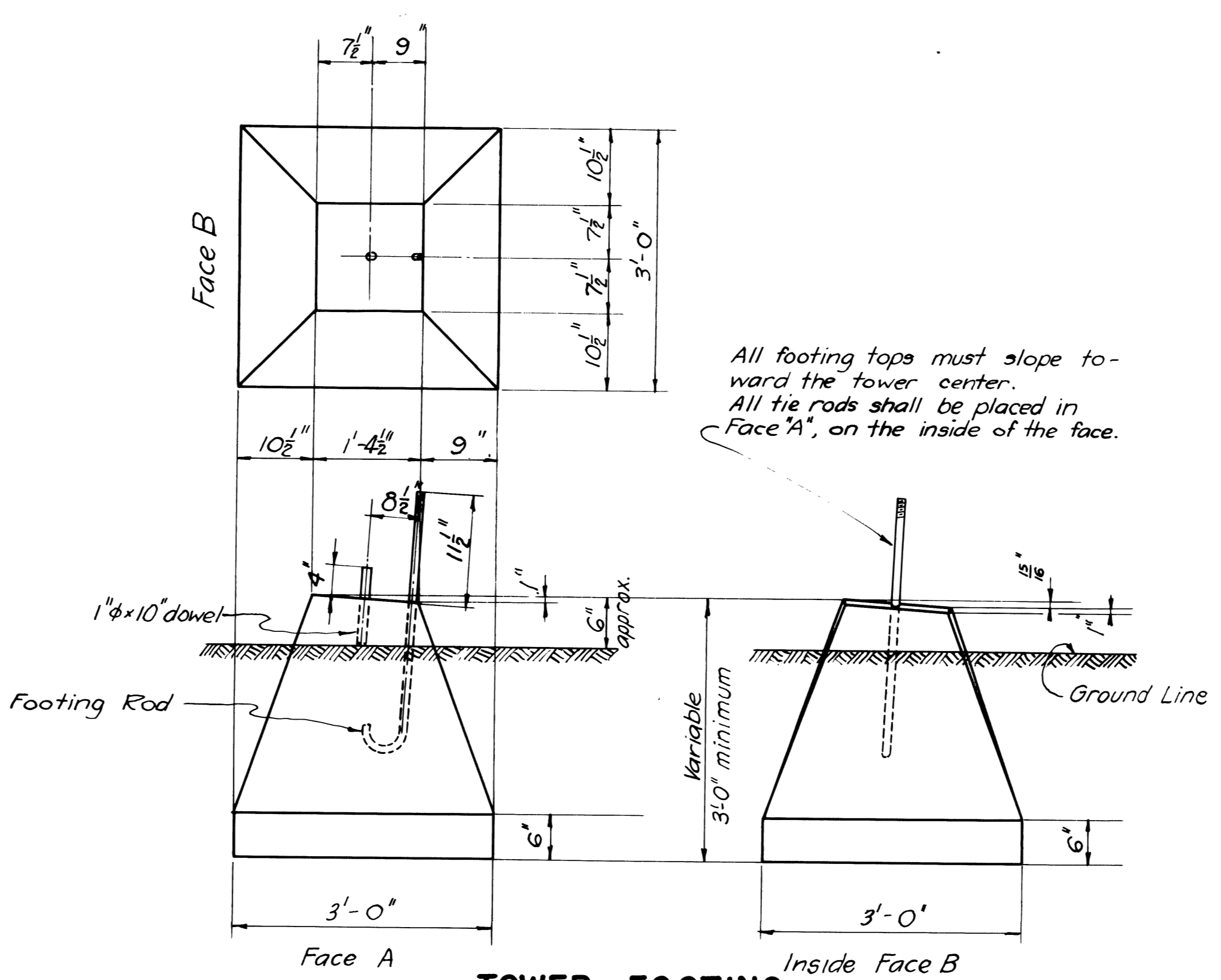


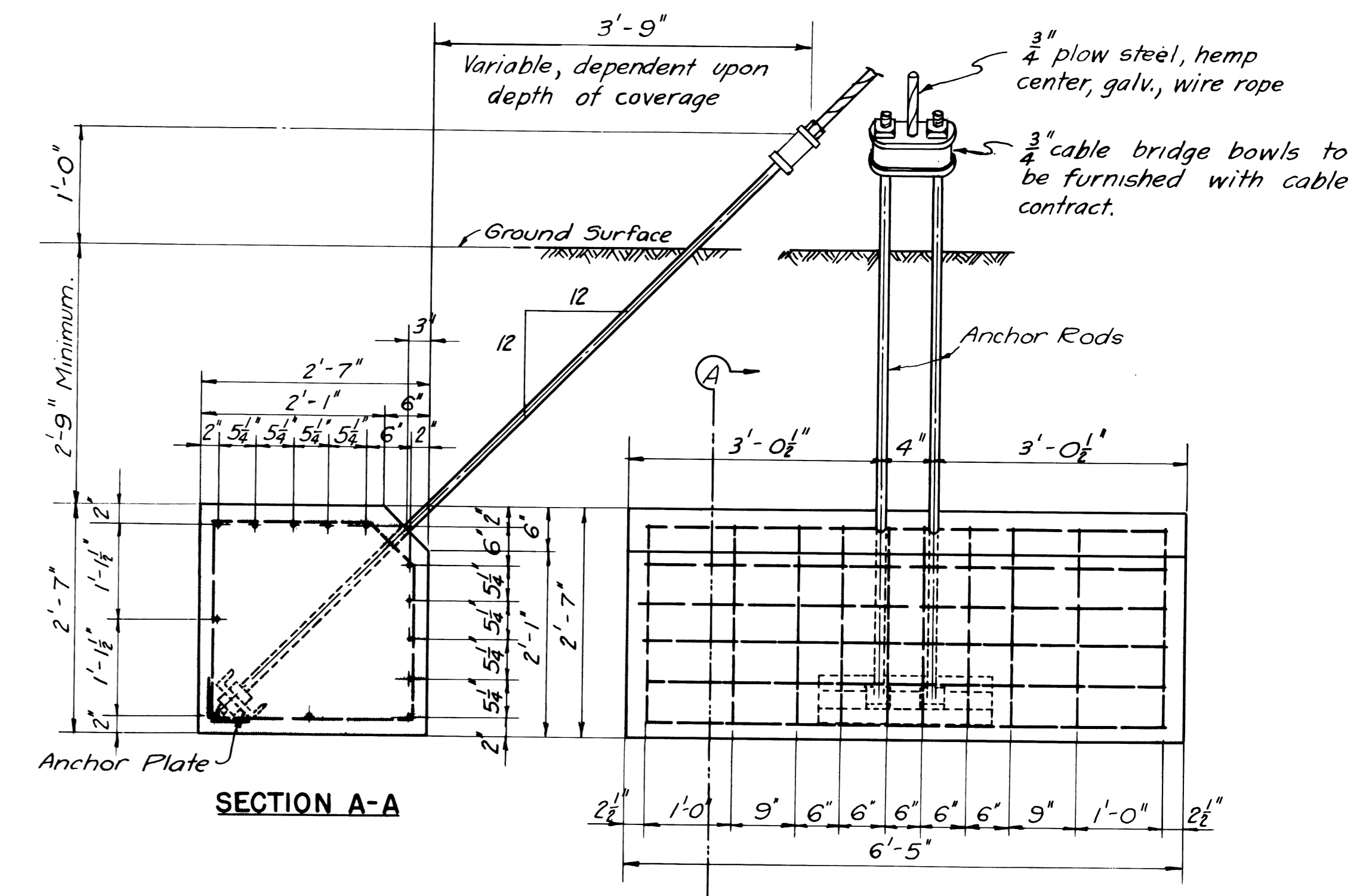
FOOTING & ANCHOR PLAN

This layout is NOT SQUARE
 Cables shall slope at 45° and location of guy anchors shall be computed accordingly.



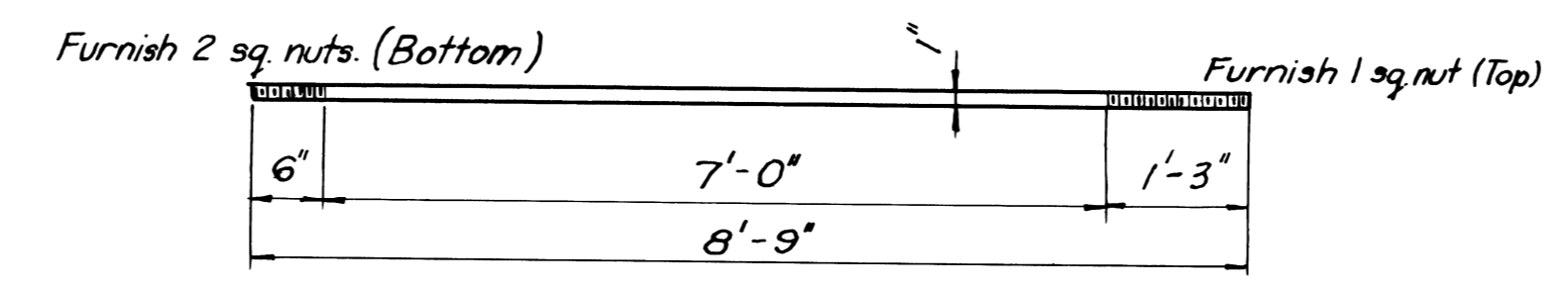
TOWER FOOTING

3'-0" x 3'-0" concrete block of variable height. Top bevelled two ways at 4:12 slope.
 4 Required



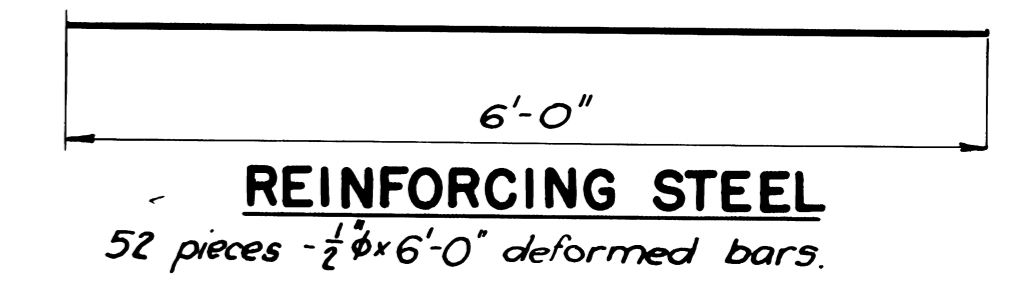
GUY ANCHOR DETAIL

4 Required



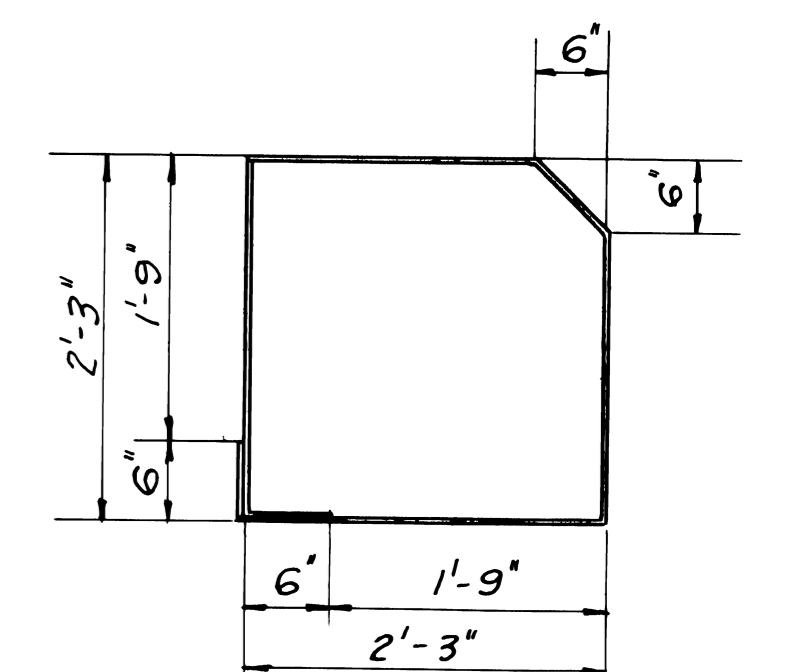
ANCHOR ROD

1" φ x 8'-9" Rod, galvanized. Thread ends as indicated. Furnish 3 sq nuts each rod.
 Make 8.



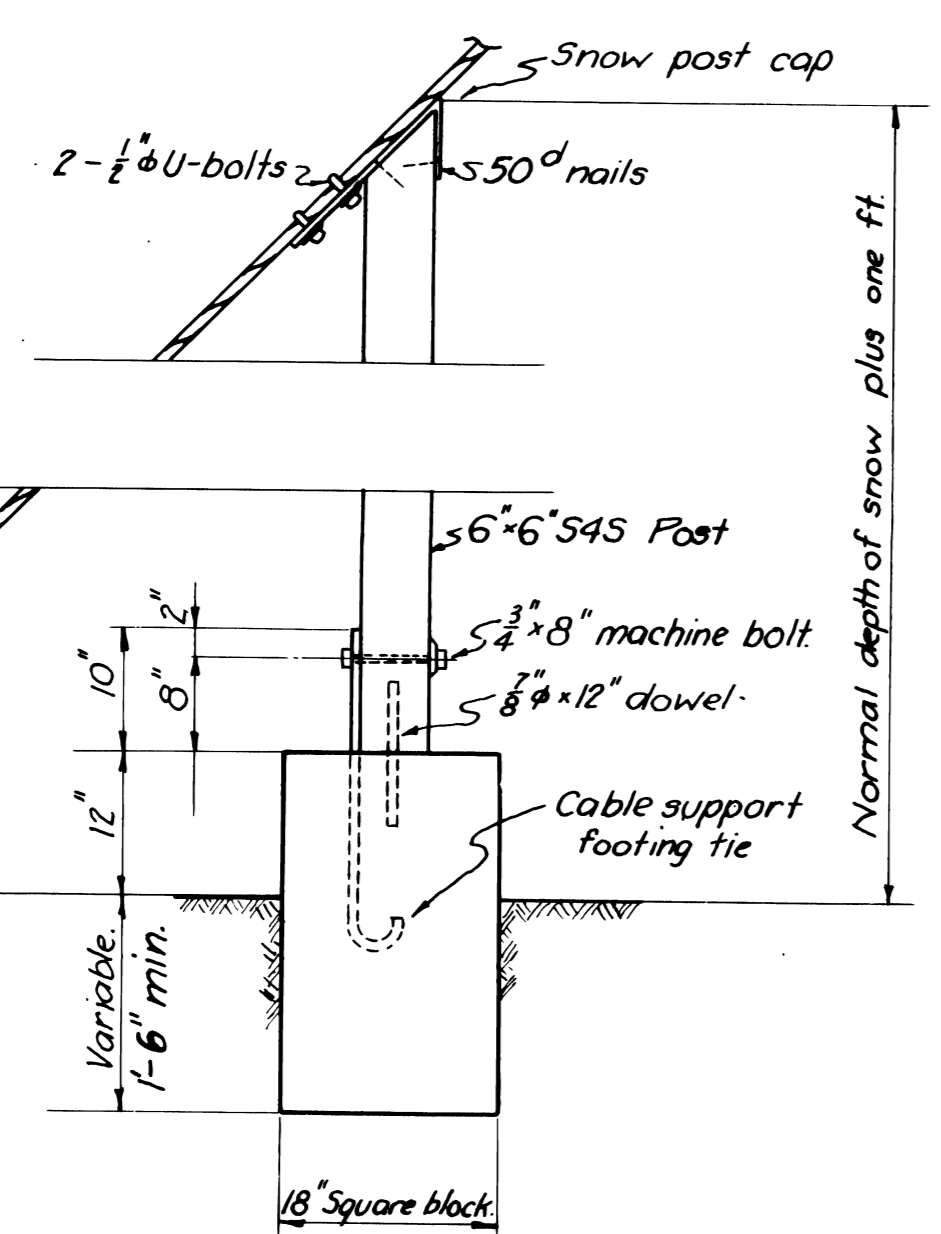
REINFORCING STEEL

52 pieces - 2" φ x 6'-0" deformed bars.



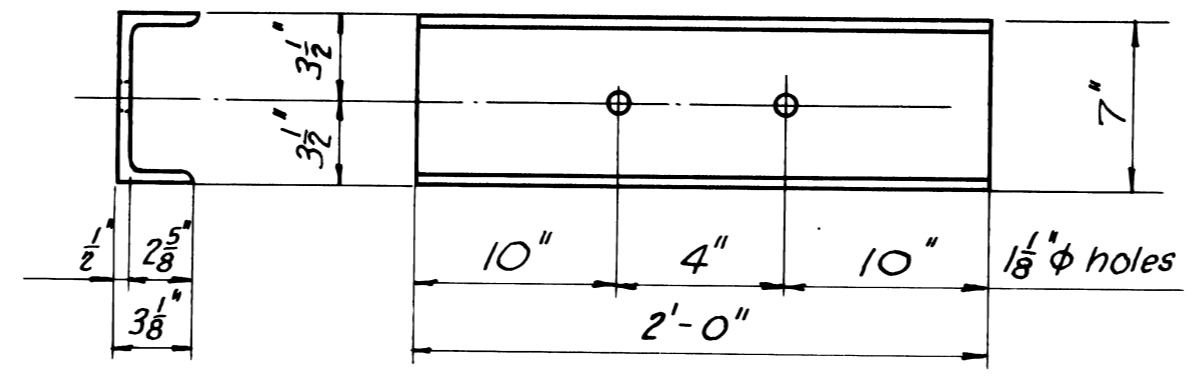
REINFORCING TIES

Make 40 - 3/4" φ x 9'-9" deformed bars.



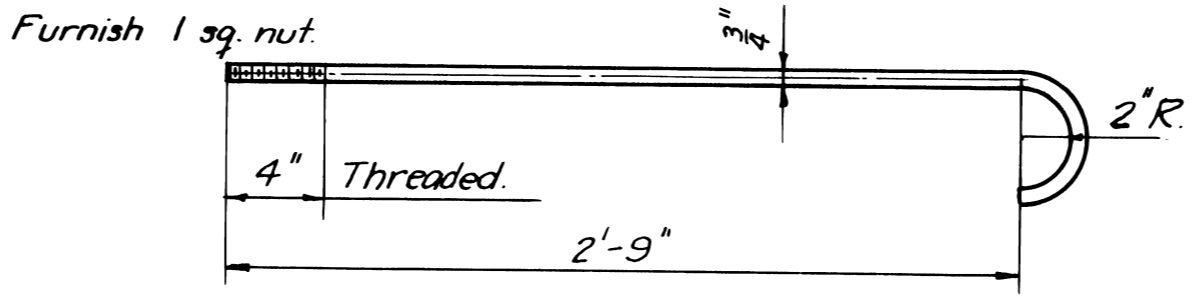
GUY CABLE SUPPORT

4 Required where tower is located in region of heavy snow.



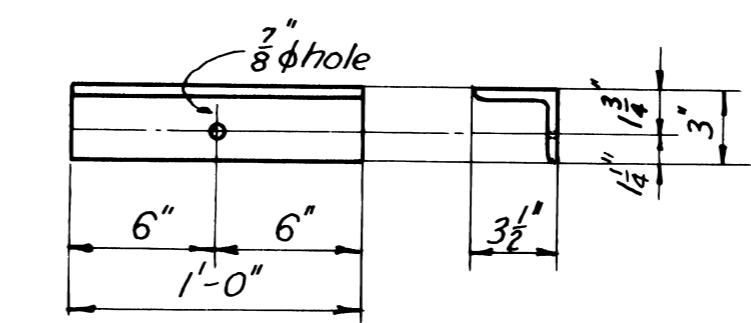
ANCHOR PLATE

7' x 3/8" x 2'-0" Channel, C42 (BSC9) Galvanized.
 Make 4.



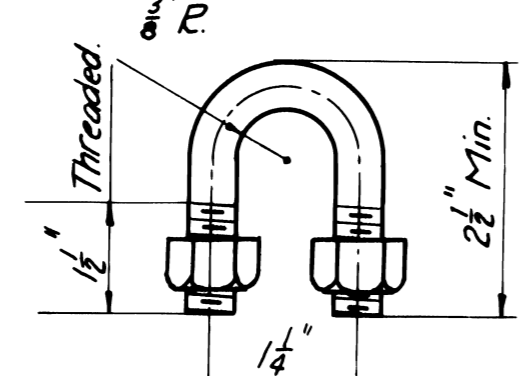
FOOTING ROD

3/4" φ x 3'-4" galvanized rod
 Furnish 1 sq nut each rod.
 Make 4.



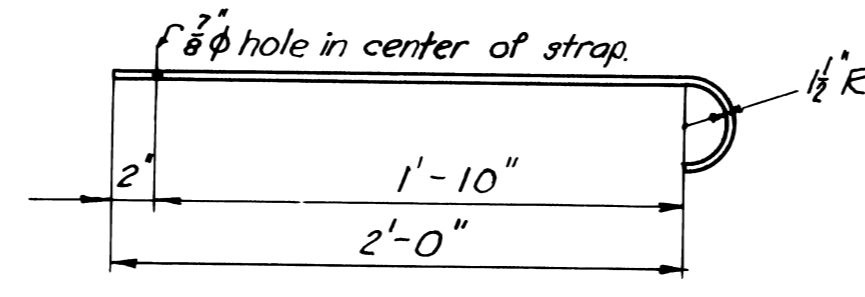
FOOTING ANGLE

3/4" x 3" x 3/8" x 1'-0" galvanized angle.
 Make 4.
 For the assembly of this angle to top end of footing rod see drawing L-10502, general elevation.



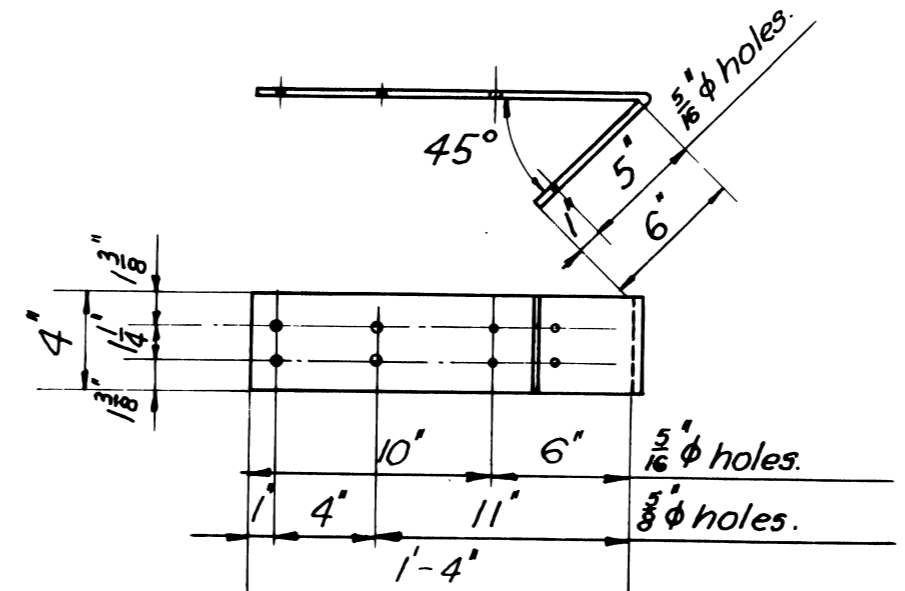
U-BOLT

1/2" φ galvanized bolt.
 Furnish 2 hex nuts each.
 Make 8.



CABLE SUPPORT TIE

3/8" x 3" x 2'-6" galvanized strap.
 Make 4.



SNOW POST CAP

4" x 1/4" x 1'-10" galvanized strap.
 Make 4.

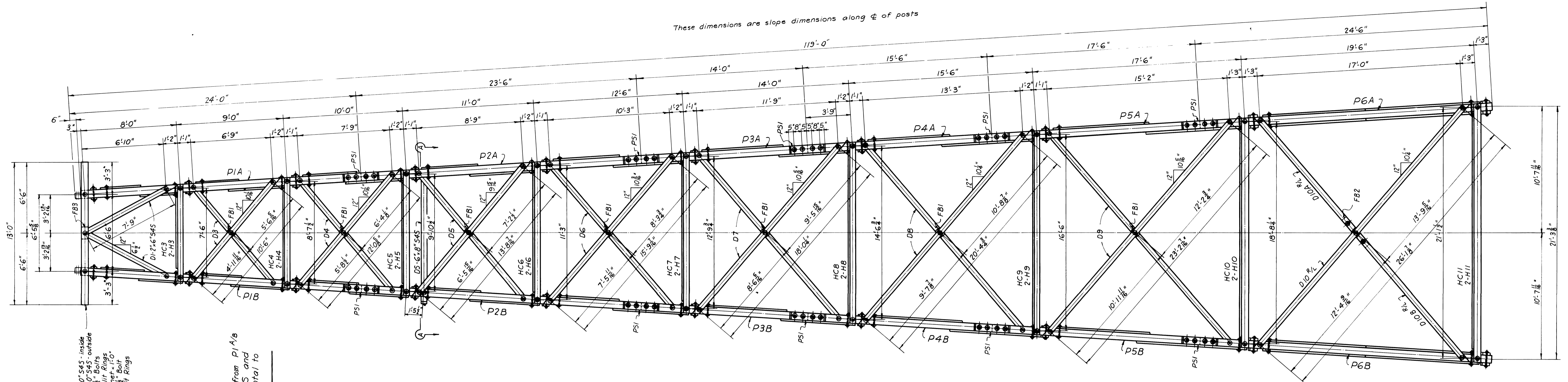
Furnish all detailed material, and in addition furnish,
 4 - 3/8" φ x 12" dowels, plain.
 4 - 1" φ x 10" dowels, plain.
 4 - 3/4" x 8" machine bolts.
 4 - 3/4" malleable washers. } All galvanized

CONCRETE

Mix 1:3:5
 Approximate volume 9.5 cu yds.
 Cement = 10.9 bbls.
 Sand = 5.0 yds.
 Gravel = 8.3 yds.

Quantities shown are based upon minimum dimensions as shown.

U. S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE
 REGION SIX JAMES FRANKLAND, REGIONAL ENGINEER
 STANDARD LOOKOUT TOWER
 119-FOOT TYPE CT-1
 FOUNDATION PLAN
 DESIGNED B.C.O. DRAWN B.C.O. TRACED B.C.O.
 SCALE NONE CHECKED J.C.F.
 APPROVED J.C.F. DATE DEC 12 1937
 ACT. ASSISTANT REGIONAL FORESTER.



Bolt and Ring details same as Face A, except as noted. See Face A for sizes of marked members.

FACE B

H1A 3" x 8" x 10' S4S inside
 H1B 3" x 8" x 10' S4S outside
 4" x 4" x 12' Bolts
 1" x 4" x 12' Split Rings
 2" x 4" Split Rings

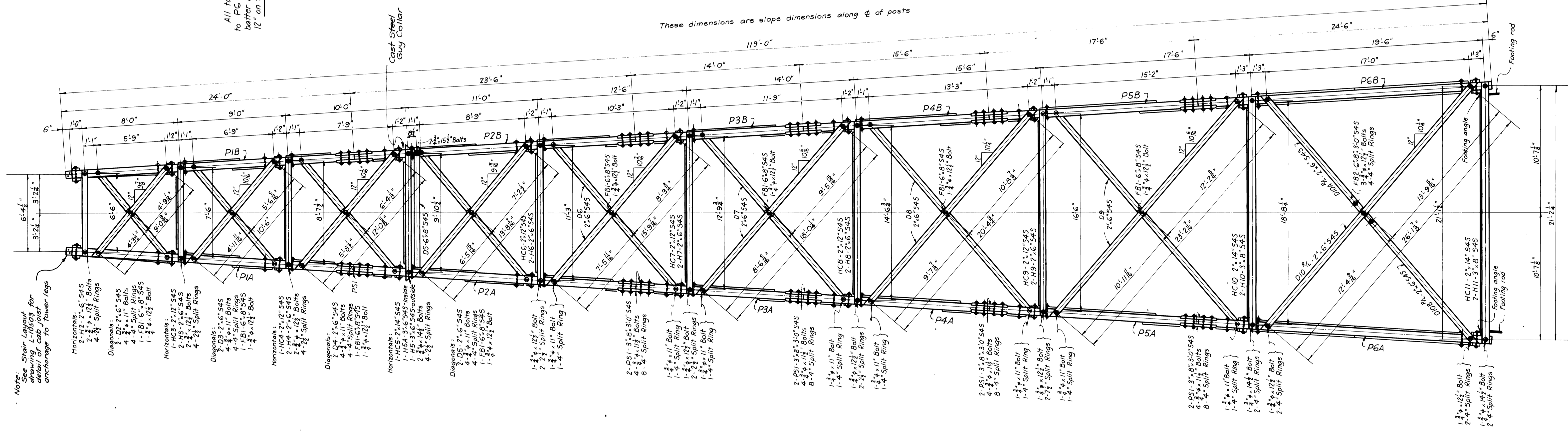
NOTE:
 All tower legs (marked from P1A to P6A) are 8" x 8" S4S and bolts at 1/4" on the horizontal to 1/2" on the slope.

Note: See Stair Layout drawing L-10503 for detail of cast joint anchorage to tower legs

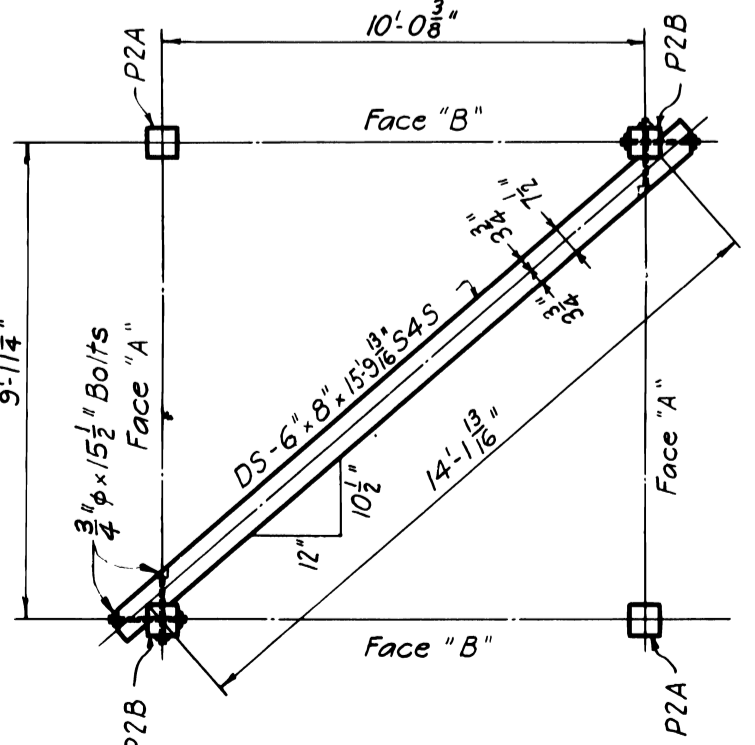
Horizontals:
 2 - H2 2" x 6" S4S
 2 - H3 2" x 6" S4S
 4 - 1/2" Split Rings

Diagonals:
 2 - D2 2" x 6" S4S
 4 - 1/2" Split Rings
 1 - F1 6" x 8" S4S
 1 - F2 6" x 8" S4S
 1 - F3 6" x 8" S4S
 1 - F4 6" x 8" S4S
 1 - F5 6" x 8" S4S
 1 - F6 6" x 8" S4S
 1 - F7 6" x 8" S4S
 1 - F8 6" x 8" S4S
 1 - F9 6" x 8" S4S
 1 - F10 6" x 8" S4S
 1 - F11 6" x 8" S4S

These dimensions are slope dimensions along ϕ of posts

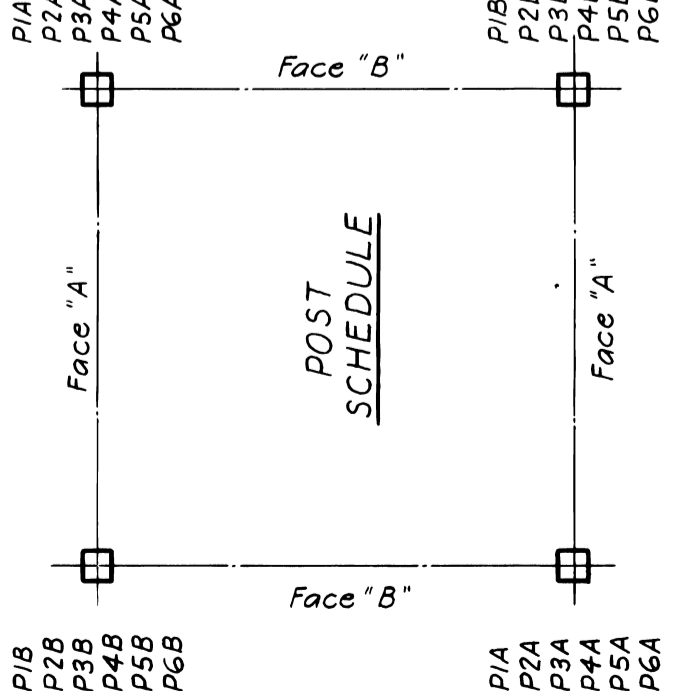


FACE A



SECTION AA

Note: Dimensions are at level of top of strut.



POST SCHEDULE

Erection schedule of posts by panels from top of tower.

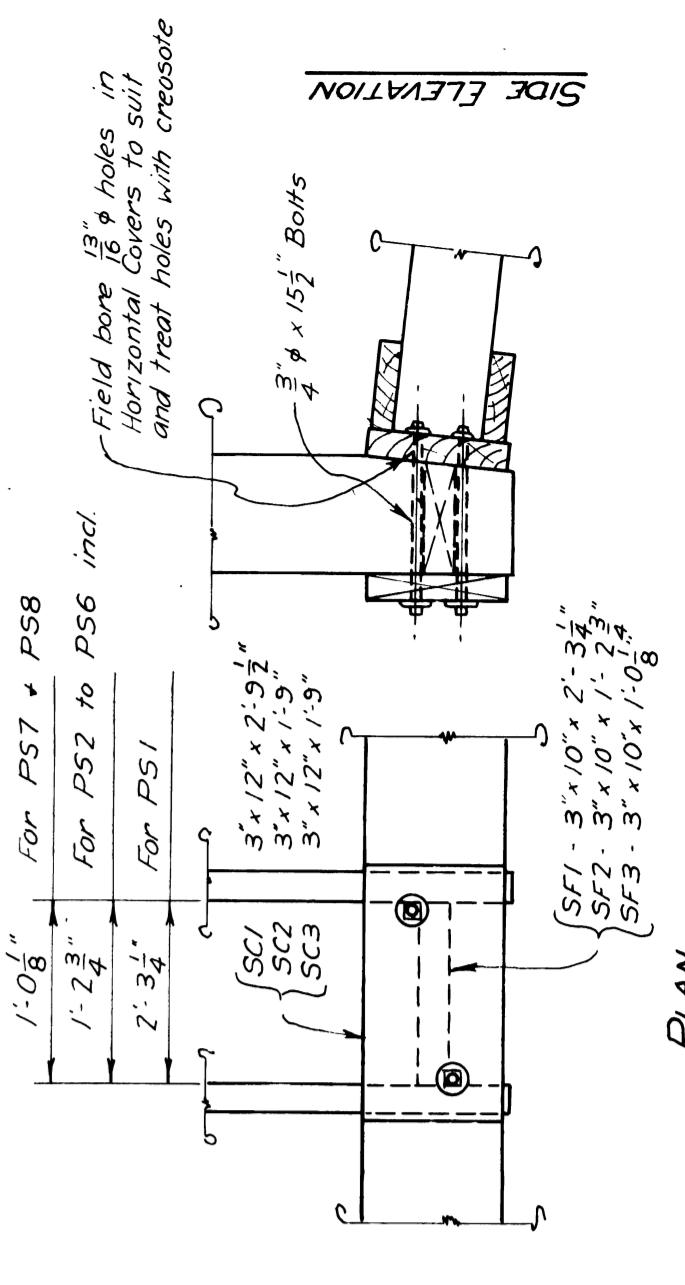
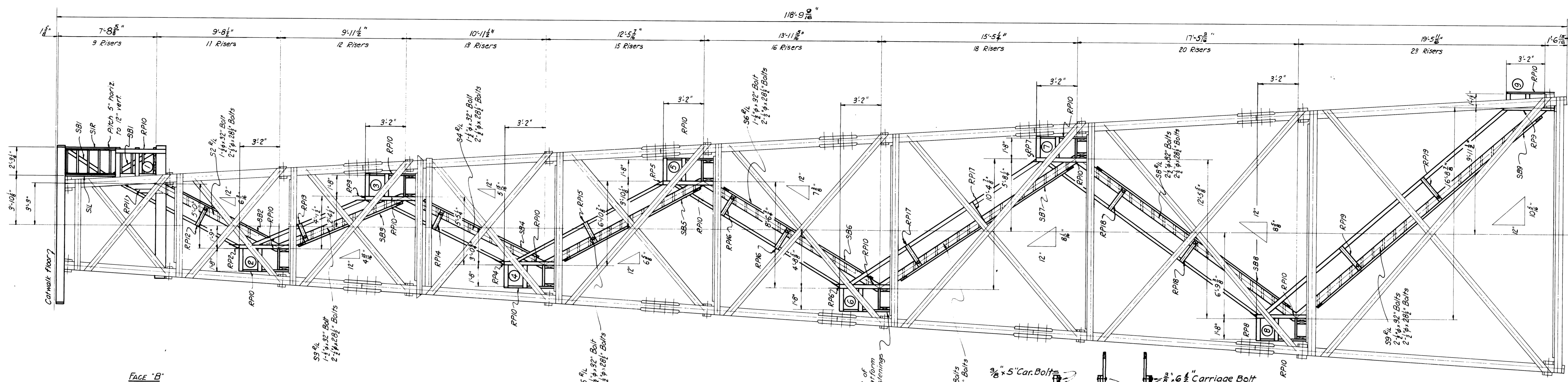
Revised 10-4-39 by A.S./J.F.

U. S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE

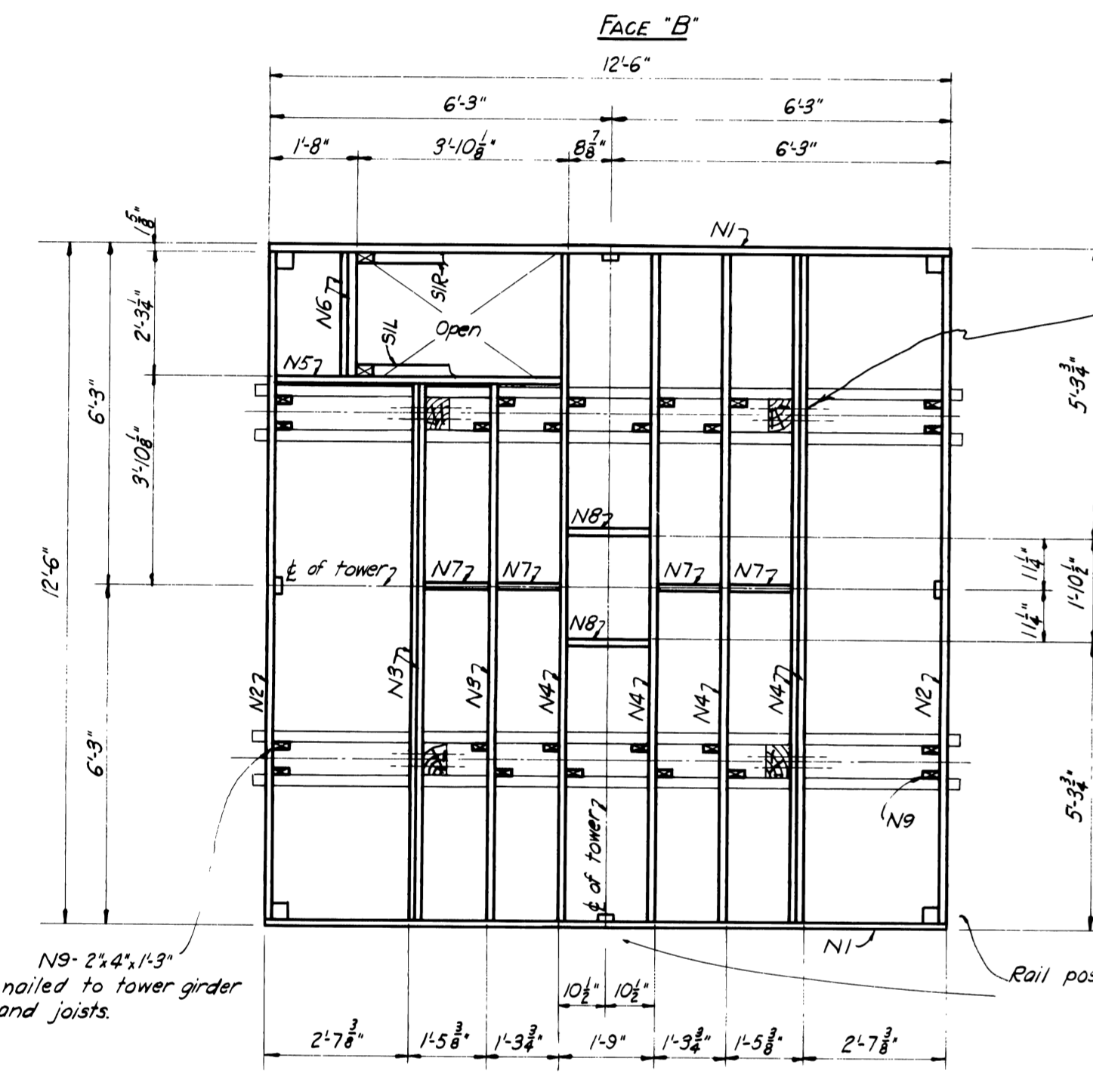
REGION SIX JAMES FRANKLAND REGIONAL ENGINEER

STANDARD LOOKOUT TOWER
 119 FOOT TYPE CT-1
 GENERAL PLAN

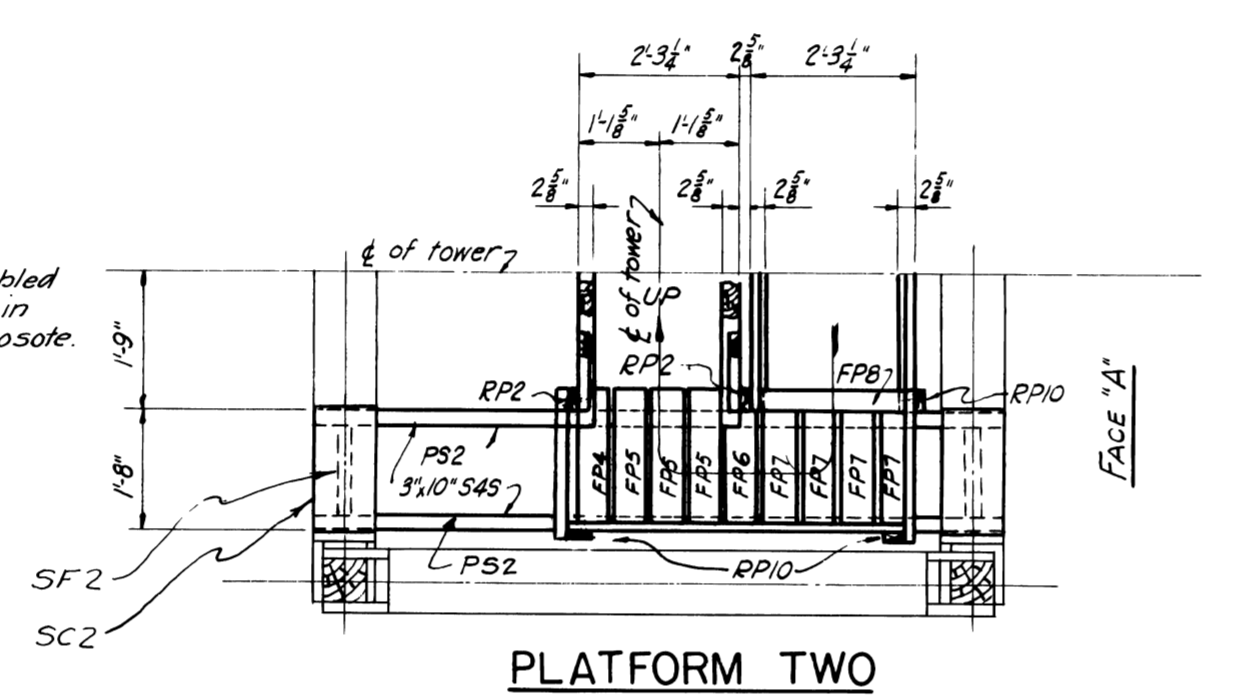
DESIGNED W.G. DRAWN W.G. TRACED W.G.
 SCALE 1/4" = 1'-0" CHECKED W.D.B.
 APPROVED DATE DEC. 13, 1937
 ACT. ASSISTANT REGIONAL FORESTER



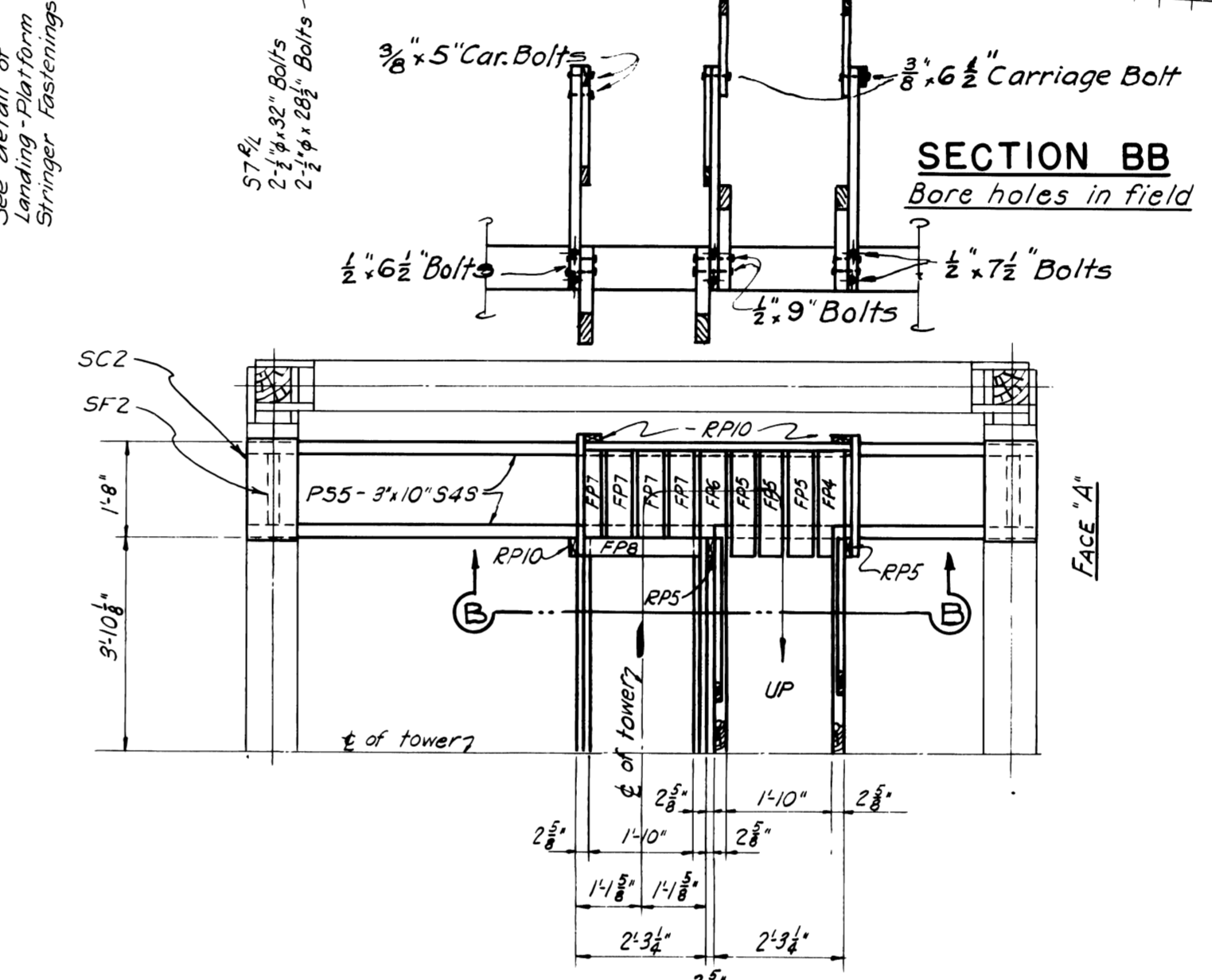
PLATFORM STRINGER FASTENINGS
Scale 3/4" = 1'-0"



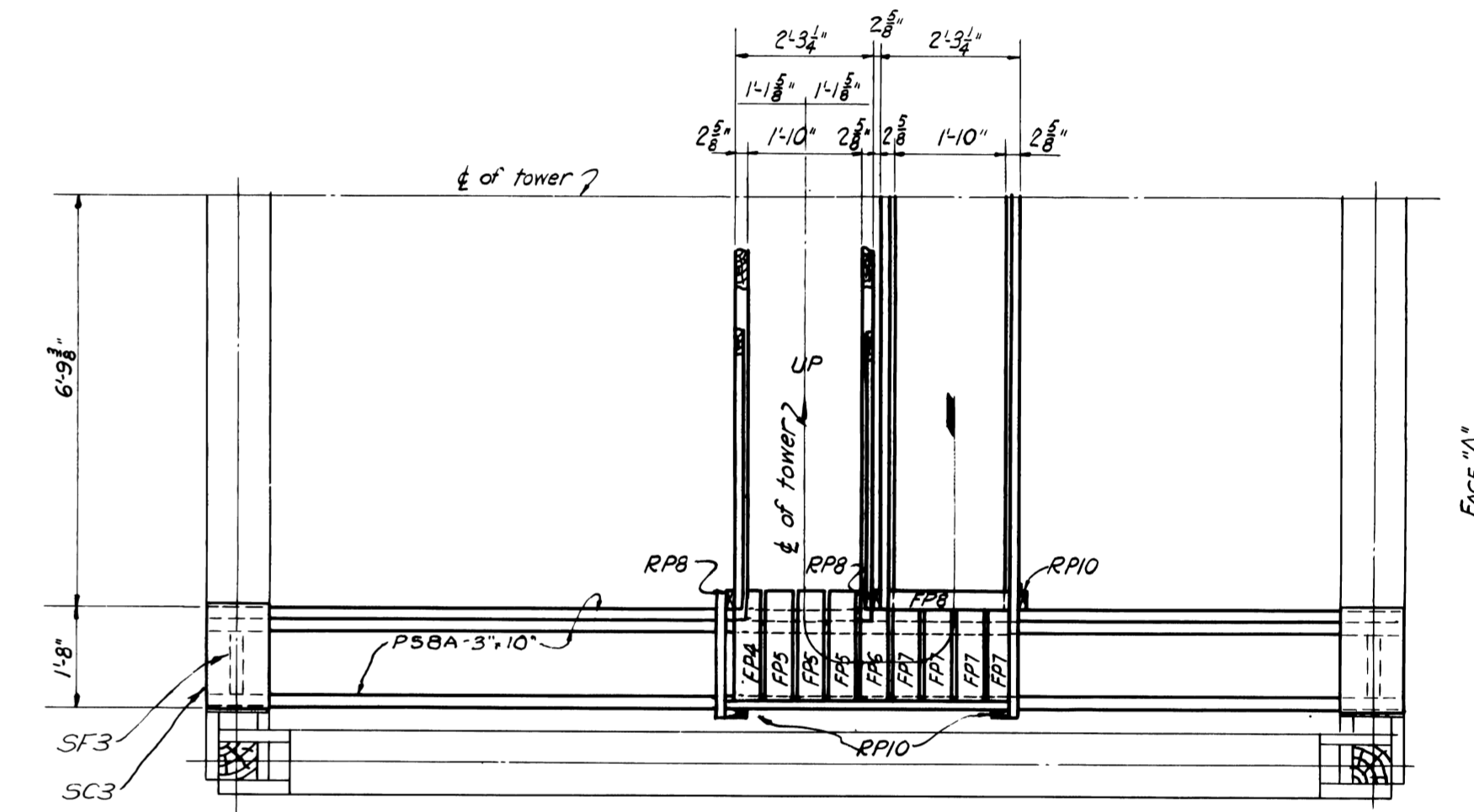
CAB JOIST LAYOUT



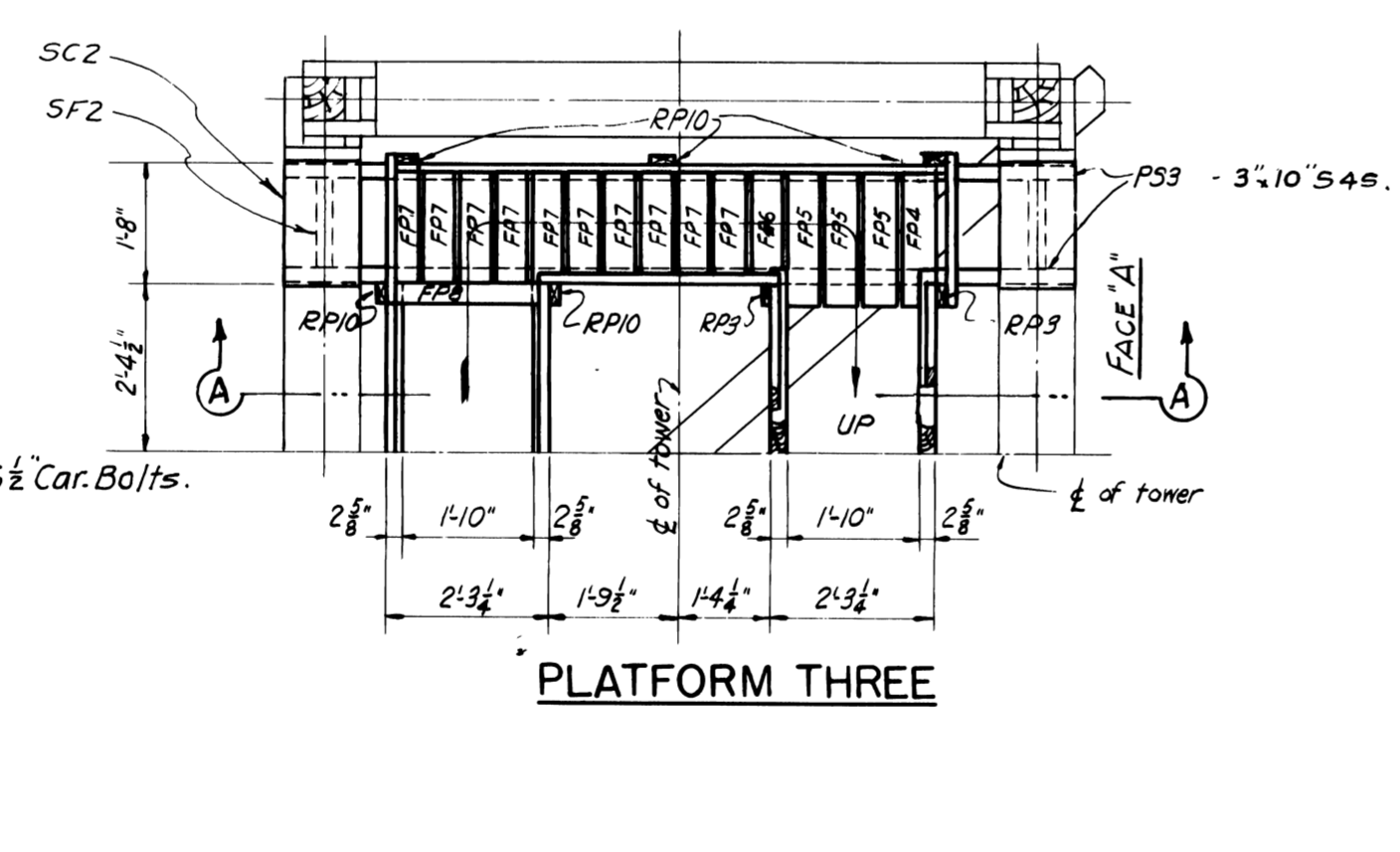
PLATFORM TWO



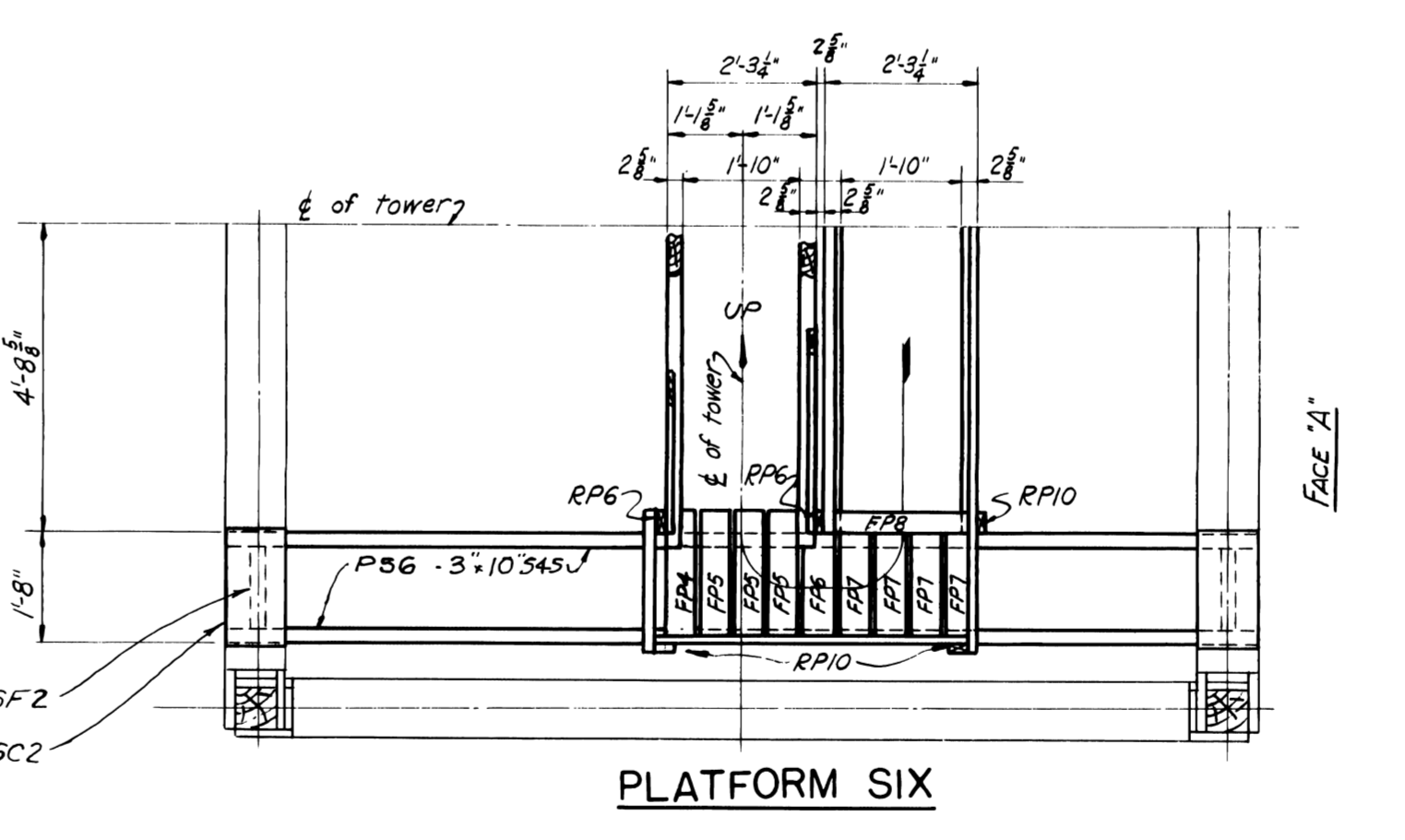
PLATFORM FIVE



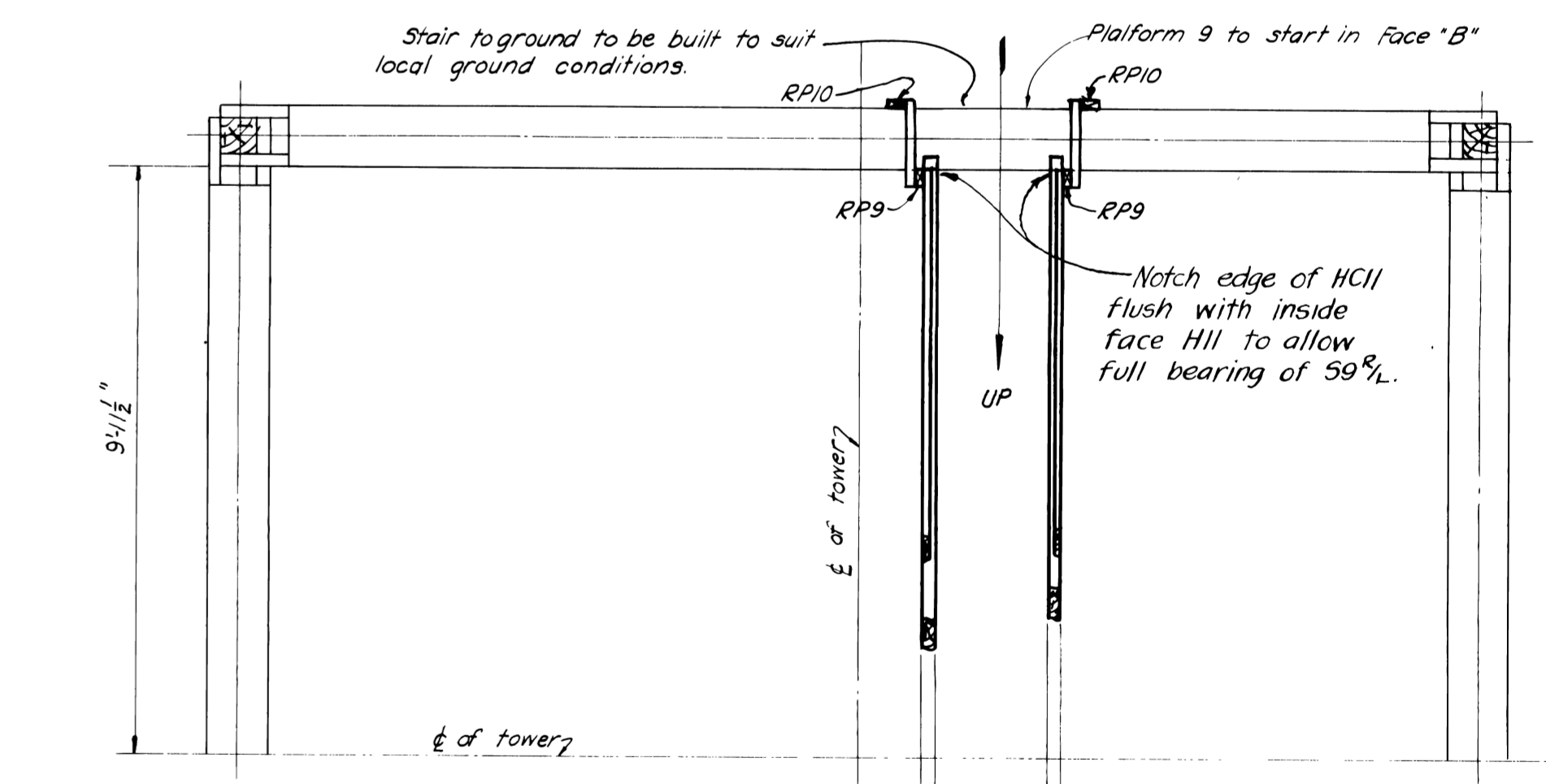
PLATFORM EIGHT



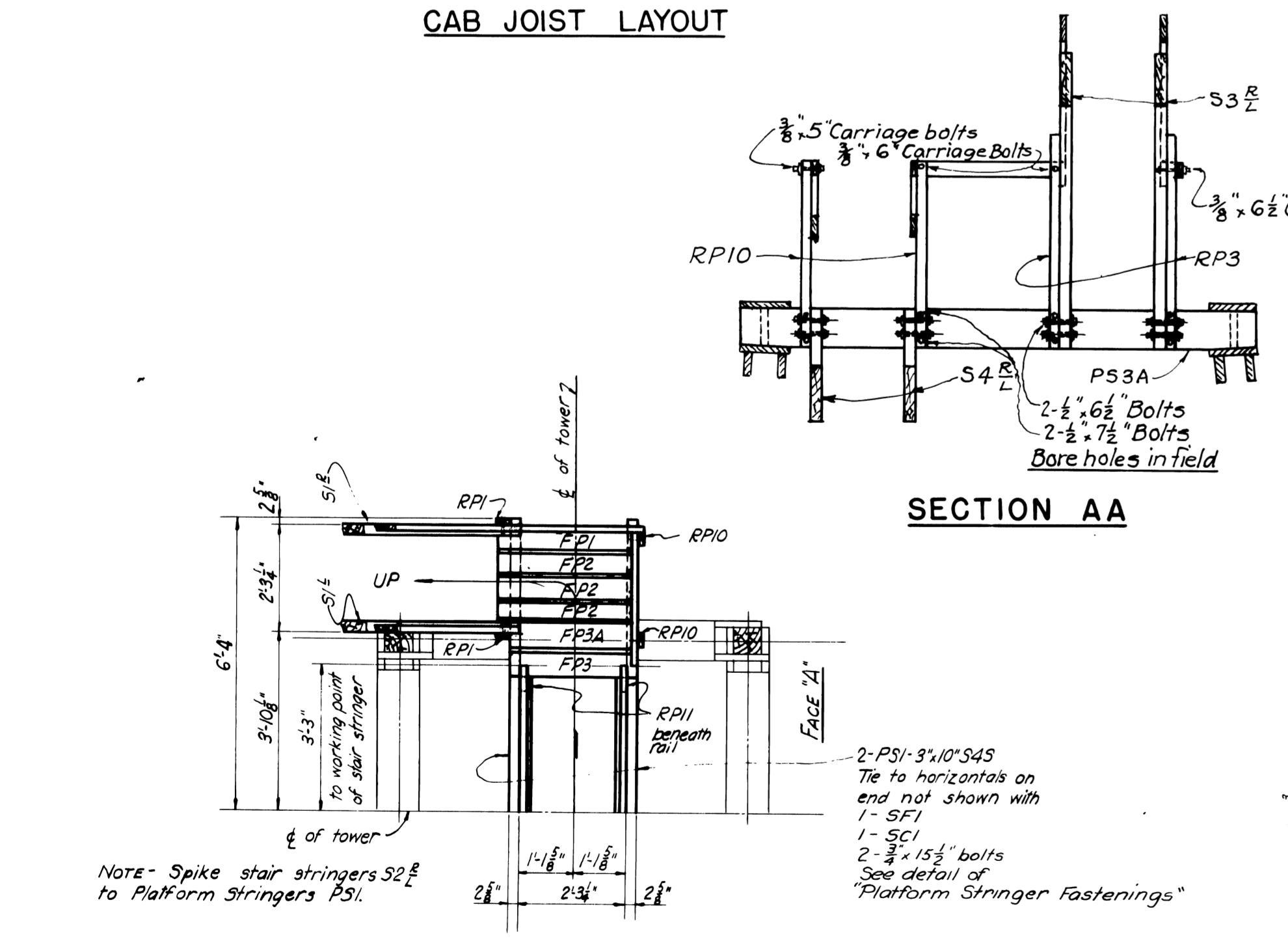
PLATFORM THREE



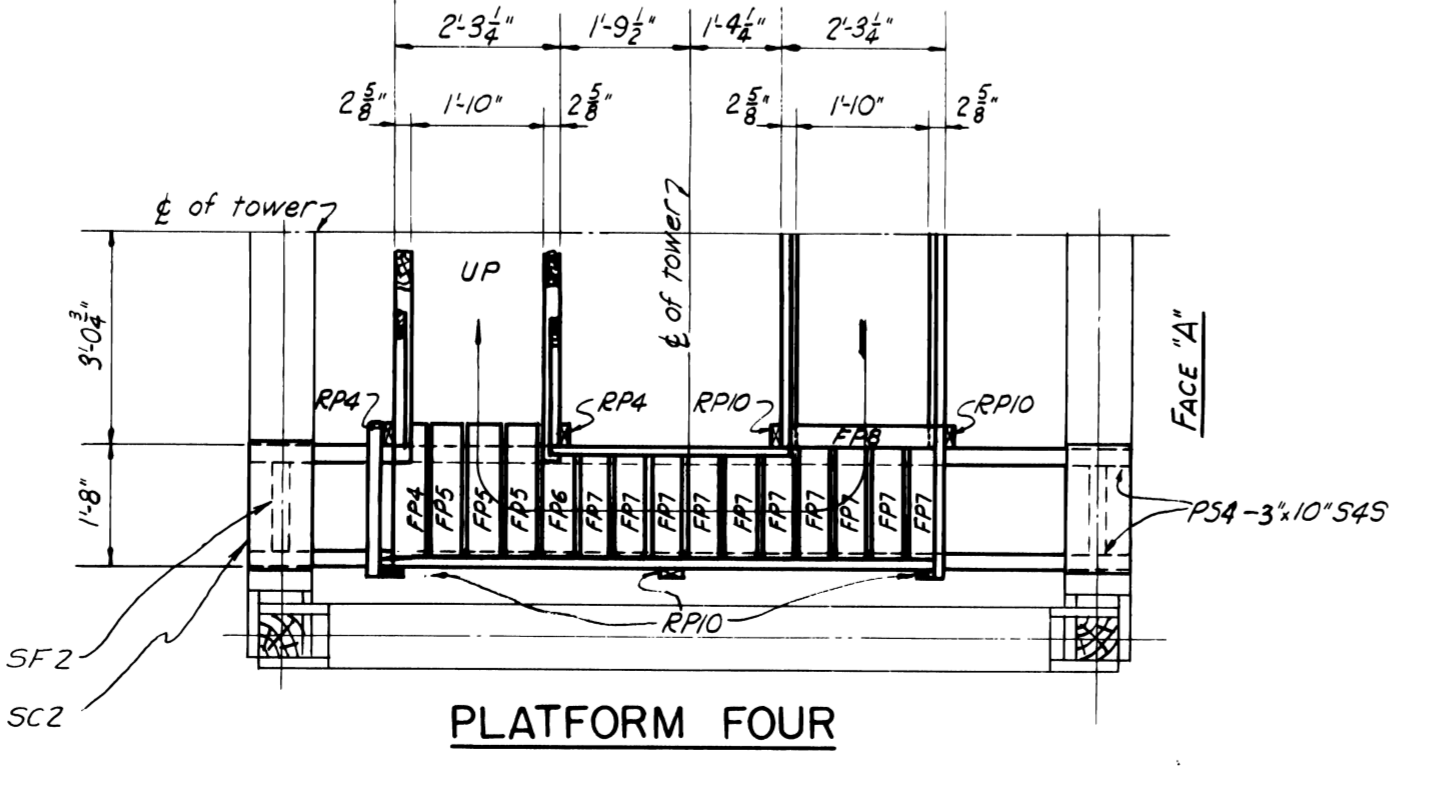
PLATFORM SIX



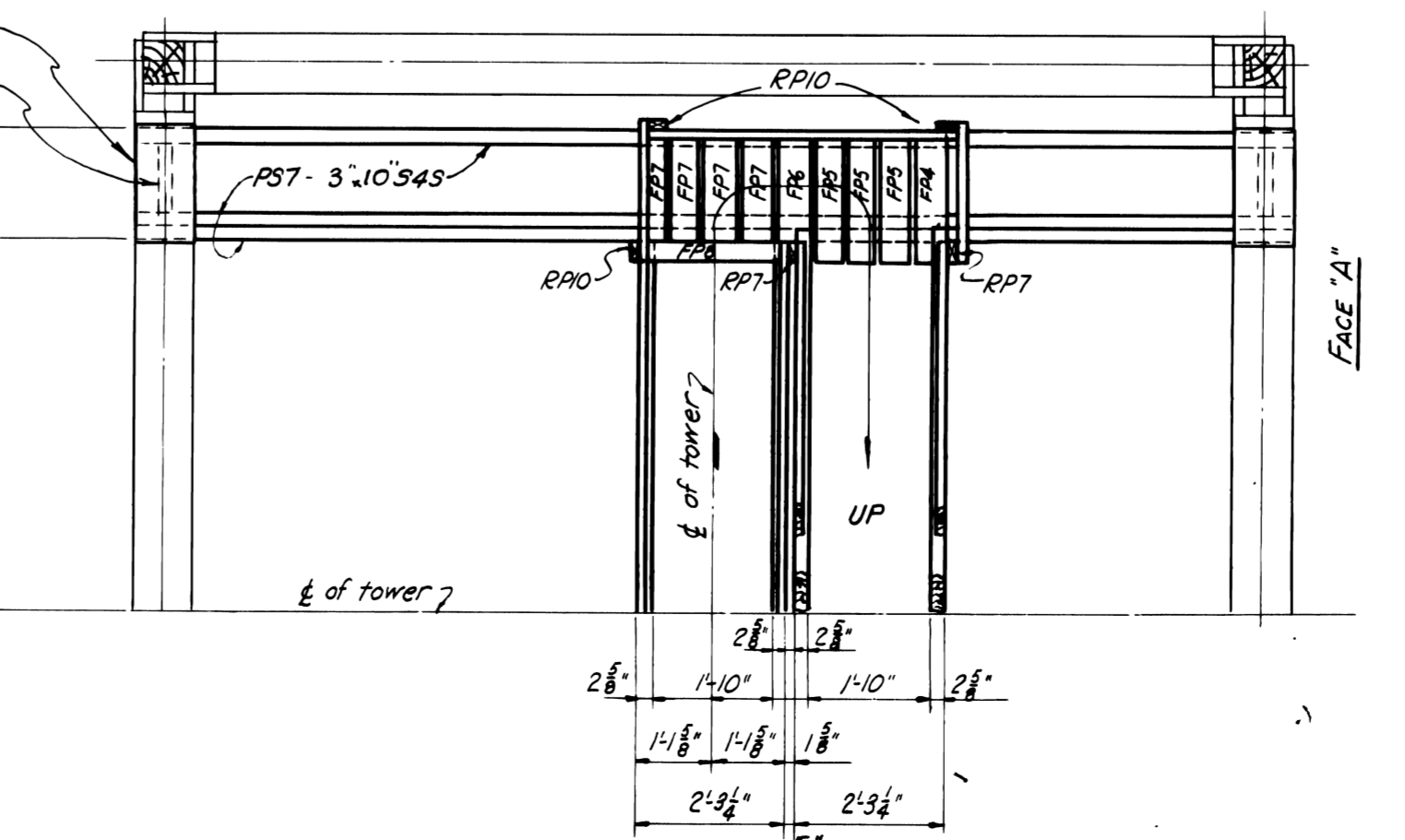
PLATFORM NINE



PLATFORM ONE



PLATFORM FOUR



PLATFORM SEVEN

MATERIAL SIZES

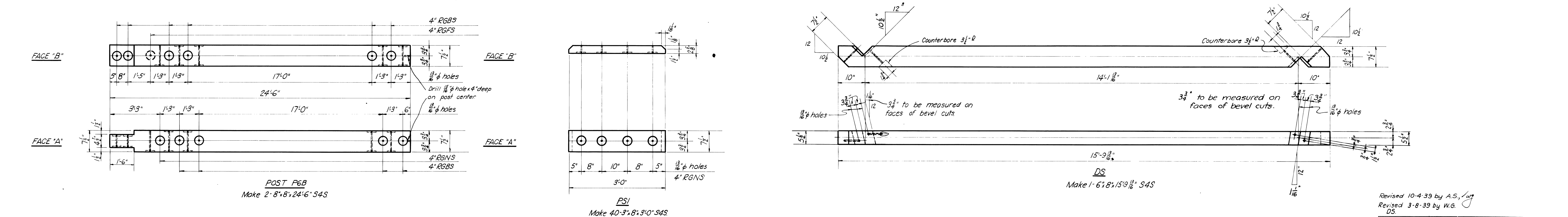
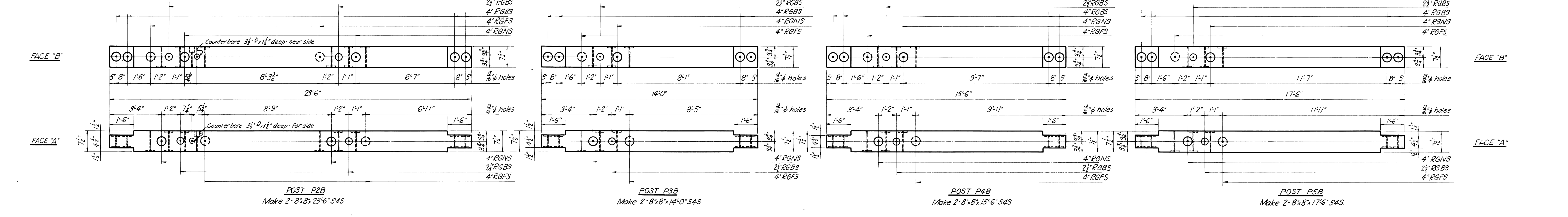
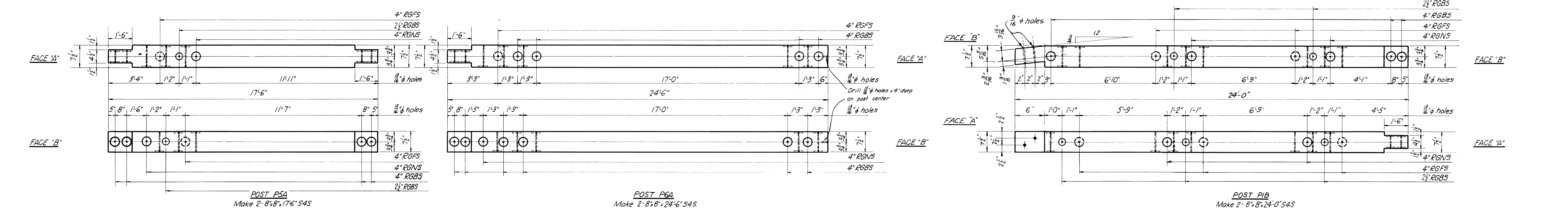
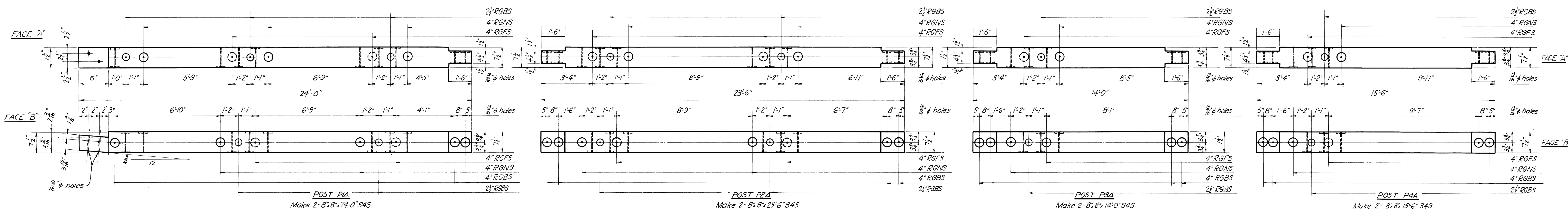
Cab Joists	2x8	S4S	Treated
Stair Stringers	3x8	"	"
Stair Treads	2x8	"	"
Platform Stringers	3x10	"	"
Platform Floor Plank	2x6	"	"
Rail Posts	3x4	"	"
Stair Stringer Sways	2x4	"	"
Hand Rails	2x4	"	Untreated

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
REGION SIX JAMES FRANKLAND REGIONAL ENGINEER

**STANDARD LOOKOUT TOWER
119-FOOT TYPE CT-1
STAIR LAYOUT**

Stair stringers to bear directly on platform stringers and not on platform plank.
Hand Rail posts to be bolted to platform stringers with 2-1/2" bolts and to stair stringers with two 1/2" bolts (Section A-A).
Revised 3-23-40 W.P.S.
Revised 2-5-38 H.R.S.
Revised 10-2-39 A.S. wj

DESIGNED W.G. DRAWN W.G. TRACED H.R.S.
SCALE 3/8" = 1'-0" EXCEPT AS NOTED CHECKED W.D.S.
APPROVED J.F. DATE DECEMBER 1937.
ACT. ASSISTANT REGIONAL FORESTER



RGBS- Ring Groove Both Sides
 RGNS- Ring Groove Near Side
 RGFS- Ring Groove Far Side

Revised 10-4-39 by A.S./Jug
 Revised 3-8-39 by W.G.
 DS

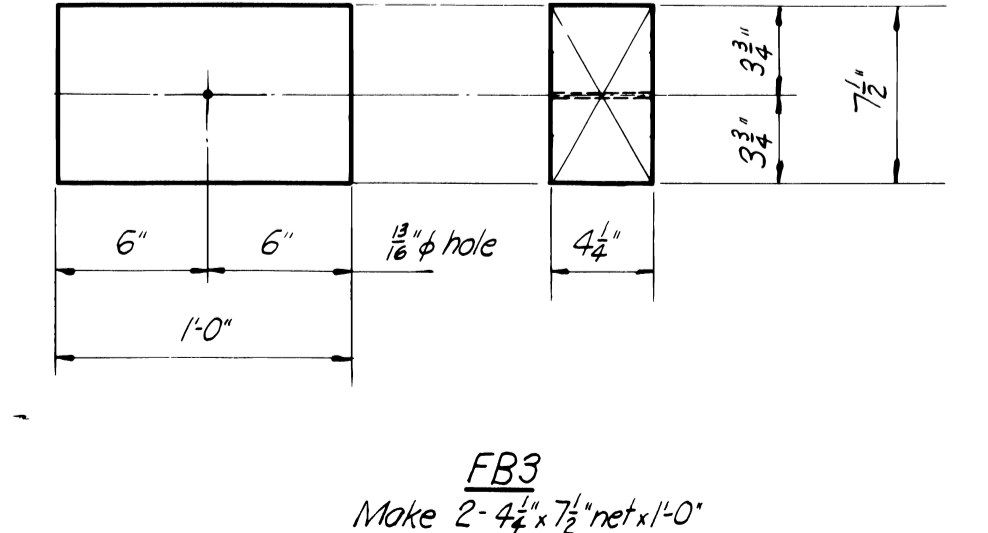
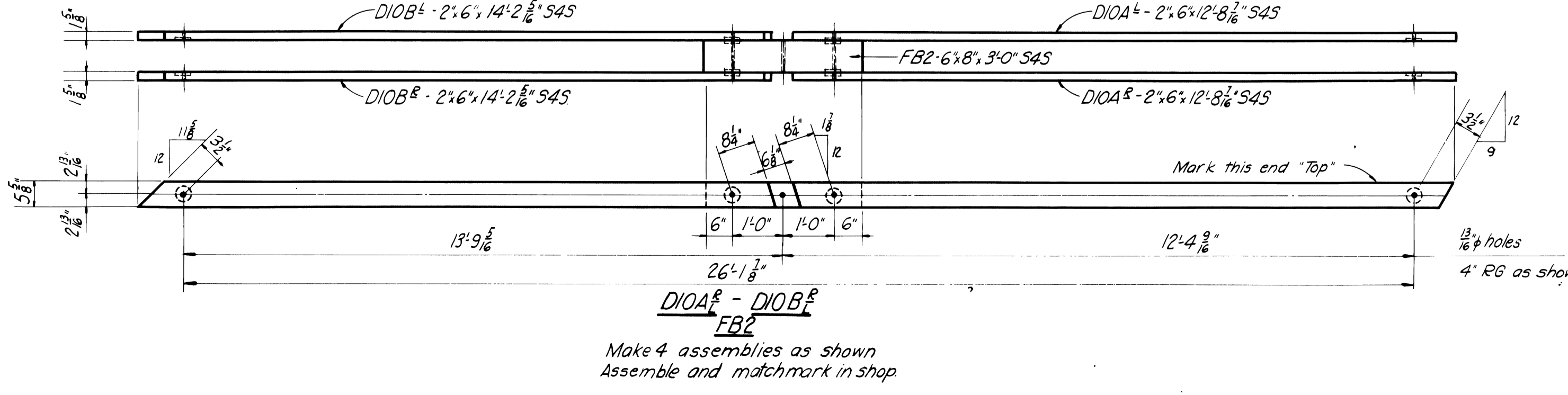
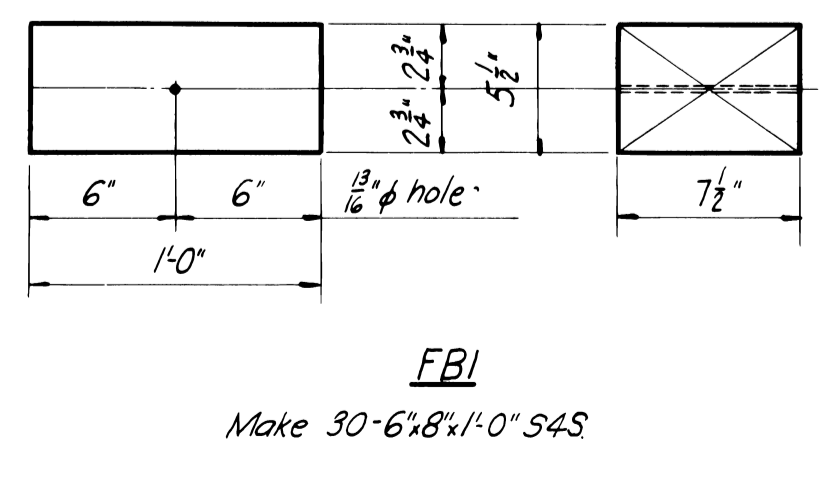
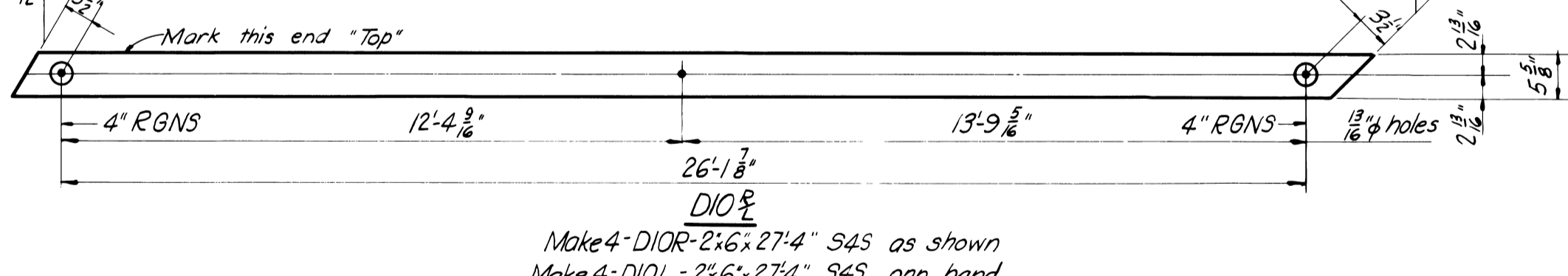
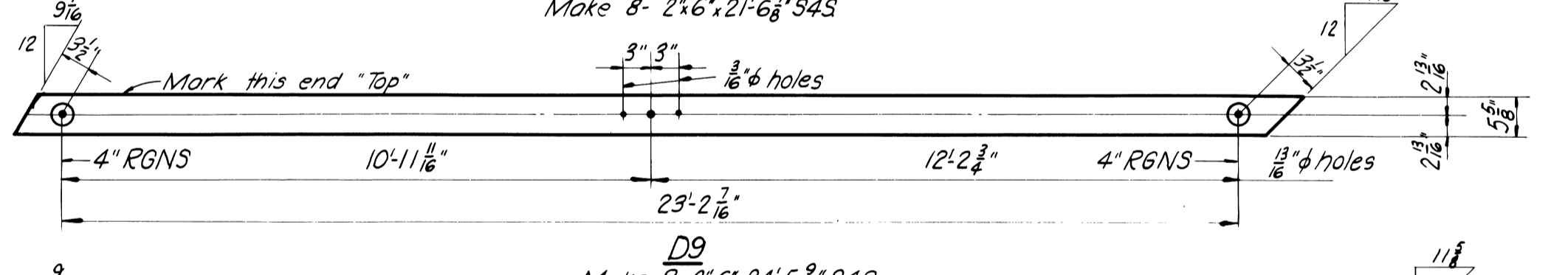
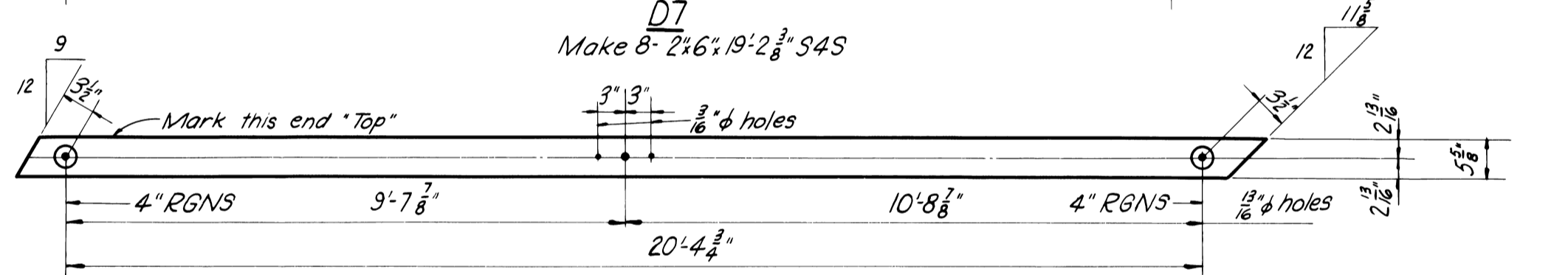
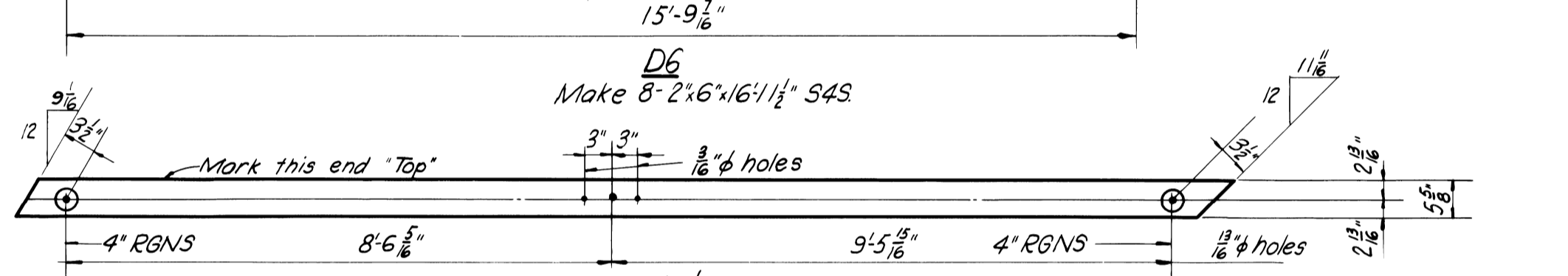
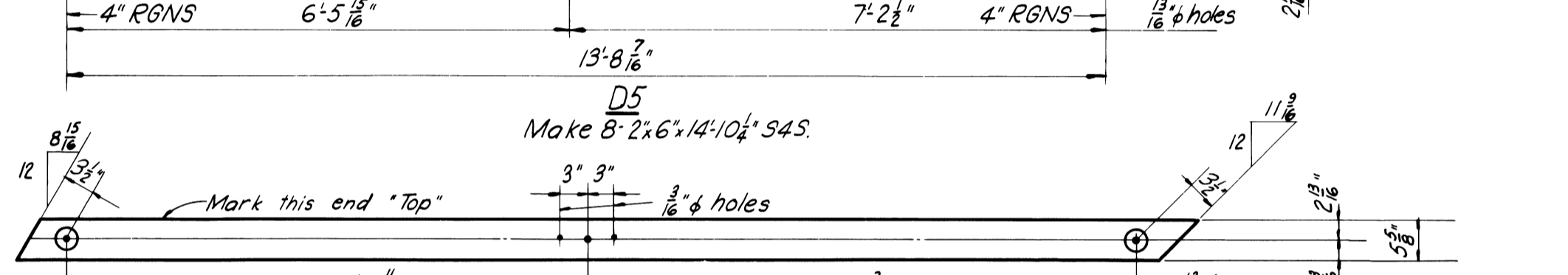
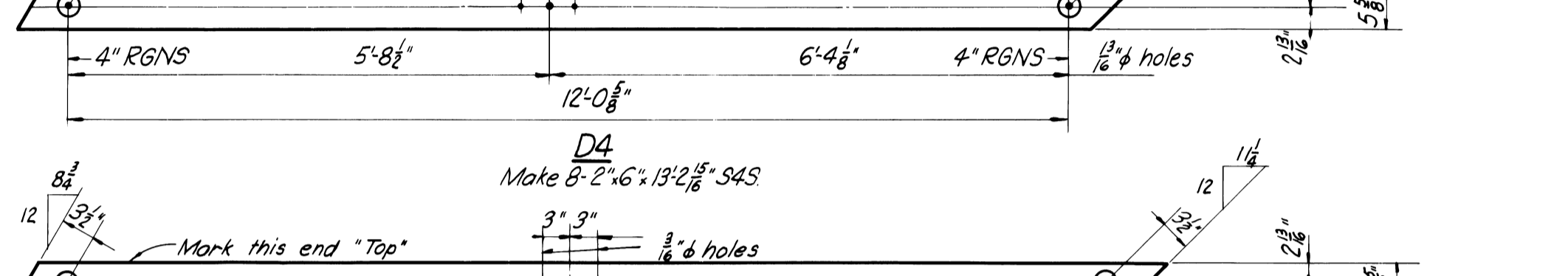
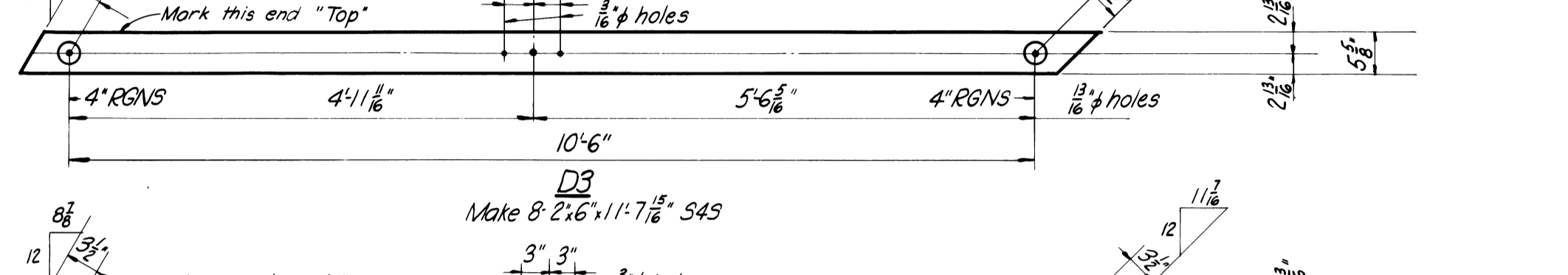
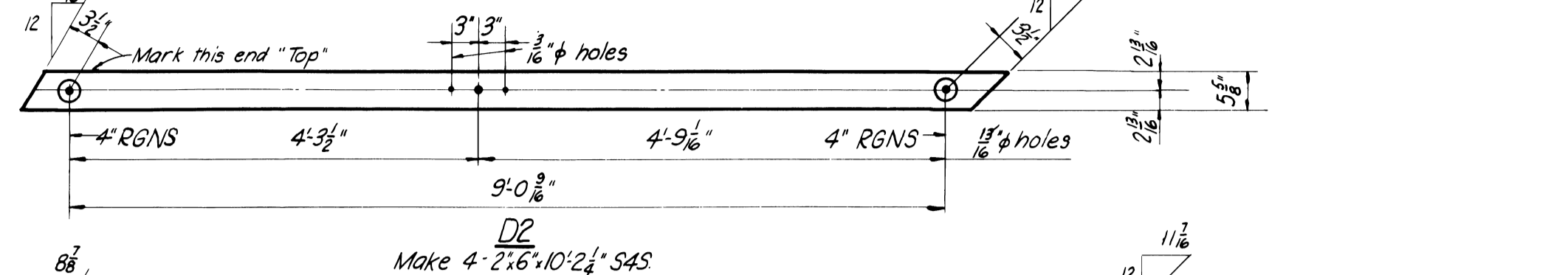
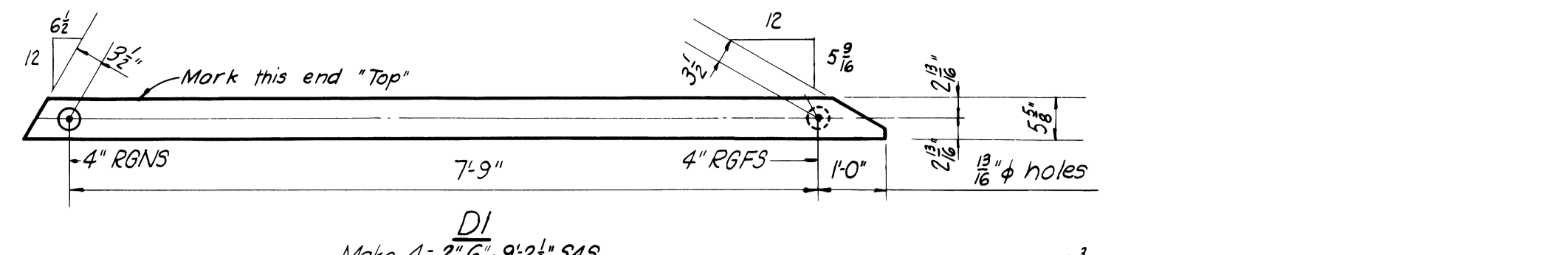
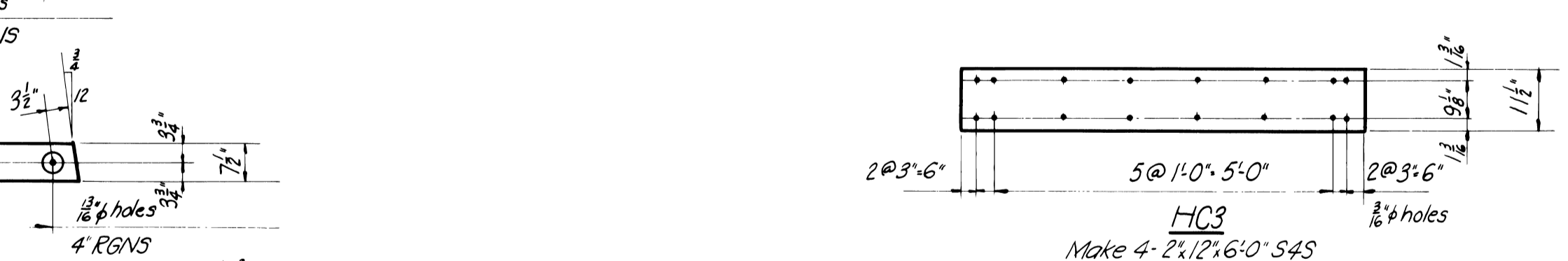
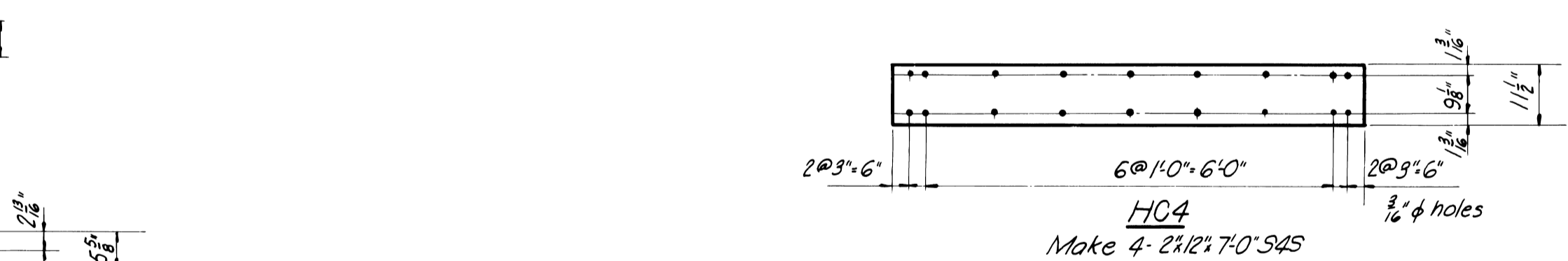
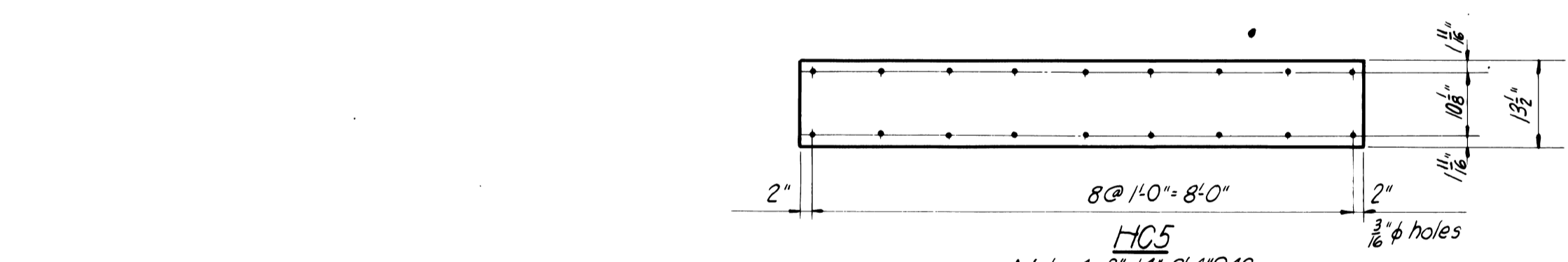
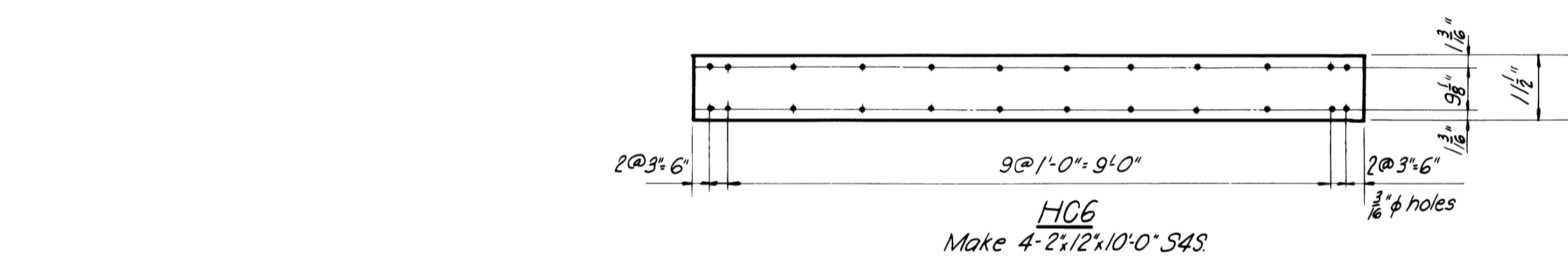
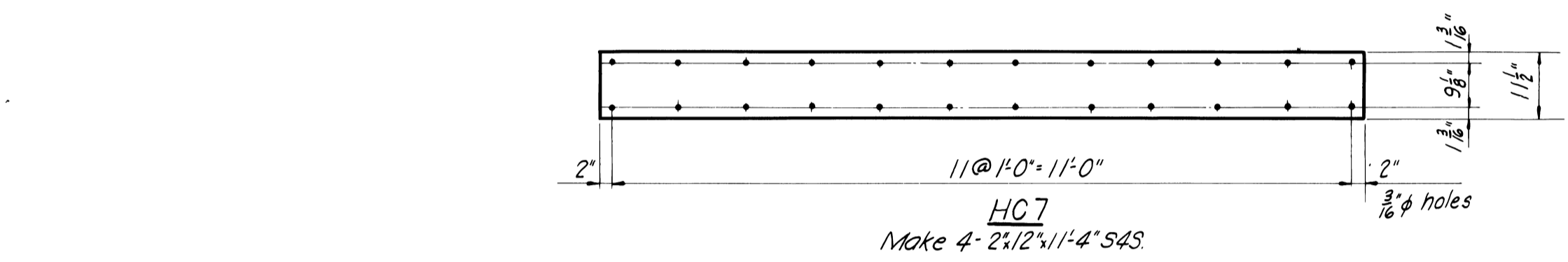
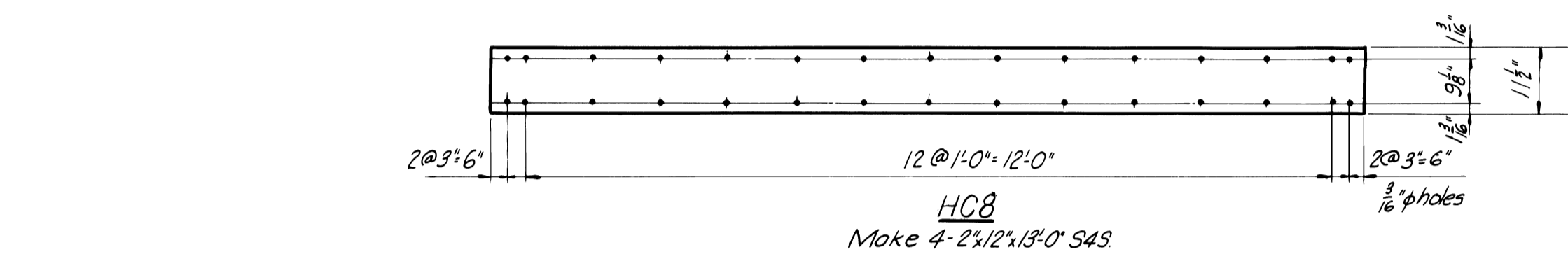
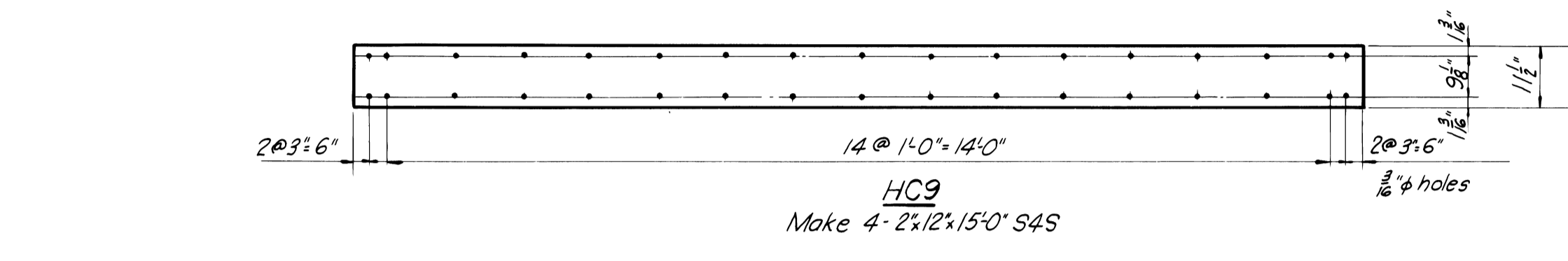
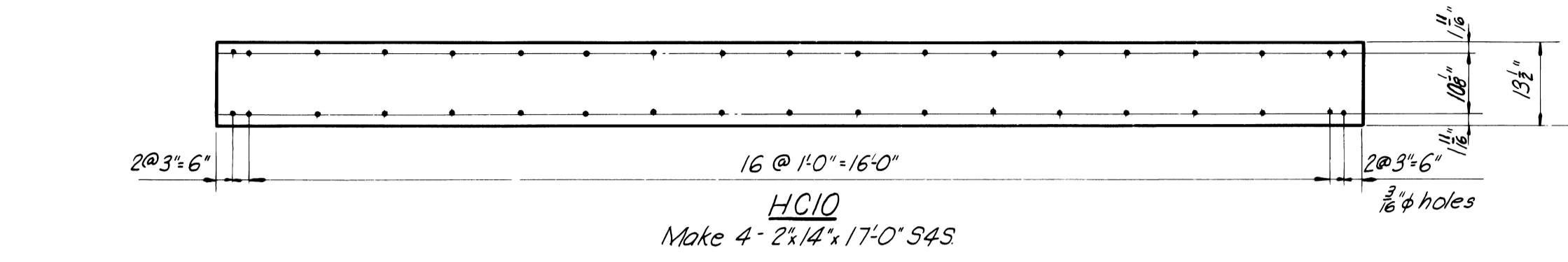
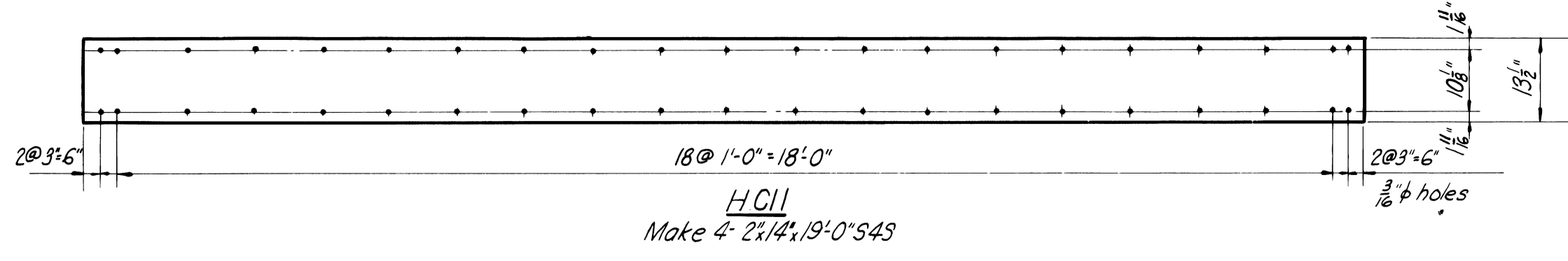
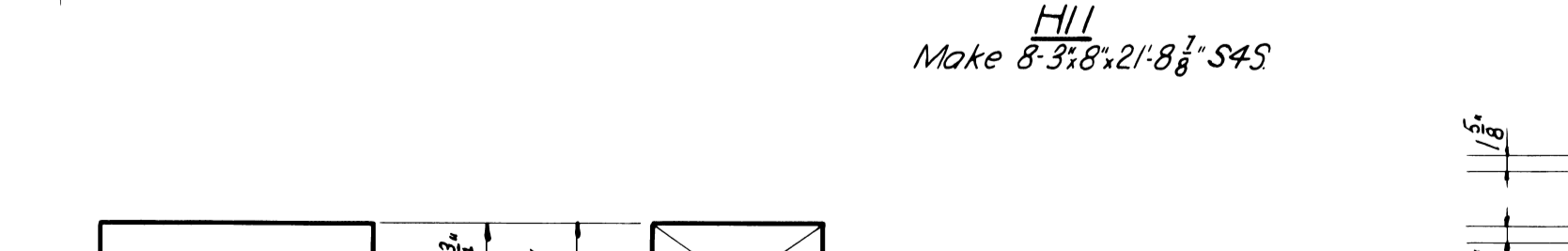
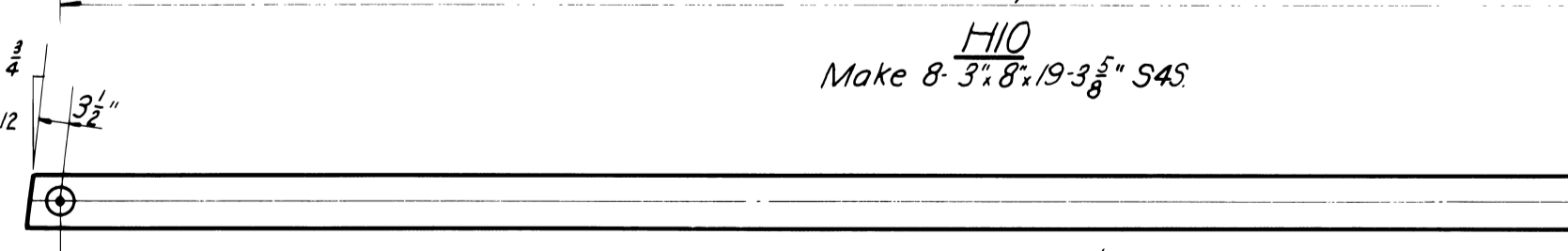
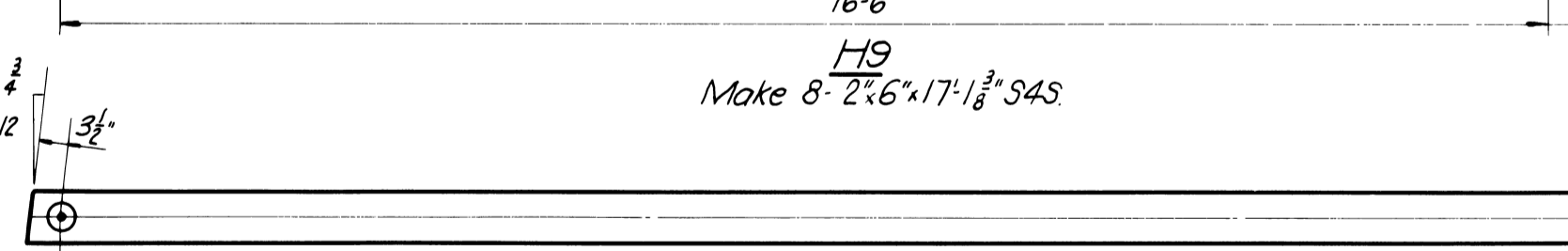
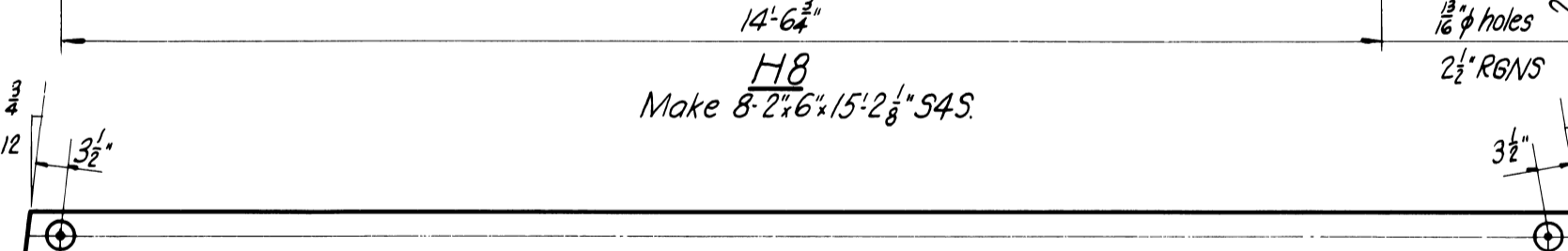
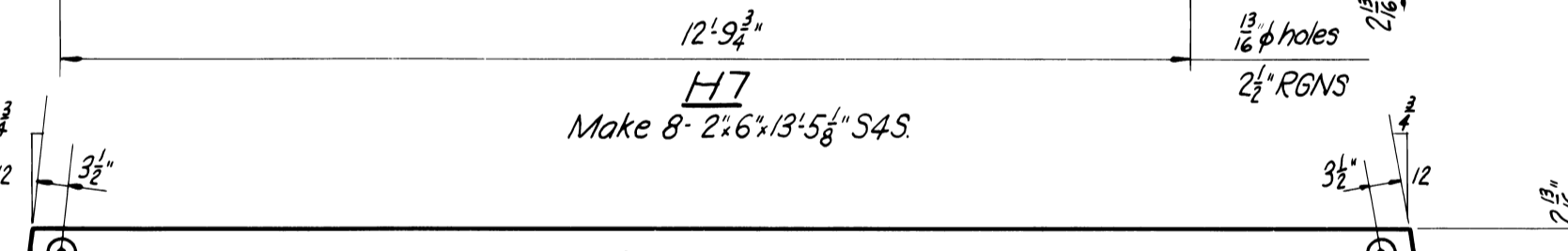
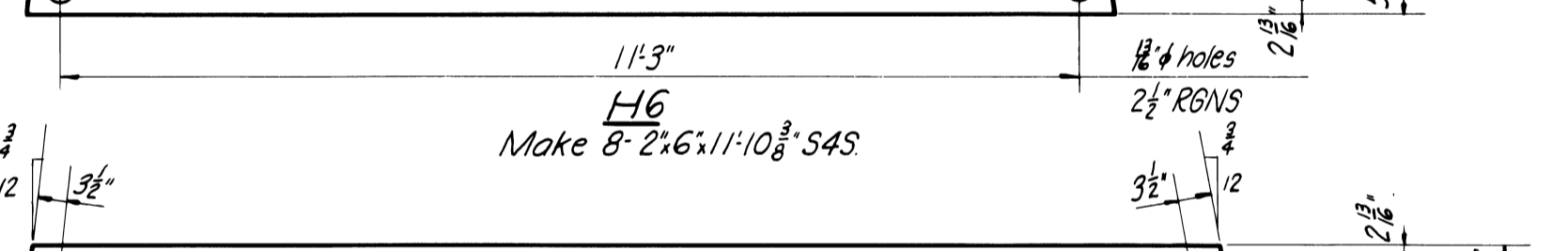
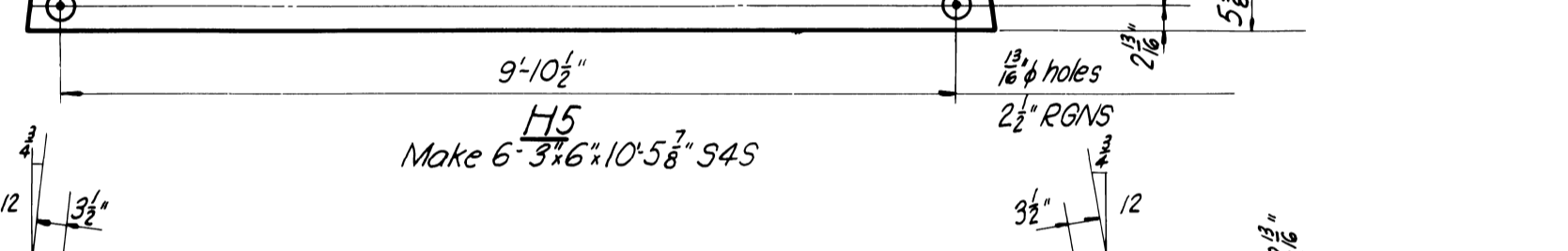
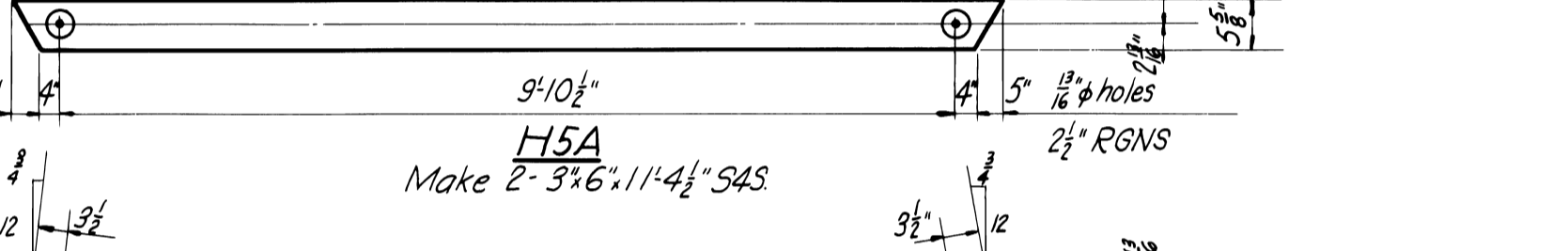
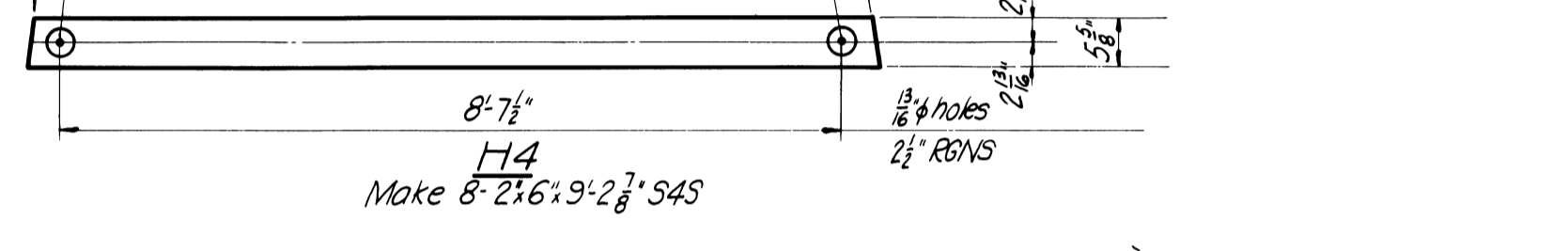
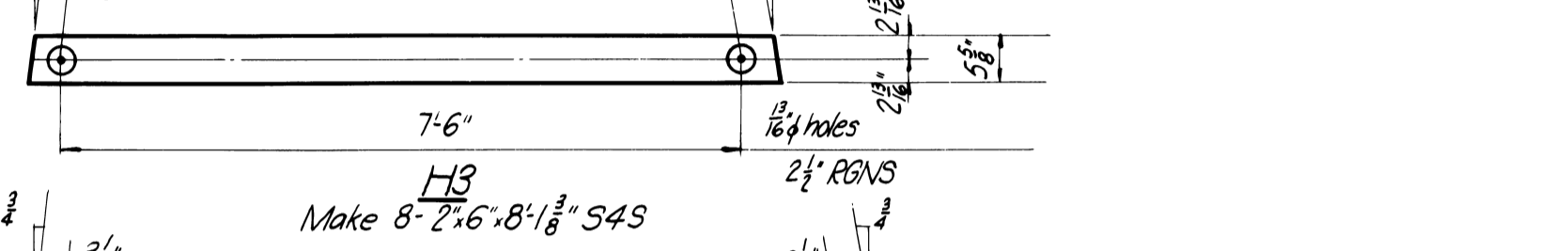
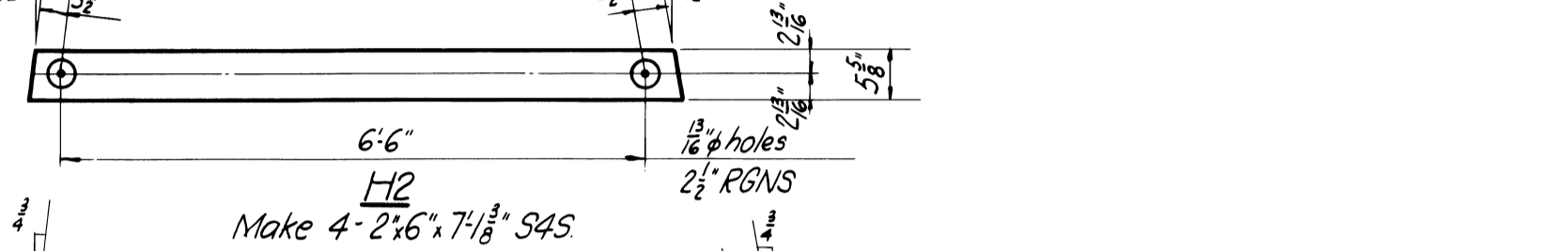
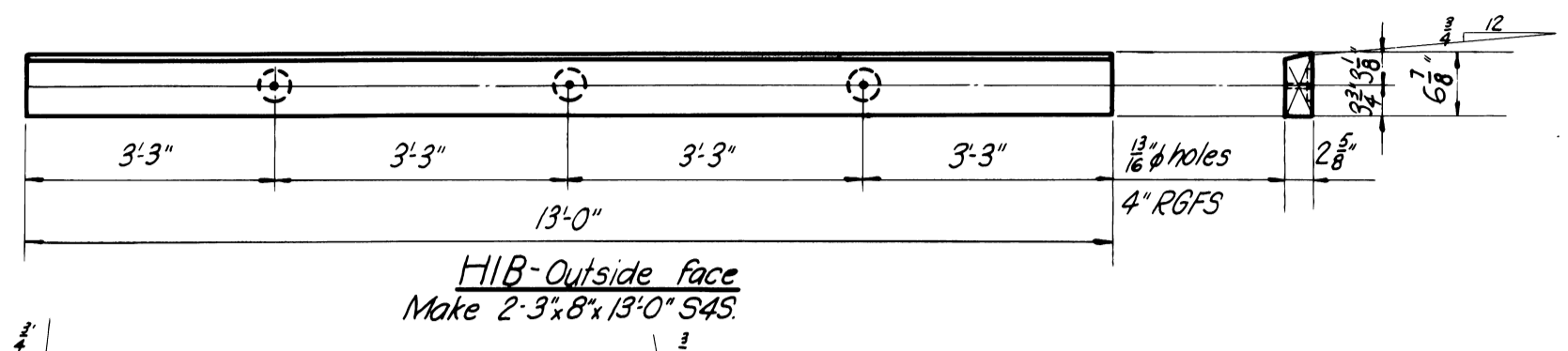
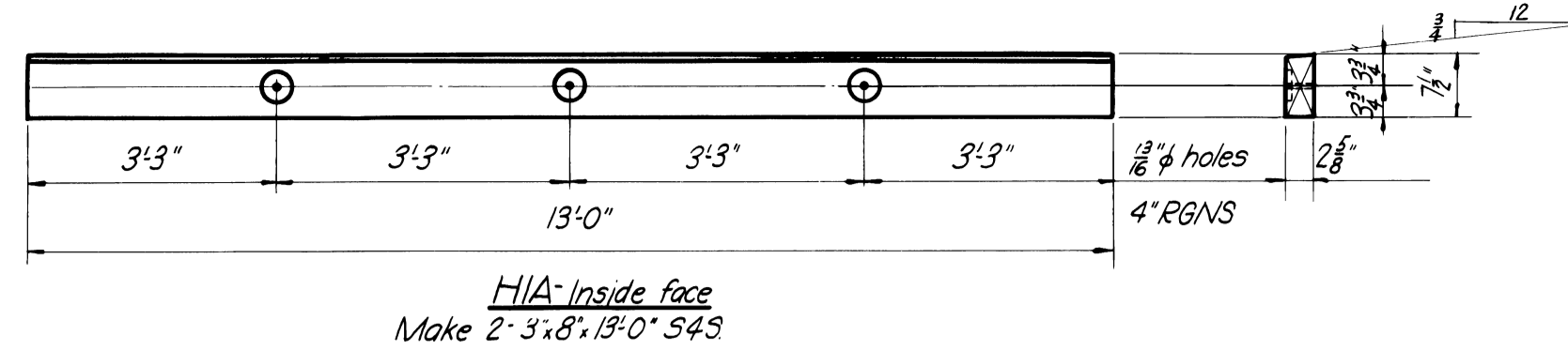
**U. S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE**

REGION SIX J. FRANKLAND REGIONAL ENGINEER

**STANDARD LOOKOUT TOWER
 119- FOOT TYPE CT-1
 SHOP DETAILS**

DESIGNED: W.G. DRAWN: H.R.S. TRACED: H.R.S.
 SCALE: NONE CHECKED: H.R.S.
 APPROVED: J. FRANKLAND DATE: DECEMBER-1937
 ACT. ASSISTANT REGIONAL FORESTER

SHEET 4 OF 8 SHEETS L-10504A



RGBS - Ring Groove Both Sides
 RGNs - Ring Groove Near Side
 RGNFS - Ring Groove Far Side

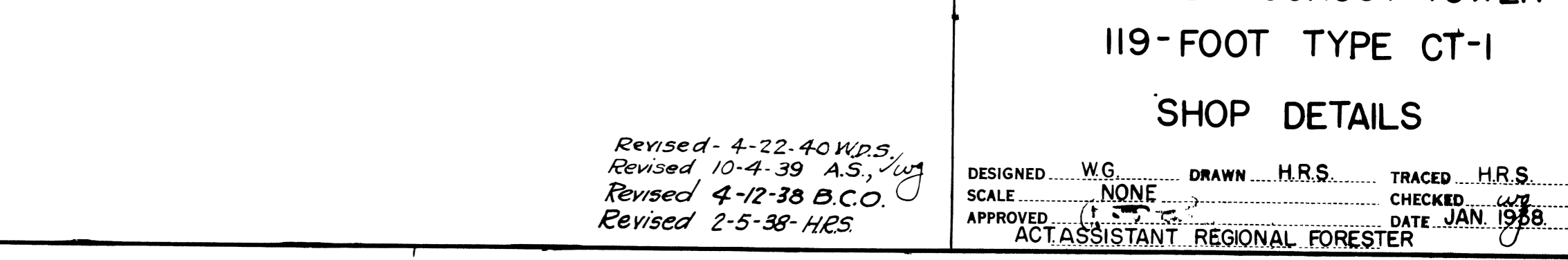
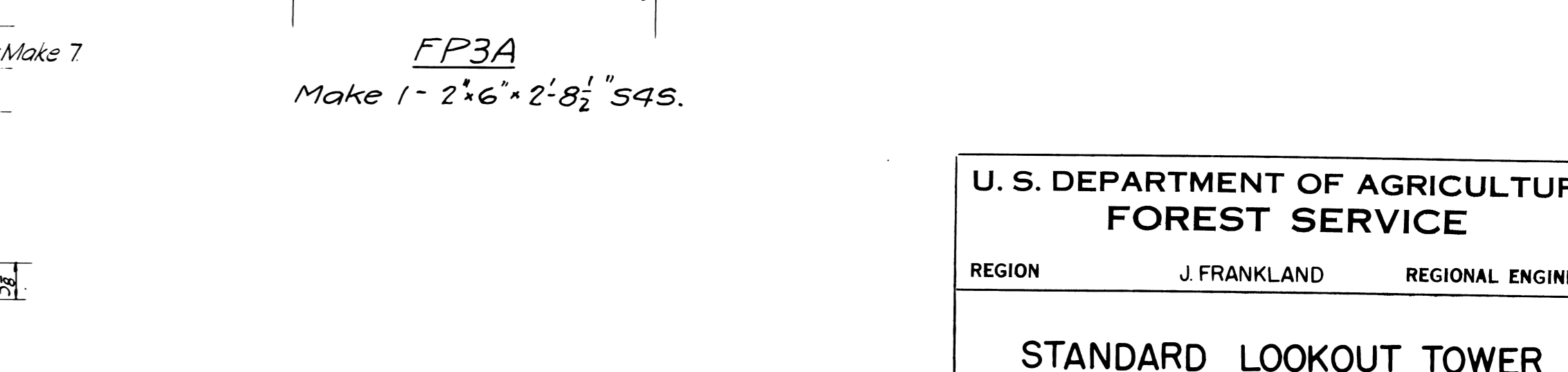
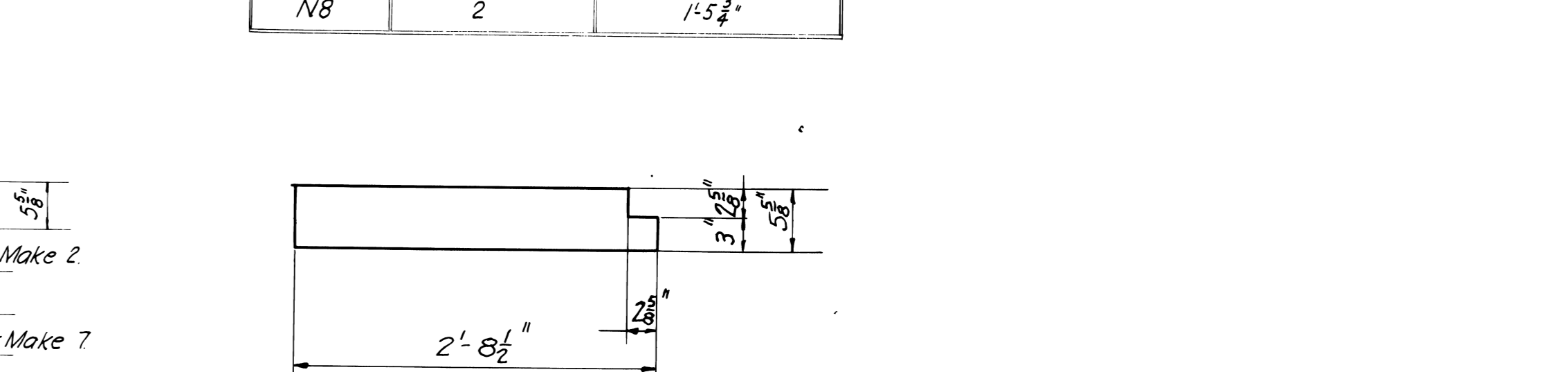
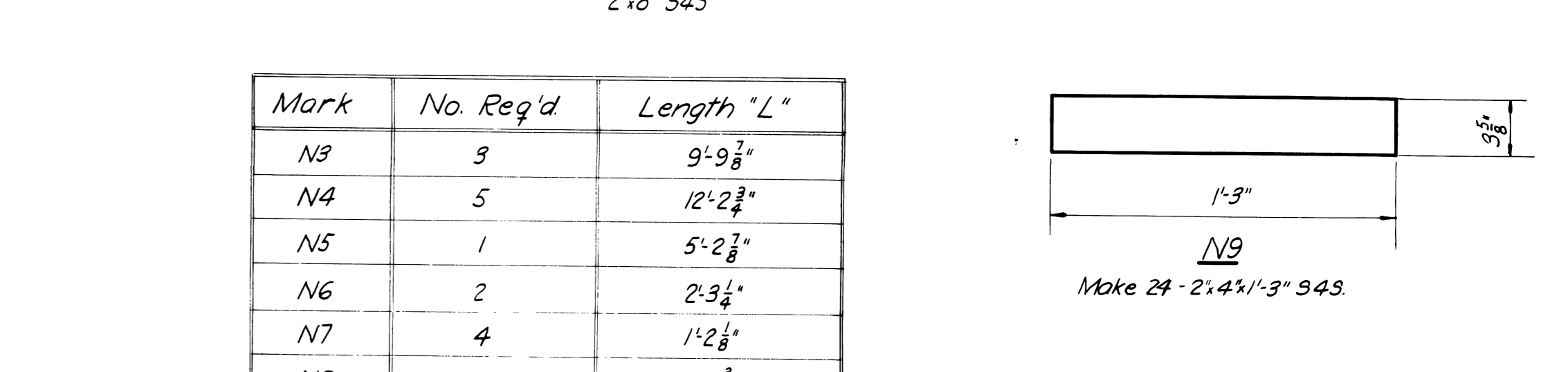
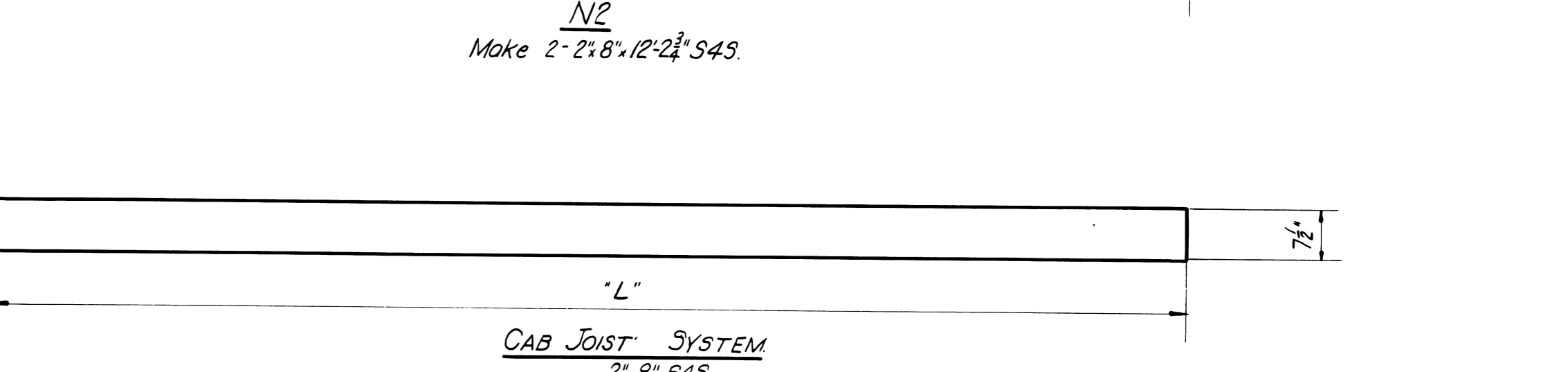
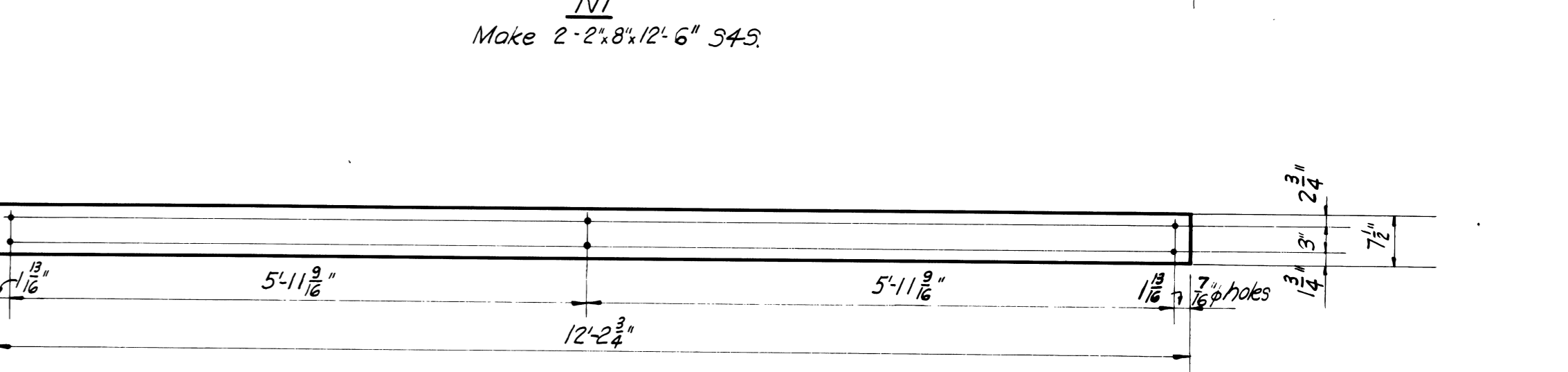
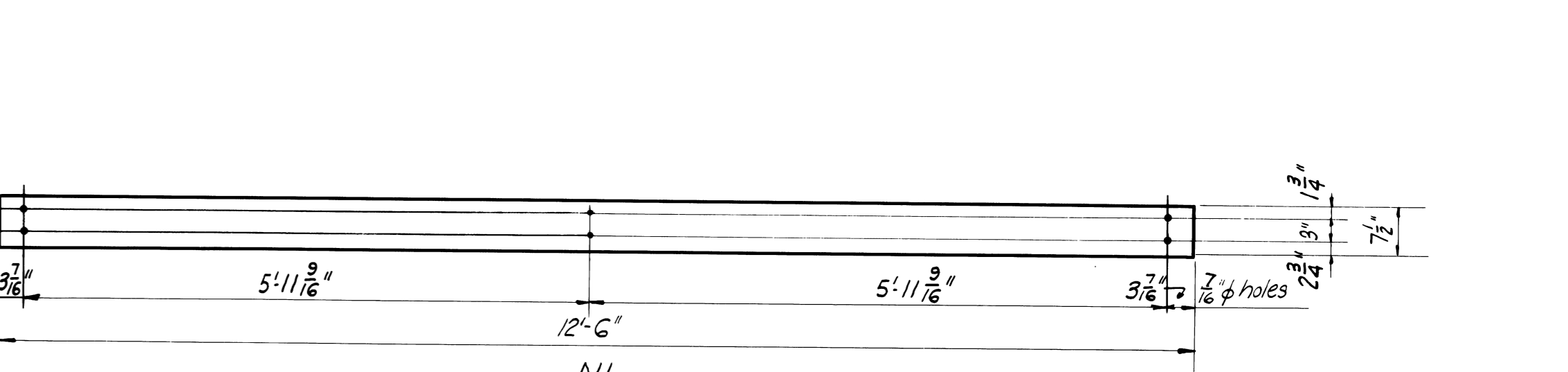
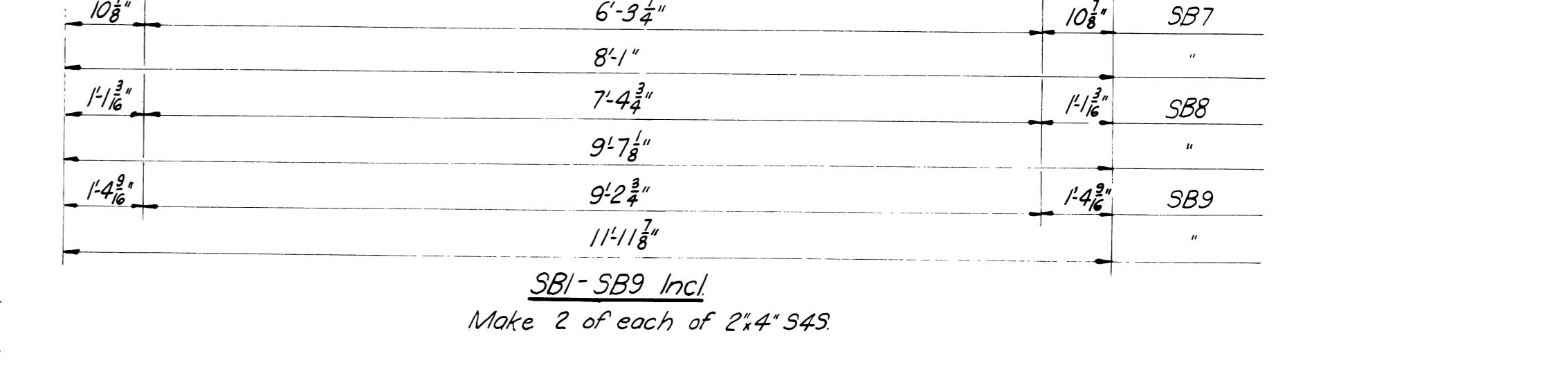
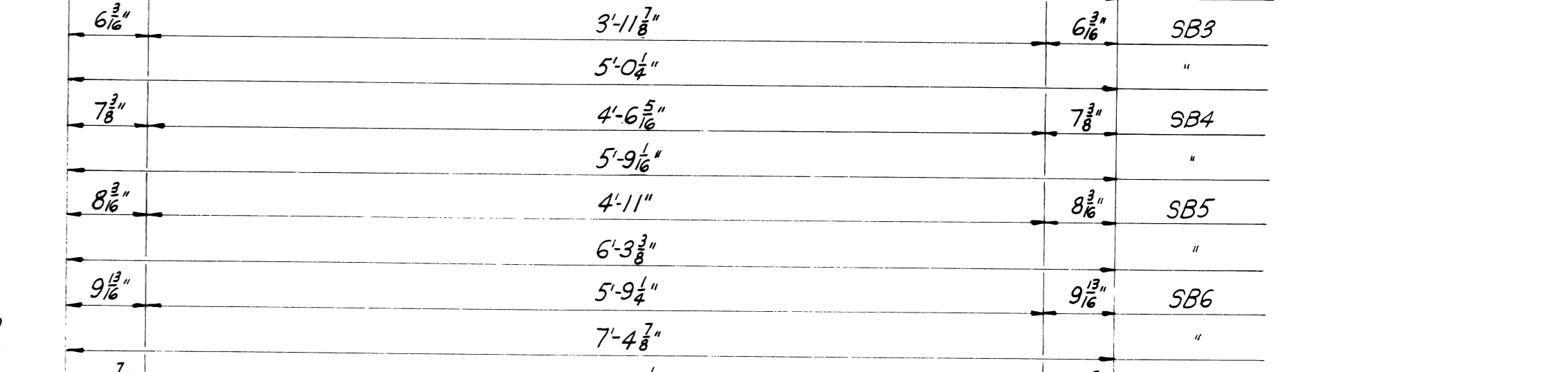
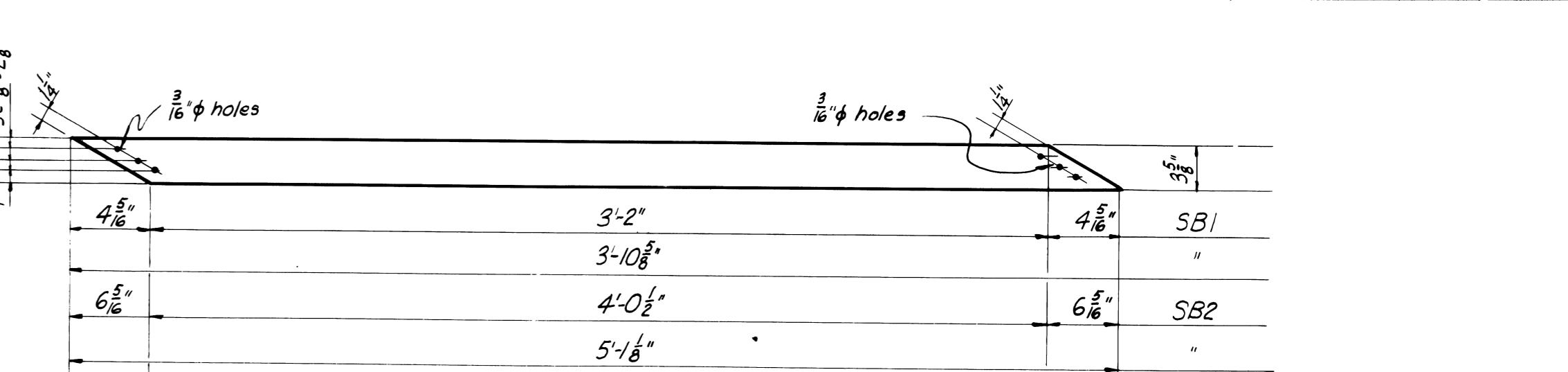
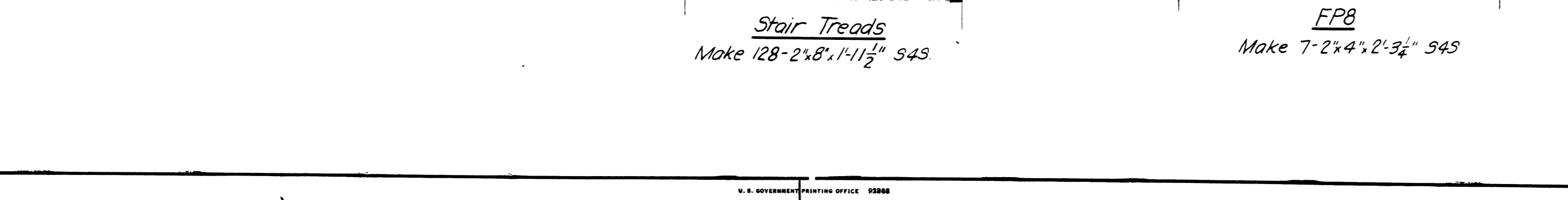
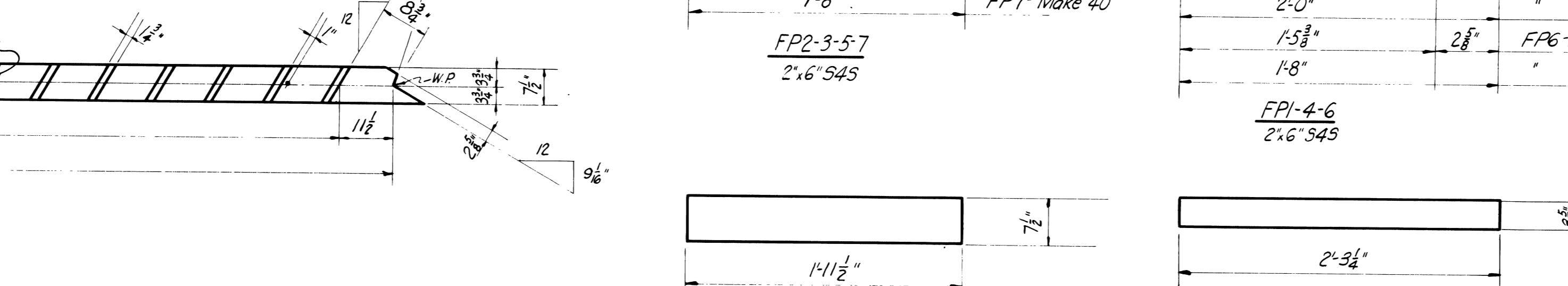
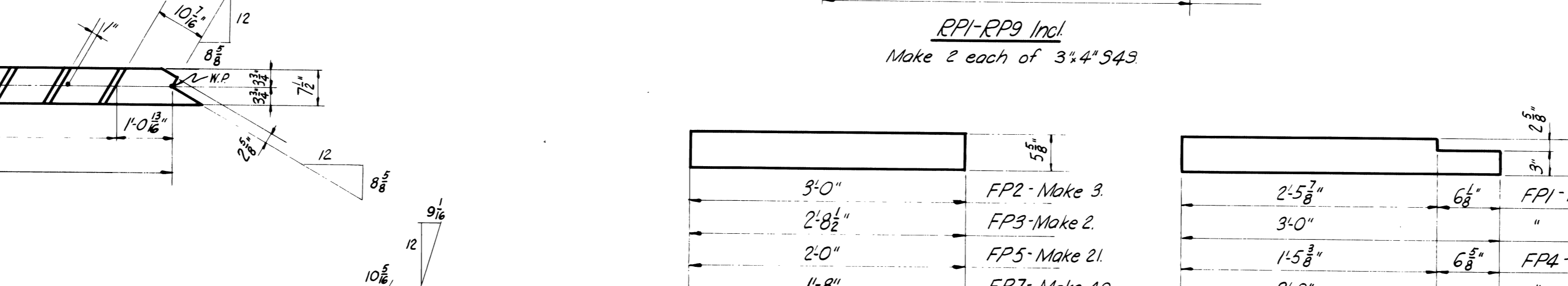
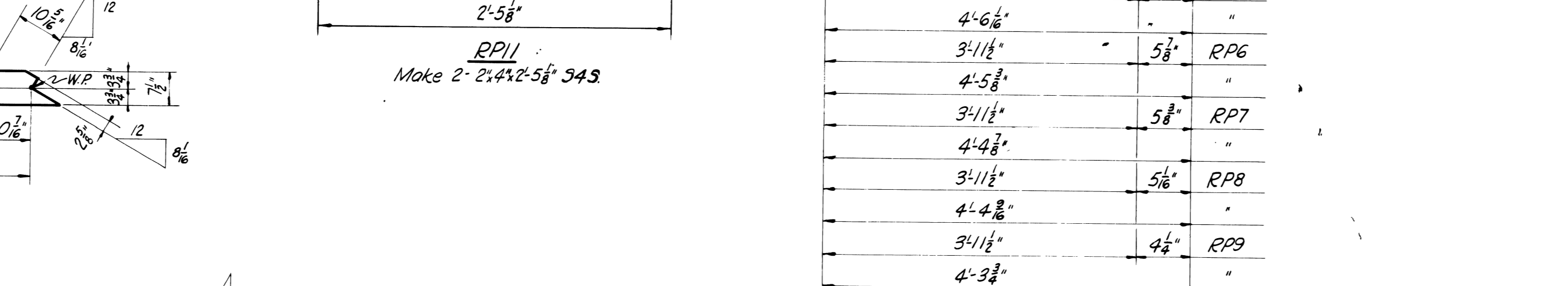
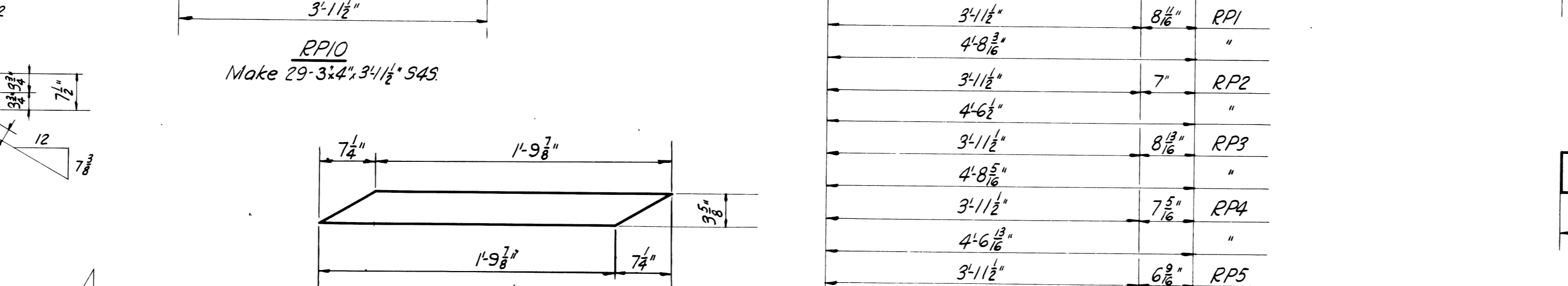
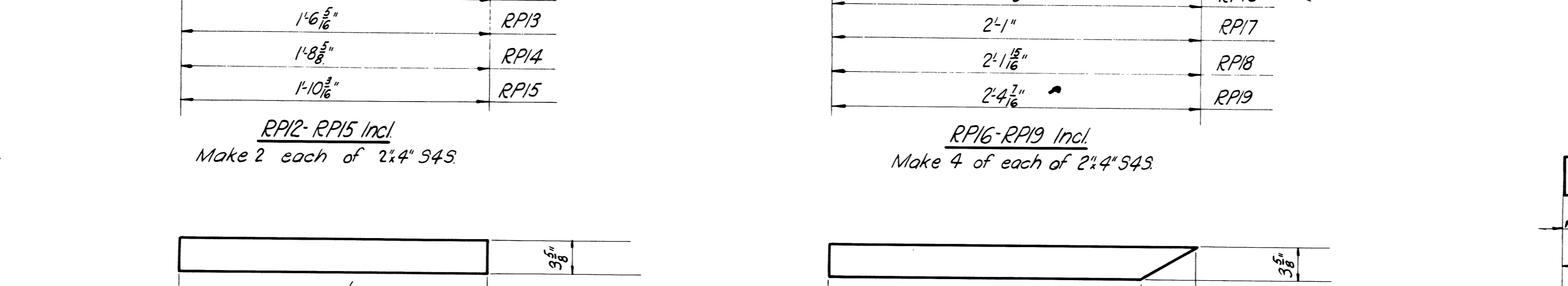
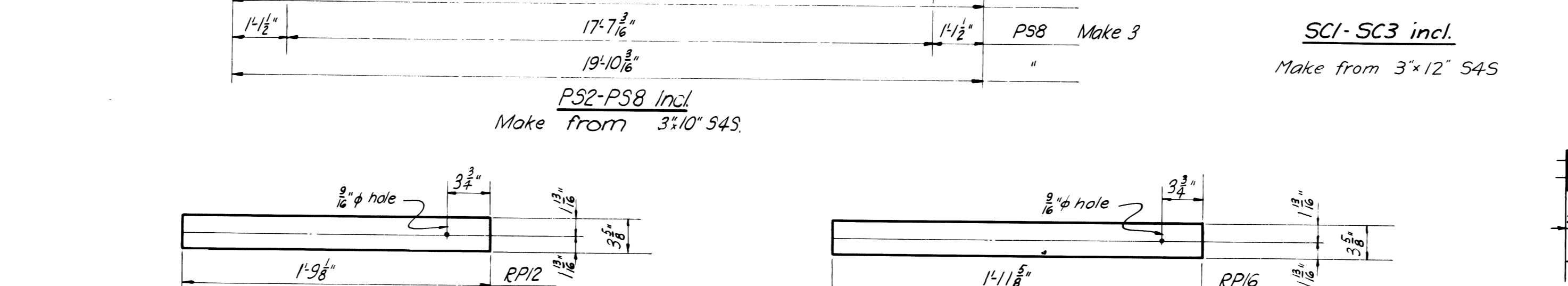
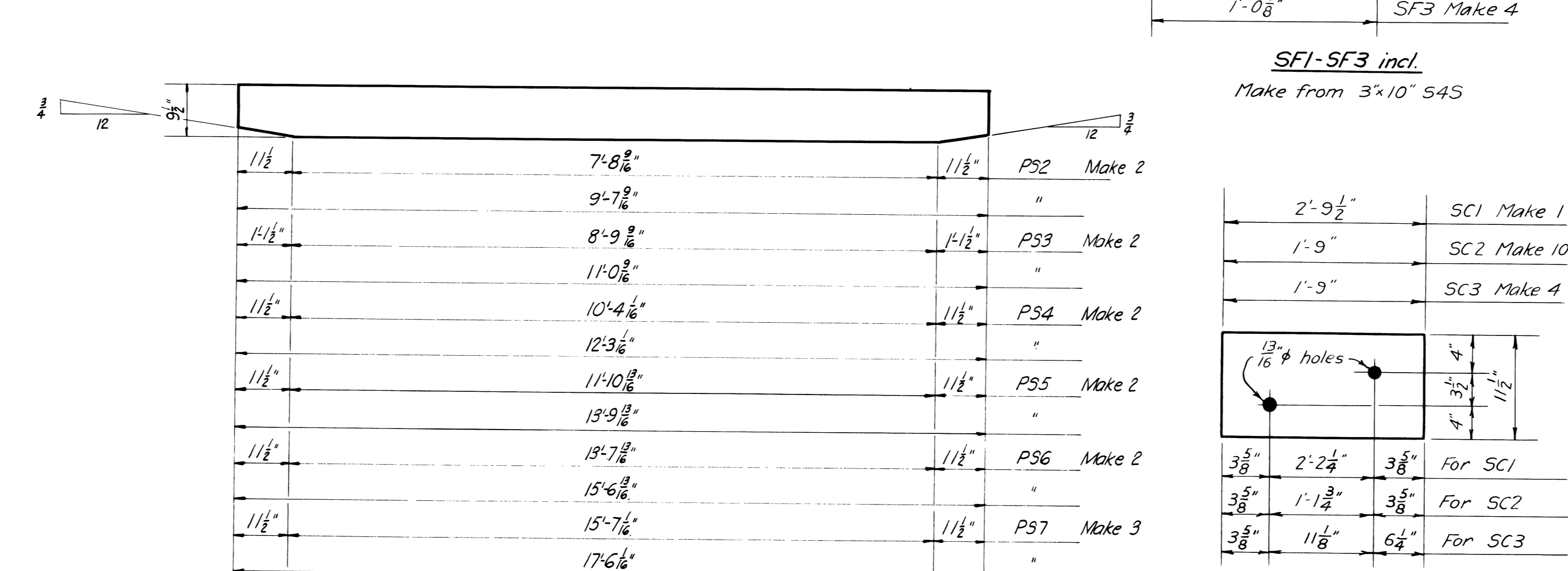
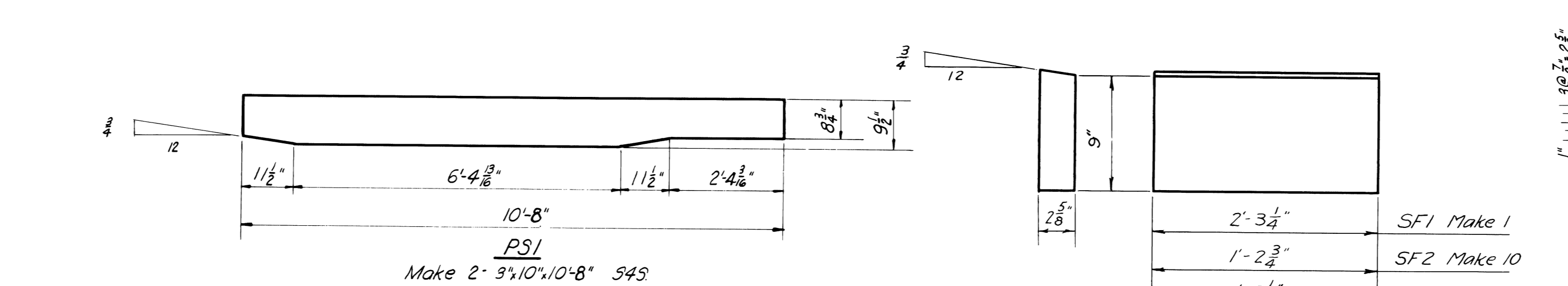
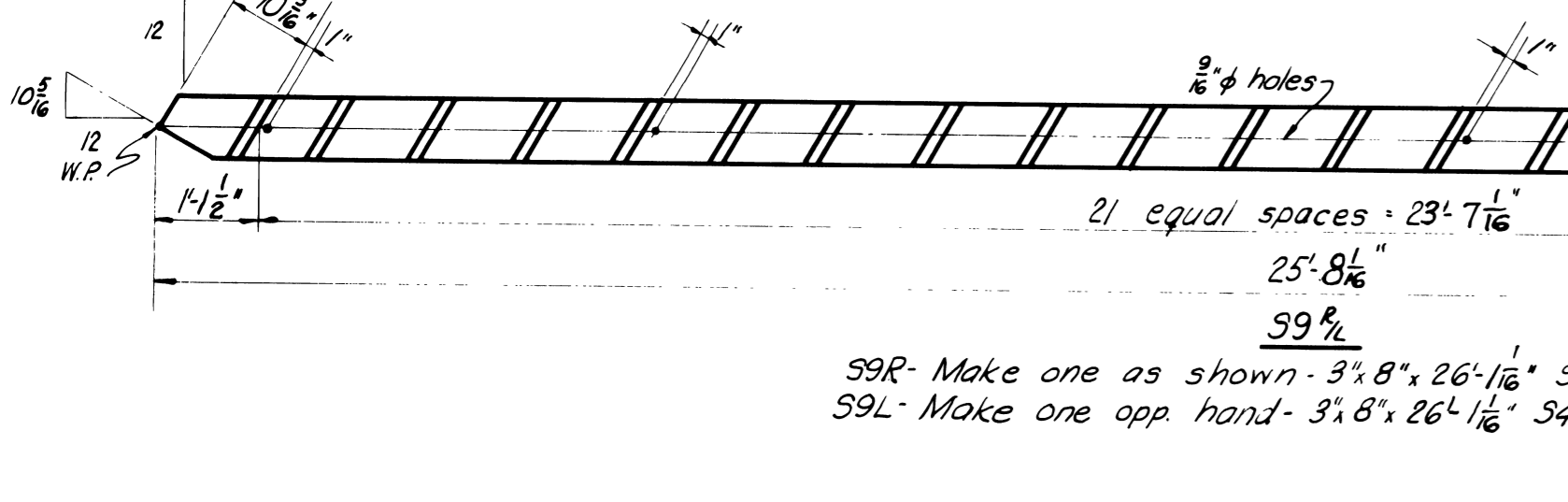
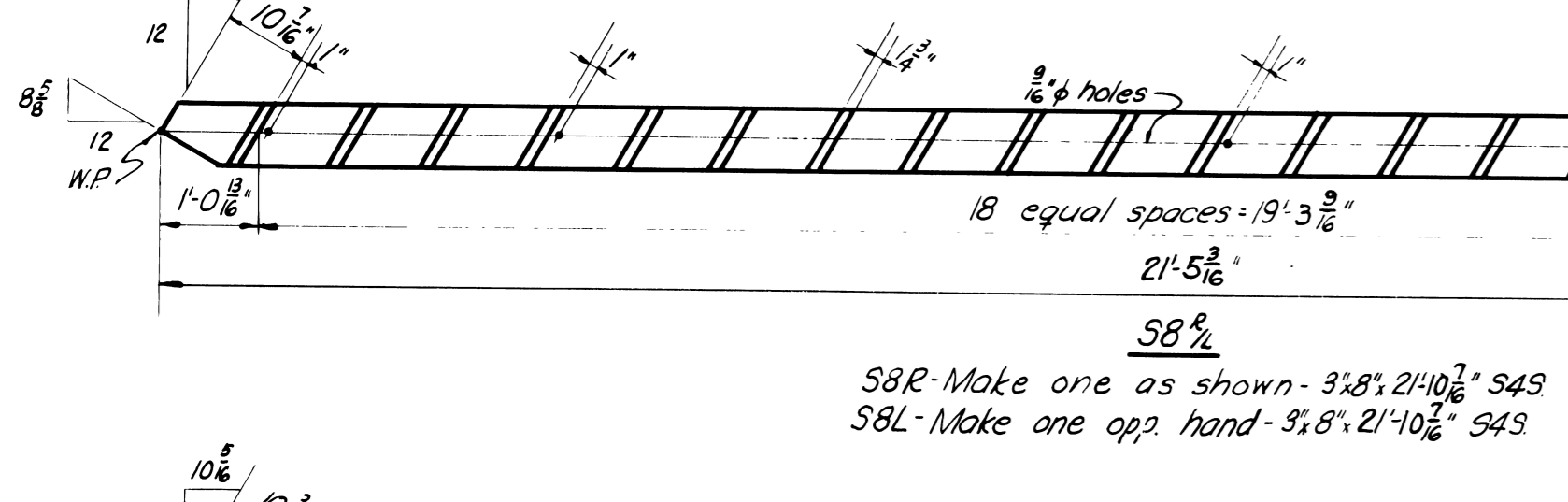
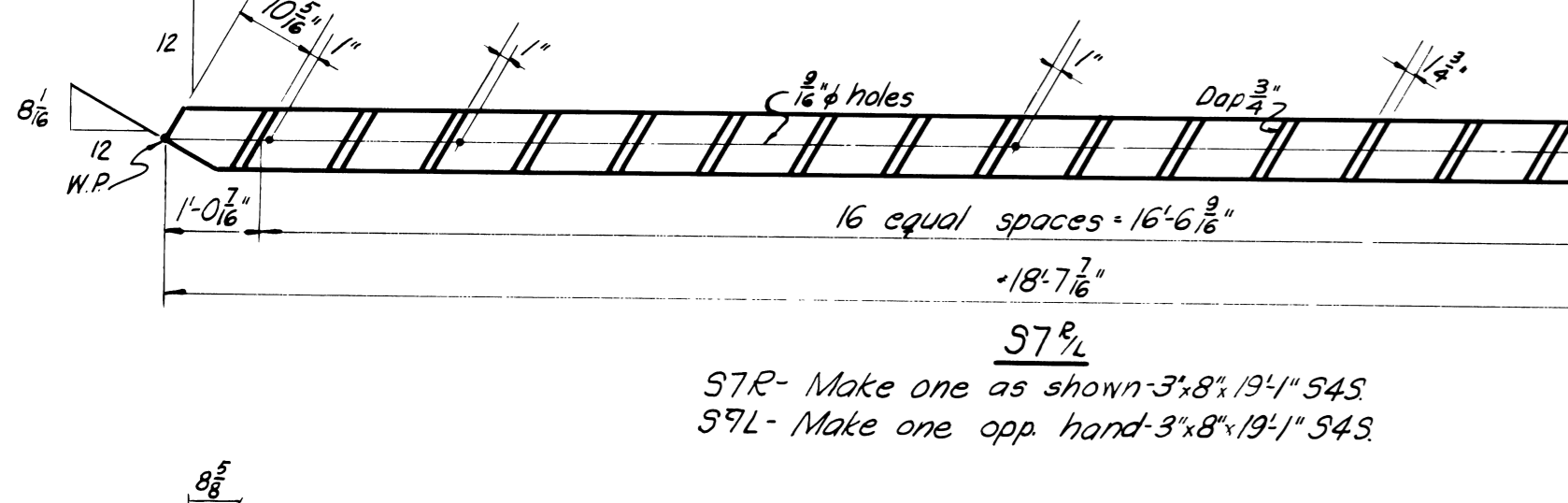
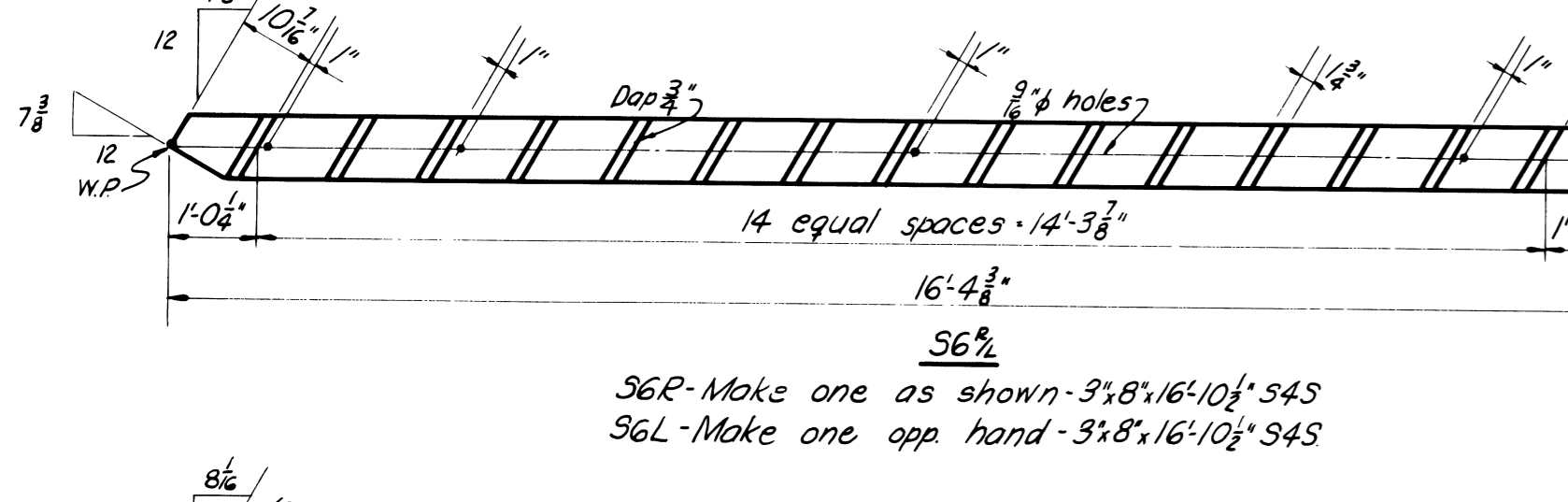
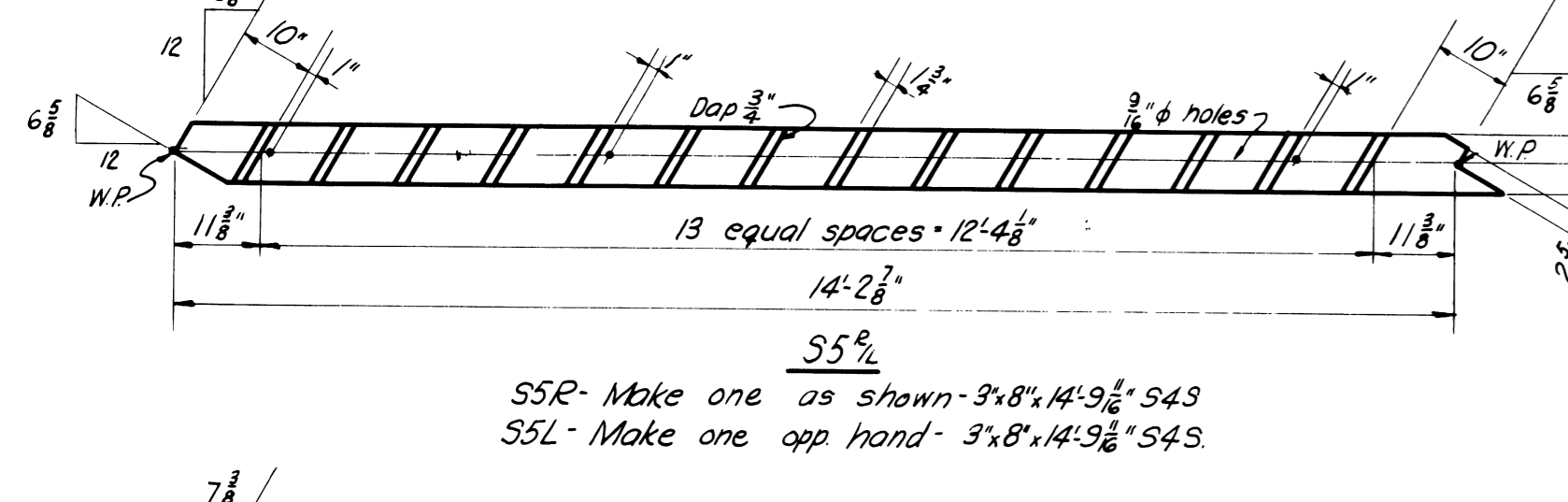
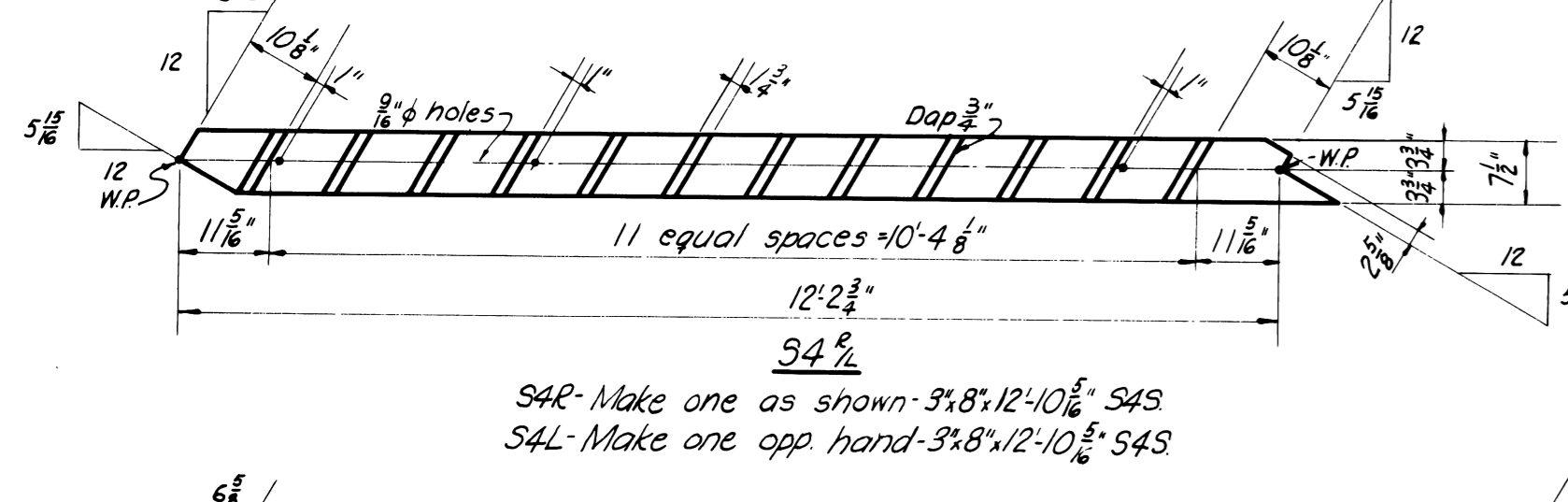
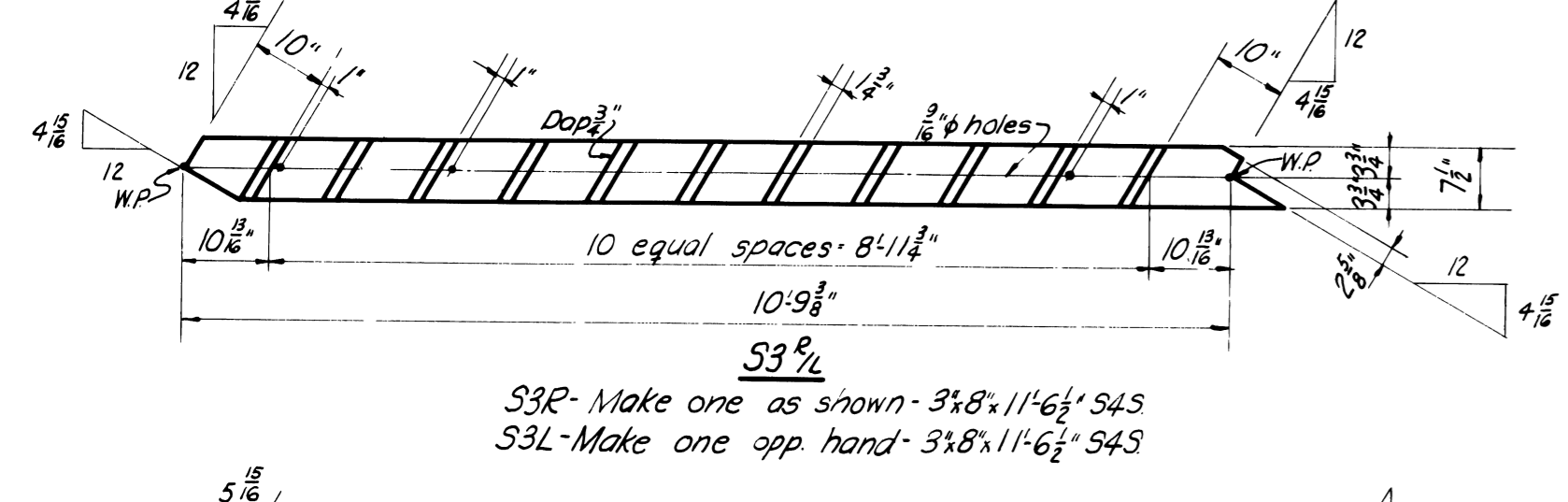
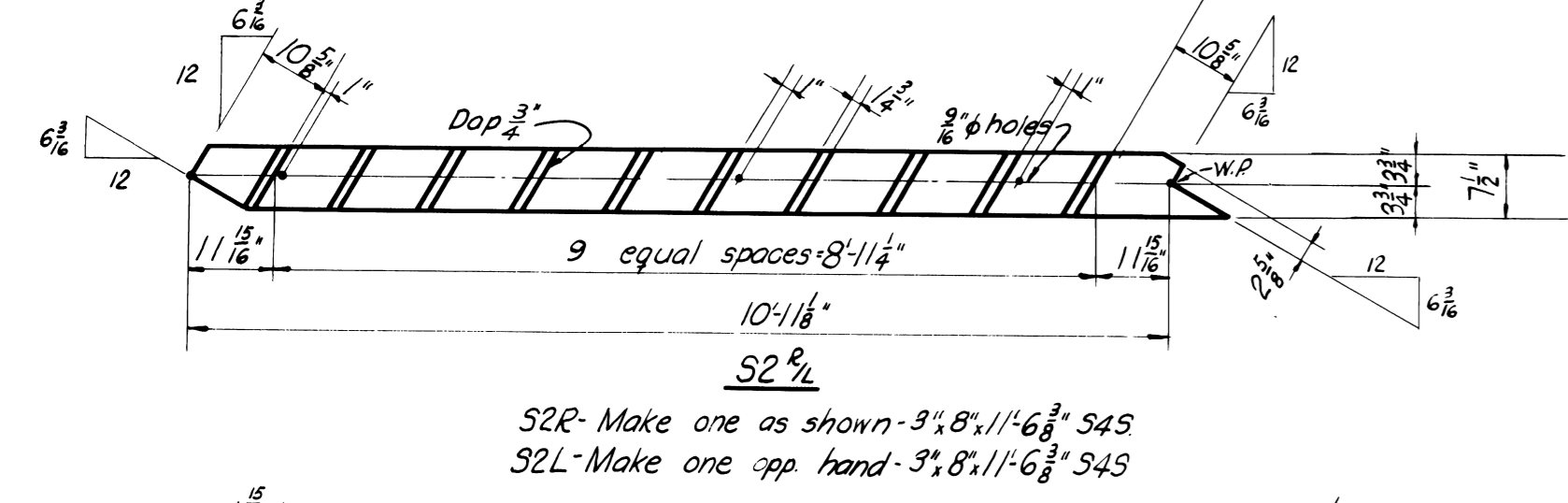
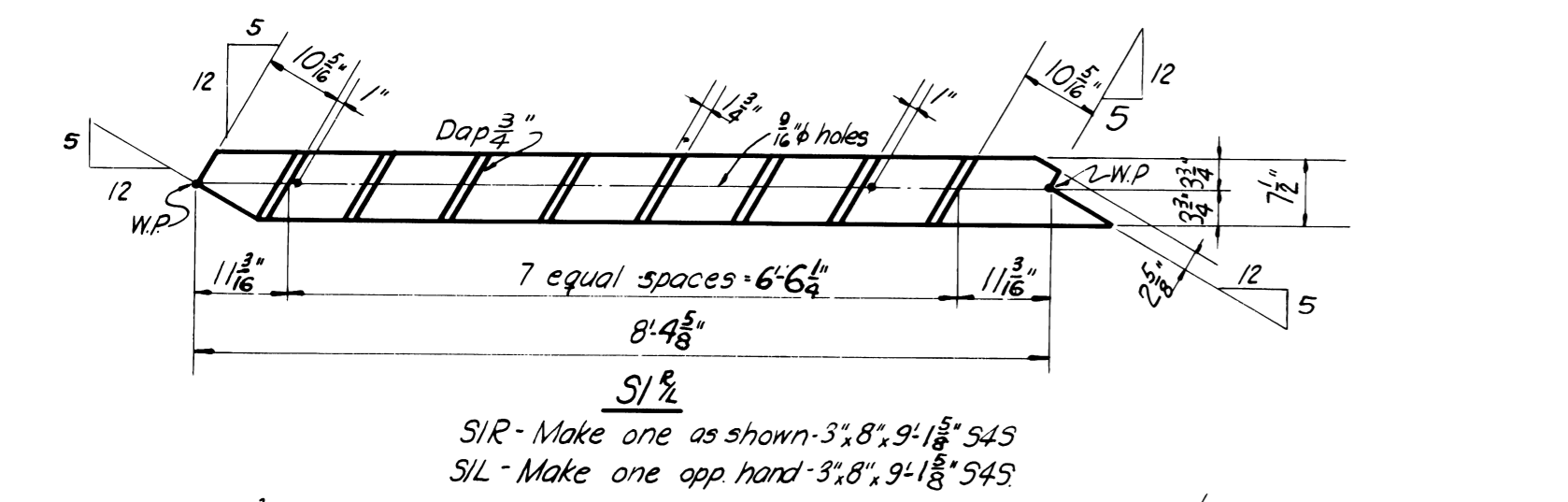
Revised 3-8-39 by W.G.
 H1B, HC11, HC10, HC5.

**U. S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE**

REGION SIX J. FRANKLAND REGIONAL ENGINEER

**STANDARD LOOKOUT TOWER
 119-FOOT TYPE CT-1
 SHOP DETAILS**

DESIGNED W.G. DRAWN HRS. TRACED HRS.
 SCALE NONE CHECKED 2/20
 APPROVED DATE DEC. 1937
 ACT. ASSISTANT REGIONAL FORESTER



U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

REGION J. FRANKLAND REGIONAL ENGINEER

STANDARD LOOKOUT TOWER
119-FOOT TYPE CT-1
SHOP DETAILS

DESIGNED W.G. DRAW H.R.S. TRACED H.R.S.
SCALE NONE
APPROVED DATE JAN 1938
ACT ASSISTANT REGIONAL FORESTER

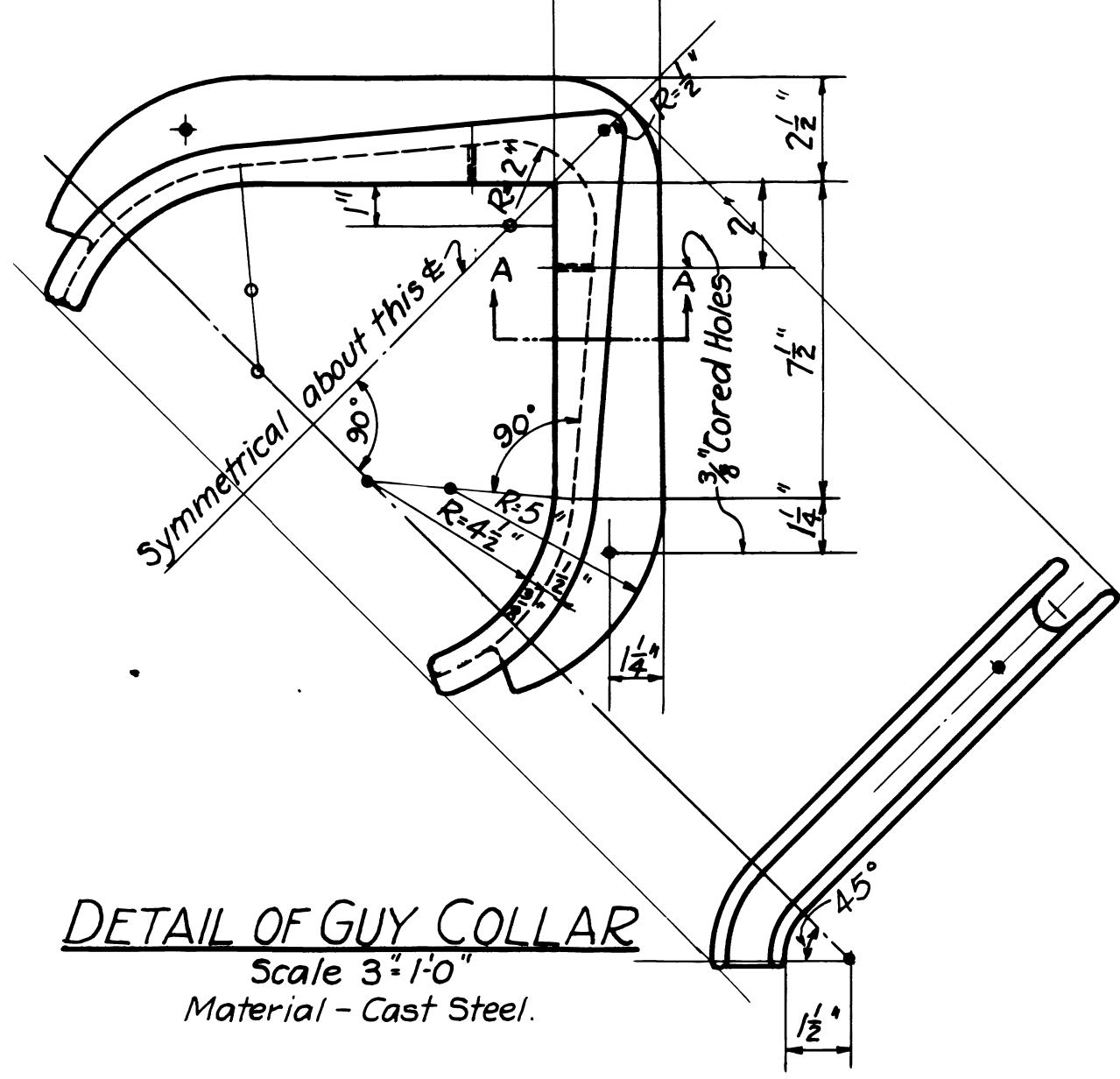
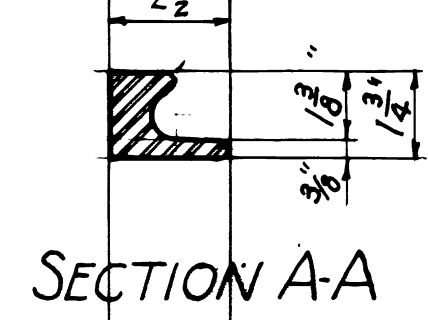
Revised 4-22-40 W.P.S.
Revised 10-4-39 A.S.
Revised 4-12-38 B.C.O.
Revised 2-5-38 H.E.S.

LTL 10504C 193806 SHEET 6 OF 8 SHEETS L-10504C

BILL OF IRON.					
No.	SIZE	LENGTH	DESCRIPTION	LOCATION	WEIGHT.
135	3/4"	11"	Machine Bolts	Diagonals to Posts	225
85	"	11 1/2"	" "	Post Splices	146
120	"	12 1/2"	" "	Horizontals to Posts	222
33	"	14 1/2"	" "	" " "	69
5	"	15 1/2"	" "	Strut "DS" to Posts	10
821	3/4"		Malleable C.I. Washers		271
* 20	1/2"	28 1/2"	Machine Bolts	Stair Stringers	35
* 12	"	32"	" "	" "	23
400	1/2"		Malleable C.I. Washers.		100
132	2 1/2"		"Teco" or equal Split Rings		36
380	4"		" " " " "		250
4			Cast Steel Guy Collars	See Detail.	80
16	3/4"		Drop forged cable clips		16
4			Bridge Bowls for 3/4"-6/16 Wire Rope		40
	3/4"		6/16 Plough steel Wire Rope Guys	Length to suit field	
	60d.		Common Nails		65
	40d.		" "		80
	10d.		" "		15
* 23	1/2"	10"	Machine Bolts	Cab joists to Tower Posts. Rail Posts to Platf. Stringers	14
* 33	3/4"	15 1/2"	" "	Platform Stringer Fast.	76
90	1/2"	6 1/2"	" "	Hand Rail Posts to Platf. Strgs.	41
46	1/2"	7 1/2"	" "	" " " " " "	24
11	1/2"	9"	" "	" " " " " "	7
47	3/8"	5"	Carriage Bolts	Hand Rails to Posts	10
30	"	6"	" "	" " " " "	7
10	"	6 1/2"	" "	" " " " "	2

* The asterisked items shall be revised as follows for towers where the alternate stair material is used:
 Purchase only: 18 - 1/2" φ x 28 1/2" bolts. 19 - 1/2" φ x 10" bolts
 11 - 1/2" φ x 32" bolts.
 These additions shall be made to the list:
 2 - 1/2" φ x 22 1/2" bolts. 2 - 3/4" φ x 15 1/2" bolts
 1 - 1/2" φ x 26" bolts. 5 - 1/2" φ x 11 1/2" bolts
 This note is applicable only to towers having no catwalk (as sheet L-10001).

Note: All material listed above except C.S. guy collar shall be galvanized.

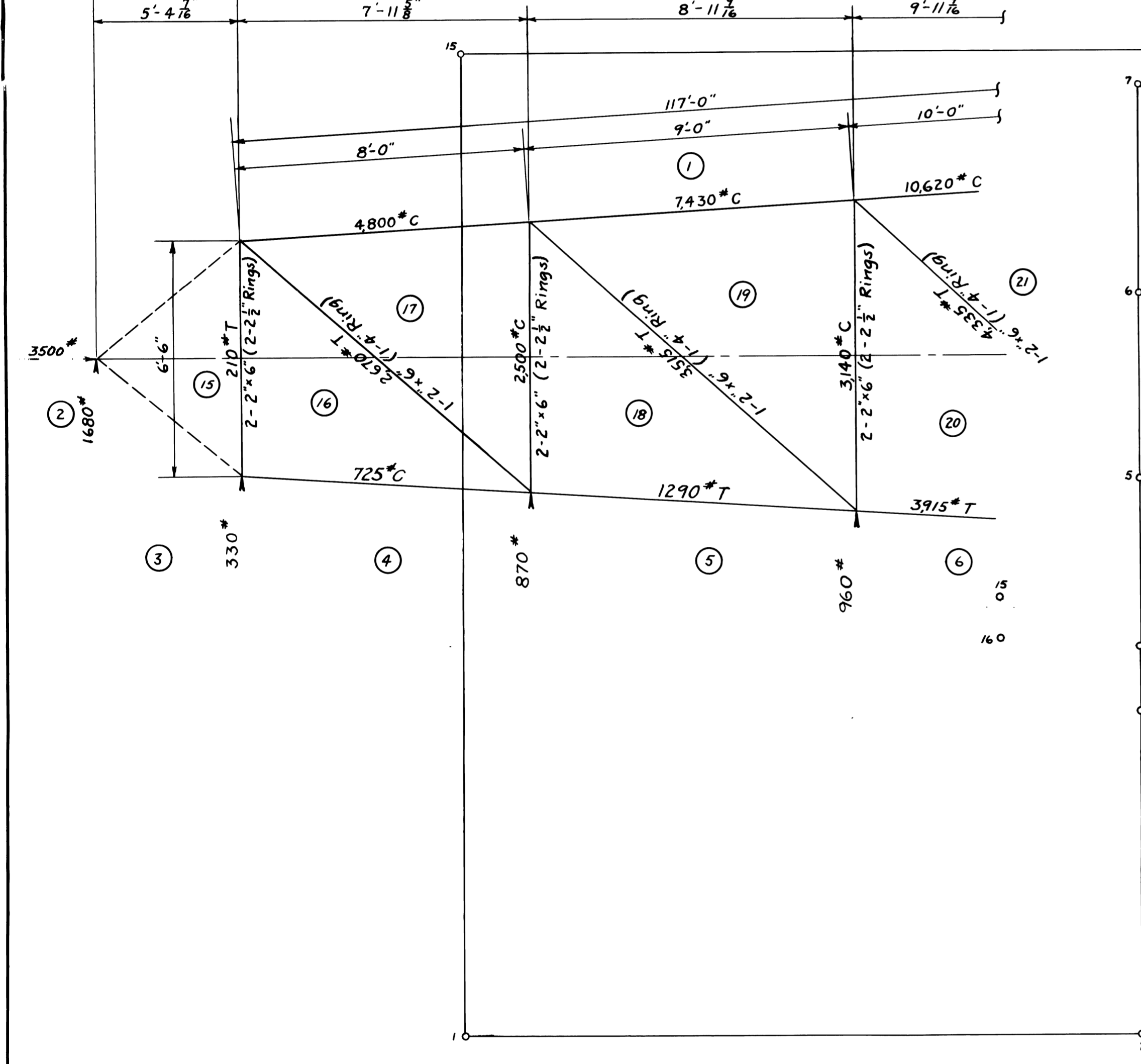
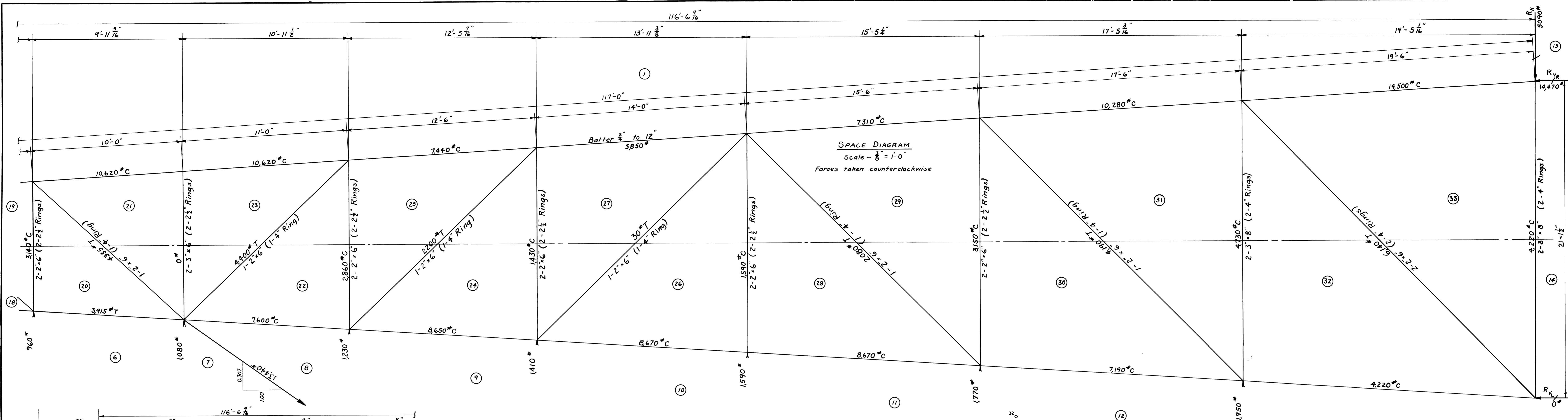


NOTE:
 This list includes an approximate 10% overage of bolts, washers, split rings and nails.

U. S. DEPARTMENT OF AGRICULTURE FOREST SERVICE		
REGION SIX	J. FRANKLAND REGIONAL ENGINEER	
STANDARD LOOKOUT TOWER 119-FOOT TYPE CT-1 BILL OF HARDWARE		
DESIGNED W.G.	DRAWN W.D.S.	TRACED W.D.S.
SCALE 3"=1'-0"		CHECKED <i>W.D.S.</i>
APPROVED <i>J. Frankland</i>		DATE JAN. - 1938
ASSISTANT REGIONAL FORESTER		

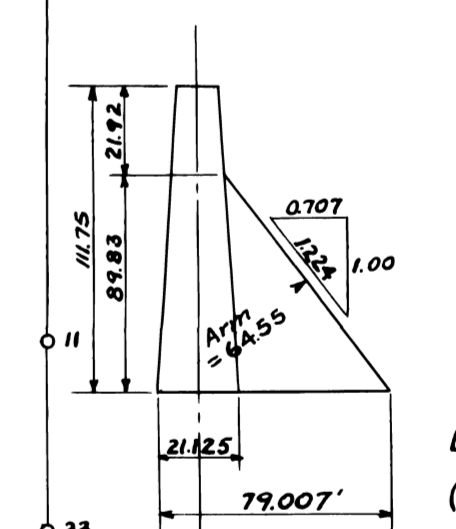
Revised - 3-30-40 W.D.S.
 Revised 10-4-39 by A.S.

LTL10506193808



DEAD LOAD OF TOWER NOT CONSIDERED

CALCULATION OF GUY REACTION



$$21.25 - 5.625 = 15.5$$

$$\frac{15.5}{2.07} = 21.9236$$

$$(111.75)(0.707) = 79.007$$

$$\text{Arm} = \frac{79.007}{1.224} = 64.55$$

$$B_y \sum M_{R_R} = 0$$

$$= (1950)(19.46) = 37,950$$

$$(1770)(36.93) = 65,400$$

$$(1590)(52.40) = 83,300$$

$$(1410)(66.37) = 93,500$$

$$(1230)(78.84) = 97,000$$

$$(1080)(89.82) = 97,000$$

$$(960)(99.80) = 95,800$$

$$(870)(108.79) = 94,600$$

$$(330)(116.77) = 38,550$$

$$(1680)(120.77) = 202,700$$

$$905,800$$

$$T = \frac{(905,800 - 37,000)}{64.55} = 13,440''$$

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
REGION SIX J. FRANKLAND, REGIONAL ENGINEER

**STANDARD LOOKOUT TOWER
119 FOOT-TYPE CTI
STRESS DIAGRAM**

DESIGNED W.W.G. DRAWN W.W.G. TRACED W.P.H.
SCALE A.S. SHOWN CHECKED
APPROVED ASSISTANT REGIONAL FORESTER DATE NOV. 18, 1938