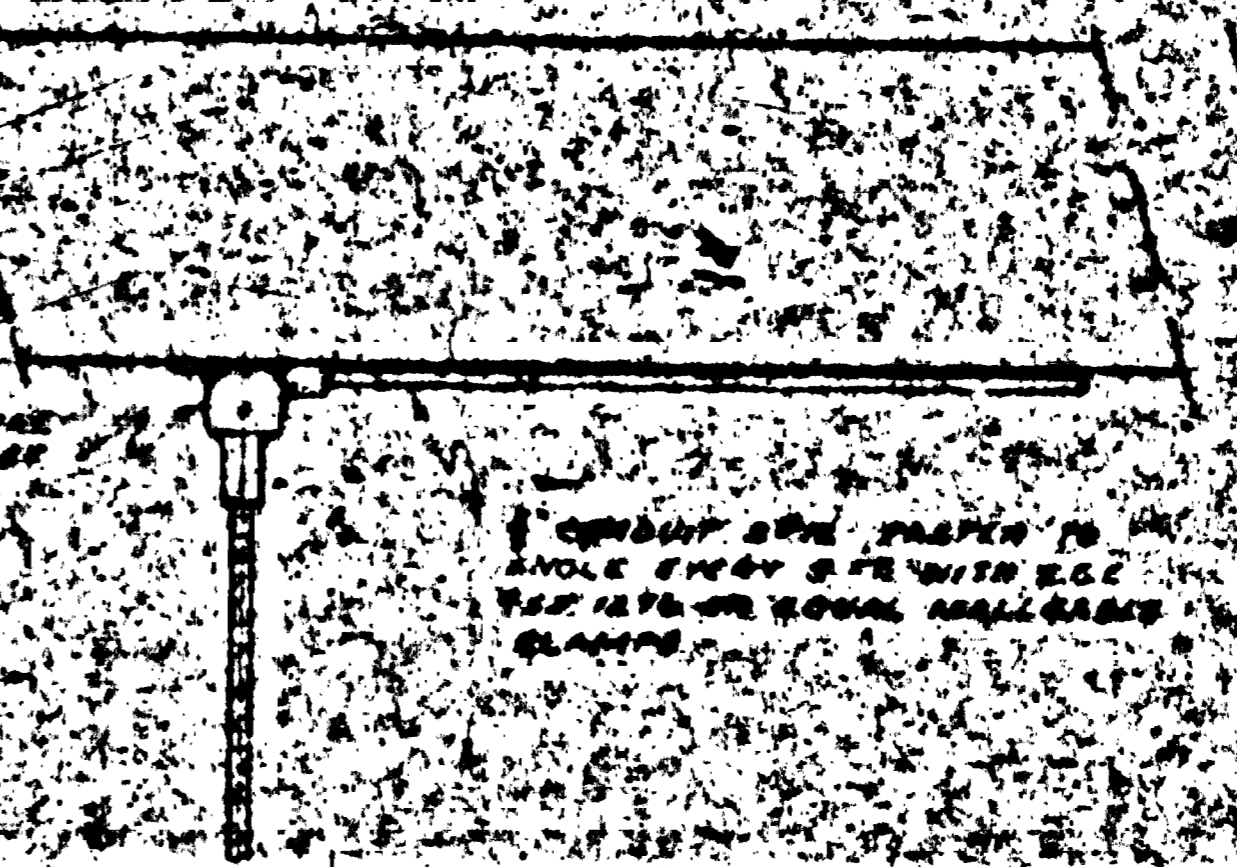
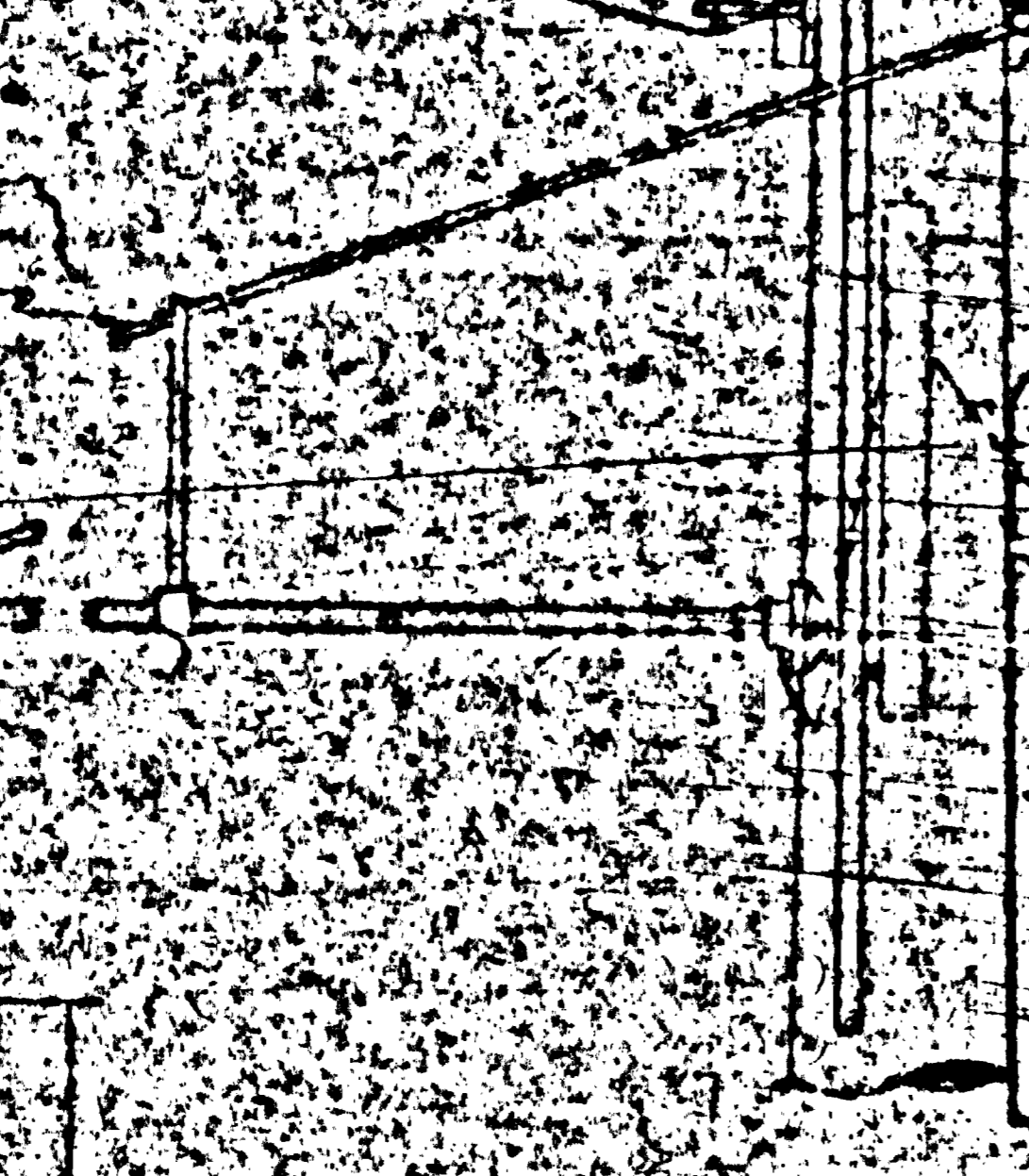
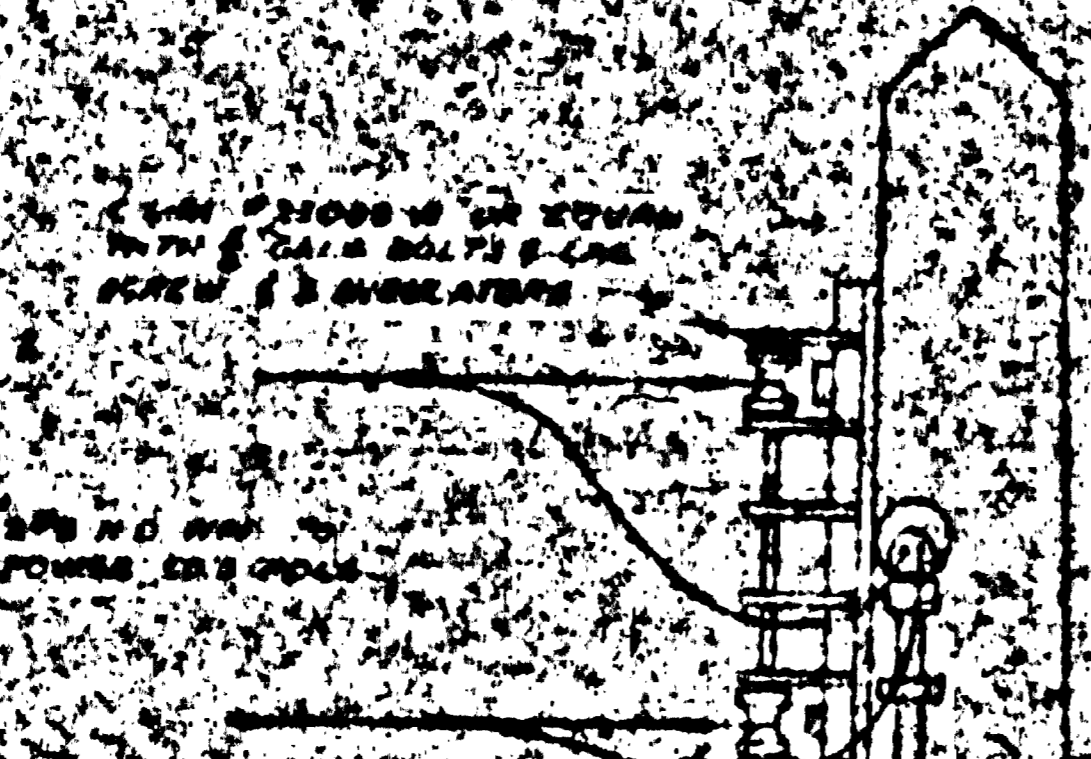
GOVT. OF BRITISH COLUMBIA
DEPT. OF PUBLIC WORKS
VICTORIA.

Made by: N.S.H. Dec 20/50
Traced by: W. Salt Feb 2/51
Checked by: P.H. Mar 13/51

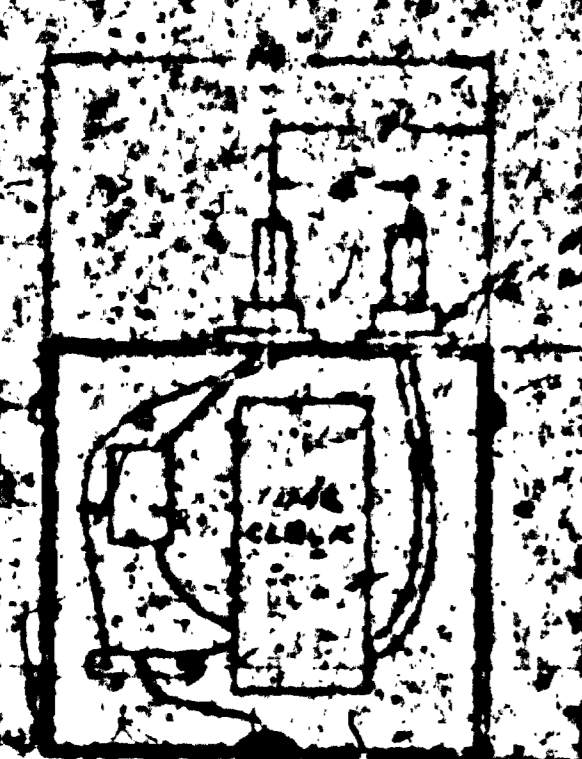
16/46 The Chief Engineer
2078-8



PLAN OF BRIDGE
SCALE 1" = 10'



DETAIL OF BRIDGE FIXTURE
SCALE 1" = 10'



DETAIL OF SERVICE BOX
SCALE 1" = 10'



DETAIL OF SERVICE POLE FIXTURE
SCALE 1" = 10'

NOTE
 ALL STRUCTURAL STEEL
 SHALL BE SUPPLIED BY THE
 CONTRACTOR AND SHALL BE
 OF THE BEST QUALITY
 AVAILABLE. ALL WELDS
 SHALL BE MADE BY THE
 CONTRACTOR AND SHALL
 BE OF THE BEST QUALITY
 AVAILABLE. ALL WELDS
 SHALL BE MADE BY THE
 CONTRACTOR AND SHALL
 BE OF THE BEST QUALITY
 AVAILABLE.

TITLE OF CONTRACT		KICKING HORSEBRIDGE BRIDGE NO. 2 BRIDGE		GOLDEN, B.C.	
TITLE OF DRAWING		ELECTRICAL		NO. 104	
REVISIONS		ELECTRICAL		JULY 1950	
PROVINCIAL GOVERNMENT OF BRITISH COLUMBIA		ELECTRICAL DIVISION		DRAWING NO.	

W. J. B. ENGINEERING

EXPANSION JOINT
 (TRUSS-SPAN)
 2 REQ'D. EACH OF MK A^a & B^a as shown.
 2 REQ'D. EACH OF MK A^b & B^b opp. hand.
 Total weight: 2690 lbs.

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

DRAIN ADDITION
 Scale: 3/8" = 1'-0"

16 REQ'D. - Total weight 186 lbs.

EXPANSION JOINT
 (BEAM-SPAN)
 1 REQ'D. EACH OF MK C^a & D^a as shown.
 1 REQ'D. EACH OF MK C^b & D^b opp. hand.
 Total weight: 1204 lbs.

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

PAINT:
 1 Shop coat red lead except area of field weld as shown on Dwg. M. 616-1

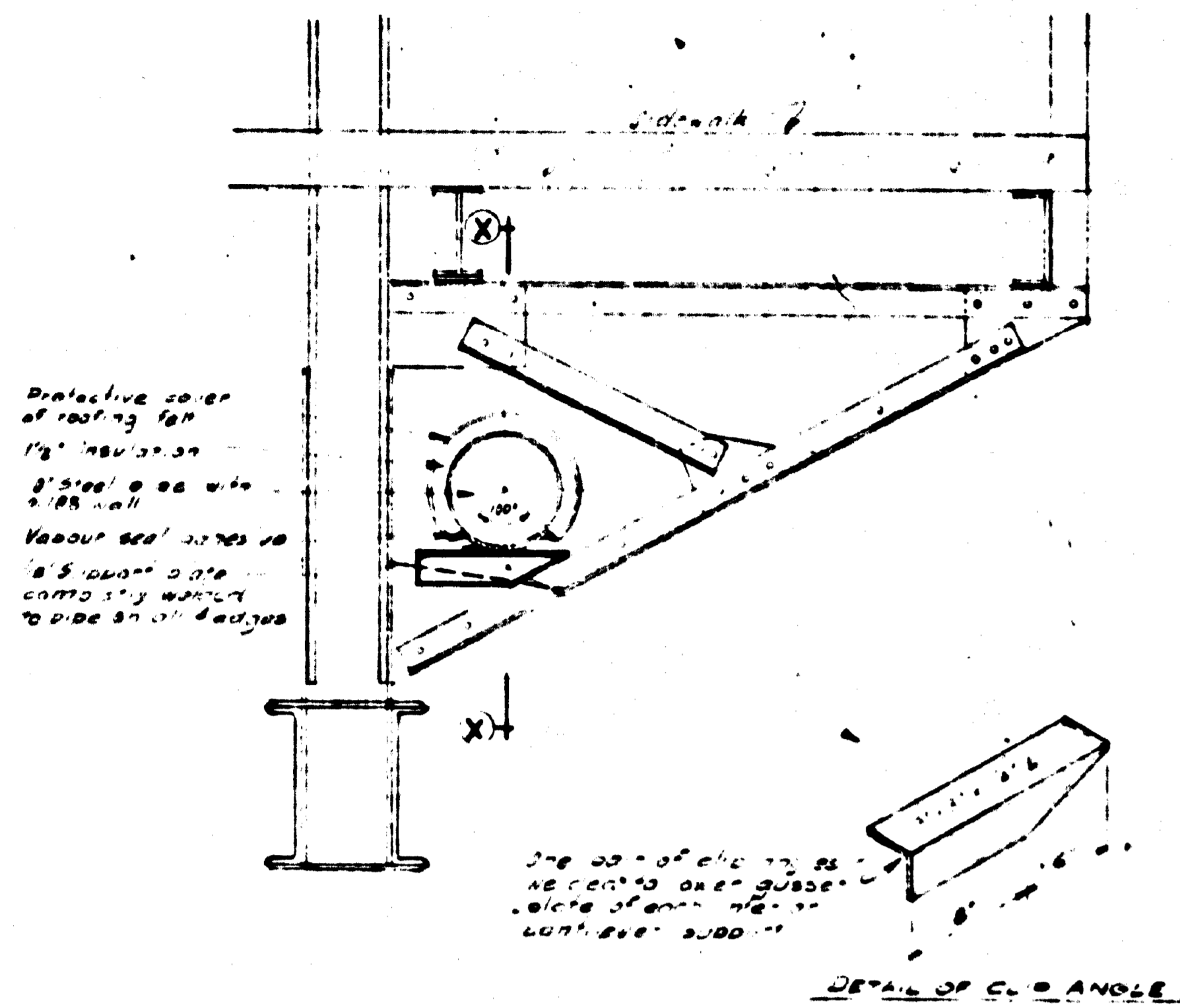
COLUMBIA DISTRICT
 KOOTENAY - COLUMBIA HIGHWAY
 KICKING HORSE OVERFLOW CHANNEL BRIDGE
 EXP. JOINT & DRAIN ADDITION
 Scale: 3/8" = 1'-0" as noted.

REVISIONS			
No.	Description	Init.	Date

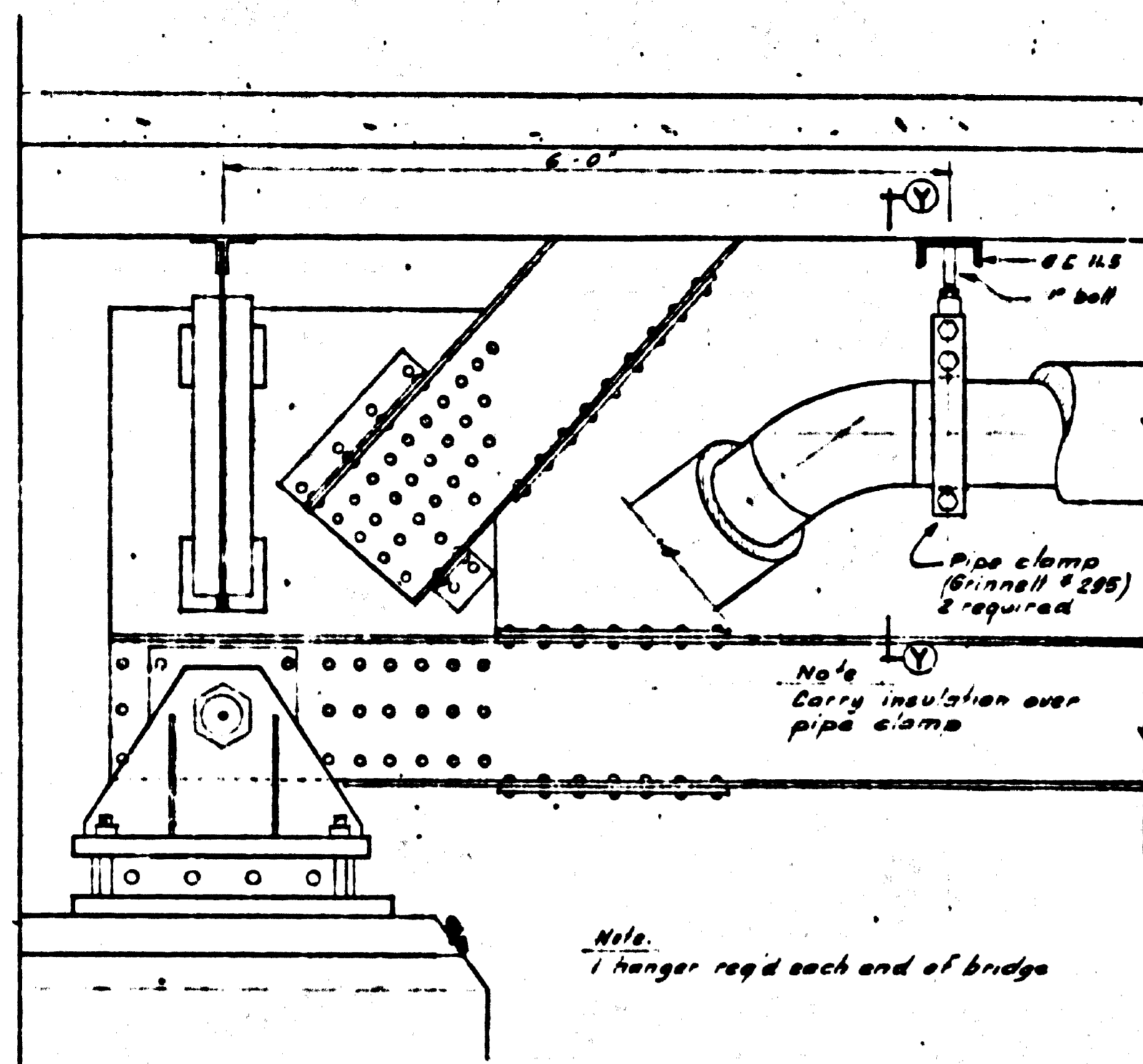
19529

GOVT. OF BRITISH COLUMBIA DEPT. OF HIGHWAYS BRIDGE ENGINEER'S OFFICE	
Drawn by A. S. J.	Date July 25
Checked by D. C.	Date 9 July 29
Approved	6294-9

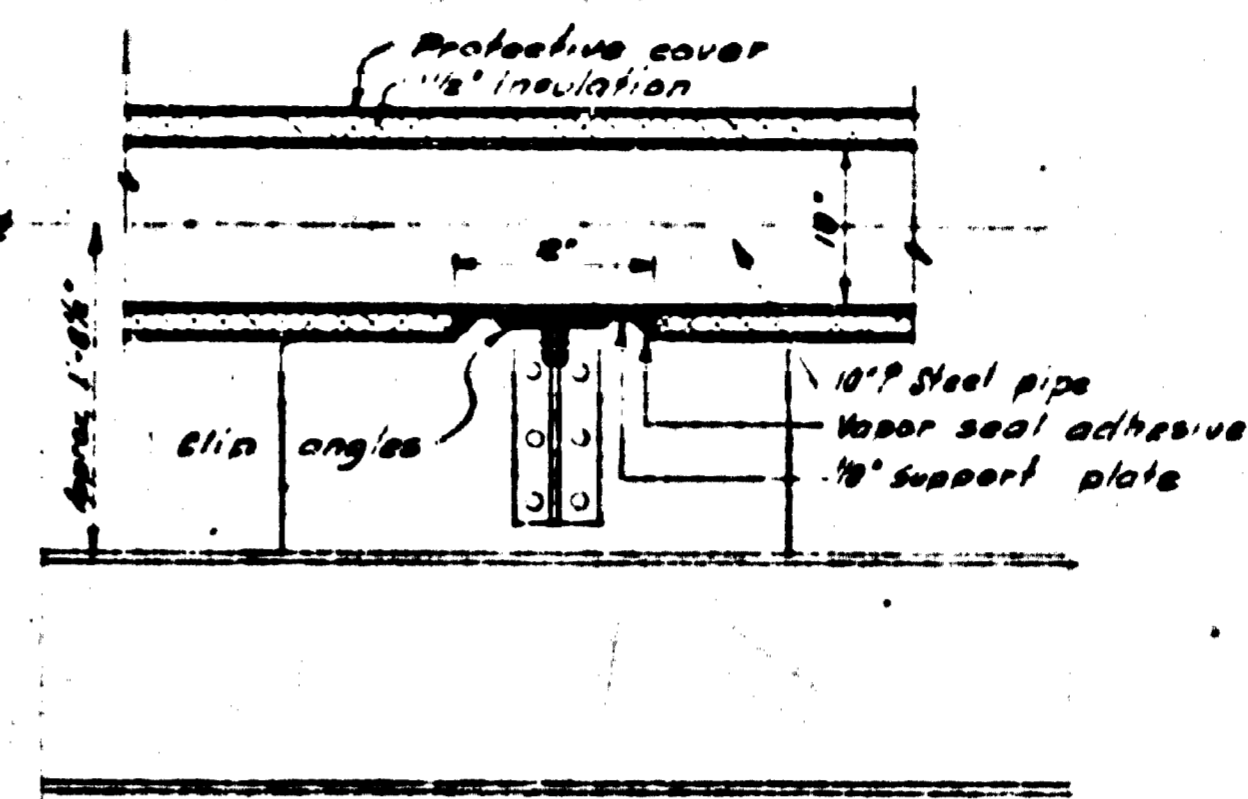
(Adapted from 918-18)



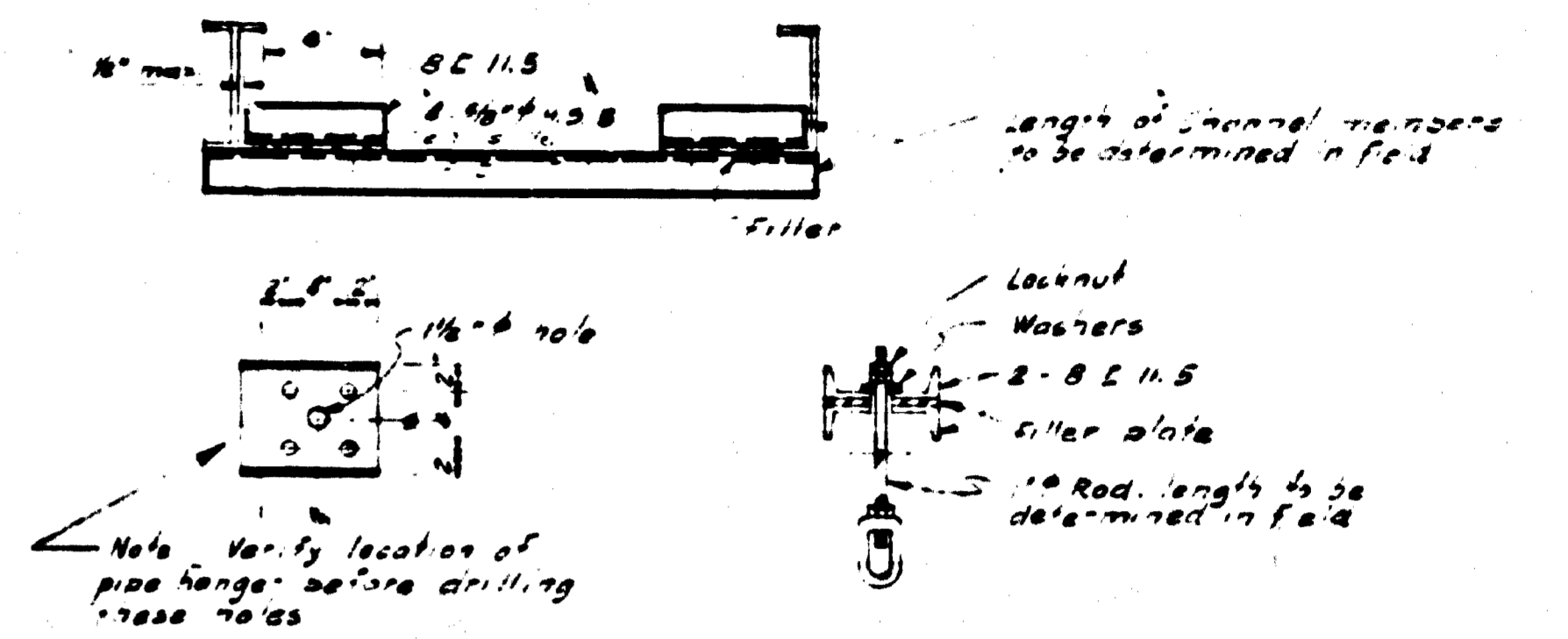
PIPE MOUNTING ON CANTILEVERED STEEL SIDEWALK SUPPORT



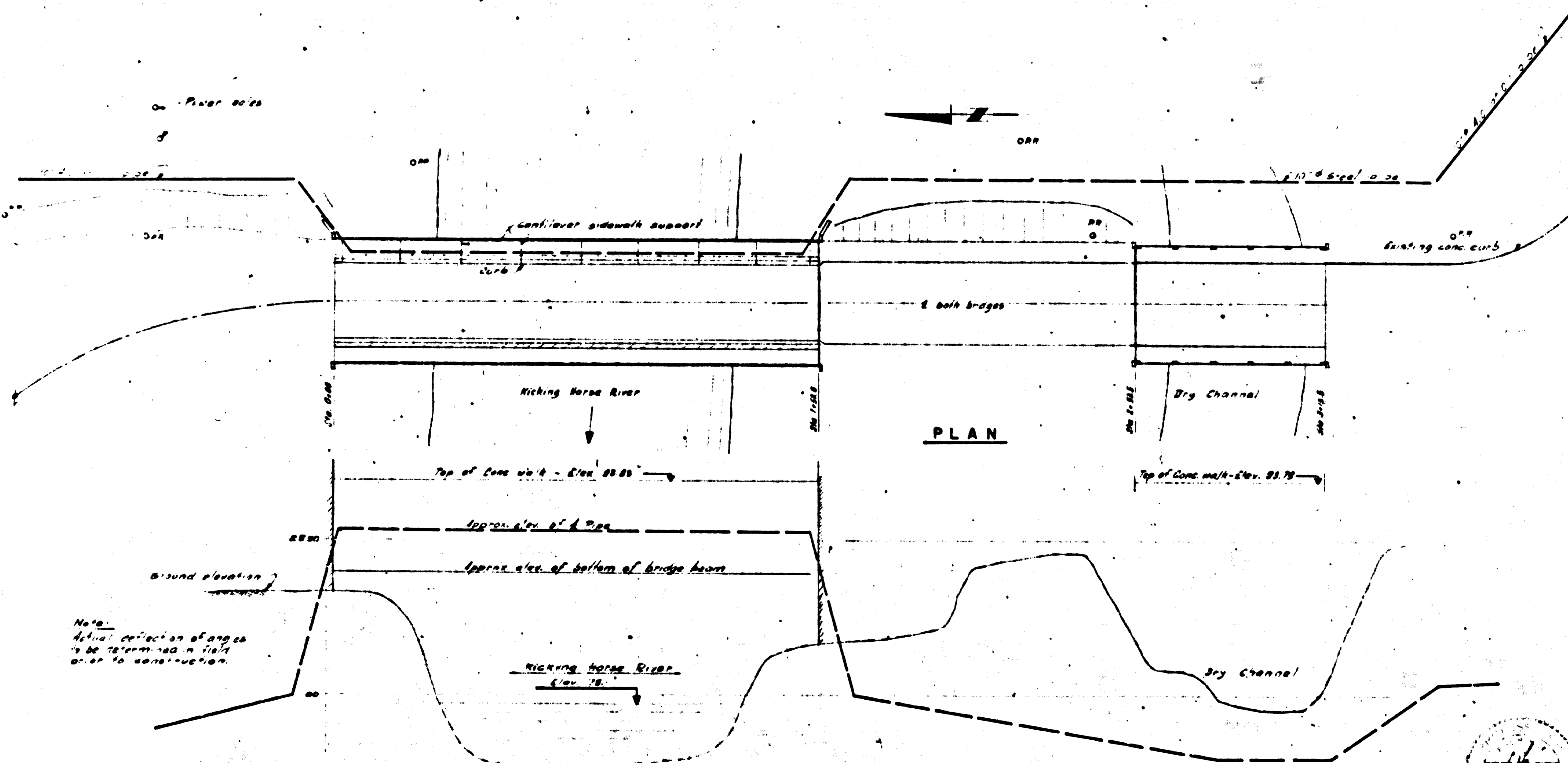
PIPE SUPPORT NEAR END OF BRIDGE



SECTION X-X



SECTION Y-Y

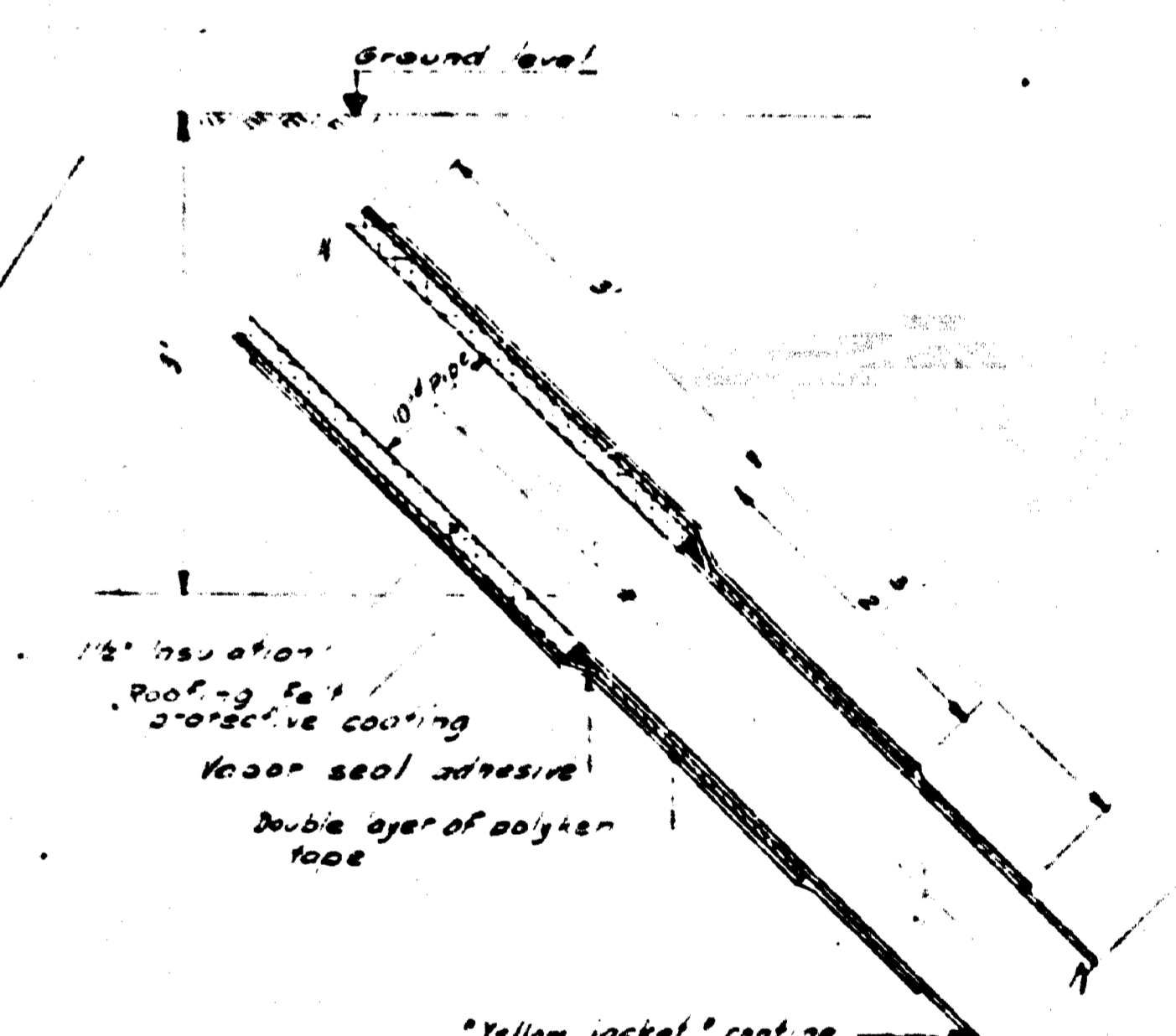


PLAN

Note: Actual collection of angles to be determined in field prior to construction.

PROFILE

Ver. 1" = 20' - Horiz. 1" = 4'



DETAIL OF INSULATED PIPE BELOW GROUND

DATE: 1953

REVISION	DATE	BY	SUBJECT

ASSOCIATED ENGINEERING SERVICES LTD.
Consulting Engineers
EDMONTON VANCOUVER

VILLAGE OF GOLDEN
BRITISH COLUMBIA

PROPOSED 10" WATER MAIN ON
HIGHWAY BRIDGE CROSSING
KICKING HORSE RIVER

SCALE: 1" = 20'
DATE: NOV. 8, 63
DET: 1" = 1' 0"

1953

DATE: NOV. 8, 63
JOB NO. AC 48
DWN. NO. 4046-PC-63-2

SUPERSEDES PLAN 4046-PC-63-1