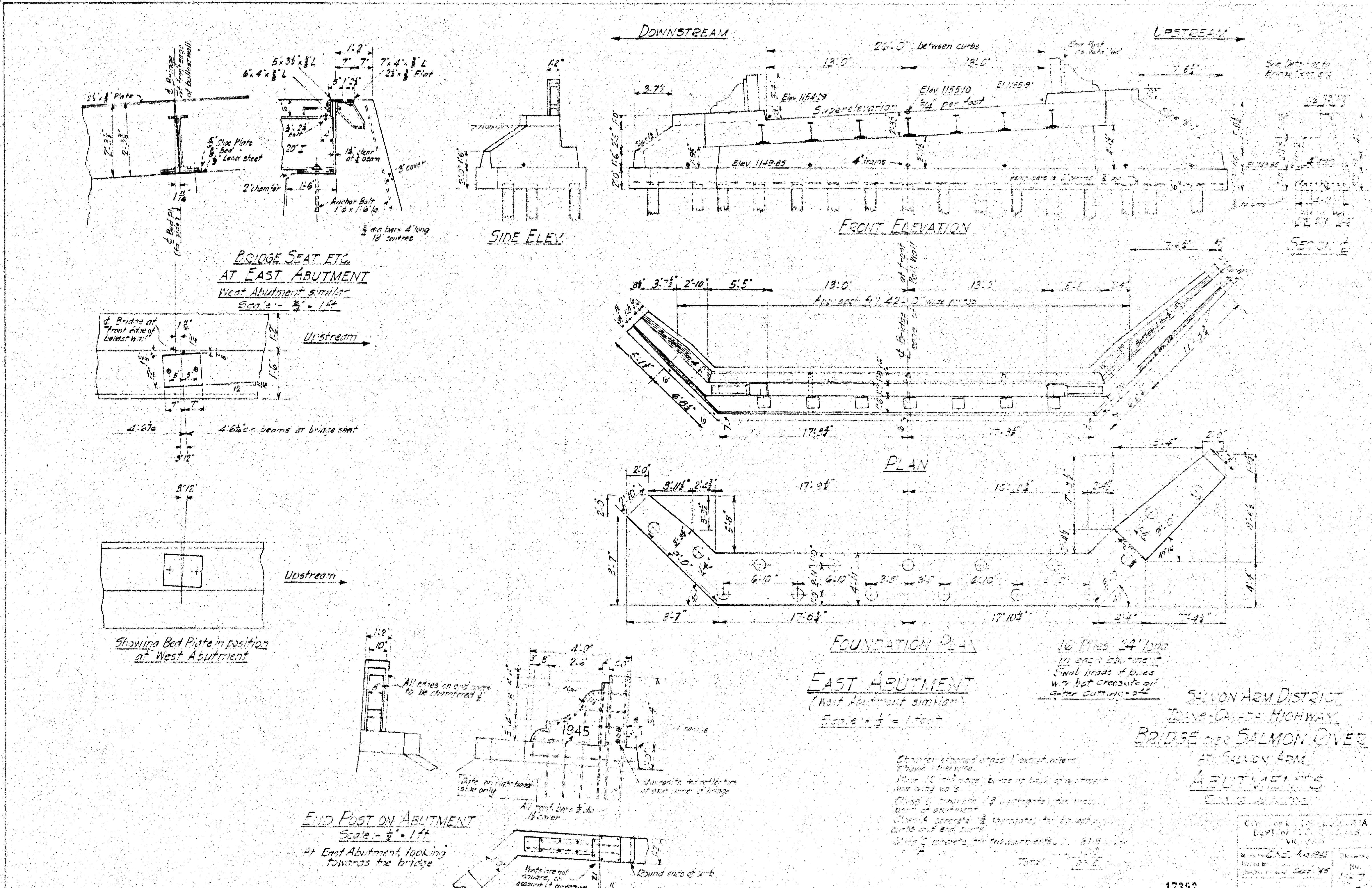
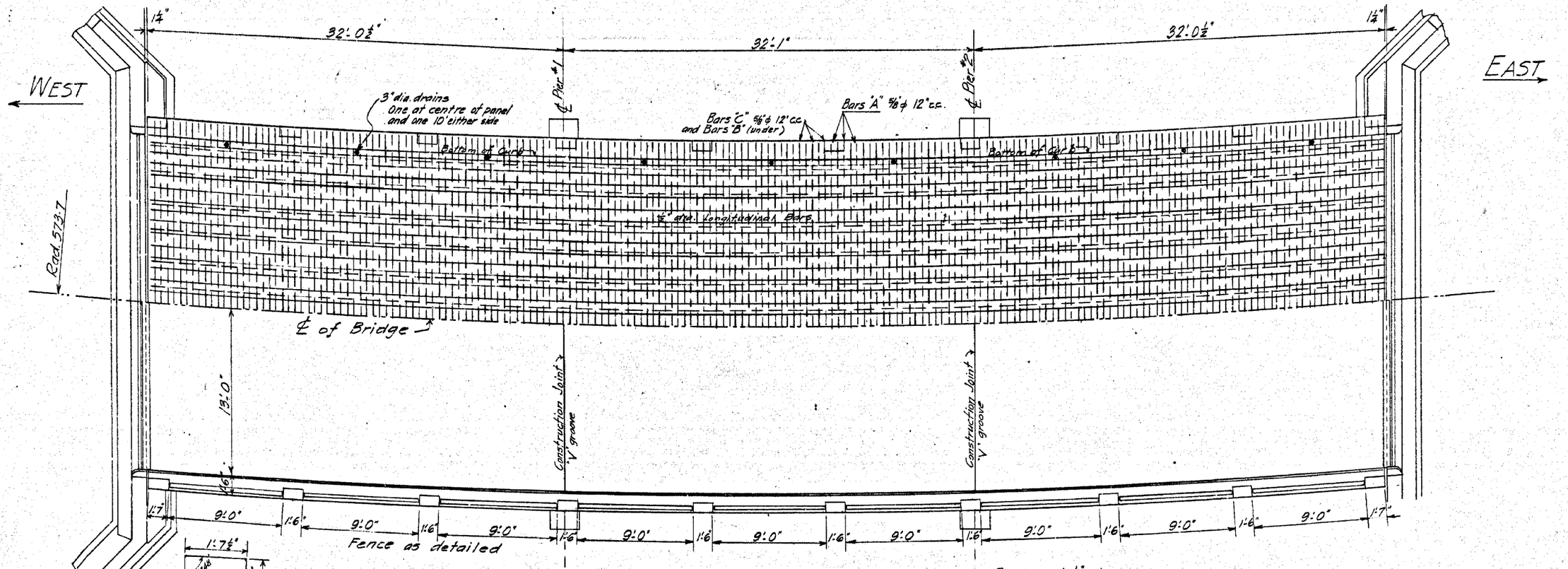
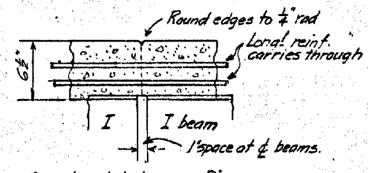

Downstream
Upstream
26'-0" between curbs
Front Elevation
Section E
Side Elev.
Bridge Seat etc. at East Abutment
West Abutment similar
Scale :- 3/4" = 1 ft.
Upstream
Showing Bed Plate in position at West Abutment
Plan
Foundation Plan
East Abutment
(West Abutment similar)
Scale :- 1/4" = 1 foot
16 Piles 24' long in each abutment
Swab heads of piles with hot creosote oil after cutting-off
End Post on Abutment
Scale :- 1/2" = 1 ft.
At East Abutment, looking towards the bridge
1945
All edges on end posts to be chamfered 1/2"
Date on right hand side only
Round ends of curb
Salmon Arm District
Trans-Canada Highway
Bridge over Salmon River
at Salmon Arm
Abutments
Victoria
Sept. '45
17392



PLAN OF ROADWAY
Scale:- 1/4" = 1 foot

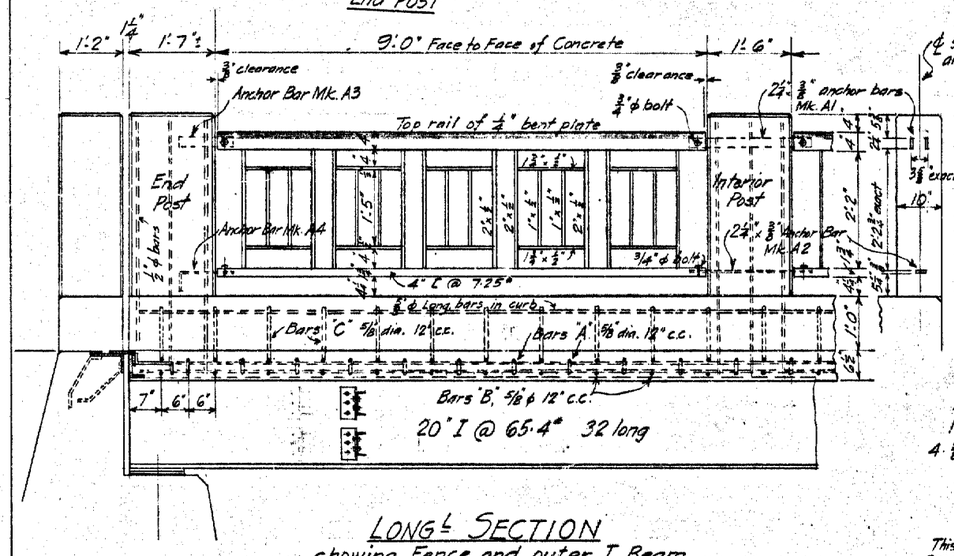


Constr. Joint over Piers

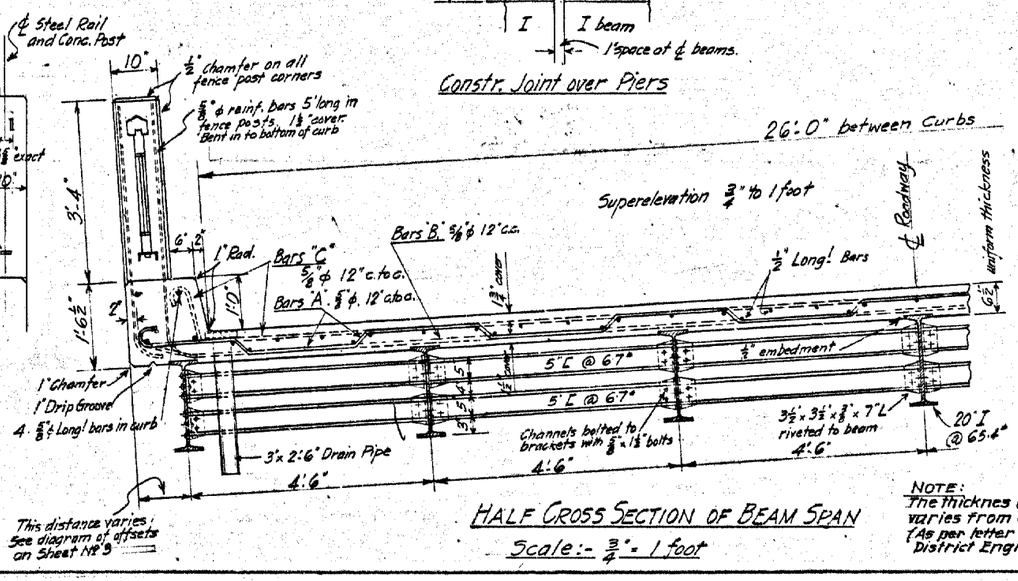
CONCRETE QUANTITIES

Slab (29' wide)	56.0 cu.yds.
Curbs	10.2 " "
Fence Posts	3.1 " "
Total	69.3 cu.yds.

Concrete in slab, curbs and fence posts to be Class "A".
Splices in reinforcement, not less than 30" for 5/8" dia. bars, 24" for 1/2" dia.



LONG℄ SECTION
showing Fence and outer I Beam
Scale:- 3/4" = 1 foot



HALF CROSS SECTION OF BEAM SPAN
Scale:- 3/4" = 1 foot

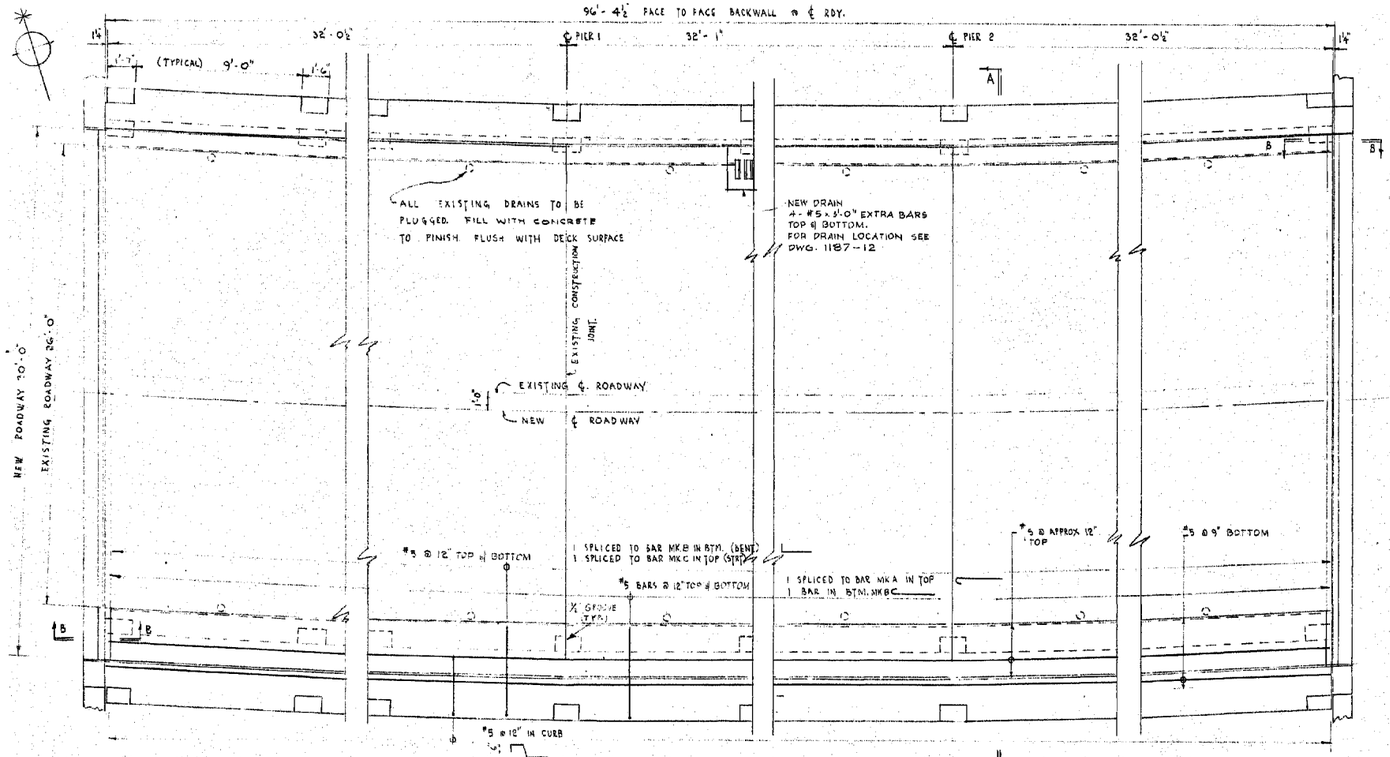
NOTE:
The thickness of the asphalt deck varies from 3" to 4 inches.
(As per letter Nov. 19th/62 from District Engr. W. M. Sproul)

SALMON ARM DISTRICT
TRANS-CANADA HIGHWAY
BRIDGE over SALMON RIVER
AT SALMON ARM
ROADWAY SLAB & FENCES
Scales as noted

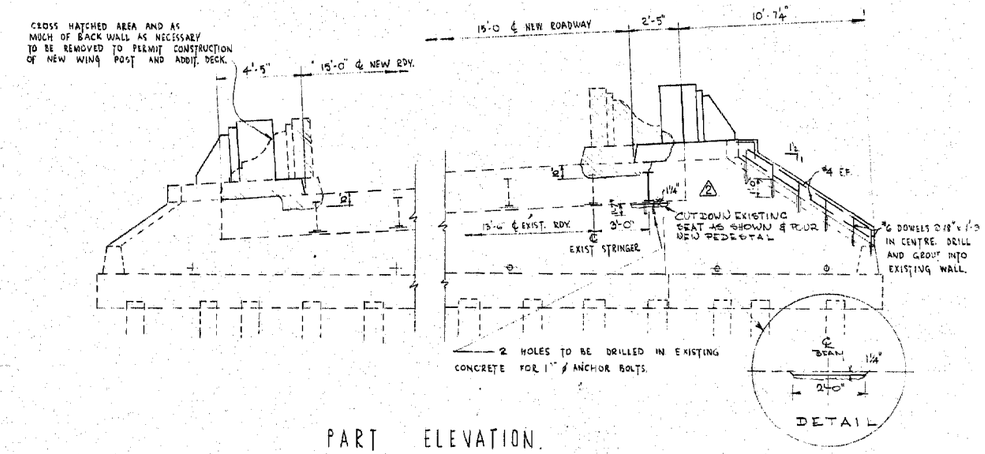
GOVT. OF BRITISH COLUMBIA
DEPT. OF PUBLIC WORKS
VICTORIA.

Made by C.K.S. Aug. 1965	DRAWING NO.
Traced by	1187-4
Checked by C.J. Sept 65	
Chief Engineer	

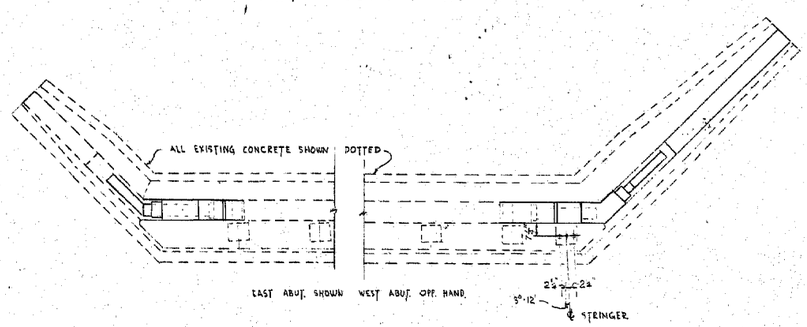
17391



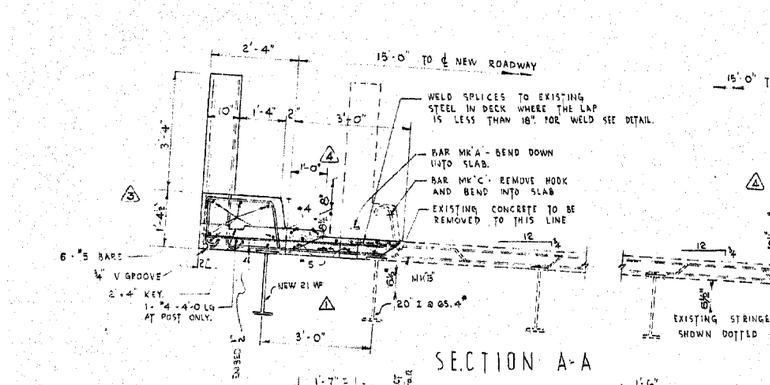
PART PLAN

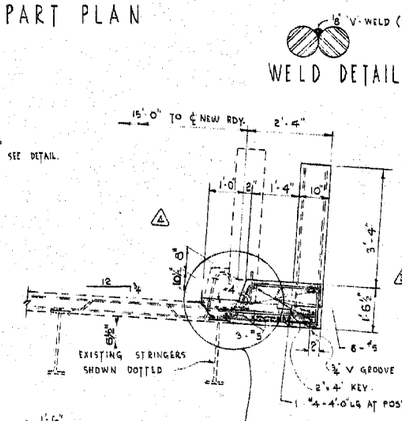


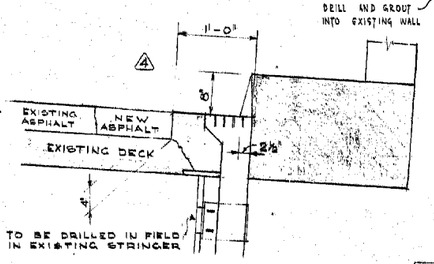
PART ELEVATION.



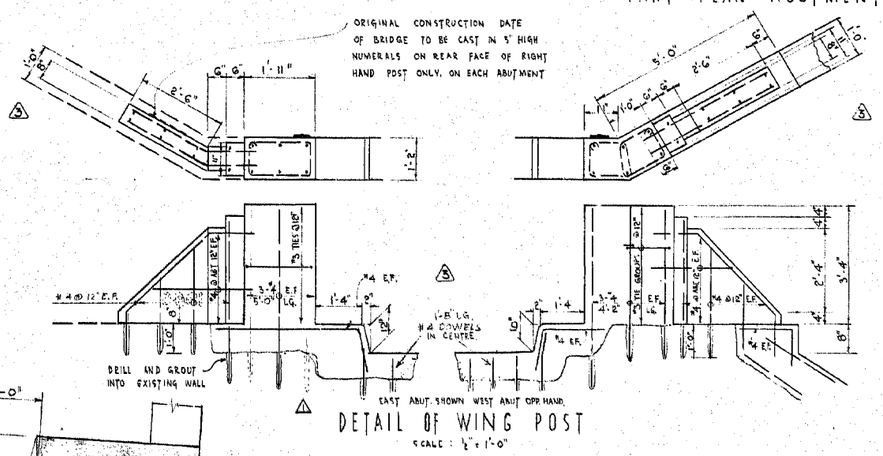
PART PLAN – ABUTMENTS







FOR DRAIN DETAIL SEE DWG 1187-13



NOTES

1) FOR GENERAL NOTES SEE DWG. 1187-12.
2) DECK CONCRETE TO BE LIGHT WEIGHT
3) EXISTING EXTERIOR STRINGERS TO BE PROPPED AT MIDSPANS (WHILE SLAB IS CURING) AS CALLED FOR IN THE SPECIFICATIONS SO THAT NO LIVE LOAD DEFLECTION WILL OCCUR.
4) ALL EXISTING REINFORCING BARS INCORPORATED INTO NEW CONCRETE TO BE CLEANED OF OLD CONCRETE AND DIRT.
5) FOR DETAILS OF ANCHOR BOLTS SEE DWG NO 1187-13

AS BUILT

APPROXIMATE QUANTITIES	CONCRETE	REINFORCING	FORMWORK
ABUTMENTS	4 CU YDS	1200 LBS	300 SQ FT
DECK (LIGHT WEIGHT)	85 CU YDS	67,000 LBS	1500 SQ FT

D	CURB HEIGHTS REVISED FOR 8"	MAY 29 '64
C	CURB HEIGHTS REVERSED DRAIN DETAIL REVISED	MAY 15 '64
B	BEAM SEAT DETAIL REVISED	MAR. '64
A	REINFORCING REVISED	NOV. '63
AS BUILT	REVISIONS	JULY 6 1964

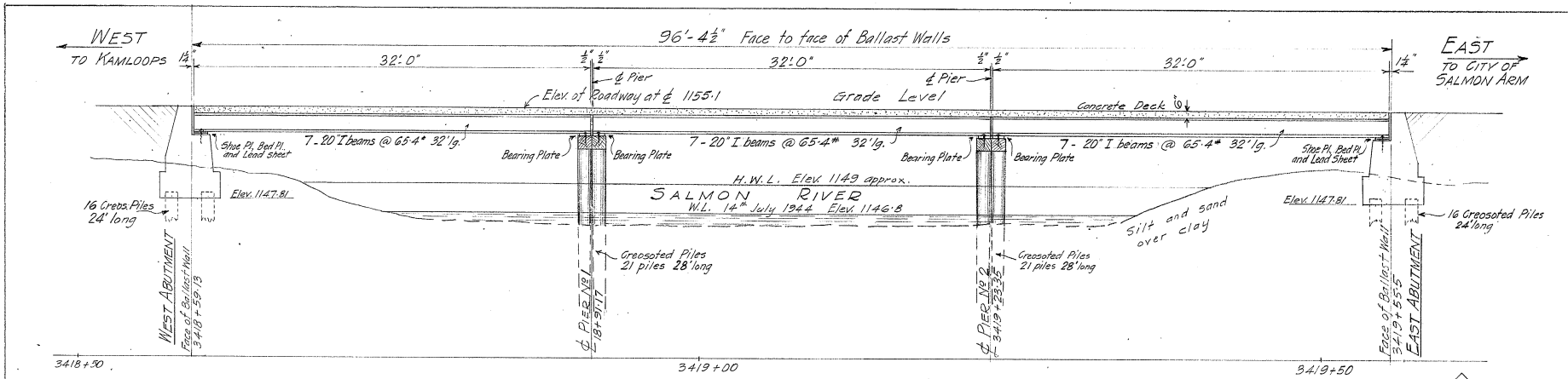
FENCO
FOUNDATION OF CANADA ENGINEERING CORPORATION LIMITED
No. 2456-9J-2 REV. NO. 4

BRITISH COLUMBIA DEPARTMENT OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE
SALMON ARM DISTRICT
TRANS-CANADA HIGHWAY
SALMON RIVER BRIDGE IMPROVEMENTS
CONCRETE DETAILS

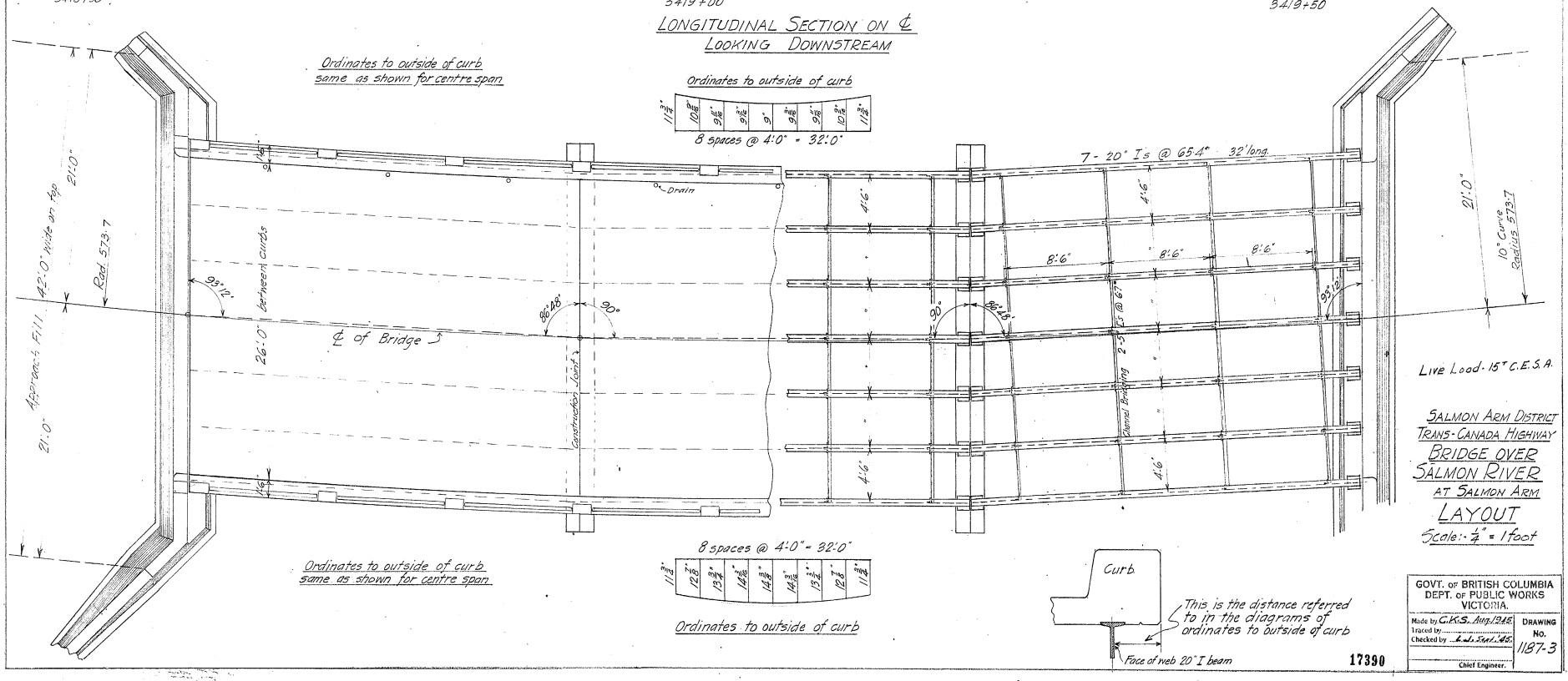
DESIGN		MAY 21 '63	SCALE: 1/4" = 1'-0" & AS NOTED
DRAWN		MAY 23 1963	APPROVED: CHIEF ENGINEER.
CHECKED			DRAWING No. 1187-13 D

CANCEL PRINTS BEARING EARLIER LETTER.

57220



LONGITUDINAL SECTION ON ℄ LOOKING DOWNSTREAM



Live Load - 15T C.E.S.A.

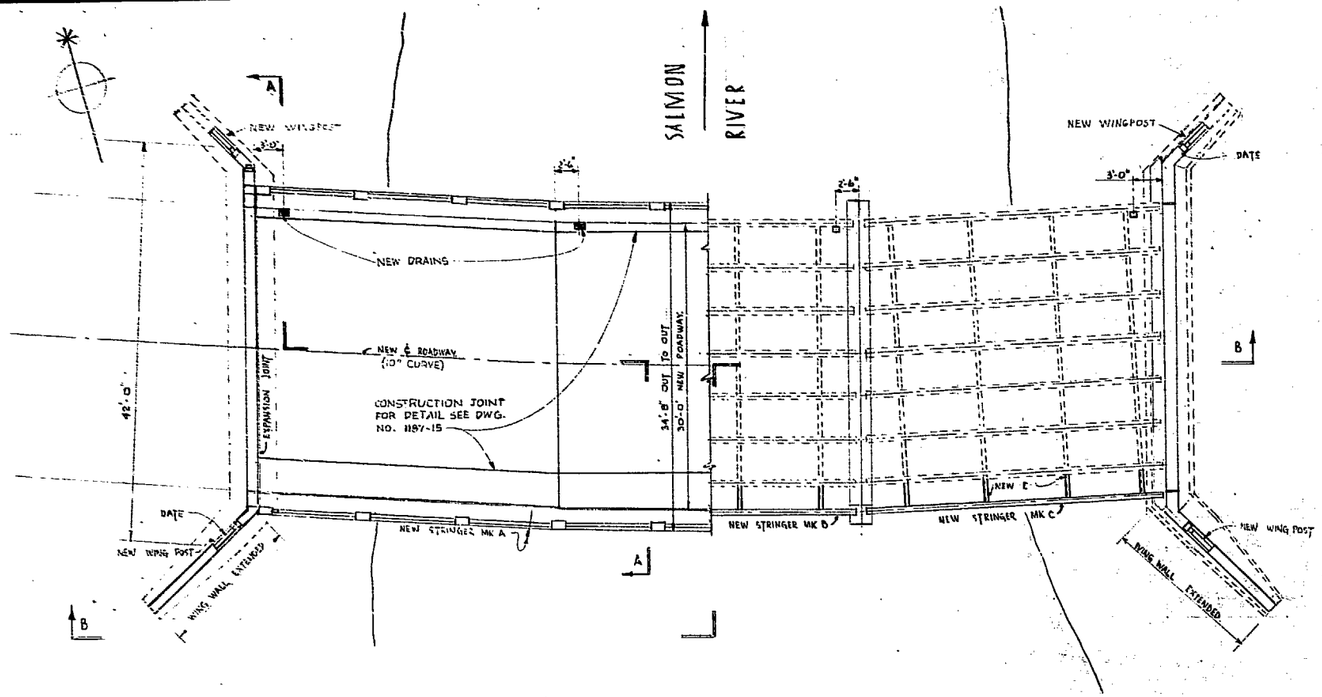
SALMON ARM DISTRICT
TRANS-CANADA HIGHWAY
BRIDGE OVER SALMON RIVER AT SALMON ARM
LAYOUT
Scale:- ¼" = 1 foot

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

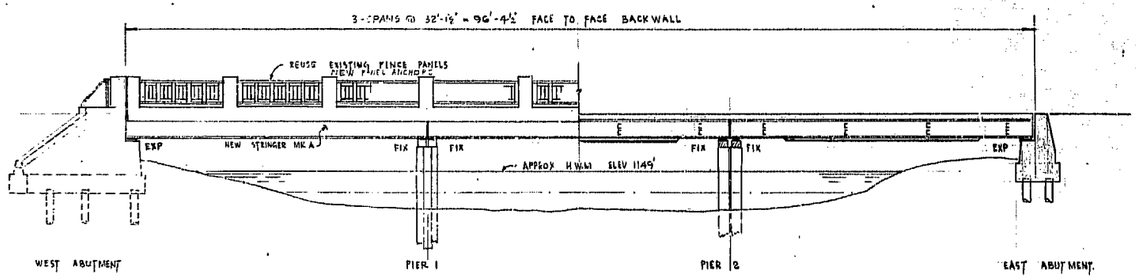
Made by C.K.S. Aug./1945
Traced by .....
Checked by E.W.S. Sept./45
Chief Engineer.

DRAWING No. 1187-3

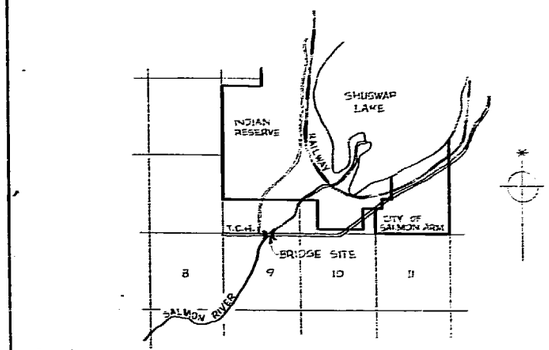
17390



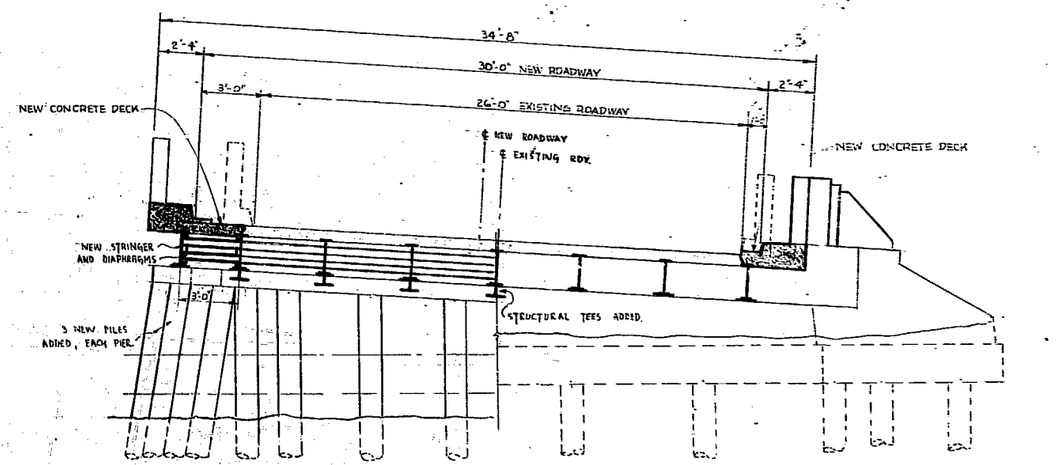
PLAN



VIEW B-B



KEY PLAN
SCALE 1" = 1 MILE



SECTION A-A
SCALE ½" = 1'-0"

AS BUILT

GENERAL NOTES:

DESIGN SPECIFICATION:

SPECIFICATION FOR HIGHWAY BRIDGES (B.C. DEPARTMENT OF HIGHWAYS)
LIVE LOAD H25 - S20,

CONCRETE:

1) CAST IN PLACE CONCRETE TO HAVE A MINIMUM CYLINDER CRUSHING STRENGTH AT 28 DAYS OF 3000 PSI. (CLASS A EXCEPT AS NOTED).
2) REINFORCING BARS TO BE BILLET STEEL INTERMEDIATE GRADE DEFORMED BARS CONFORMING TO C.S.A. SPECIFICATIONS G30-1954.
3) ALL EXPOSED CONCRETE EDGES TO BE CHAMFERED ¾".
4) UNLESS SHOWN OTHERWISE, ALL REINFORCING STEEL TO HAVE A MINIMUM CLEAR CONCRETE COVER OF:
   1" – FOR CURBS, FENCE POSTS, AND SLABS,
   3" – FOR CONCRETE POURED IN DIRECT CONTACT WITH SOIL,
   2" – FOR ALL OTHERS.
5) MINIMUM LENGTH OF LAP FOR REINFORCING BAR SPLICES SHALL BE 24 BAR DIAMETERS.
6) ALL DIMENSIONS IN CONNECTION WITH THE EXISTING STRUCTURE SHALL BE VERIFIED BEFORE CONSTRUCTION.

STRUCTURAL STEEL:

1) ALL NEW STEELWORK, EXCEPT EXPANSION JOINTS, SHALL BE FABRICATED FROM STRUCTURAL CARBON STEEL COMPLYING WITH THE REQUIREMENTS OF ASTM SPECS. A36-61T.
2) EXPANSION JOINT MEMBERS SHALL BE FABRICATED FROM STRUCTURAL CARBON STEEL COMPLYING WITH THE REQUIREMENTS OF ASTM SPECS. A7-61T OR A36-61T.
3) ALL WELDING SHALL COMPLY WITH THE REQUIREMENTS OF CSA SPECIFICATIONS W 59 LATEST EDITION.
4) HIGH TENSILE BOLTS SHALL COMPLY WITH THE REQUIREMENTS OF ASTM SPECS. A325-61T.
5) THE PAINTING OF STEELWORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE FOLLOWING SECTIONS OF THE "GENERAL SPECIFICATIONS FOR HIGHWAY CONSTRUCTION OF THE B.C. DEPARTMENT OF HIGHWAYS":
   SECTION 216 – STEEL BRIDGES – SURFACE PREPARING AND SHOP PAINTING,
   SECTION 217 – FIELD PAINTING – STEEL BRIDGES (NEW STRUCTURES).
6) ALL DIMENSIONS IN CONNECTION WITH THE EXISTING STEELWORK TO BE VERIFIED BEFORE FABRICATION, CONSTRUCTION, AND ERECTION.

FENCO
FOUNDATION OF CANADA ENGINEERING CORPORATION LIMITED

No. 2456-9J-1

REV. No.		
D		
C		
B		
A	AS BUILT	JULY 6 1964

REVISIONS

BRITISH COLUMBIA DEPARTMENT OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE

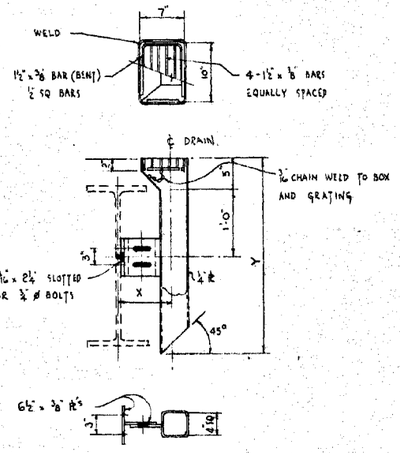
SALMON ARM DISTRICT
TRANS-CANADA HIGHWAY
SALMON RIVER BRIDGE IMPROVEMENTS

GENERAL PLAN

DESIGN		JUNE 10/64	SCALE: 1/8" = 1'-0" & AS NOTED
DRAWN		JUNE 10/64	APPROVED: CHIEF ENGINEER.
CHECKED	W.A.J.	JUNE 11/64	DRAWING No. 1187-12 A

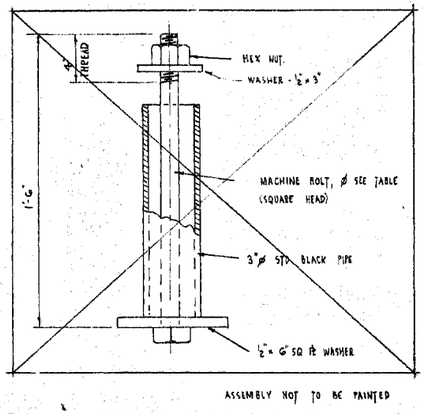
CANCEL PRINTS BEARING EARLIER LETTER.

NOV 4 1964

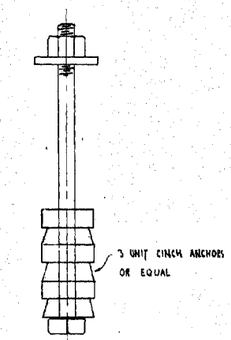


GALVANIZED AFTER FABRICATION
SCALE 1" = 1'-0"

DRAINS

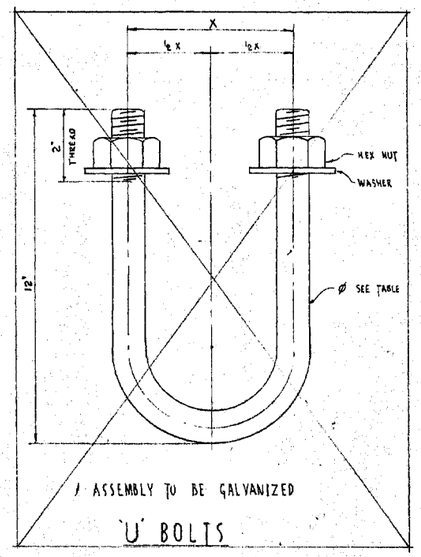


ASSEMBLY NOT TO BE PAINTED



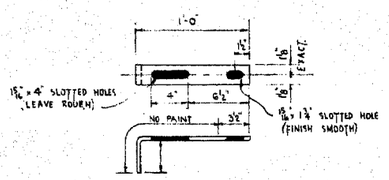
CINCH ANCHORS PLACED WHERE ONLY 12" OR LESS OF NEW CONCRETE COVERS EXISTING.

ANCHOR BOLTS

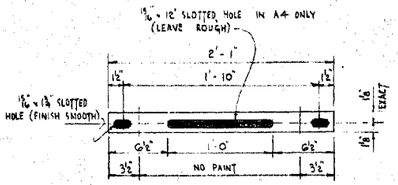


1 ASSEMBLY TO BE GALVANIZED

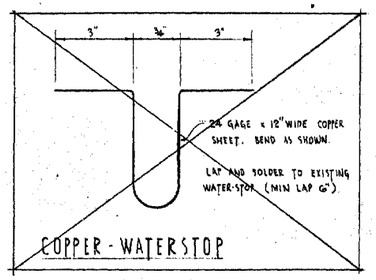
'U' BOLTS



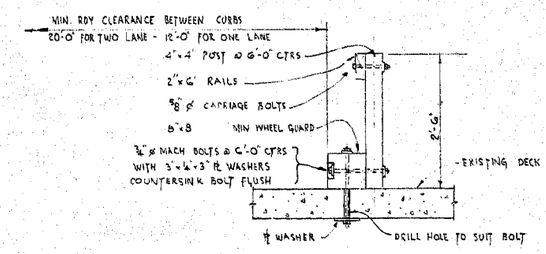
ANCHOR MK A1



ANCHOR MK A3 & A4

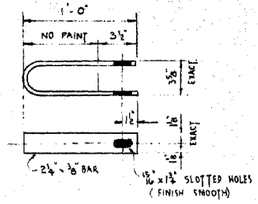


COPPER - WATERSTOP



TEMPORARY FENCE DETAIL

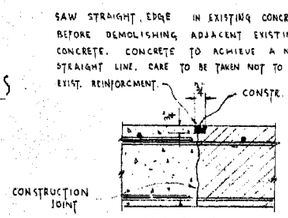
SCALE ¾" = 1'-0"



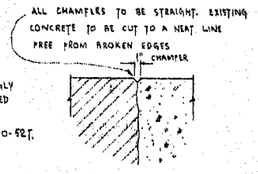
ANCHOR MK A2

FENCE PANEL ANCHORS

SCALE : 1½"=1'-0"

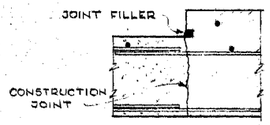


FOR SLABS
(NEW TO NEW CONCRETE SIMILAR)



FOR SUBSTRUCTURE

CONSTRUCTION JOINT DETAILS



FOR NORTH SIDE ONLY
SEE NOTE FOR CONSTRUCTION JOINT DETAILS

NOTES

FOR GENERAL NOTES SEE DWG No. 1187-12

ALL STRUCTURAL STEEL SHALL BE MEDIUM STRUCTURAL STEEL CONFORMING TO CANADIAN STANDARDS ASSOCIATION SPECIFICATION G40.4

TABLE OF DIMENSIONS & QUANTITIES

DRAINS			ANCHOR BOLTS		WATER STOP	'U' BOLTS			FENCE PANEL ANCHORS			
NUMBER REQ'D	DIM. X	DIM. Y	NUMBER REQ'D	BOLT ø	LIN. FEET	*REQ'D	DIM. X	ø	MK A1	MK A2	MK A3	MK. A4
4	6"	2'-6"	4	1"	—	—	—	—	4	4	32	16

AS BUILT

FENCO
FOUNDATION OF CANADA ENGINEERING CORPORATION LIMITED

No. 2456-9J-4 REV. No. (2)

D			
C			
B	AS BUILT	JULY 6 1964	
A	ANCHOR BOLTS & WATER STOP REVISED	MAY 20 1964	

REVISIONS

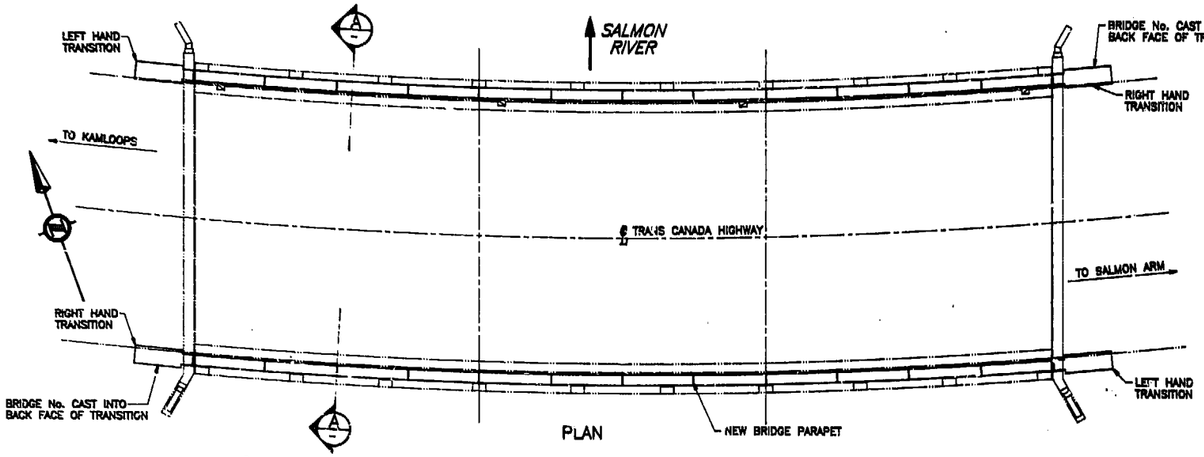
BRITISH COLUMBIA DEPARTMENT OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE

SALMON ARM DISTRICT
TRANS-CANADA HIGHWAY
SALMON RIVER BRIDGE IMPROVEMENTS
MISCELLANEOUS DETAILS

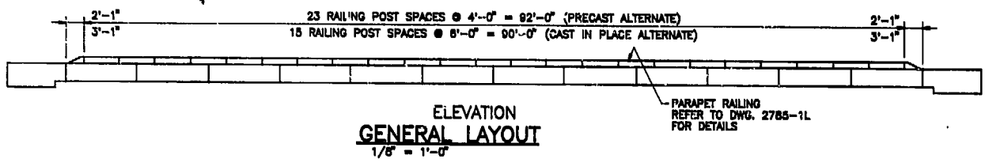
DESIGN		JULY 63	SCALE: AS NOTED
DRAWN		JULY 63	APPROVED: DRAWING No. 1187-15
CHECKED	N.A.	JULY 63	CHIEF ENGINEER

CANCEL PRINTS BEARING EARLIER LETTER.

57222

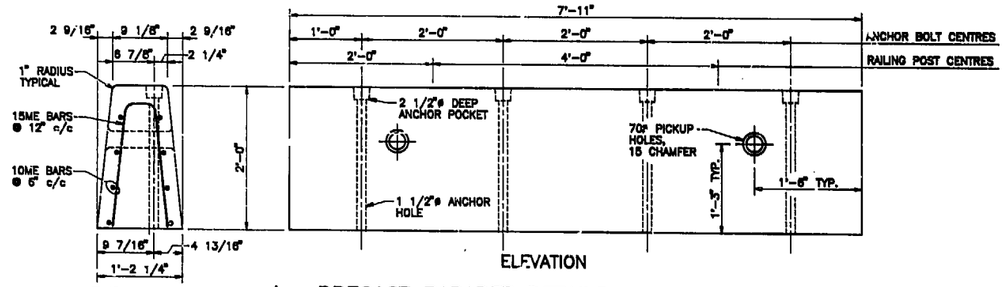


PLAN

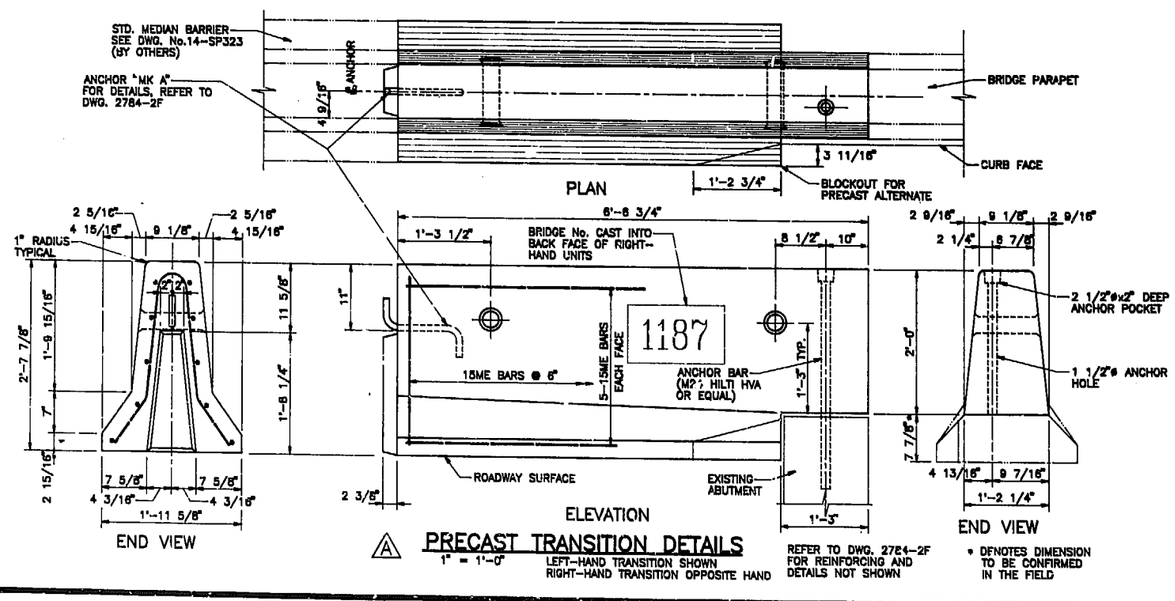


ELEVATION

GENERAL LAYOUT
1/8" = 1'-0"



PRECAST PARAPET DETAILS
1" = 1'-0"

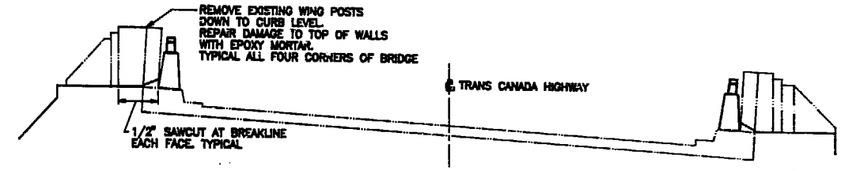


PRECAST TRANSITION DETAILS
1" = 1'-0"

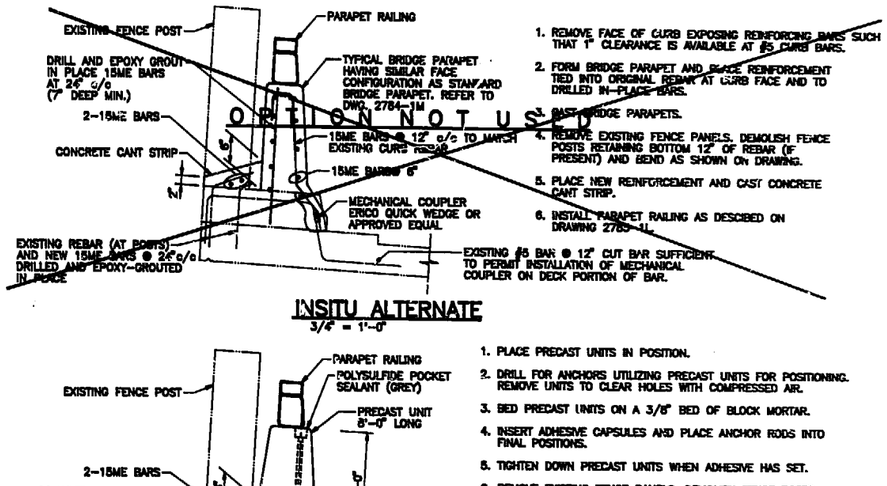
LEFT-HAND TRANSITION SHOWN
RIGHT-HAND TRANSITION OPPOSITE HAND

REFER TO DWG. 2784-2F FOR REINFORCING AND DETAILS NOT SHOWN

* DENOTES DIMENSION TO BE CONFIRMED IN THE FIELD

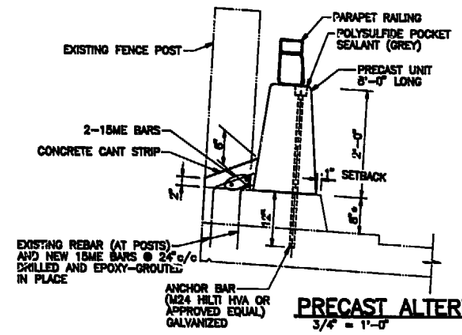


SECTION A-A
1/4" = 1'-0"



OPTION NOT USED

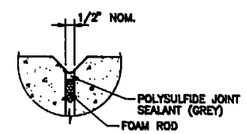
INSITU ALTERNATE
3/4" = 1'-0"



PRECAST ALTERNATE
3/4" = 1'-0"

1. PLACE PRECAST UNITS IN POSITION.
2. DRILL FOR ANCHORS UTILIZING PRECAST UNITS FOR POSITIONING. REMOVE UNITS TO CLEAR HOLES WITH COMPRESSED AIR.
3. BED PRECAST UNITS ON A 3/8" BED OF BLOCK MORTAR.
4. INSERT ADHESIVE CAPSULES AND PLACE ANCHOR RODS INTO FINAL POSITIONS.
5. TIGHTEN DOWN PRECAST UNITS WHEN ADHESIVE HAS SET.
6. REMOVE EXISTING FENCE PANELS. DEMOLISH FENCE POSTS RETAINING BOTTOM 12" OF REBAR. (IF PRESENT) AND BEND AS SHOWN ON DRAWINGS.
7. PLACE NEW REINFORCEMENT AND CAST CONCRETE CANT STRIP.
8. PATCH ANCHOR POCKET WITH A POLYSULFIDE SEALANT COLOUR MATCHED TO PRECAST UNIT.
9. INSTALL PARAPET RAILING AS DESCRIBED ON DWG. 2785-1L, EXCEPT FOR POST SPACING AS NOTED ON GENERAL LAYOUT.

* DENOTES DIMENSION TO BE CONFIRMED IN THE FIELD.



PRECAST JOINT DETAIL
3" = 1'-0"

NOTES:

1. ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 30 MPa AT 28 DAYS EXCEPT AS NOTED.
2. ALL EXPOSED EDGES OF CONCRETE TO BE CHAMFERED 3/4" UNLESS NOTED OTHERWISE.
3. ALL REINFORCING STEEL TO CONFORM TO C.S.A. STANDARD SPECIFICATION G30.12M DEFORMED, GRADE 400.
4. ALL REINFORCING STEEL TO HAVE 2" COVER UNLESS NOTED OTHERWISE.
5. ALL LAPS OF REINFORCING FOR SPLICES SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:

BAR	EPOXY COATED
10M	18"
15M	27"

6. MECHANICAL COUPLERS SHALL DEVELOP AT LEAST 125% OF THE SPECIFIED YIELD STRENGTH OF THE BAR.

AS BUILT

McCall Engineering Ltd.
Consulting Civil and Structural Engineers
1847 Monterey Avenue, Victoria, B.C. V8R 5V3
Tel:(604) 598-4003

Province of British Columbia
MINISTRY OF TRANSPORTATION AND HIGHWAYS
BRIDGE ENGINEERING BRANCH

SCALE AS NOTED
DESIGNED J.G.McC. DATE 93-02
CHECKED J.G.McC. DATE 93-02
DRAWN D.R.M. DATE 93-02

Rev	Date	Description	Init
A	94-01-31	AS-BUILT	D.R.M.

REVISIONS

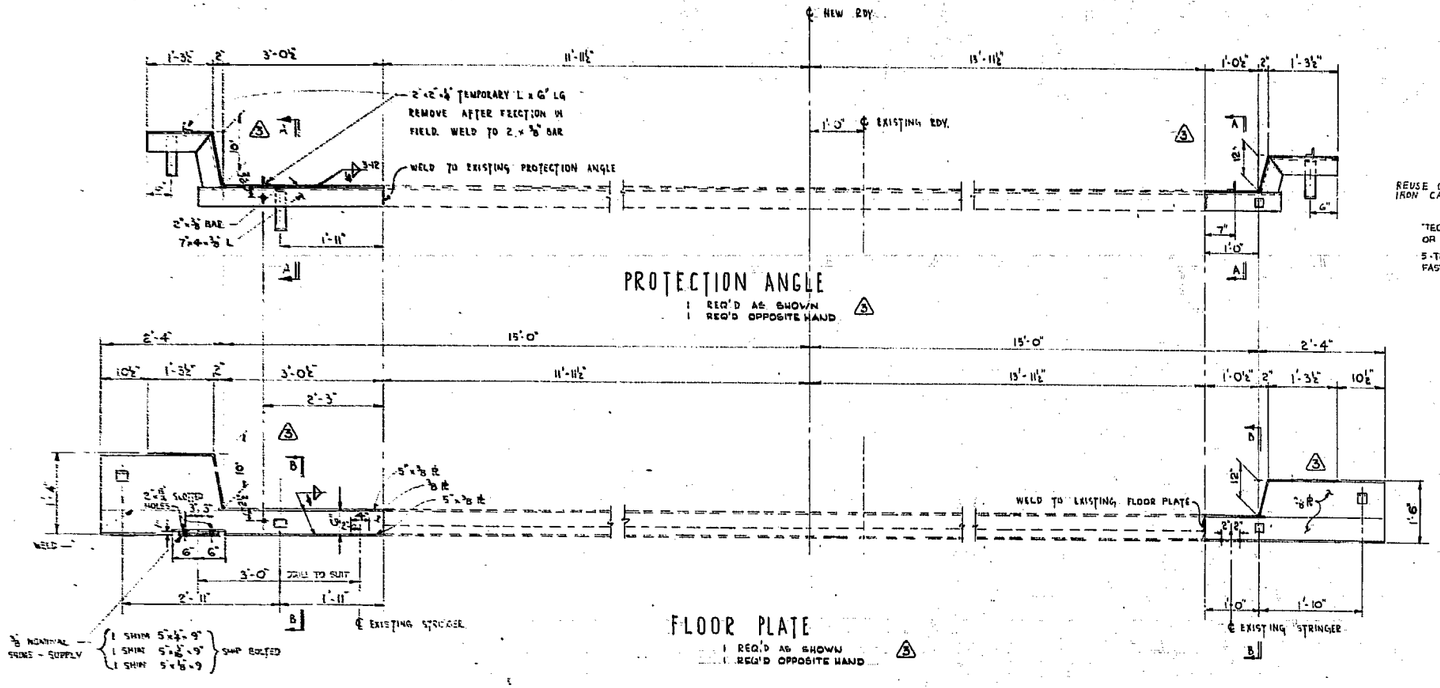
368338
368338 OKANAGAN - SHUSWAP DISTRICT
TRANS CANADA HIGHWAY

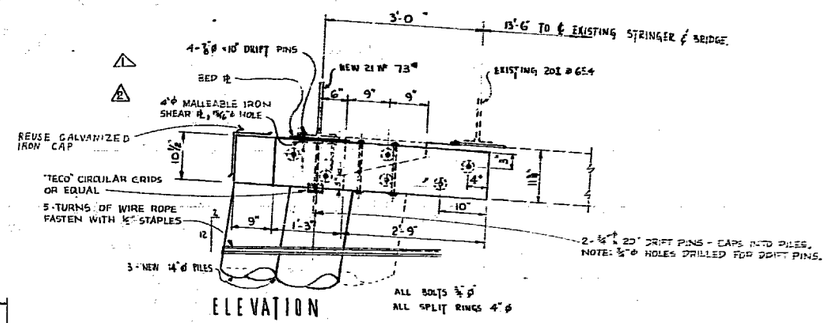
SALMON RIVER BRIDGE
PARAPETS AND TRANSITIONS

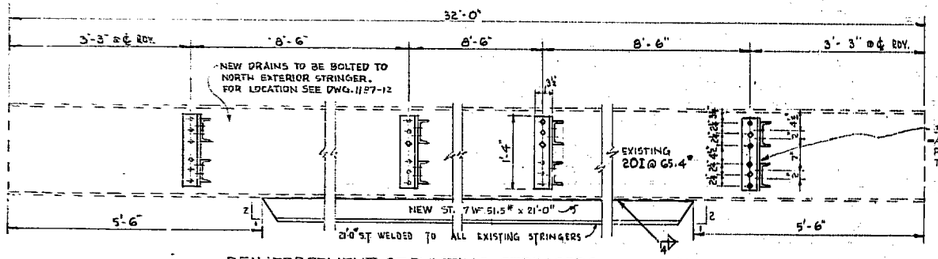
PREPARED BY	RECOMMENDED	ACCEPTED FOR CONSTRUCTION
ORIGINAL SIGNED BY J.G.McCALL, P.Eng.	ORIGINAL SIGNED BY K.W.HO, P.Eng. DIRECTOR OF BRIDGE ENGINEERING	ORIGINAL SIGNED FOR E.A.LUND, P.Eng. CHIEF HIGHWAY ENGINEER
DATE 93-02-05	DATE 93-02-08	DATE 93-02-10
FILE No.	NEGATIVE No.	REV. 2
		DRAWING No. 1187-17 A

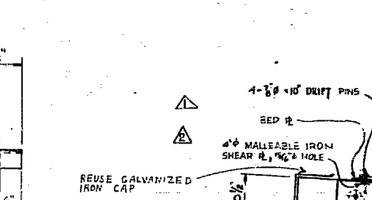
CANCEL PRINTS BEARING PREVIOUS LETTER

TP-3088.(07-90)

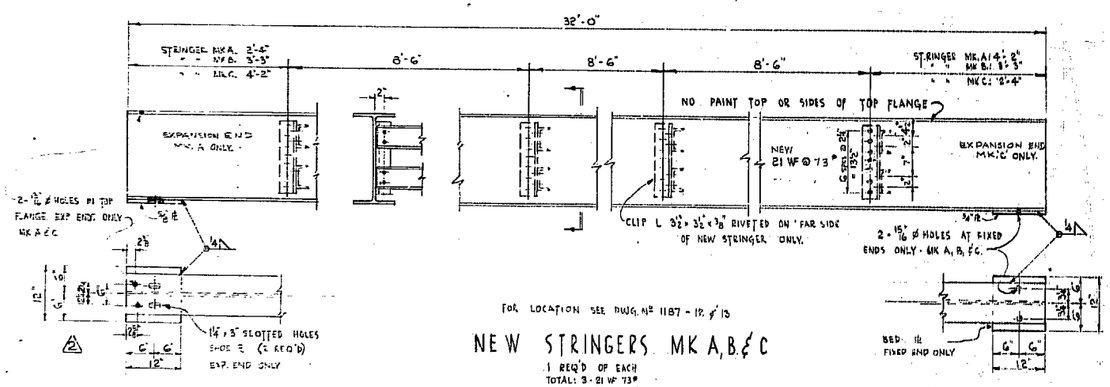


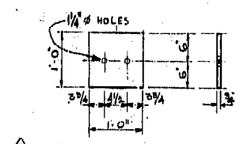




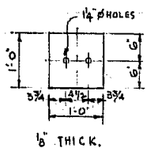


ASSEMBLY OF PARTS FOR SHIPMENT ℄ INSTALLATION

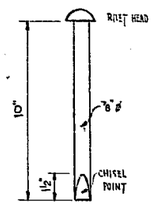




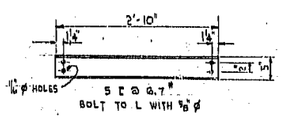
BED PLATE
2 REQ'D, EXP. BEARINGS



⅛" THICK. LEAD SHEET
2 REQ'D.



DRIFT PINS
8 REQ'D



DIAPHRAMS
24 REQUIRED.

NOTES:

1) FOR GENERAL NOTES SEE DWG. 1187-12
2) FOR DRAINS, ANCHOR BOLTS, AND TEMPORARY FENCE DETAILS, AND FENCE PANEL ANCHORS SEE DWG. 1187-15
3) FOR GRADE AND TREATMENT OF TIMBER SEE SPECIFICATIONS

APPROX. QUANTITIES

STRUCTURAL STEEL

1. SUPPLY - FABRICATE & ERECT	2,500 lbs
2. FABRICATE & ERECT	31,500 lbs

AS BUILT

FENCO
FOUNDATION OF CANADA ENGINEERING CORPORATION LIMITED

No. 2456-9J-3

REV. No.		
D	AS BUILT	JULY 6 1964
C	CURB HEIGHTS REVERSED	MAY 20 1964
B	PIER CAP DEPTH REVISED W/SC EXPANSION PLATES DETAIL REVISED	MARCH 31/64
A	BEARINGS REVISED	MAR 6/64

REVISIONS

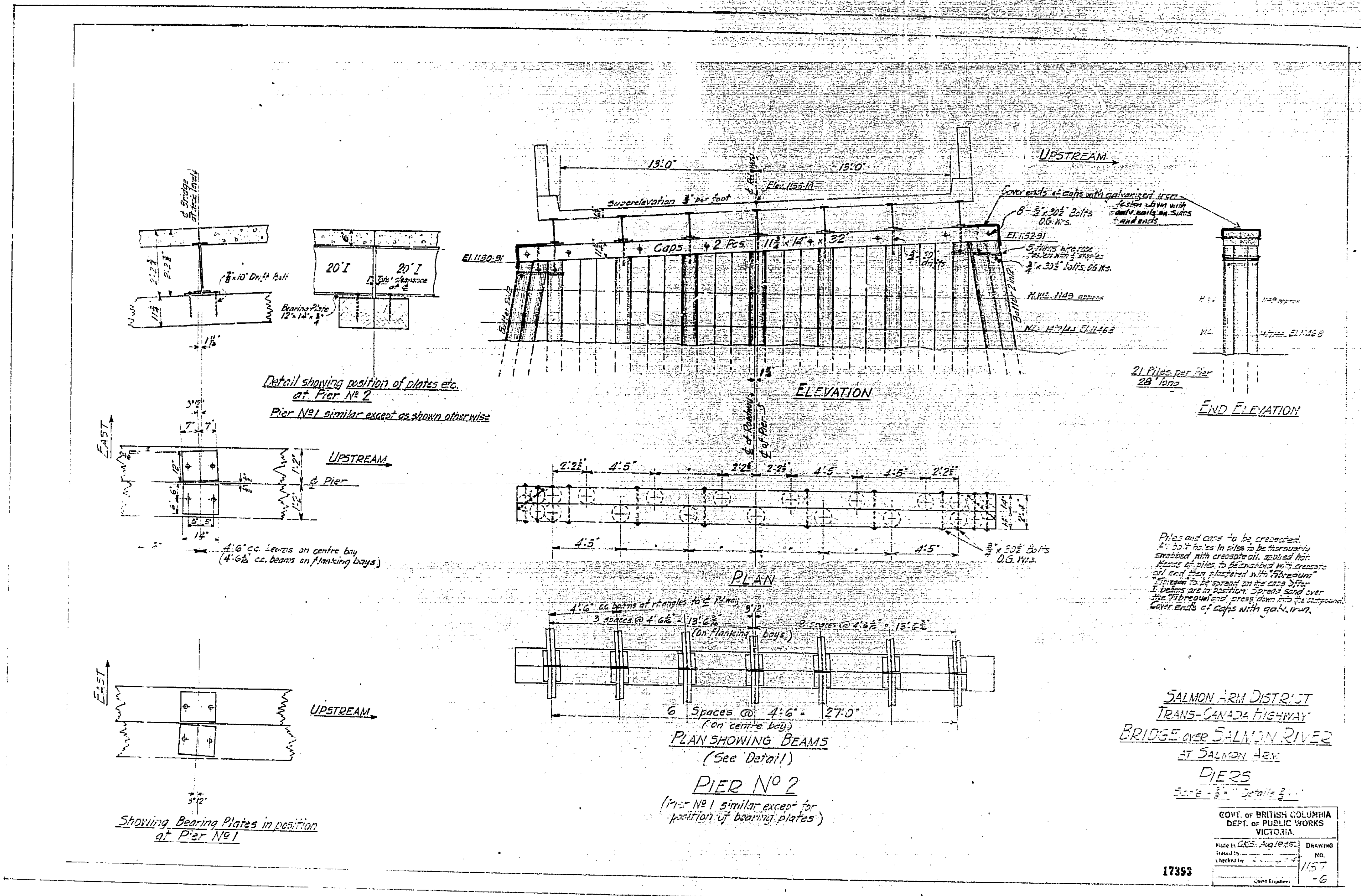
BRITISH COLUMBIA DEPARTMENT OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE

SALMON ARM DISTRICT
TRANS-CANADA HIGHWAY
SALMON RIVER BRIDGE IMPROVEMENTS
PIER EXTENSION & STEELWORK DETAILS

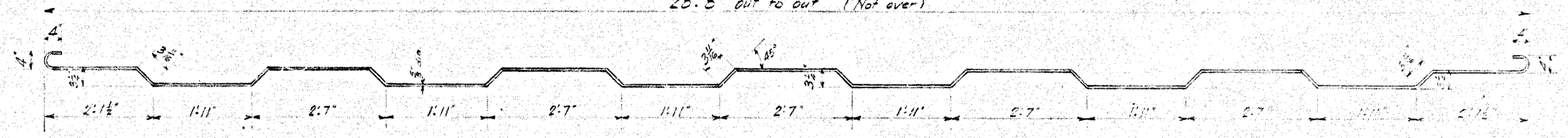
DESIGN		JUNE 63	SCALE: ¾"= 1'-0" AND AS NOTED.
DRAWN		JUNE 63	APPROVED: CHIEF ENGINEER.
CHECKED		JUNE 63	DRAWING No. 1187-14 D

CANCEL PRINTS BEARING EARLIER LETTER.

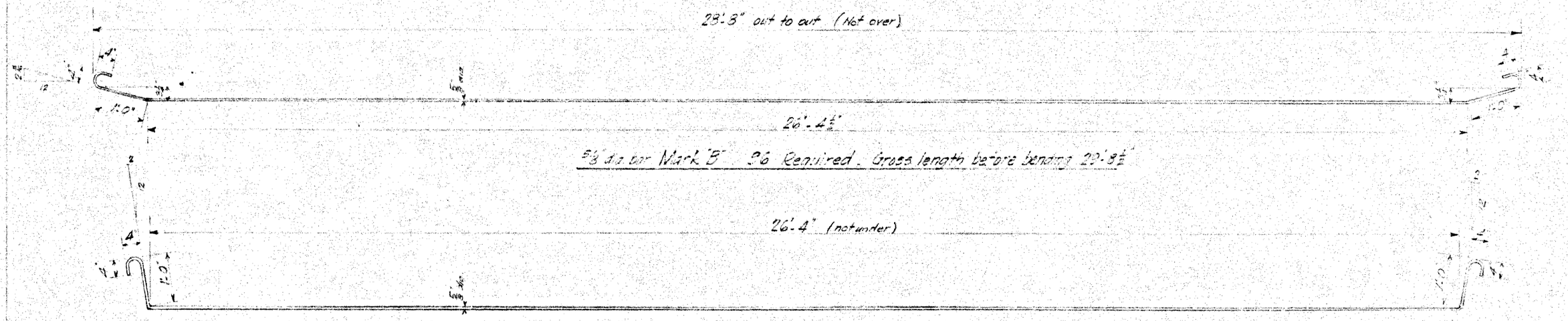
57221



Detail showing position of plates etc. at Pier № 2
Pier №1 similar except as shown otherwise
Bearing Plate 12"x14"x 3/4"
20" I
20" I
UPSTREAM
Superelevation 3/8" per foot
Elev. 1155.10
13'-0"
13'-0"
Cover ends of caps with galvanized iron fasten down with nails on sides and ends
8 - 3/4" x 30 1/2" Bolts O.G. Wrs.
El. 1152.91
El. 1150.91
Caps 2 Pcs. 11 1/2" x 14" x 32'
3/4" x 30 1/2" bolts, O.G. Wrs.
H.W.L. 1149 approx
Batter 2 in 12
ELEVATION
21 Piles per Pier 28' long
END ELEVATION
EAST
UPSTREAM
℄ Pier
4'-6" c.c. beams on centre bay
(4'-6 1/4" c.c. beams on flanking bays)
2'-2 1/2"
4'-5"
2'-2 1/2"
4'-5"
4'-5"
2'-2 1/2"
4'-5"
4'-5"
3/4" x 30 1/2" Bolts O.G. Wrs.
PLAN
Piles and caps to be creosoted.
Cover ends of caps with galv. iron.
4'-6" c.c. beams at rt. angles to ℄ Rdway
3 spaces @ 4'-6 1/4" = 13'-6 3/4"
(on flanking bays)
2 spaces @ 4'-6 1/4" = 13'-6 3/4"
6 Spaces @ 4'-6" = 27'-0"
(on centre bay)
PLAN SHOWING BEAMS
(See Detail)
PIER № 2
(Pier № 1 similar except for position of bearing plates)
EAST
UPSTREAM
Showing Bearing Plates in position at Pier № 1
SALMON ARM DISTRICT
TRANS-CANADA HIGHWAY
BRIDGE OVER SALMON RIVER
AT SALMON ARM
PIERS
GOVT. OF BRITISH COLUMBIA
DEPT. OF PUBLIC WORKS
VICTORIA
Drawing No. 1157-6
17393



5/8" dia. bar - Mark 'A' - 95 Required - Gross Length before bending - 30'-0 1/2"



5/8" dia bar Mark 'B' - 96 Required. Gross length before bending 29'-8 1/2"

5/8" dia bar Mark 'C'. 96 Required. Gross length before bending 29'-4"

BAR LIST

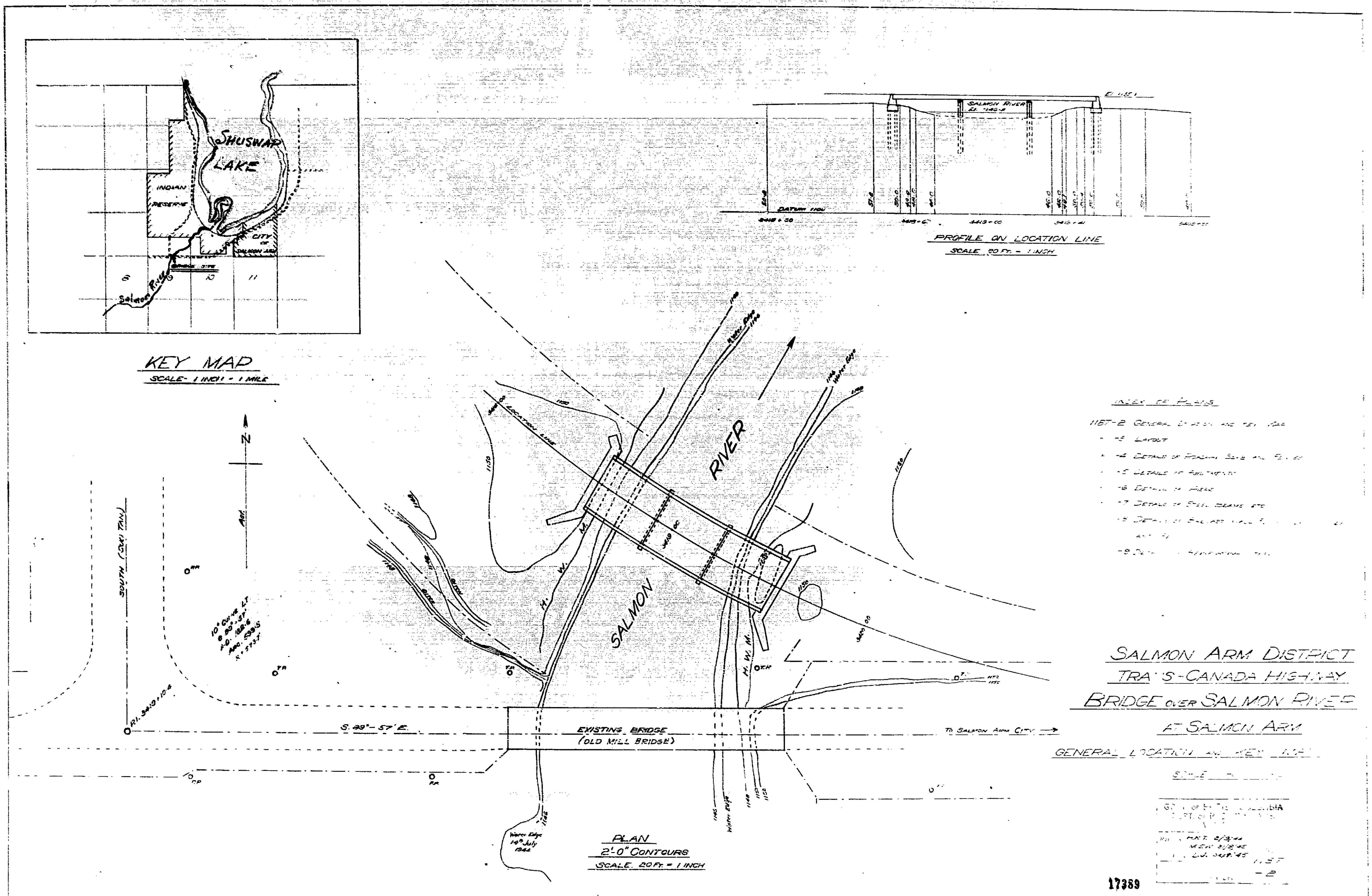
Location	No Reqd	Diam.	Gross Length	Mark	Total Wt lbs	Remarks
Floor Slab	95	5/8"	30'-0 1/2"	A	2976	Bent as shown
" "	96	5/8	29'-8 1/2"	B	2975	" "
" "	96	5/8	29'-4"	C	2938	" "
Curb	8	5/8"	15'-0"		624	Straight
"	5	5/8"	34'-0		884	
"	5	5/8	39'-0		1014	
Fence Posts on span	120	3/4"	4'-0		501	
Ballast Walls	52	3/4"	4'-0		312	
Base of Abutments	-	3/4"	1000 Lin Ft	Stock Lengths	570	
Floor Slab	-	1/2"	4200 "	"	2800	
End Posts	-	1/2	450 "	"	321	
			No. 15 gauge annealed wire		100	

Total Wt 15,255 lbs

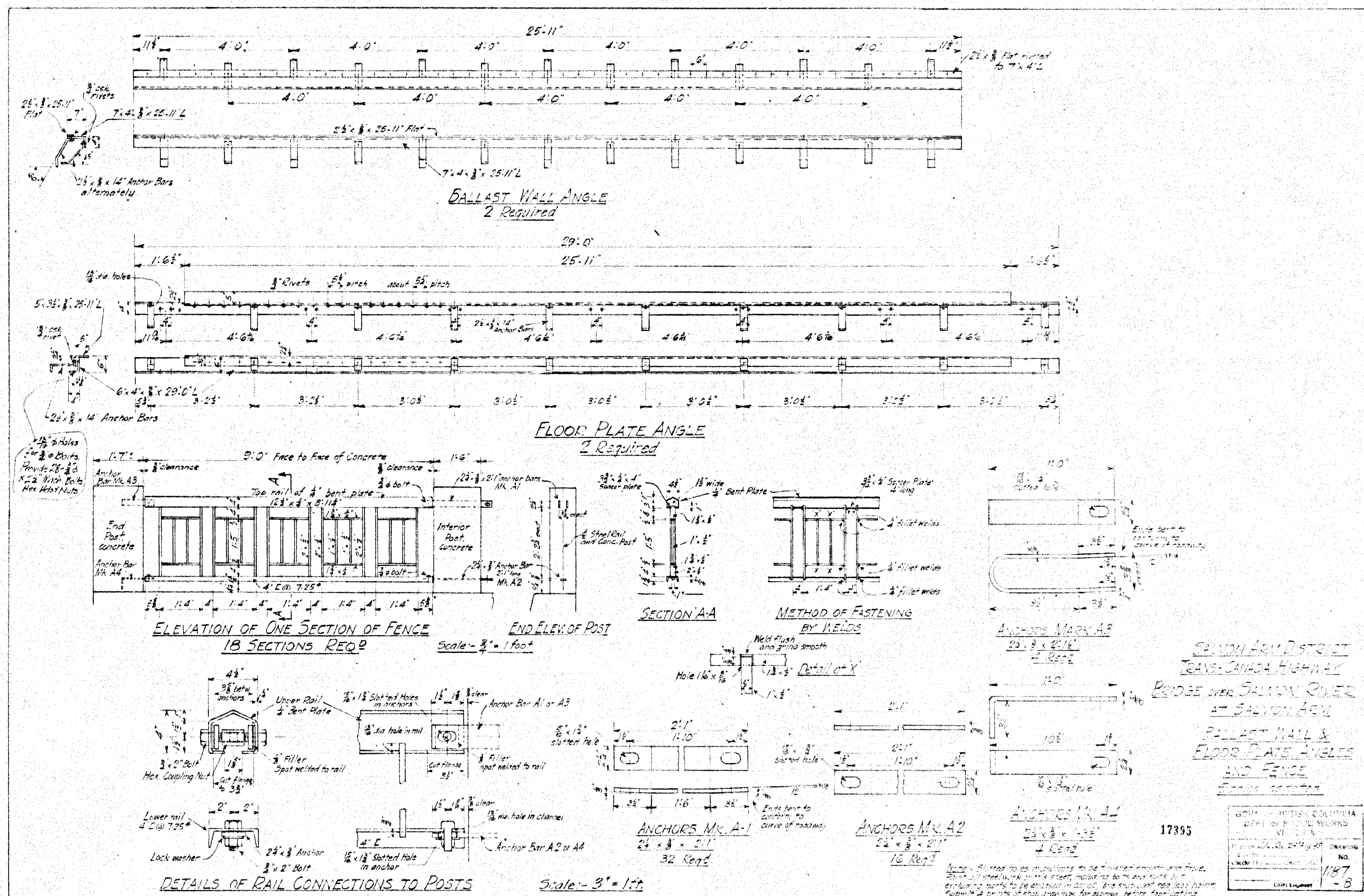
SALMON ARM DISTRICT
TRANS-CANADA HIGHWAY
BRIDGE OVER SALMON RIVER
AT SALMON ARM
REINFORCING STEEL

GOVT. OF BRITISH COLUMBIA
DEPT. of PUBLIC WORKS
VICTORIA
Made in C.K.S. Aug 1945
Traced by
Checked by L.J. Sept 45
Chief Engineer
DRAWING NO. 1187-2

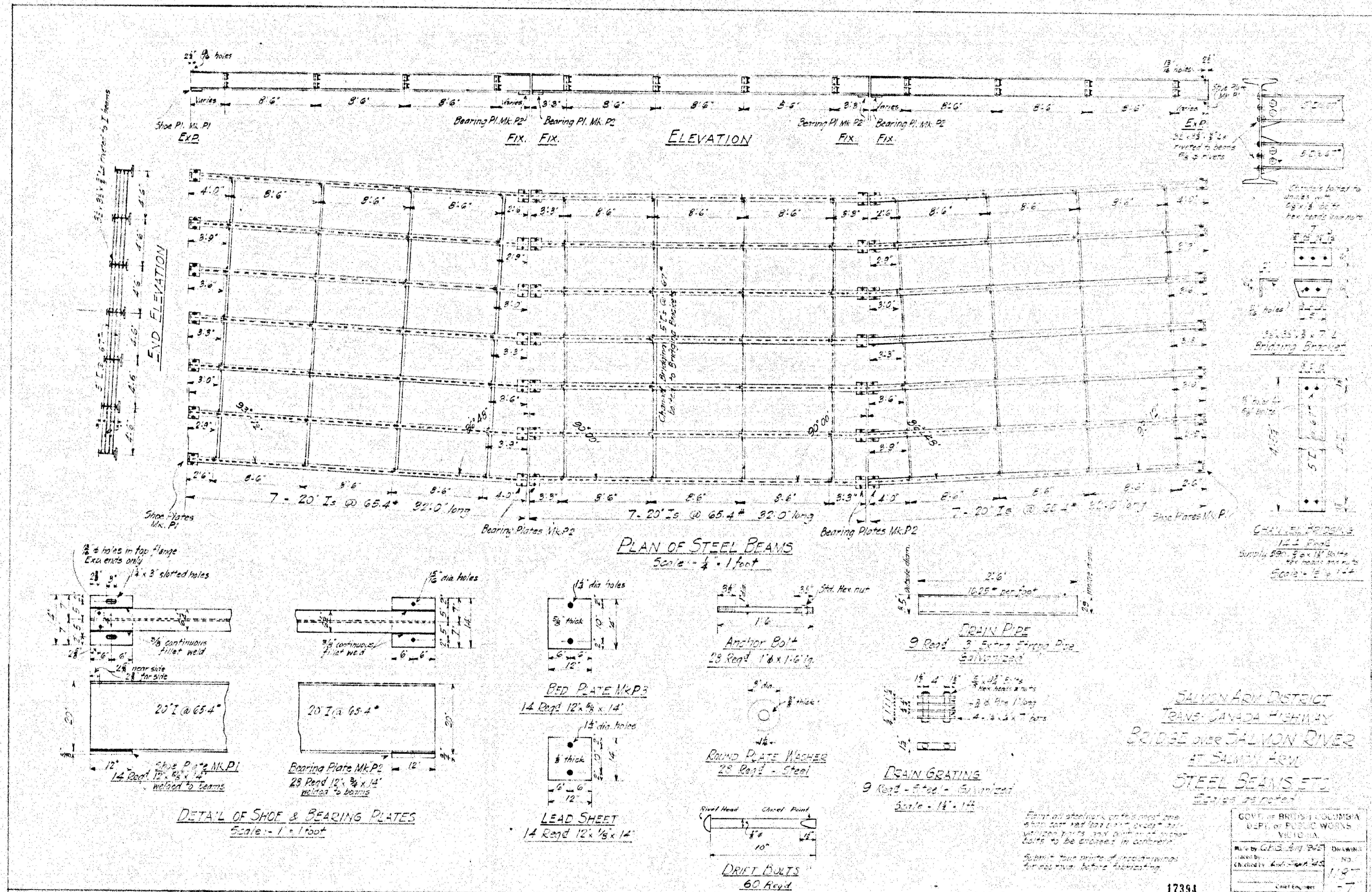
17396



SHUSWAP LAKE
INDIAN RESERVE
CITY OF SALMON ARM
BRIDGE SITE
Salmon River
KEY MAP
SCALE- 1 INCH = 1 MILE
PROFILE ON LOCATION LINE
SCALE 20 FT. = 1 INCH
DATUM 1100
SALMON RIVER
SALMON
RIVER
H. W. M.
LOCATION LINE
EXISTING BRIDGE
(OLD MILL BRIDGE)
S. 89°- 57' E.
P.I. 3419 + 10.6
SOUTH (SKI TAN)
Water Edge 14th July 1944
To Salmon Arm City
PLAN
2'-0" CONTOURS
SCALE 20 FT. = 1 INCH
SALMON ARM DISTRICT
TRA'S-CANADA HIGHWAY
BRIDGE OVER SALMON RIVER
AT SALMON ARM
GENERAL LOCATION AND KEY MAP
17389



BALLAST WALL ANGLE
2 Required
FLOOR PLATE ANGLE
2 Required
ELEVATION OF ONE SECTION OF FENCE
18 SECTIONS REQ'D
END ELEV. OF POST
Scale:- 3/4" = 1 foot
SECTION 'A-A'
METHOD OF FASTENING BY WELDS
Detail at 'X'
ANCHORS MARK A3
ANCHORS MK. A-1
32 Req'd
ANCHORS MK. A2
16 Req'd
ANCHORS MK. A4
4 Req'd
DETAILS OF RAIL CONNECTIONS TO POSTS
Scale:- 3" = 1 ft.
9'-0" Face to Face of Concrete
End Post concrete
Interior Post Concrete
Top rail of 1/4" bent plate
Upper Rail 1/4" Bent Plate
Lower rail 4" C @ 7.25#
Hex. Coupling Nut
Lock washer
Salmon Arm District
Trans-Canada Highway
Bridge over Salmon River at Salmon Arm
Ballast Wall & Floor Plate Angles and Fence
17395
GOVT. OF BRITISH COLUMBIA
DEPT. OF PUBLIC WORKS
VICTORIA
DRAWING NO.
1187-8
Chief Engineer


ELEVATION
END ELEVATION
PLAN OF STEEL BEAMS
Scale :- ¼" = 1 foot
7 - 20" Is @ 65.4# 32'0" long
Shoe Plates Mk. P1
Bearing Plates Mk. P2
Bearing Pl. Mk. P2
Shoe Pl. Mk. P1
EXP.
FIX.
Bridging Bracket
Channel Bridging
DETAIL OF SHOE & BEARING PLATES
Scale :- 1" = 1 foot
20" I @ 65.4#
Shoe Plate Mk. P1
14 Req'd 12" x ⅝" x 14" welded to beams
Bearing Plate Mk. P2
28 Req'd 12" x ¾" x 14" welded to beams
⅜ continuous fillet weld
Bed Plate Mk. P3
14 Req'd 12" x ⅝" x 14"
Lead Sheet
14 Req'd 12" x ⅛" x 14"
Anchor Bolt
28 Req'd 1" x 1'-6" lg.
Std. Hex nut
Round Plate Washer
28 Req'd - Steel
Drift Bolts
60 Req'd
Rivet Head
Chisel Point
Drain Pipe
9 Req'd 3" Extra Strong Pipe Galvanized
10.25# per foot
Drain Grating
9 Req'd - Steel - Galvanized
Scale - 1½" = 1 ft
SALMON ARM DISTRICT
TRANS-CANADA HIGHWAY
BRIDGE OVER SALMON RIVER
AT SALMON ARM
STEEL BEAMS ETC.
GOV'T. of BRITISH COLUMBIA
DEPT. of PUBLIC WORKS
VICTORIA.
Made by
Traced by
Checked by
Chief Engineer
DRAWING NO.
17394