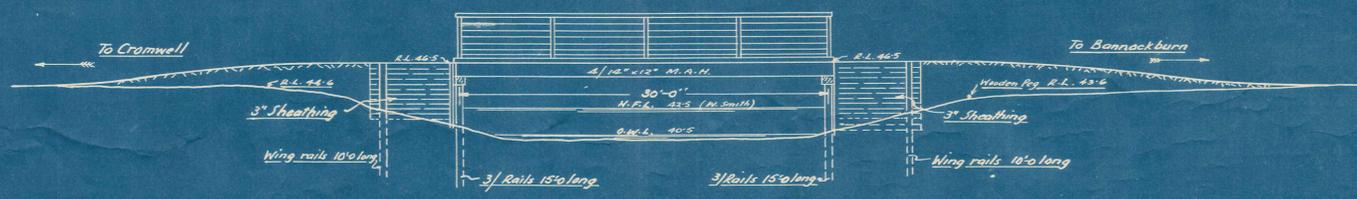


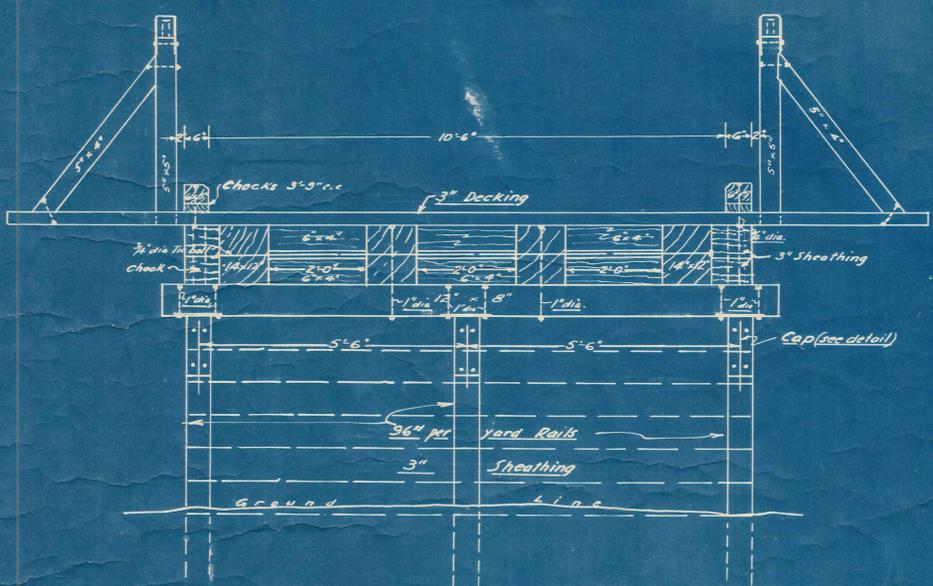
AS BUILT

Kennedy
12/11/52

VINCENT COUNTY COUNCIL
BANNOCKBURN - KENMURE FORD
BRIDGE



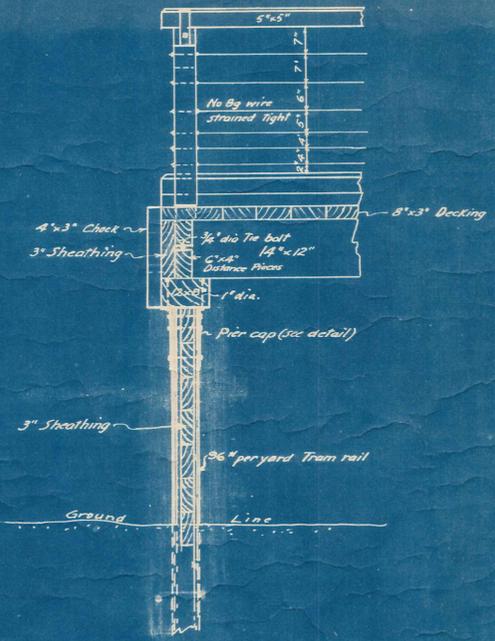
ELEVATION ON CENTRE LINE
Scale 8" to 1"



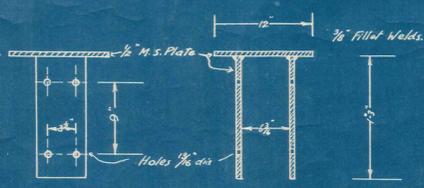
ELEVATION OF ABUTMENT
Scale 1/2" to 1'0"



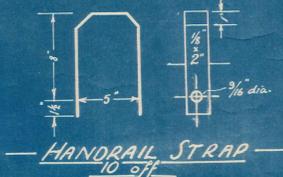
PLAN



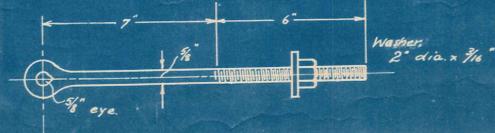
SECTION AT ABUTMENT
Scale 1/2" to 1'0"



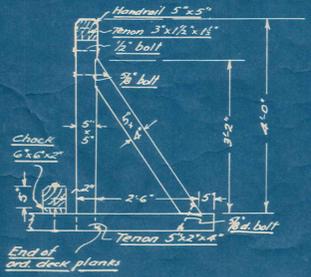
DETAIL AT WING



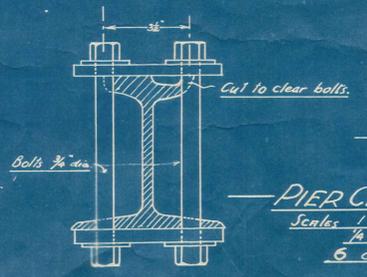
HANDRAIL STRAP
10 off



TENSION BOLTS FOR WIRES
Scale 3" to 1'0"
12 off



HANDRAIL & POST DETAIL
Scale 1/2" to 1'0"



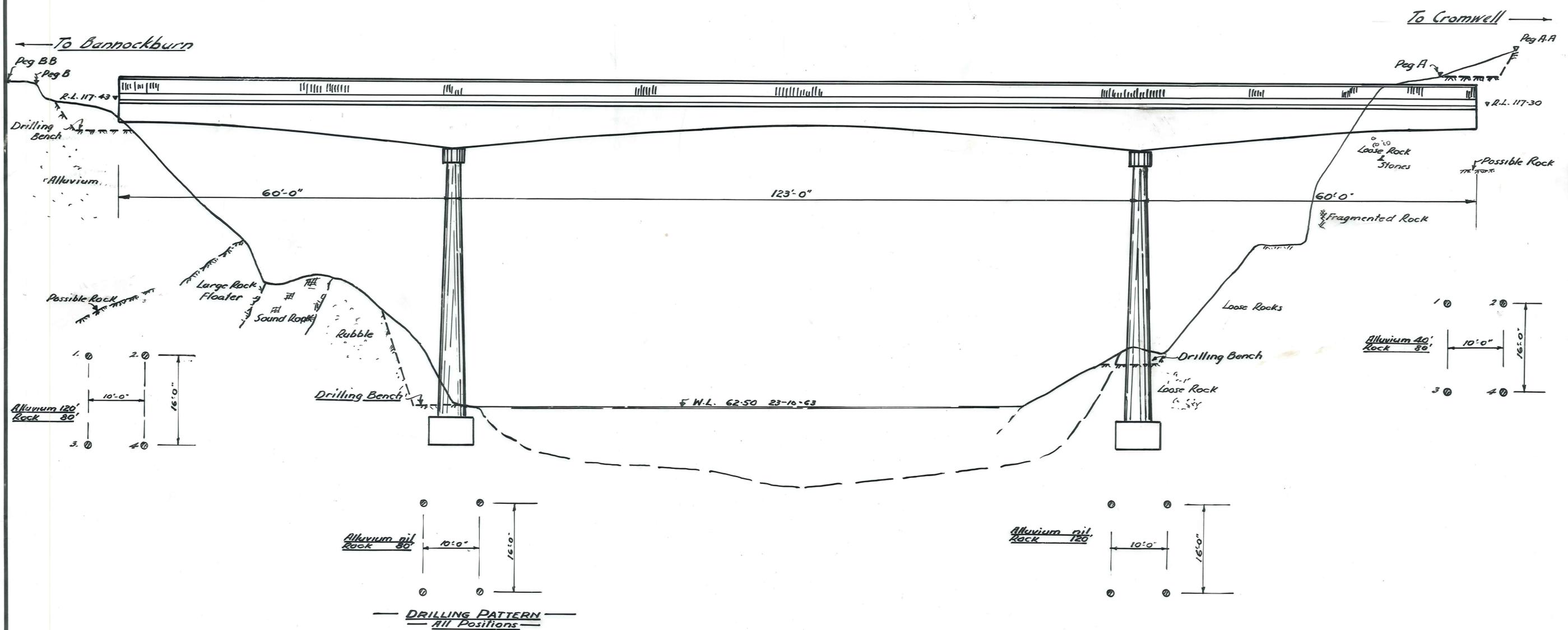
PIER CAP DETAIL
Scales 1" to 1'0" & 1/2" Full Size
6 off

SECTION OF JOINT

FLETCHER ROBERTS, DUFFILL & KING
CIVIL ENGINEERS AND SURVEYORS
186 STUART STREET, DUNEDIN.

NO.	DATE	JOB NO.
SURVEYED BY	ASD	1281/1
DRAWN BY	ASD	
CHECKED BY	R.P.	
APPROVED BY	ASD	

5/5



NOTE — Figures shown at each position are aggregate toolages and are approximate only.

DRILLING PATTERN
All Positions

BANNOCKBURN ABUTMENT

CROMWELL ABUTMENT

Bannockburn Pier

Cromwell Pier

Holding down bolts.

60'-0"

120'-0"

60'-0"

Peg. A-A.

Peg. B-B.

Excavation.

R.L. 112.14

R.L. 112.14

R.L. 113.03

R.L. 107.30

R.L. 100.00

FIXED ABUTMENT

10" x 10" x 49# Mild Steel universal column piles.

Existing ground line

SLIDING ABUTMENT

RIVER LEVEL FEB. 1964.

Cast against rock walls of excavation

R.L. 60.14

Cast against rock walls of excavation

R.L. 55.14

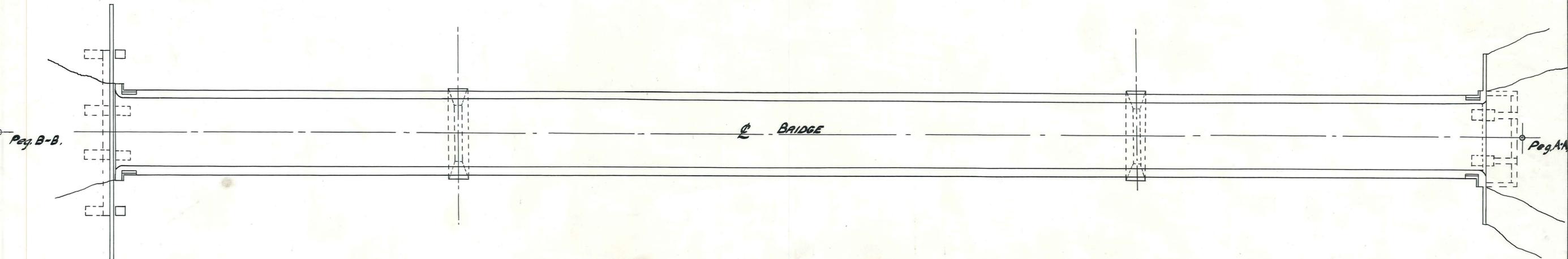
DISTANCE.

HEIGHT.

PEG.

ELEVATION OF BRIDGE

Scale: 1/16" = 1'-0"



DECK PLAN

Scale: 1/16" = 1'-0"

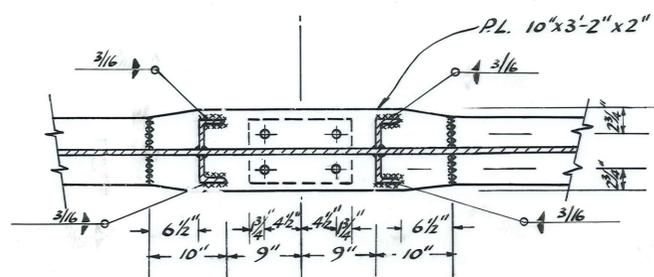
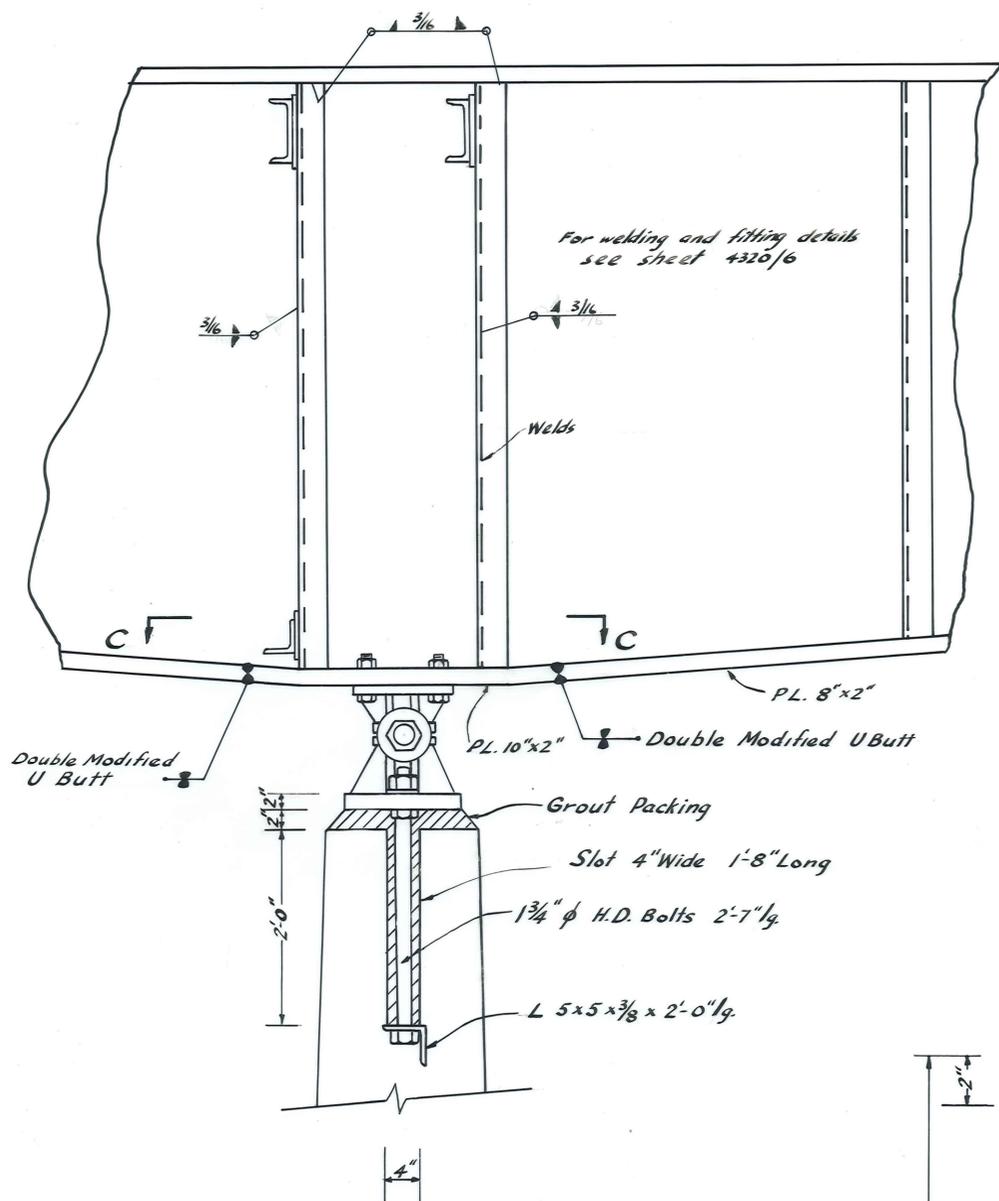
VINCENT COUNTY COUNCIL

BANNOCKBURN BRIDGE

DUFFILL, WATTS & KING
CONSULTING CIVIL & STRUCTURAL ENGINEERS
DUNEDIN and INVERCARGILL

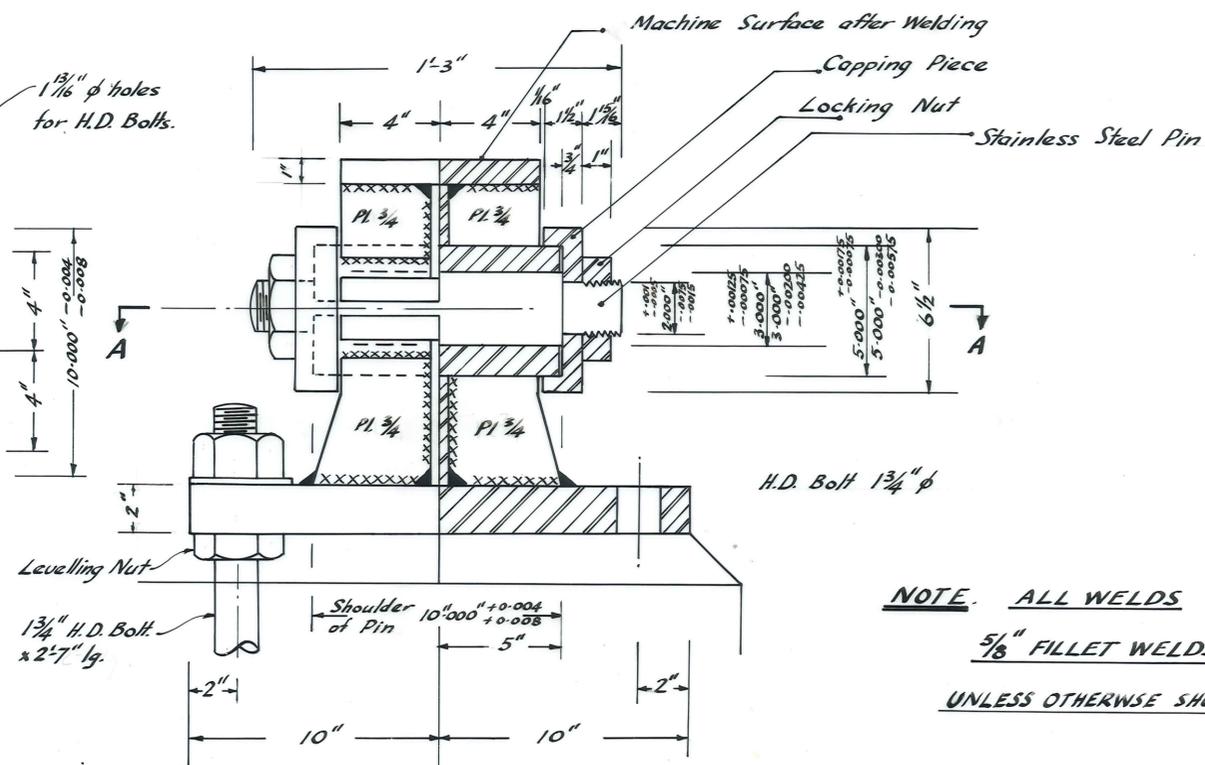
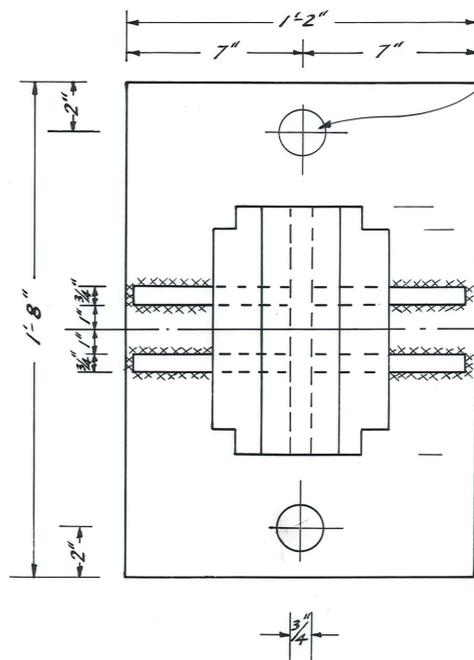
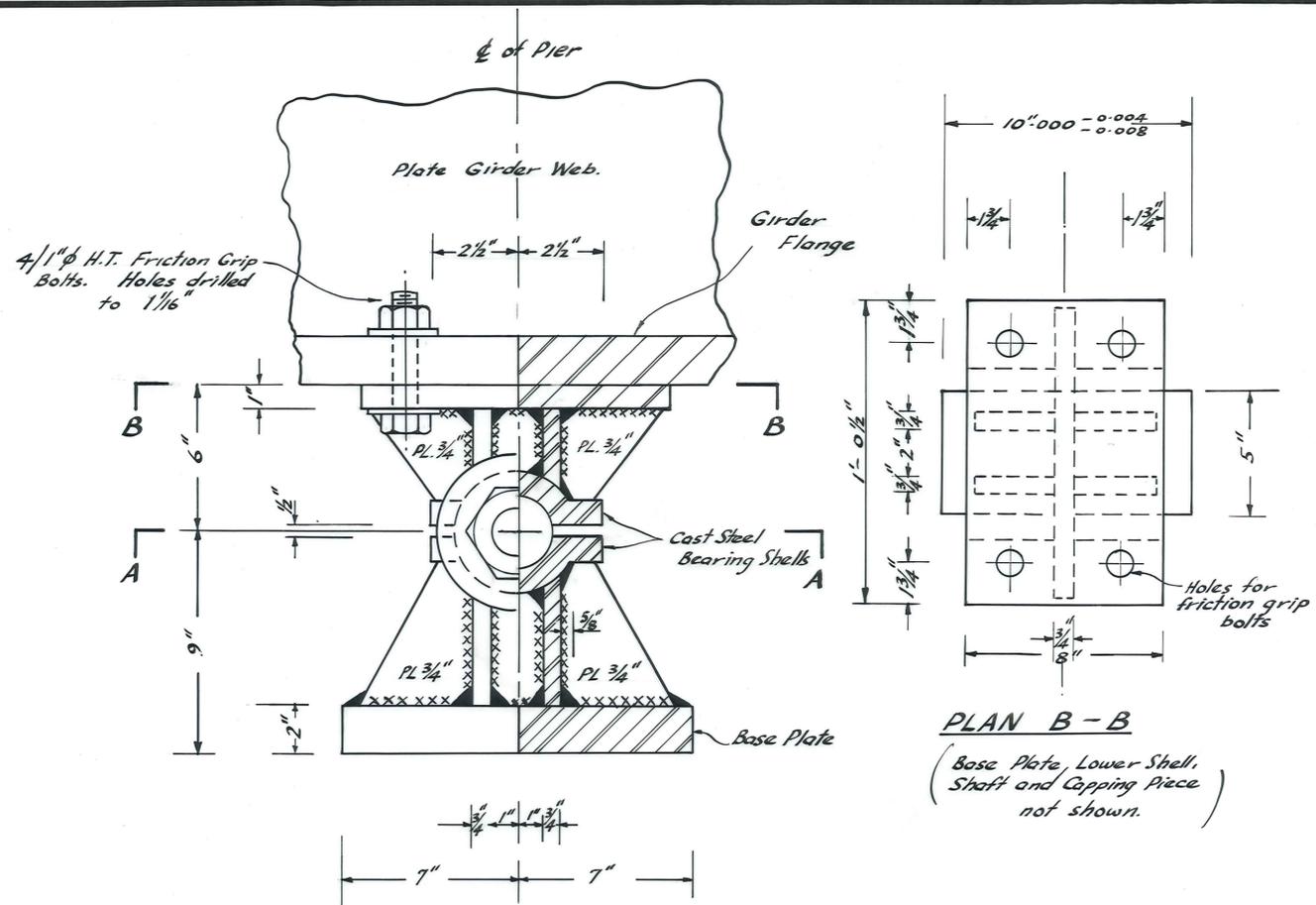
NAME		DATE	JOB NO.
SURVEYED BY	A. Toddall	MAY '64	4320/3
DRAWN	A. Toddall	MAY '64	
CALCULATIONS	A. Toddall	MAY '64	
CHECKED	D.G. Spence	MAY '64	
APPROVED	D.G. Spence	MAY '64	

F.B.K. 183 FILE No 4/24



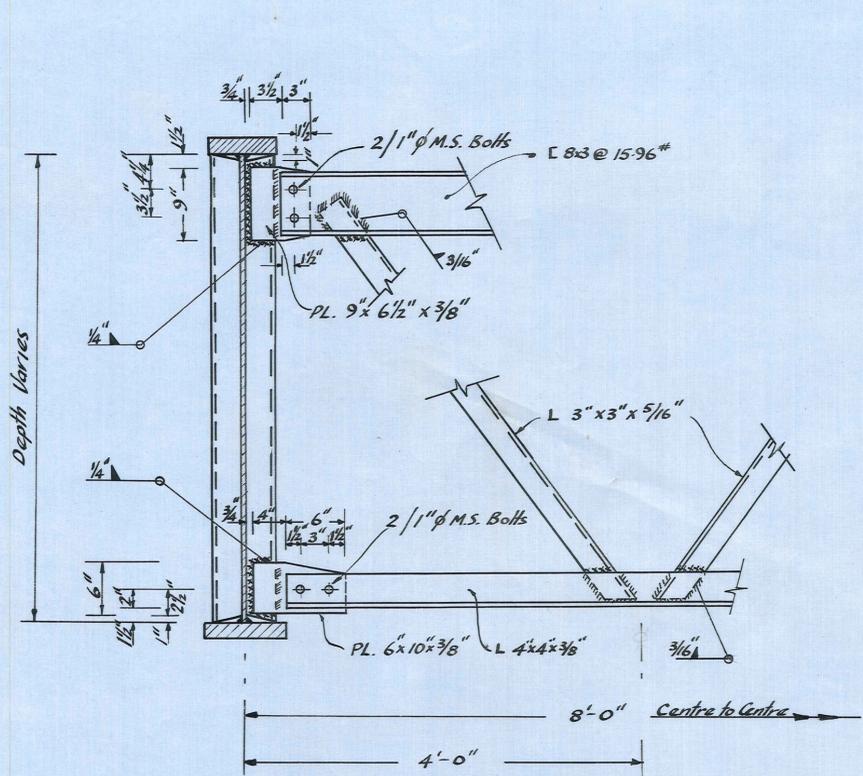
PLAN C-C
(Base plate Not Shown)

DETAIL AT PIER ROCKER
Scale 1" to 1'-0"

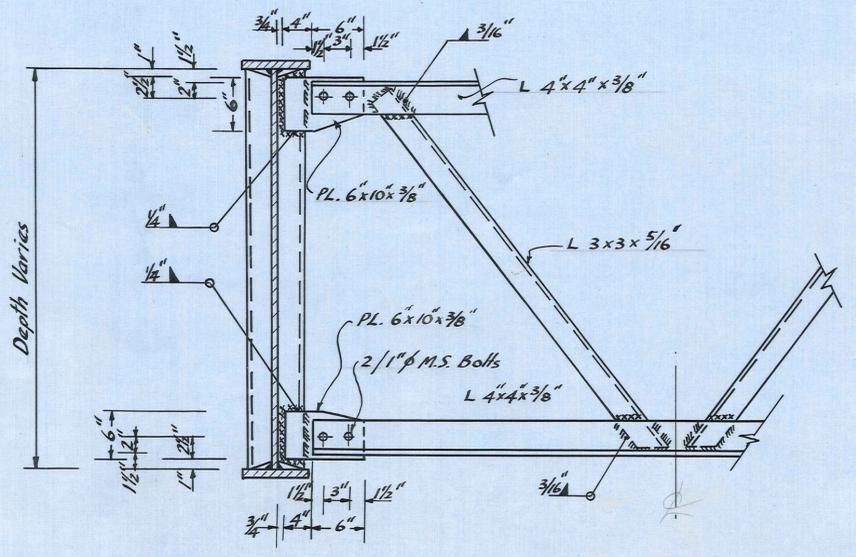


DETAIL PIER ROCKER ASSEMBLY
Scale 1/4 full size

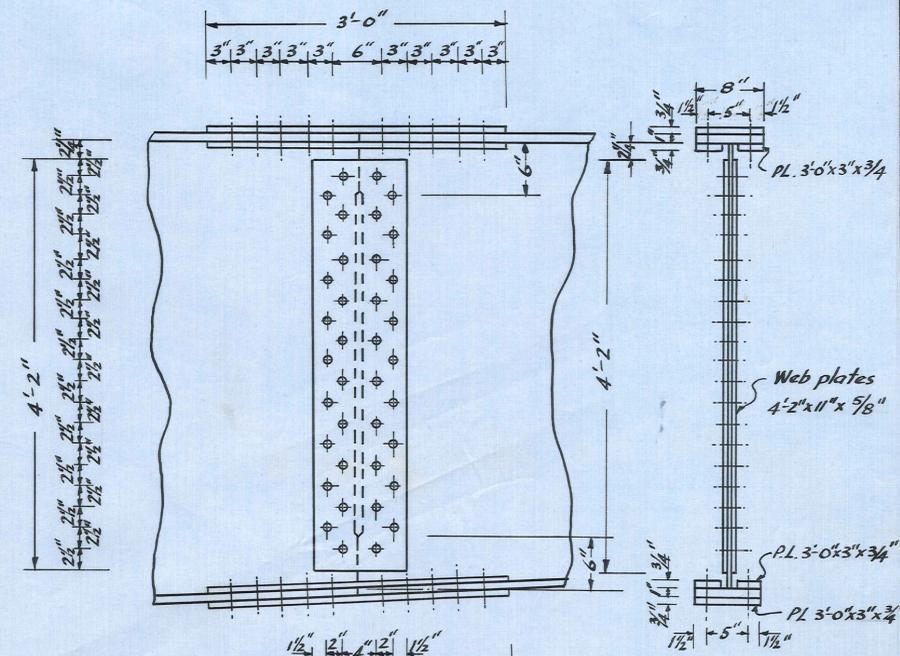
NOTE. ALL WELDS
5/8" FILLET WELDS
UNLESS OTHERWISE SHOWN



CROSS FRAMES AT SUPPORTS AND PIERS
(4 Required.)

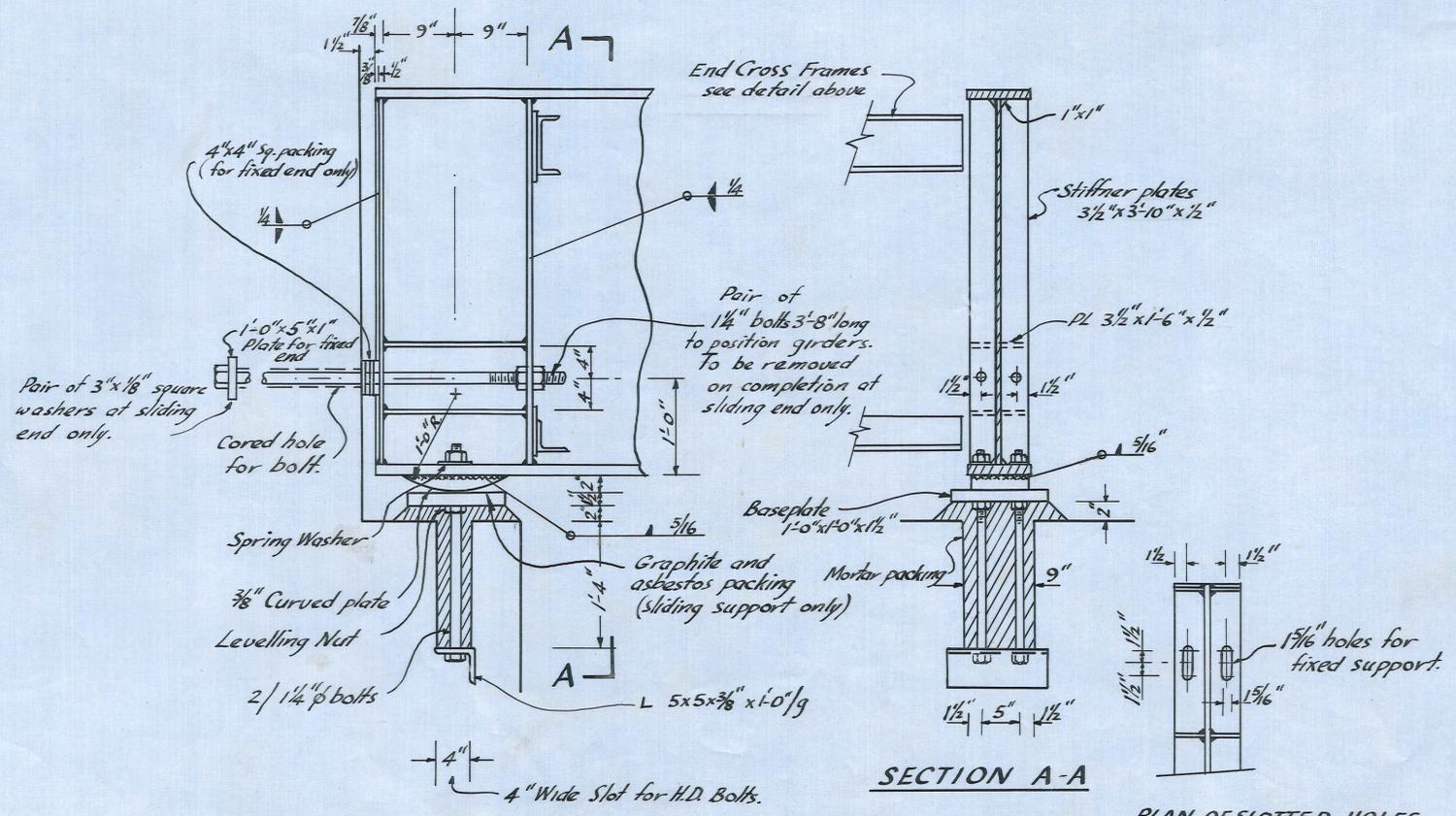


CROSS FRAMES AT INTERMEDIATE POSITIONS (17 Required)

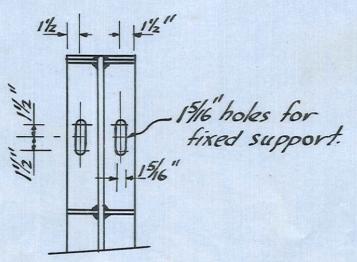


TYPICAL SPLICE DETAILS
(8 Splices Required.)

- NOTES ON BOLTED SPLICE**
1. H.T. $\frac{7}{8}$ " ϕ friction grip bolts and washers throughout.
 2. Holes for all bolts $\frac{1}{16}$ " ϕ
 3. Flanges and 6" of webs to be ground to butt flush
 4. See Spec. for torsion values and method of bolting when girders are finally erected.



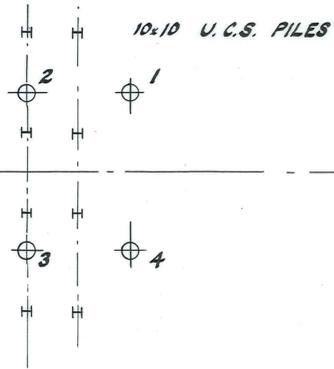
DETAIL OF SLIDING & FIXED SUPPORT



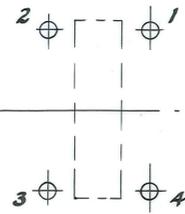
PLAN OF SLOTTED HOLES IN FLANGE (for sliding support only)

SCALE - 1" to 1'-0"

BANNOCKBURN ABUTMENT

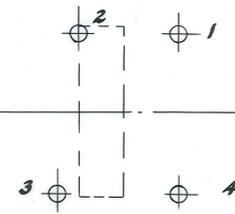


BANNOCKBURN PIER

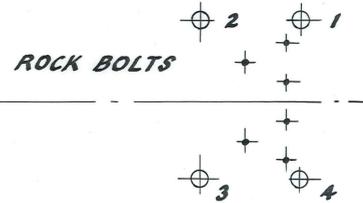


BRIDGE

CROMWELL PIER

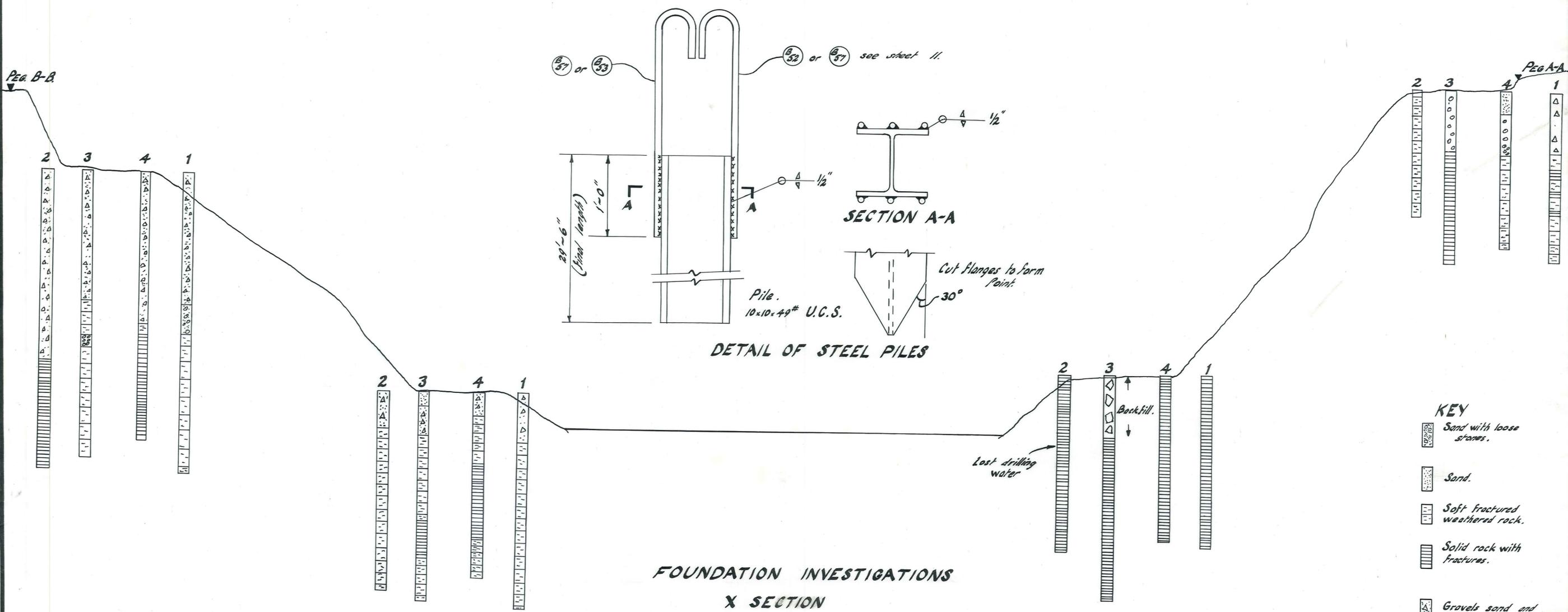


CROMWELL ABUTMENT



PLAN OF FOUNDATION INVESTIGATION HOLES

Scale: 1/16" to 1'-0"



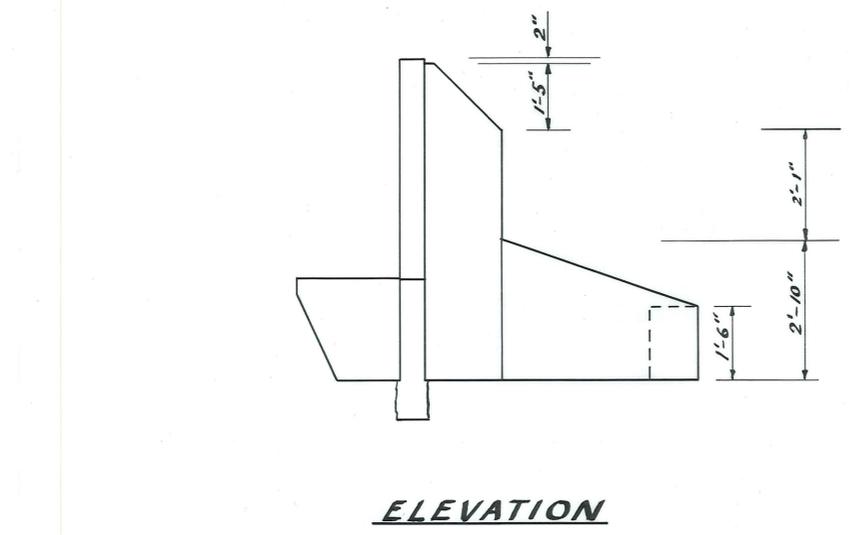
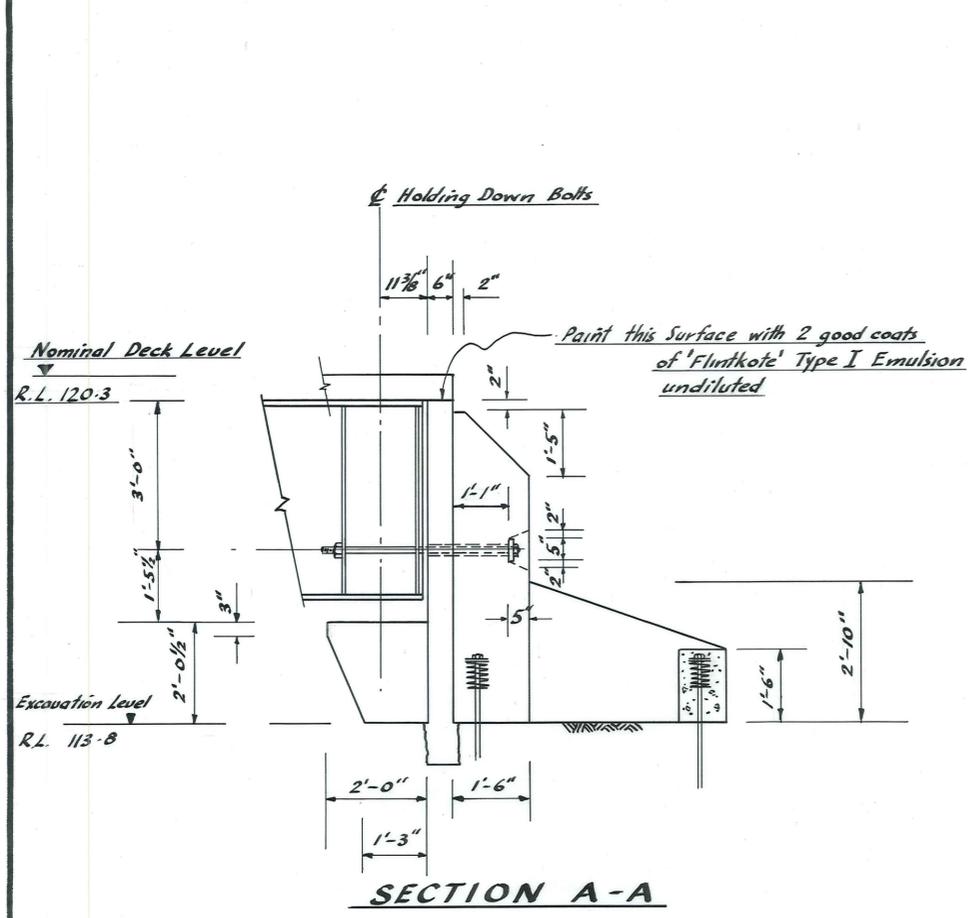
FOUNDATION INVESTIGATIONS

X SECTION

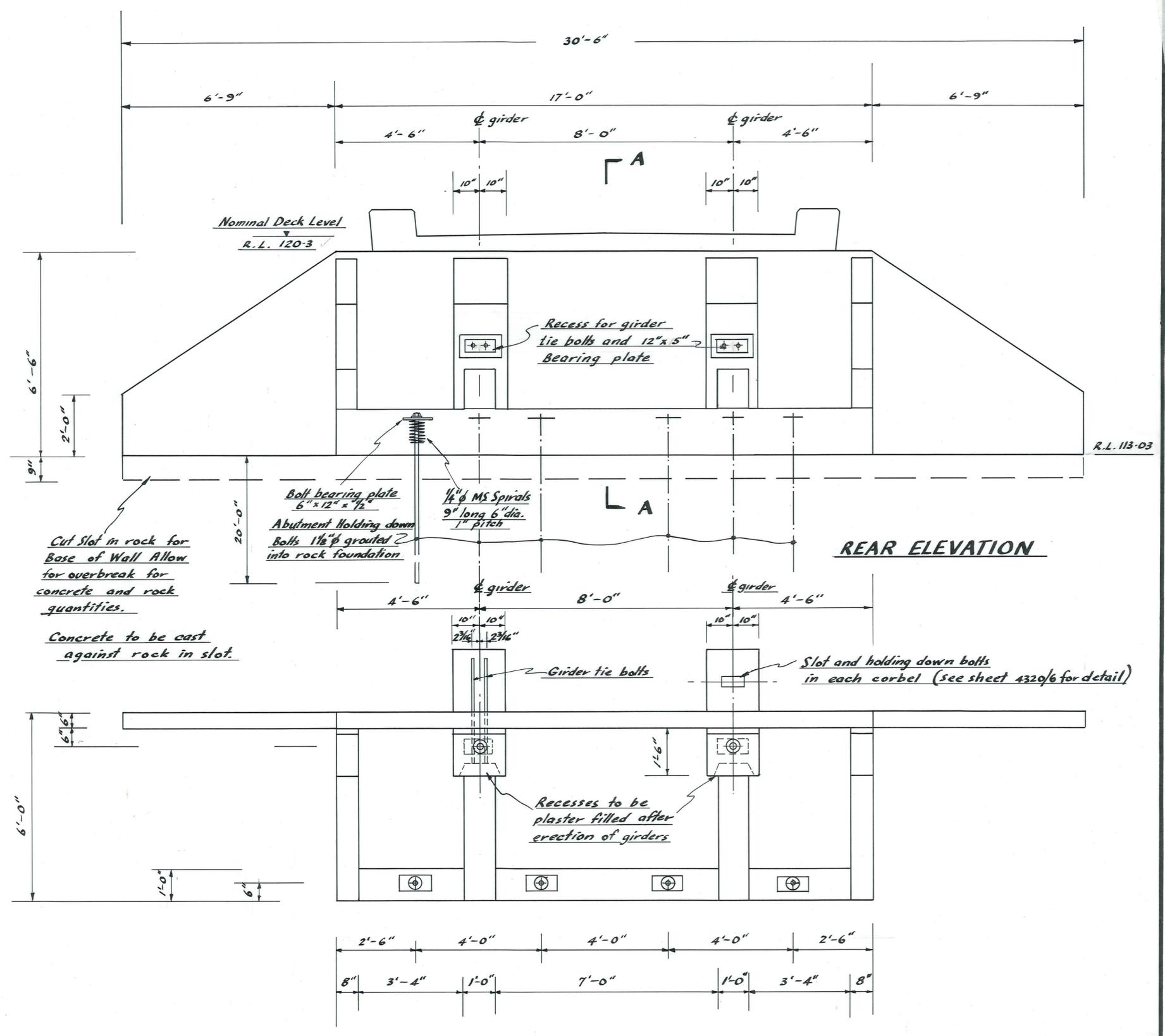
Scale: 1/16" to 1'-0"

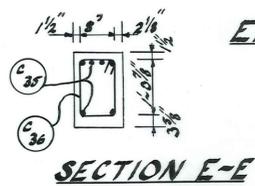
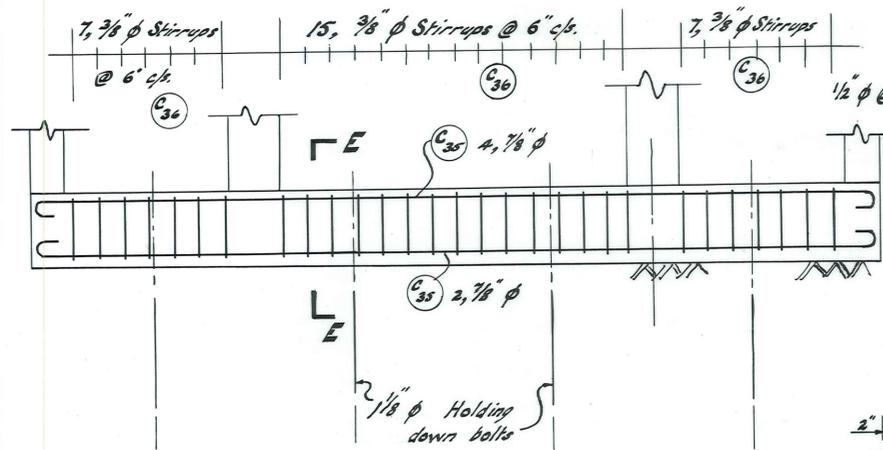
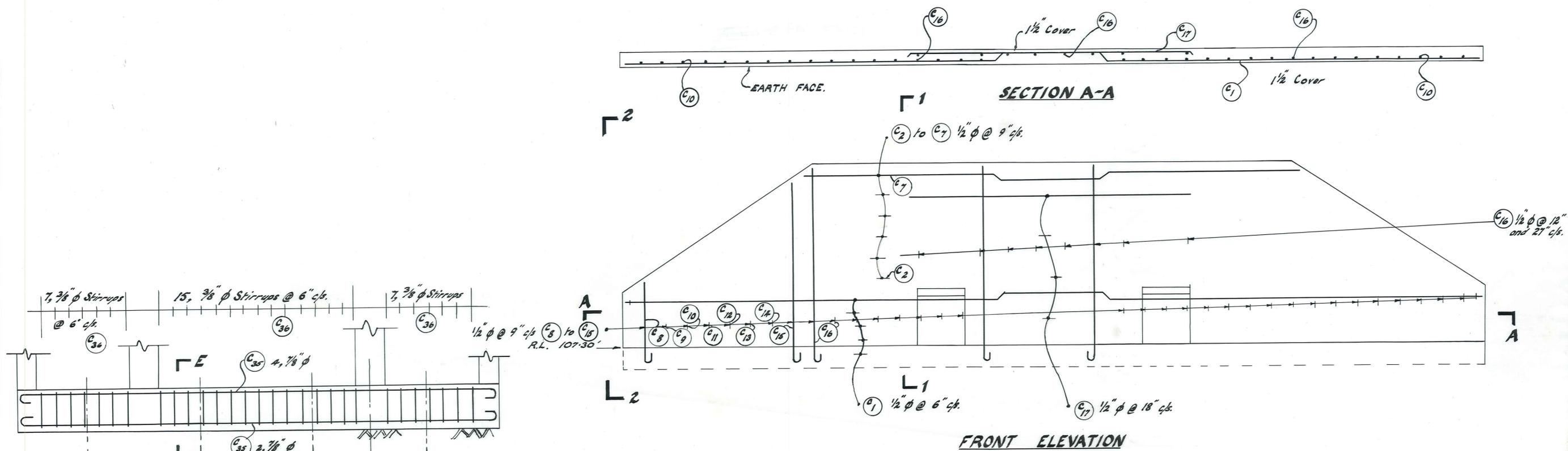
KEY

- Sand with loose stones.
- Sand.
- Soft fractured weathered rock.
- Solid rock with fractures.
- Gravels sand and floating boulders.
- Gravels.

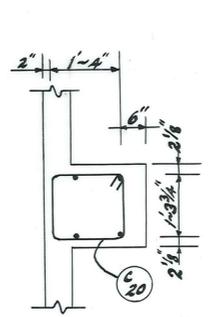


DETAIL OF CROMWELL ABUTMENT
 scale ~ 1/2" to 1'-0"

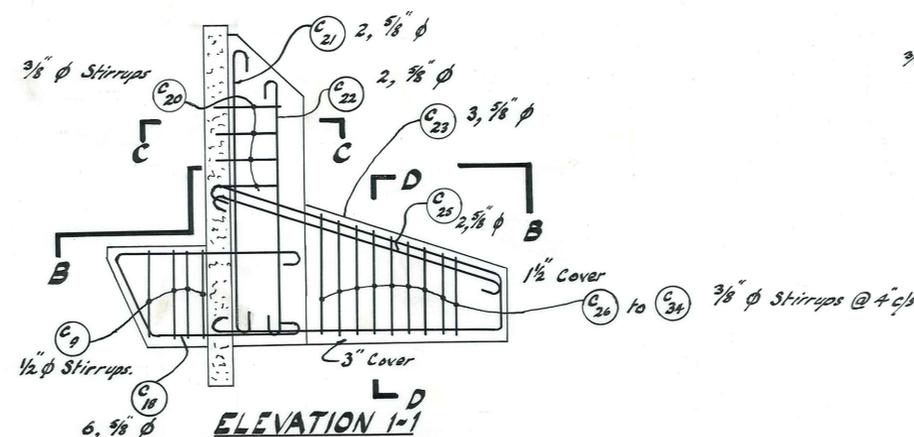




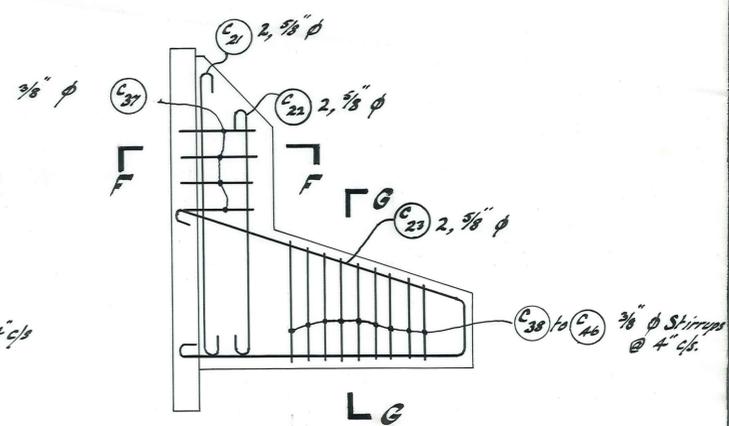
ELEVATION OF REAR BEAM



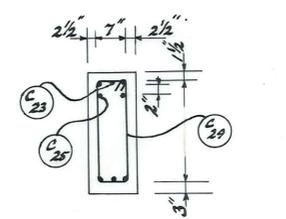
SECTION C-C



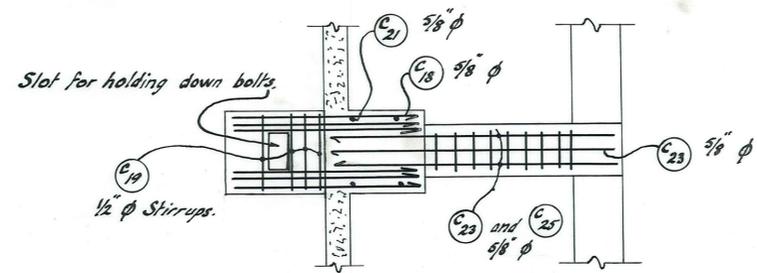
ELEVATION 1-1



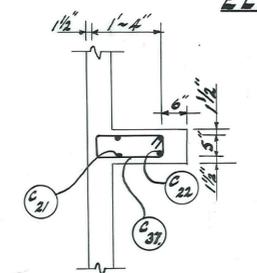
ELEVATION 2-2



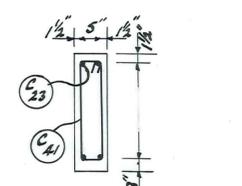
SECTION D-D



SECTION B-B



SECTION F-F



SECTION G-G

Note:- 1" chamfers on all exposed edges.

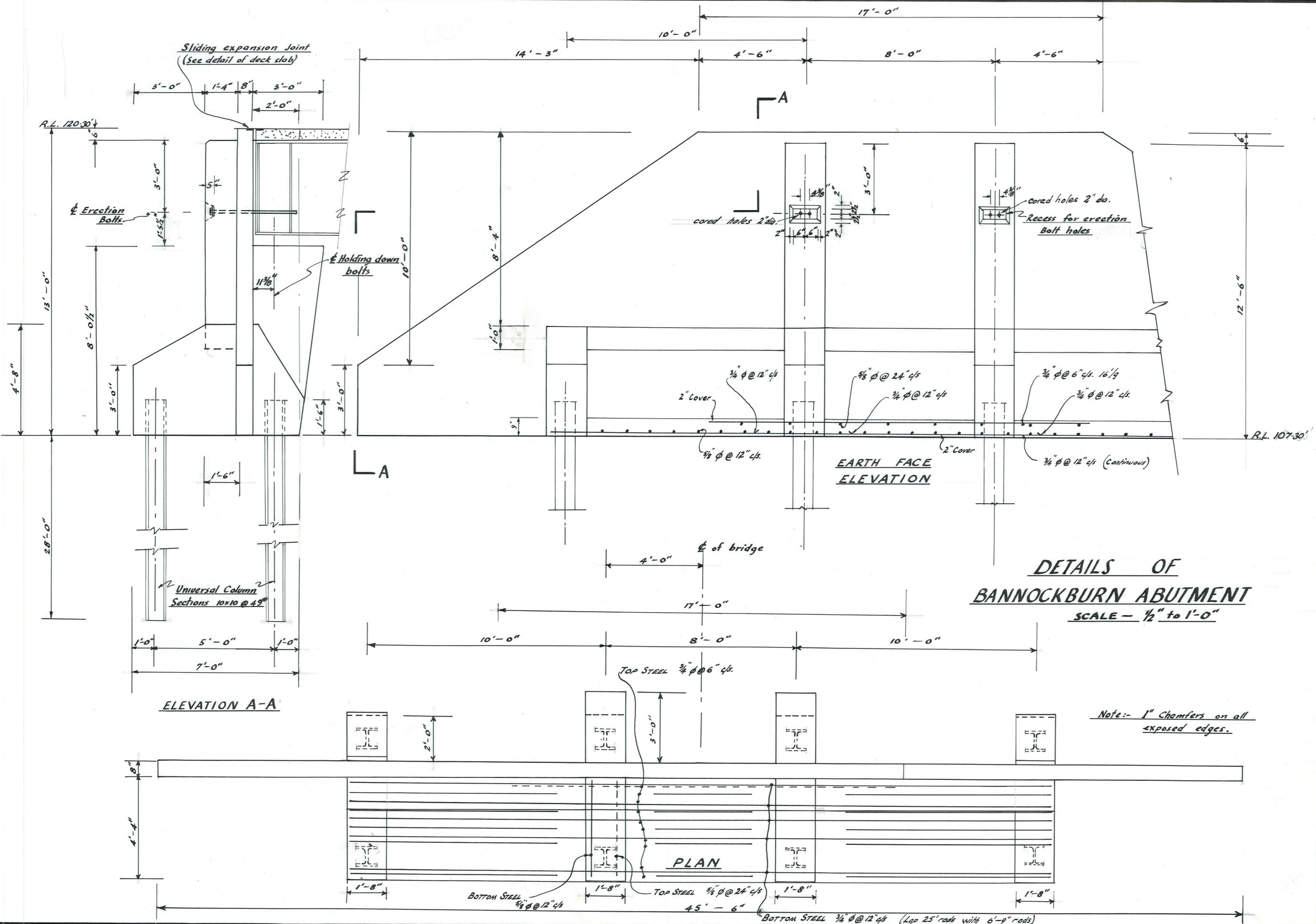
CROMWELL ABUTMENT STEEL DETAIL

Scale:- 1/2" to 1'-0"

VINCENT COUNTY COUNCIL

BANNOCKBURN BRIDGE

DUFFILL, WATTS & KING		NAME	DATE	JOB NO.
CONSULTING CIVIL & STRUCTURAL ENGINEERS		A. Tyndal	MAY '64	4320/9
DUNEDIN and INVERCARGILL		A. Tyndal	MAY '64	
		APPROVED		F.B.K. 183 FILE No. 4/24



**DETAILS OF
BANNOCKBURN ABUTMENT**
SCALE - 1/2" to 1'-0"

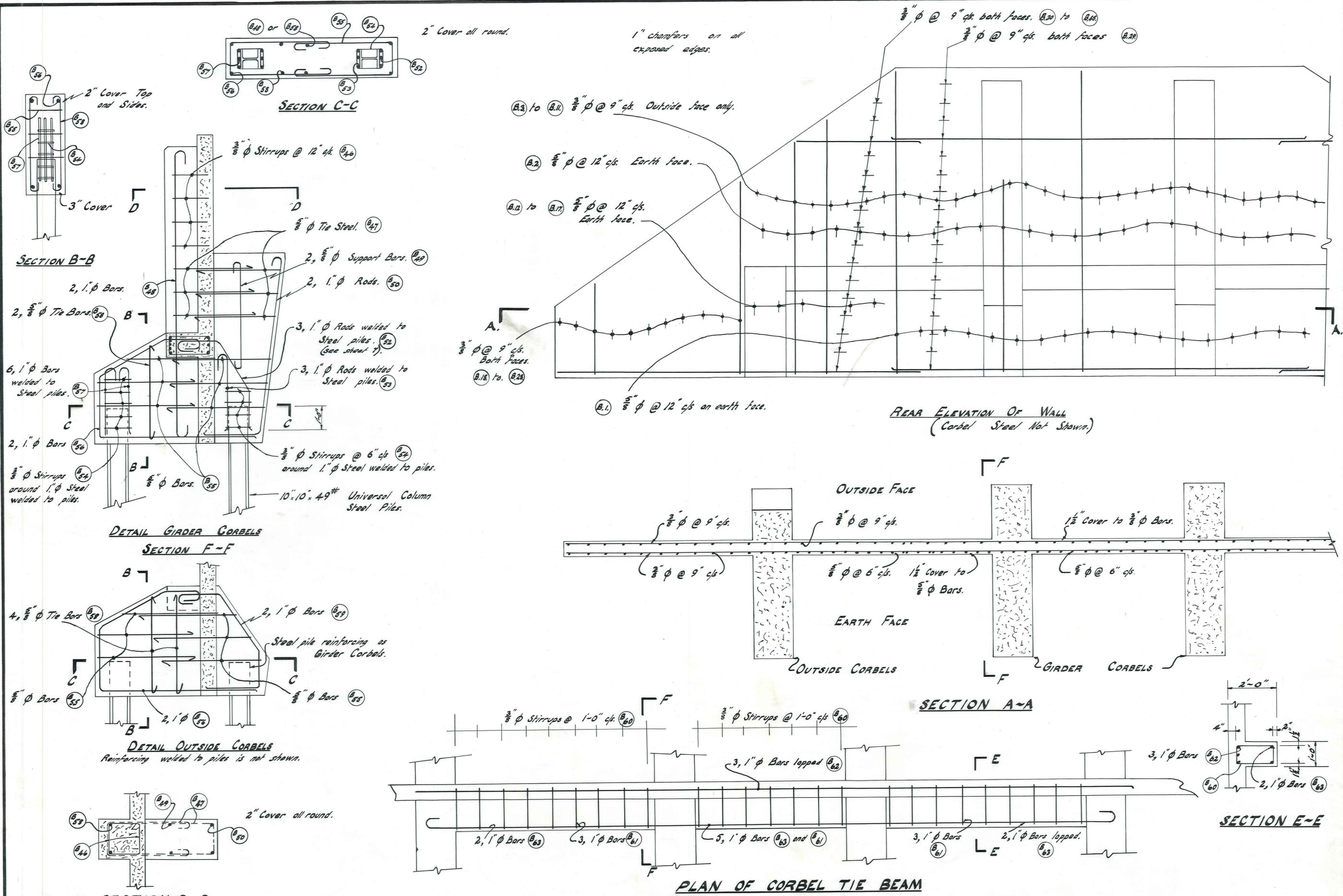
Note:- 1" Chamfers on all exposed edges.

VINCENT COUNTY COUNCIL

BANNOCKBURN BRIDGE

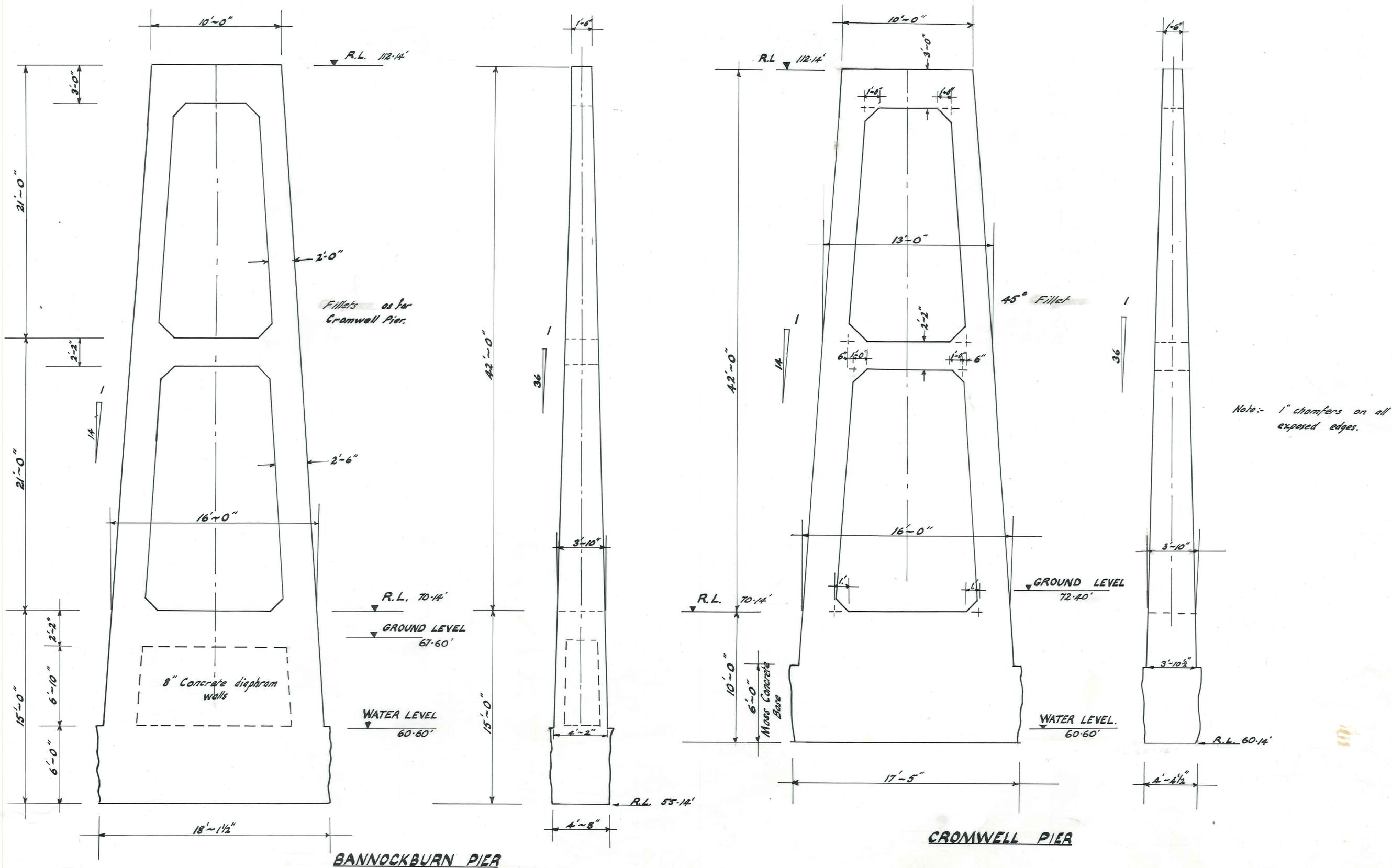
DUFFILL, WATTS & KING		NAME	DATE	JOB No.
CONSULTING CIVIL & STRUCTURAL ENGINEERS		A. Tyndal	May 64	4320/10
DUNEDIN and INVERCARGILL		H. Tyndal	May 64	
SUPERVISED BY	DRAWN BY	CHECKED BY	TRACED BY	APPROVED BY

F.BK. 183 FILE No 4/24



BANNOCKBURN ABUTMENT

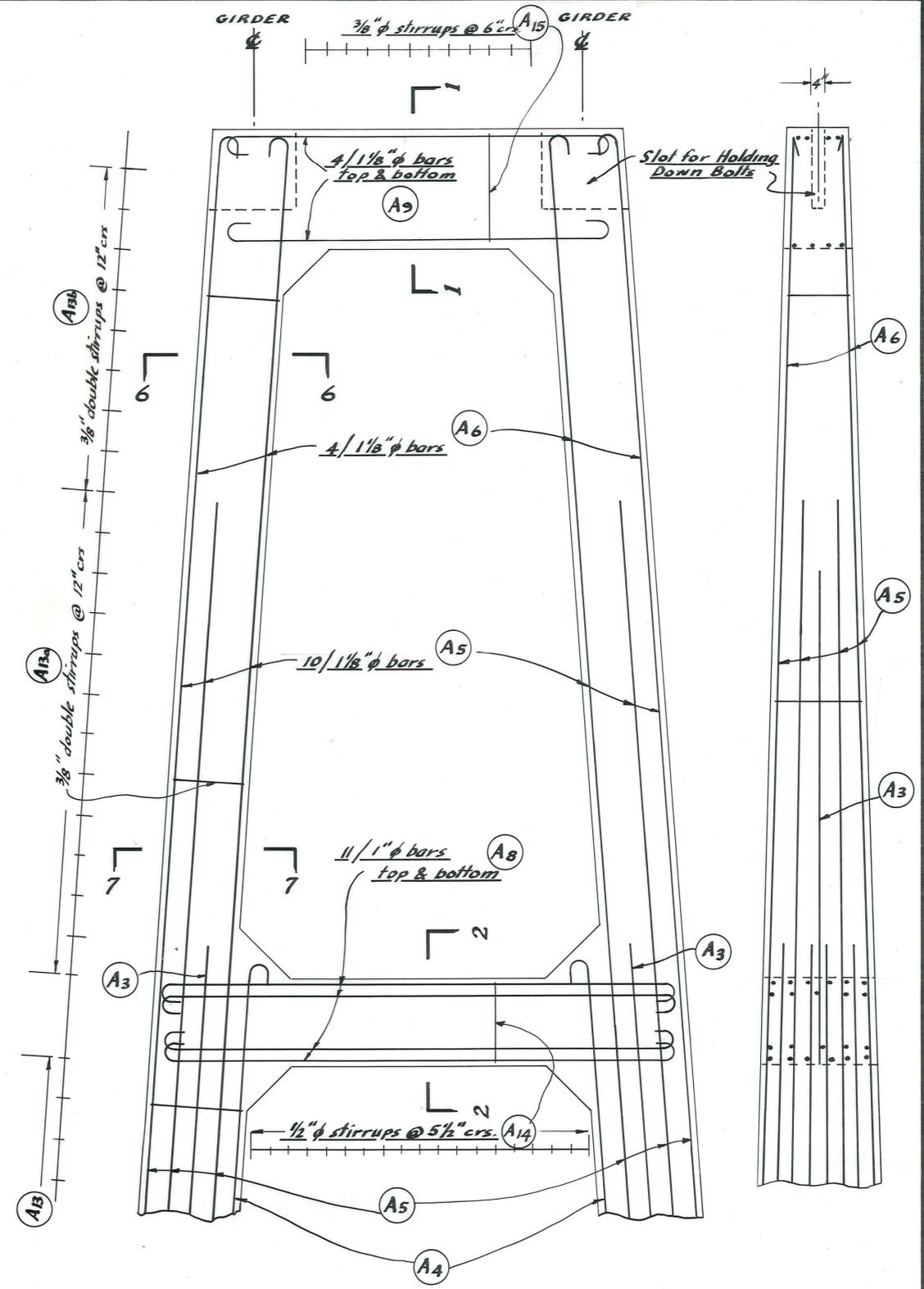
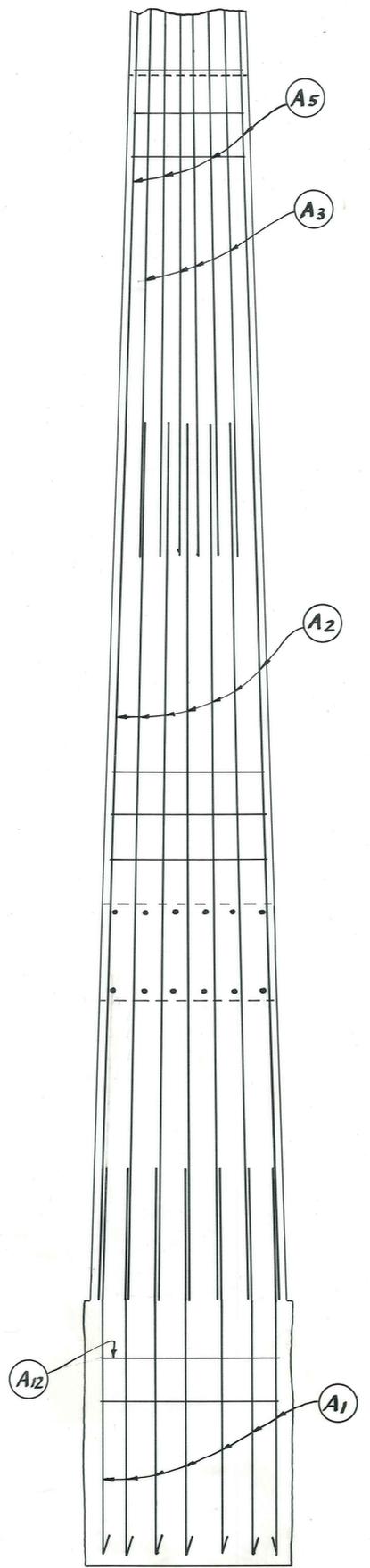
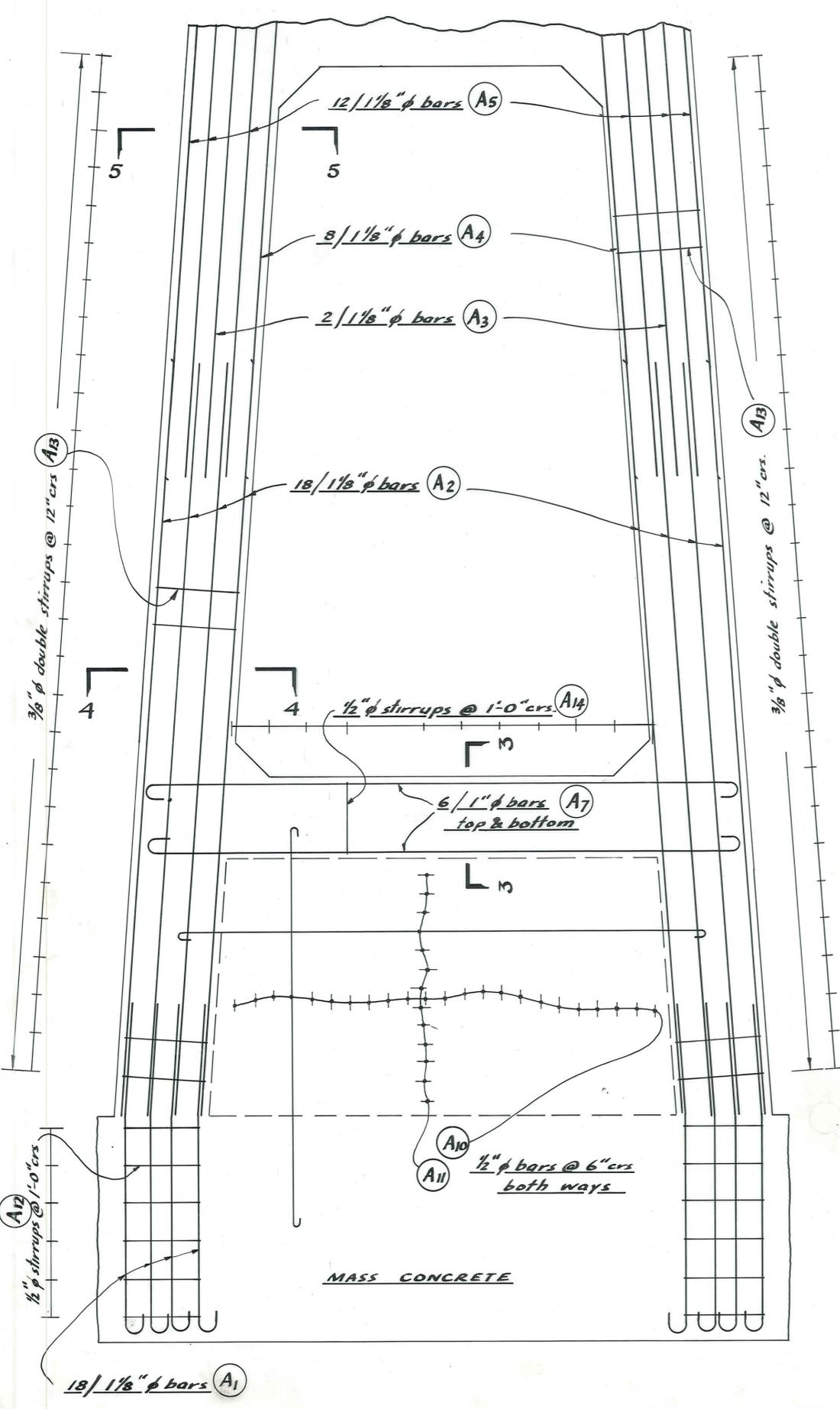
Scale: 1/2 inch to 1 foot.



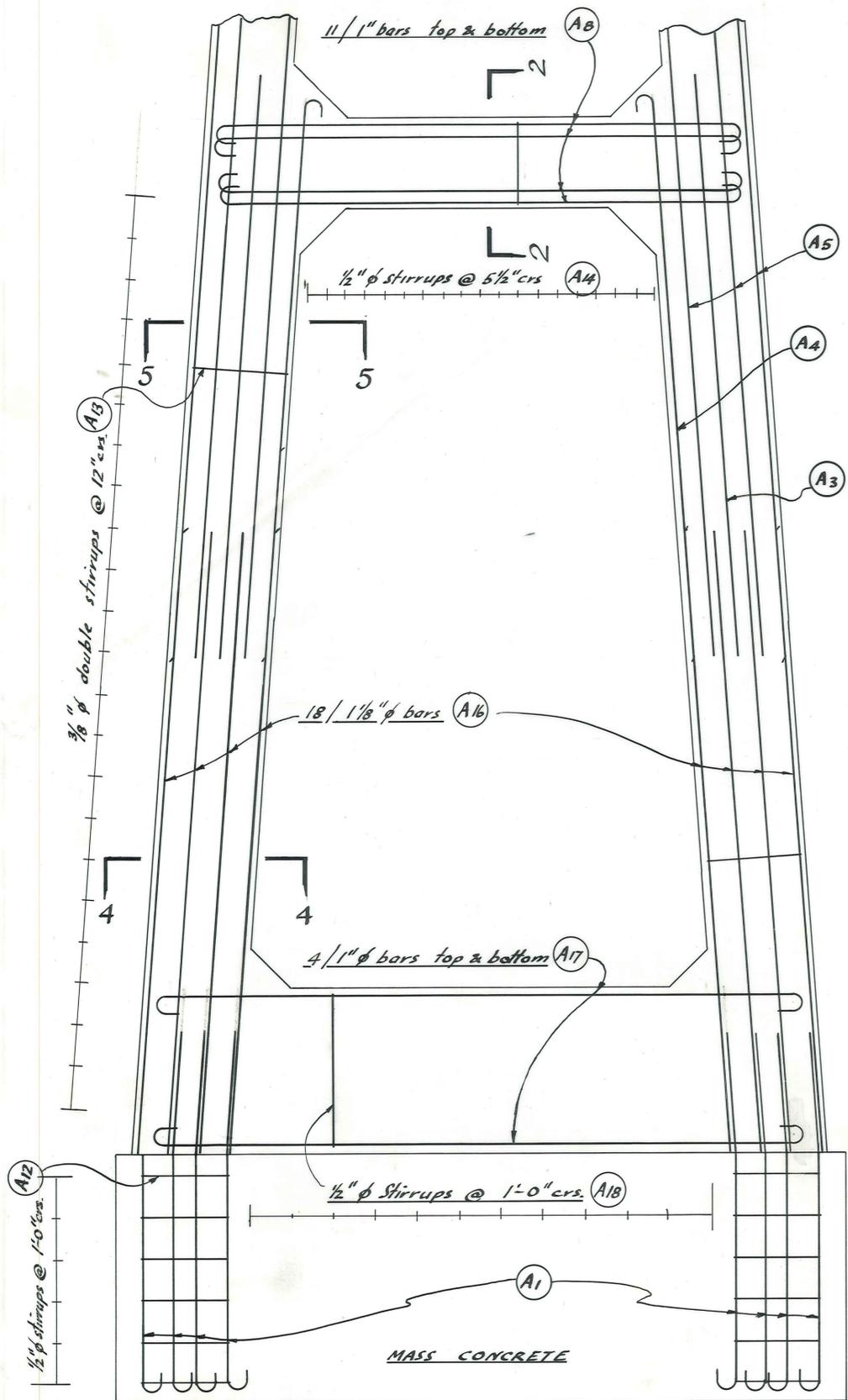
Note:- 1" chamfers on all exposed edges.

MAIN DIMENSIONS OF PIERS

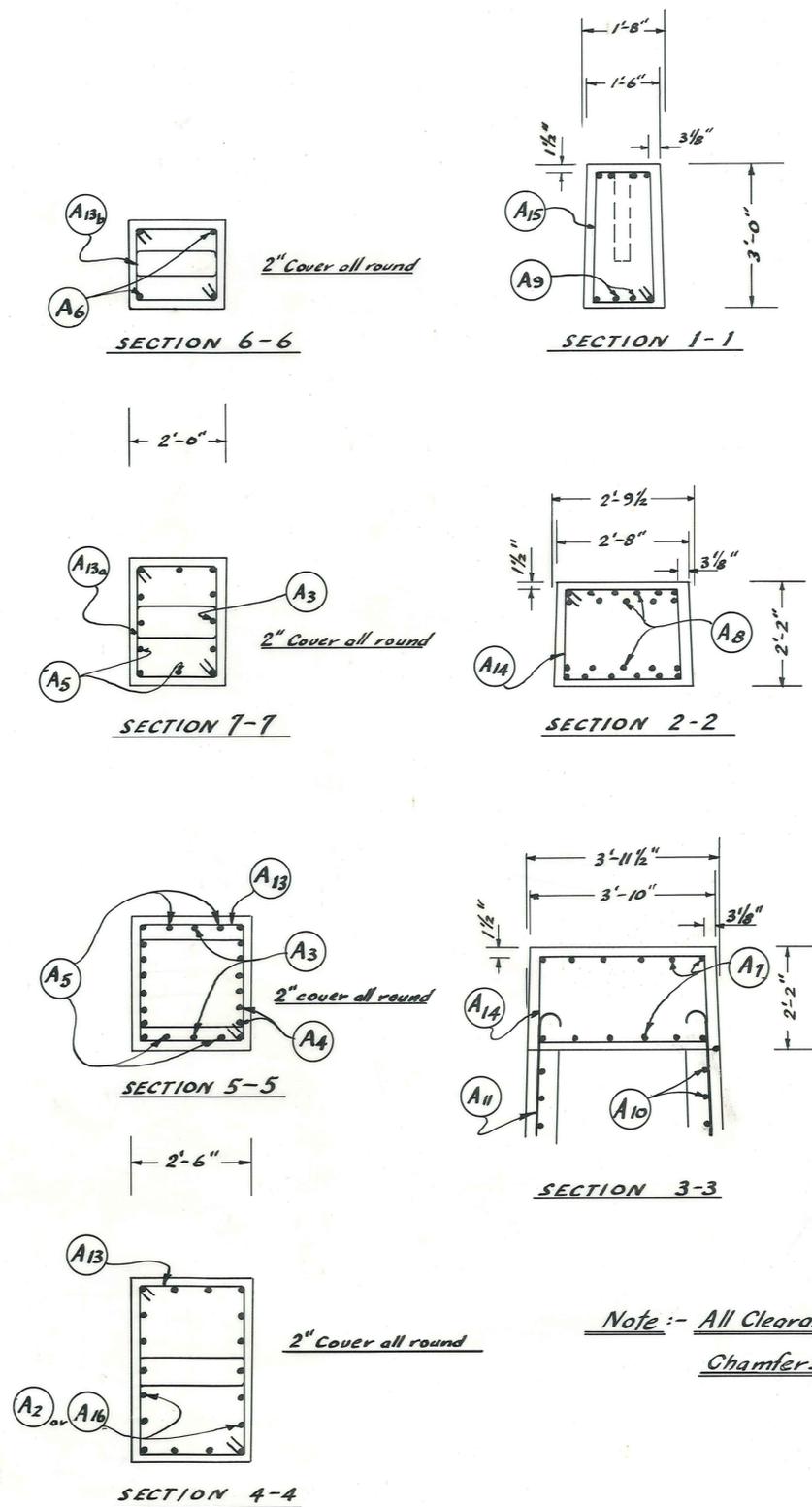
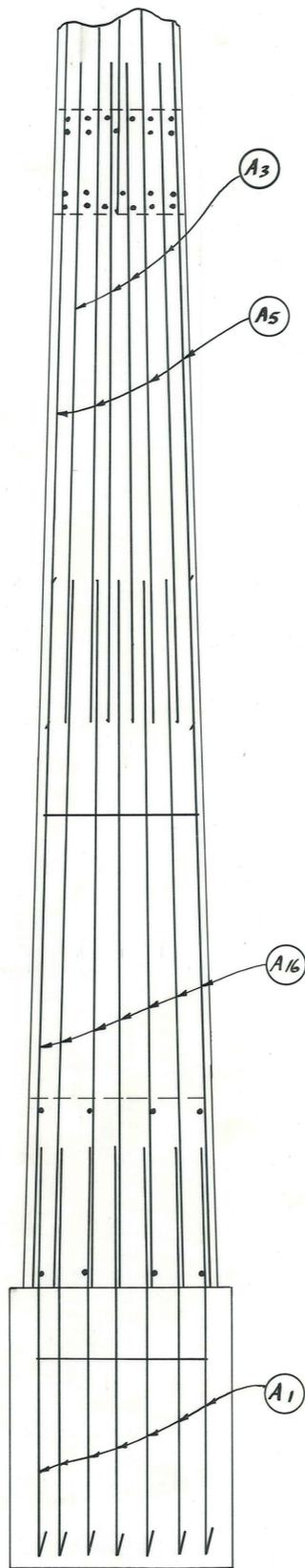
Scale:- 1/4" to 1'-0"



BANNOCKBURN PIER
 Scale - 1/2" = 1'-0"

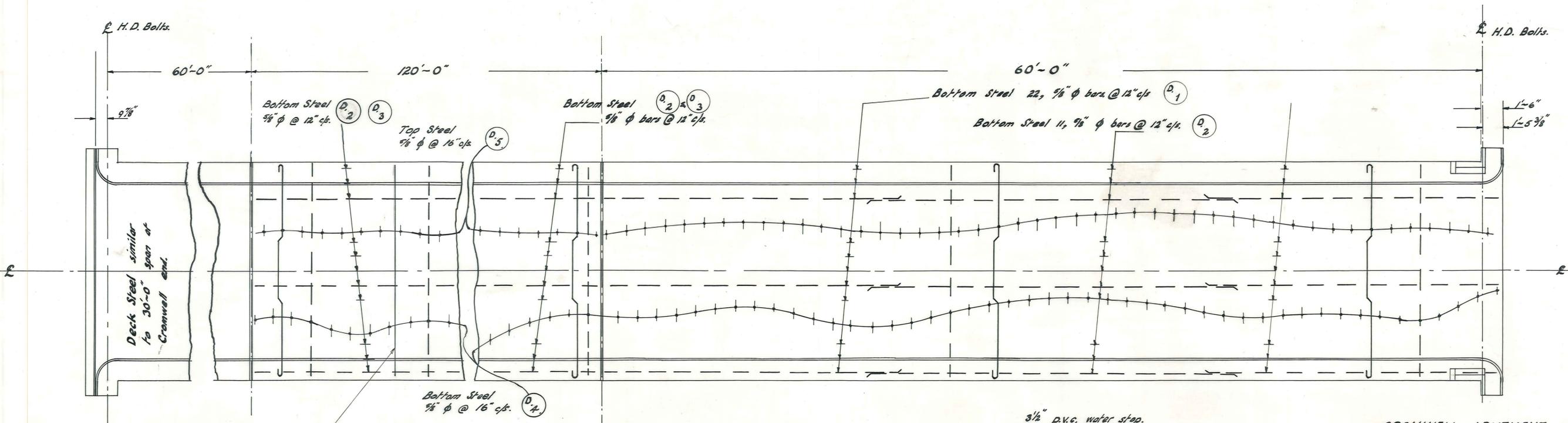


DETAILS OF CROMWELL PIER
 Scale - 1/2" to 1'-0"



Note :- All Clearances Shown are to Main Bars
 Chamfers not shown

SECTIONS - BOTH PIERS
 Scale - 1/2" to 1'-0"



BANNOCKBURN ABUTMENT

PIER NO. 2

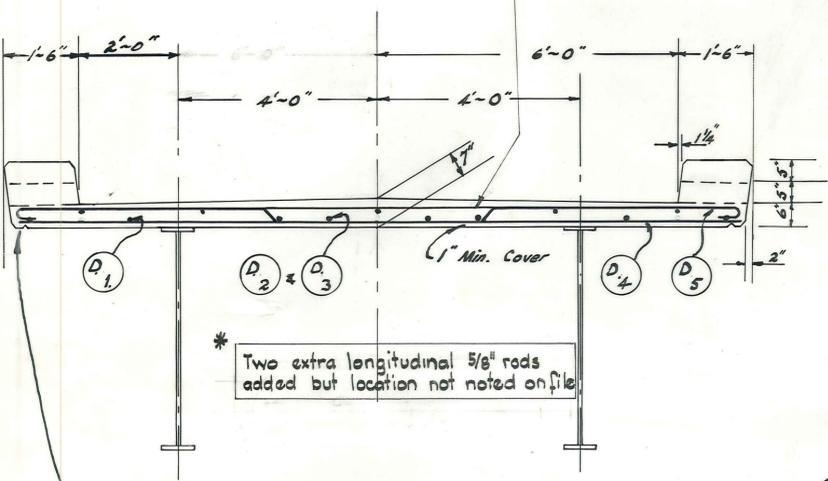
PIER NO. 1

CROMWELL ABUTMENT

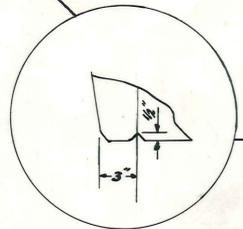
148, 5/8" rods as for D4 added as top steel at 16" cc See letter 7 Sept. '64 and 30 Sept. '64

Denotes Top Steel.
Denotes Bottom Steel.

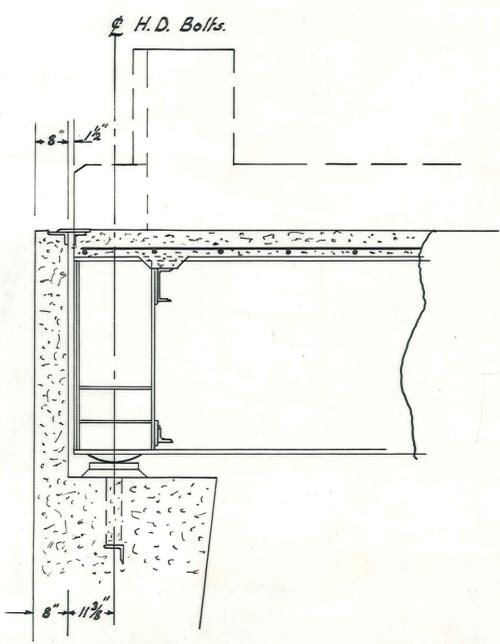
cover plate (see detail below)



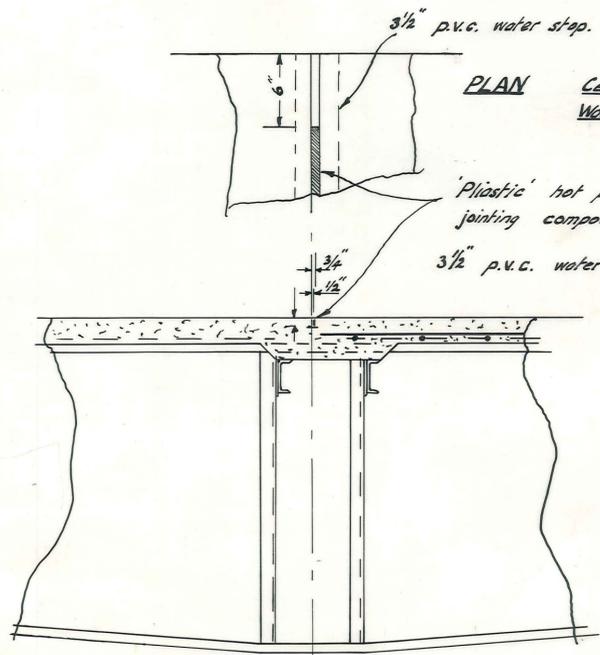
TYPICAL SECTION OF DECK
Scale: 1/2" to 1'-0"



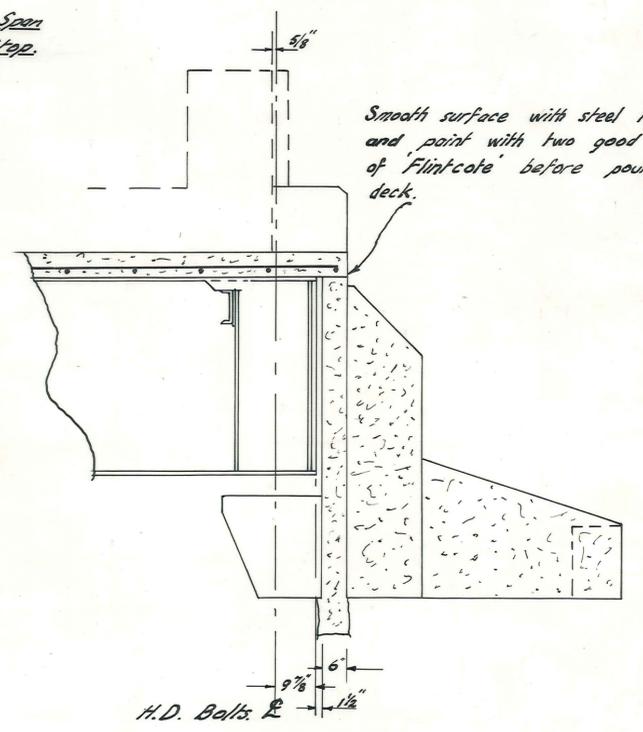
DRIP MOULD DETAIL



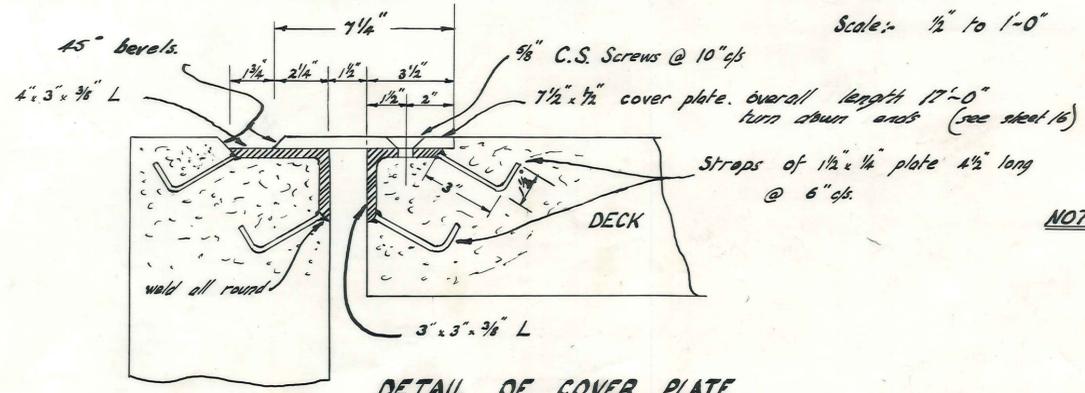
DETAIL AT BANNOCKBURN ABUTMENT



DETAIL AT PIERS
Scale: 1/2" to 1'-0"



DETAIL AT CROMWELL ABUTMENT
Scale: 1/2" to 1'-0"



DETAIL OF COVER PLATE
Scale: 1/4" to 1'-0"

NOTE: Cover plate to be supplied by contractor.

Note: 1" chamfers on all exposed edges.

* AS BUILT DETAILS ADDED 19-8-74 (Refer File)

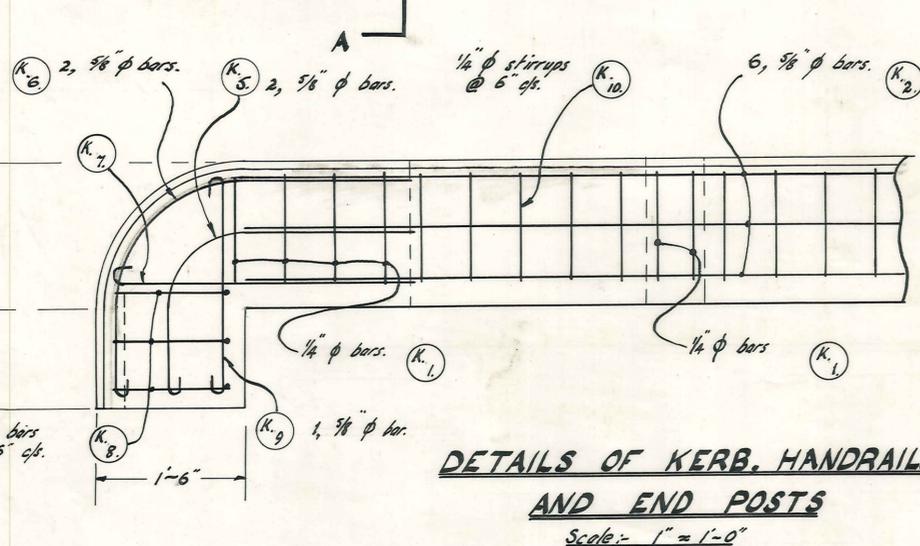
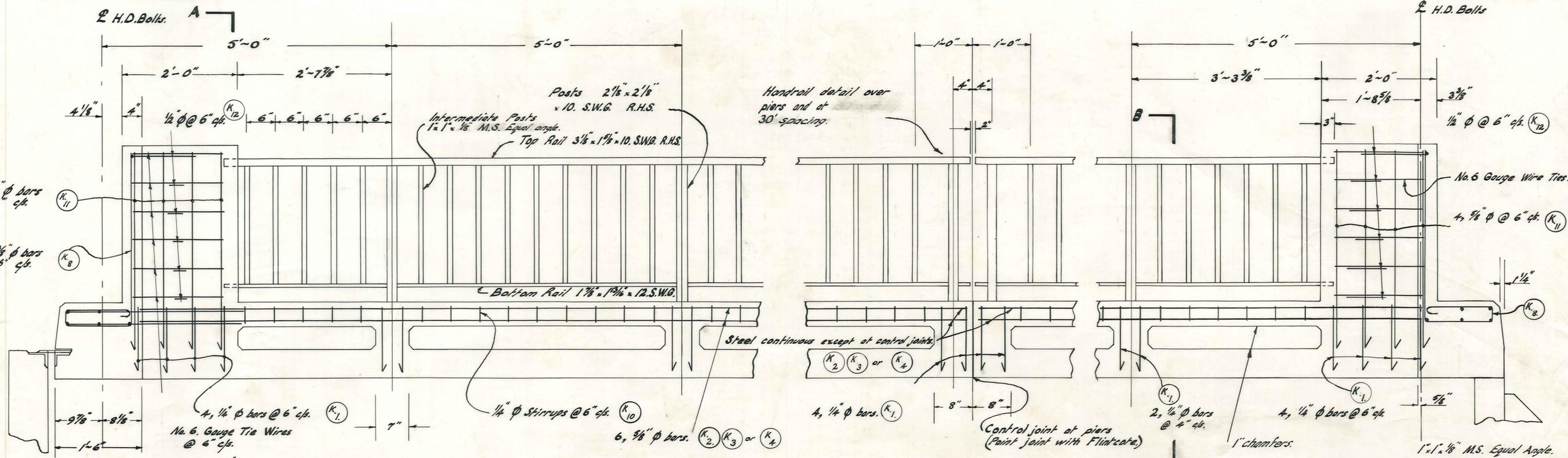
VINCENT COUNTY COUNCIL

BANNOCKBURN BRIDGE
DETAIL OF DECK

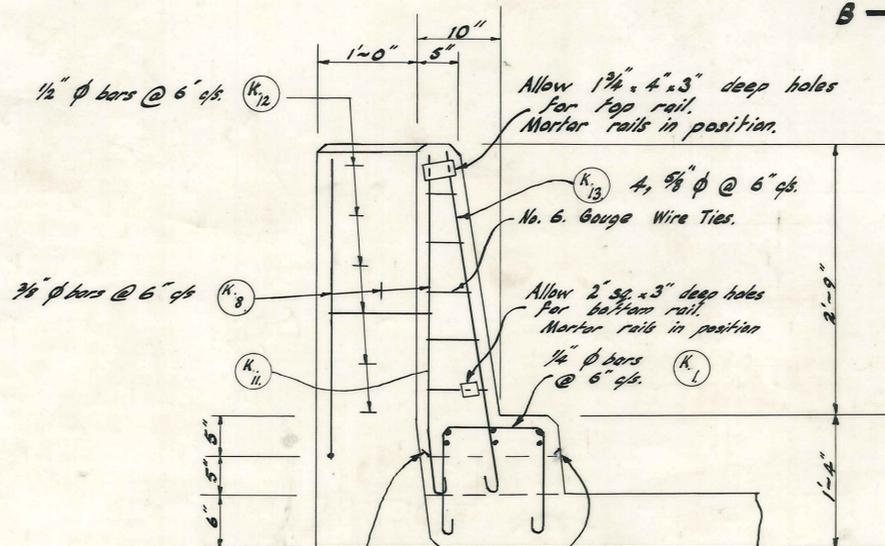
DUFFILL, WATTS & KING
CONSULTING CIVIL & STRUCTURAL ENGINEERS
DUNEDIN and INVERCARGILL

NAME	DATE	JOB NO.
SURVEYED BY A. J. Dillon	MAY '64	4320/15
DRAWN BY A. Tyndall	MAY '64	
CALCULATIONS BY A. Tyndall	MAY '64	
CHECKED BY A. Tyndall	MAY '64	
APPROVED BY A. Tyndall	MAY '64	

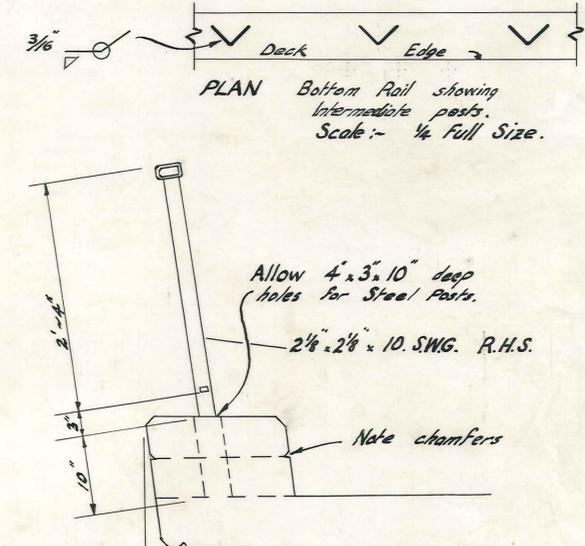
FILE No 4/24



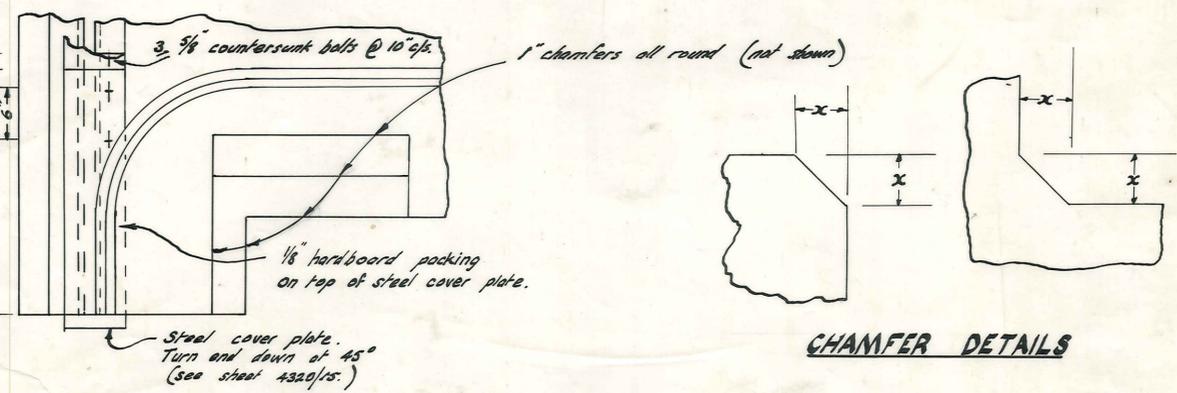
DETAILS OF KERB, HANDRAILS AND END POSTS
Scale: 1" = 1'-0"



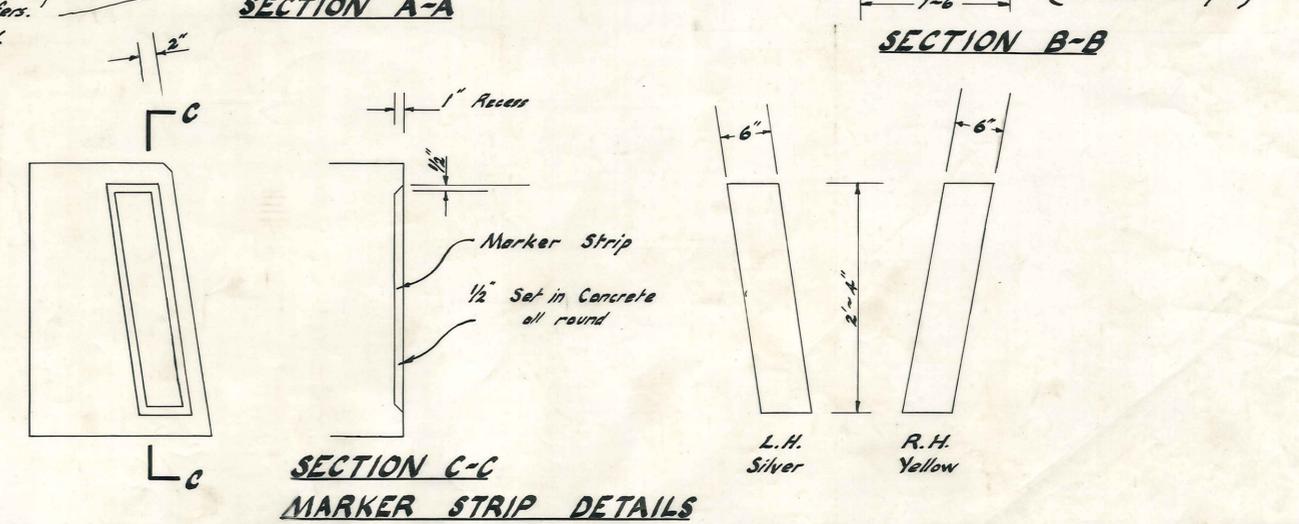
SECTION A-A



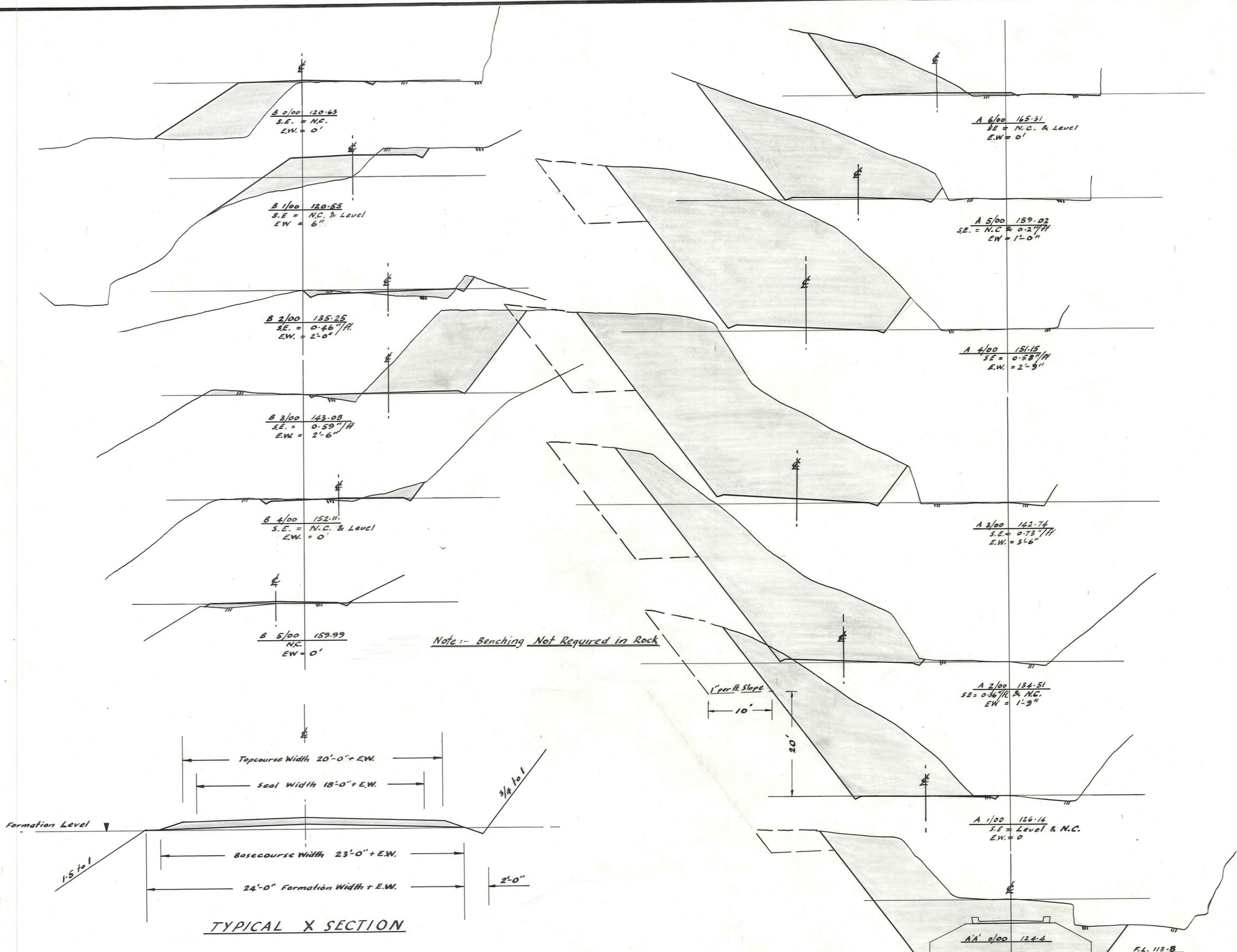
SECTION B-B



CHAMFER DETAILS



SECTION C-C MARKER STRIP DETAILS



VINCENT COUNTY COUNCIL

BANNOCKBURN BRIDGE APPROACHES

DUFFILL, WATTS & KING
CONSULTING CIVIL & STRUCTURAL ENGINEERS
DUNEDIN and INVERCARGILL

	NAME	DATE
SURVEYED BY	J.F. & J.W.	
DRAWN	G. Dillon	
CALCULATIONS	J. Watts	
CHECKED	G.S.D.	
TRACED	G.S.D.	
APPROVED	<i>[Signature]</i>	MAR 2004

JOB NO.
4320/19
F.BK. 183 FILE No. 4/24

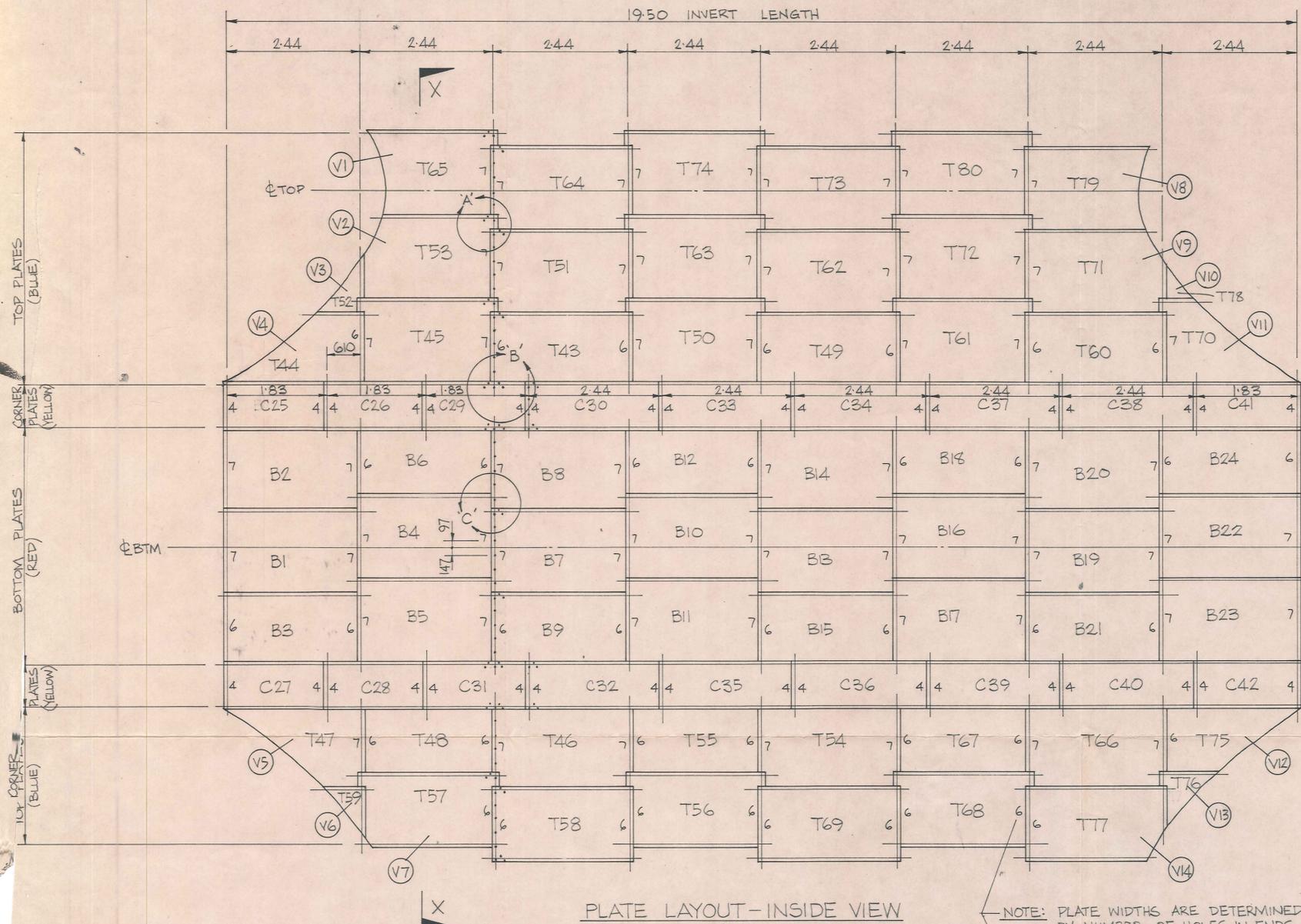
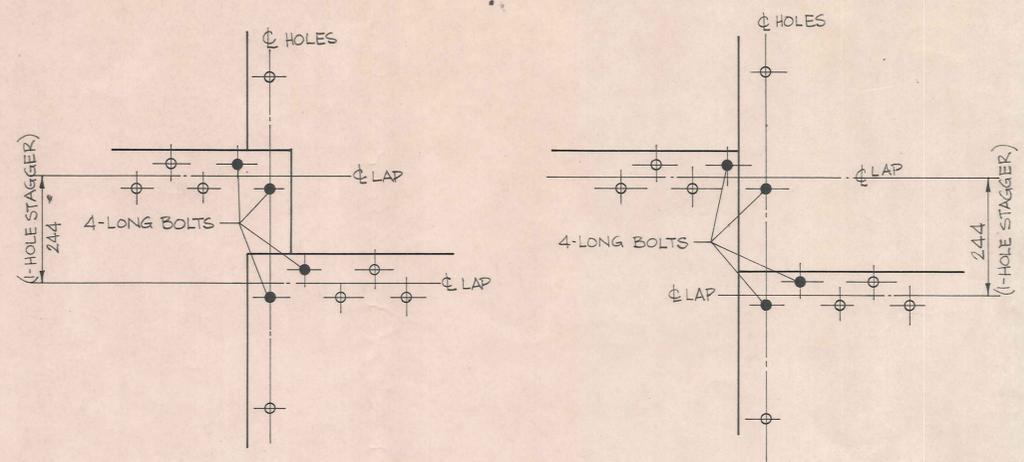


PLATE LAYOUT-INSIDE VIEW

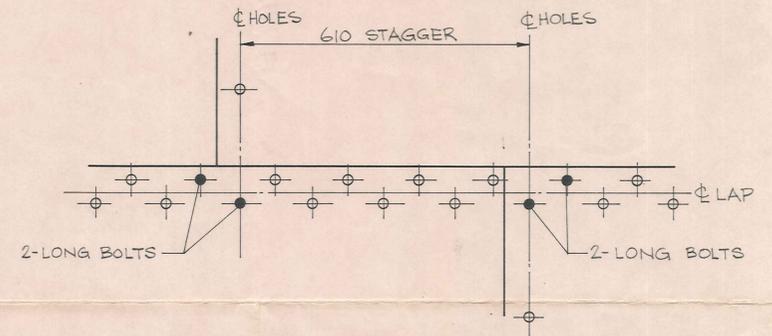


DETAIL 'A'

DETAIL 'C'

SHOWING 3 PLATE LAP FOR TOP PLATES

SHOWING 3 PLATE LAP FOR BOTTOM PLATES



DETAIL 'B'

SHOWING 3 PLATE LAP FOR JOINING TOP PLATES TO CORNER PLATES

NOTE: IT IS ESSENTIAL THAT ORIENTATION OF THE PLATES IS MAINTAINED EXACTLY AS SHOWN IN DETAILS A, B AND C ABOVE.

IMPORTANT: BEFORE STARTING TO ASSEMBLE PIPE ARCH READ 'ASSEMBLY AND INSTALLATION' INSTRUCTIONS ON FORM 'S 361' AND NOTE BELOW.

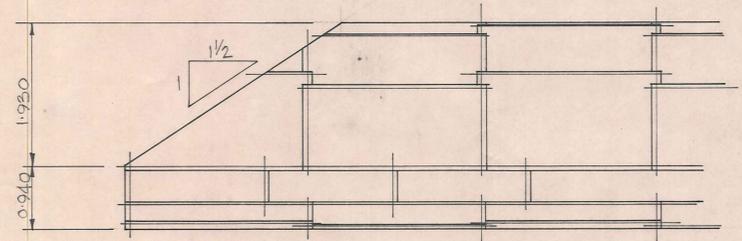
NOTE: CIRCLED NUMBERS ARE MARKS FOR CUT PLATES AND ARE WELD MARKED ON THE PLATES

PLATES ARE CURVED TO THREE DIFFERENT RADII AND ARE IDENTIFIED AS FOLLOWS:-
 SMALLEST RADIUS = CORNER PLATES, COLOUR CODED YELLOW, PREFIXED 'C'
 MIDDLE " = TOP " ; " " BLUE ; " 'T'
 LARGEST " = BOTTOM " ; " " RED ; " 'B'

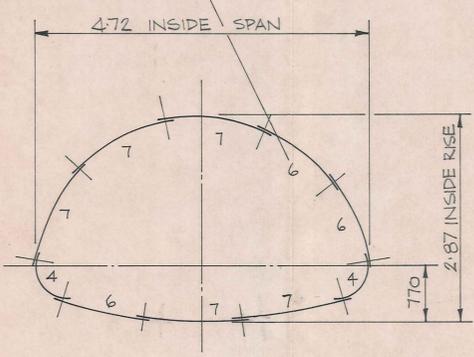
FIRST LAY BOTTOM PLATES B1 TO B24. CHECK ALIGNMENT AND TIGHTEN THE BOLTS BEFORE ASSEMBLING FURTHER. COMPLETE ASSEMBLY OF CORNER AND TOP PLATES C25 TO T80 IN NUMERICAL SEQUENCE SHOWN

PLATE MARKING CODE (STAMPED ON EVERY PLATE)

EG. DENOTES: 6500 RADIUS OF CURVATURE OF PLATE, 1091 FACTORY JOB No., 3 PLATE THICKNESS (mm)



ELEVATION



SECTION X-X

VINCENT COUNTY COUNCIL - 'BANNOCKBURN'			
ARRANGEMENT OF MULTI-PLATE PIPE ARCH - TWIN STRUCTURE			
Revision	Date	Scale	

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		Checked <i>[Signature]</i>	1091-1
		Date 24.3.80	