

SWITCHES

10'-0" Switch	85#	S-154A
15'-0" Switch	85#	S-153A
16'-6" Switch	85#	S-116A
16'-6" Switch	100#	S-121
16'-6" Switch	112#	S-109
16'-6" Switch	115#	S-207
16'-6" Switch	119#	S-207
16'-6" Switch	132#	*S-215
16'-6" Switch	136#	*S-215
24'-0" Switch	115#	S-203
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24"-0" Switch	132#	*S-213
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Switch Point Guard	85#	S-199
Switch Point Guard	100#	*
Switch Point Guard	112#	S-20
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100#	11'-0"	Guard Rail	S-119
112#	11'-0"	Guard Rail	S-108
115#	11'-0"	Guard Rail	*S-108A
115#	13'-0"	Guard Rail	S-204
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136#	11'-0"	Guard Rail	S-216
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SWITCH STANDS, GUARD RAILS

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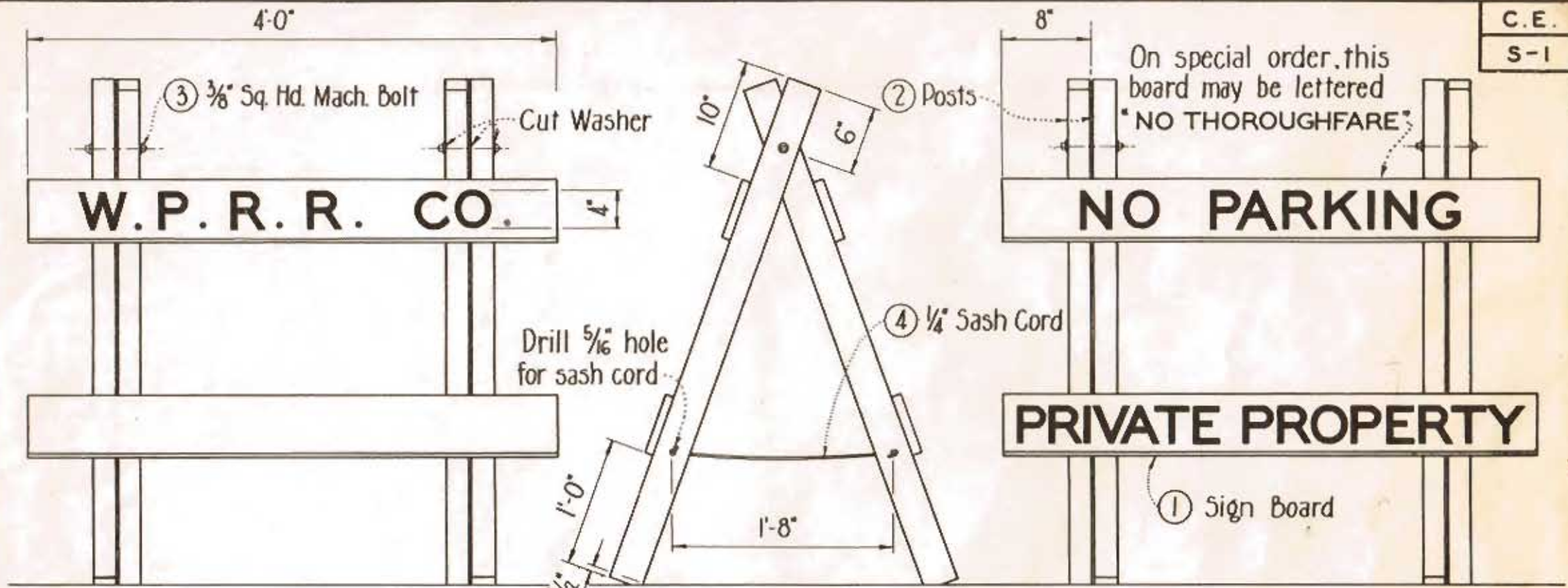
ROADBED, BALLAST, RIGHT-OF-WAY, TOOLS
BRIDGES, CULVERTS, MISCELLANEOUS

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Note: All wooden members to be painted white, all lettering to be black. Paint Materials to be as directed by the Chief Engineer and the Chief Mechanical Officer.

BILL OF MATERIALS

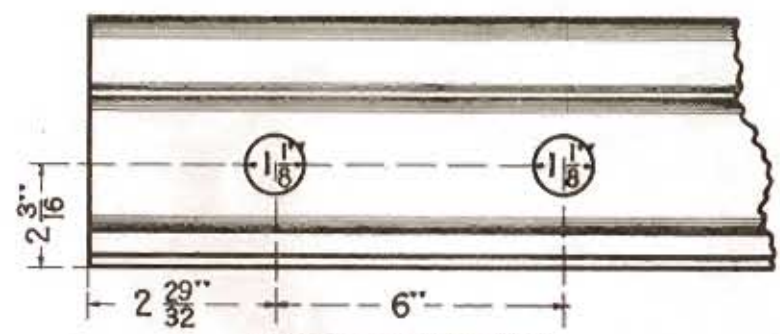
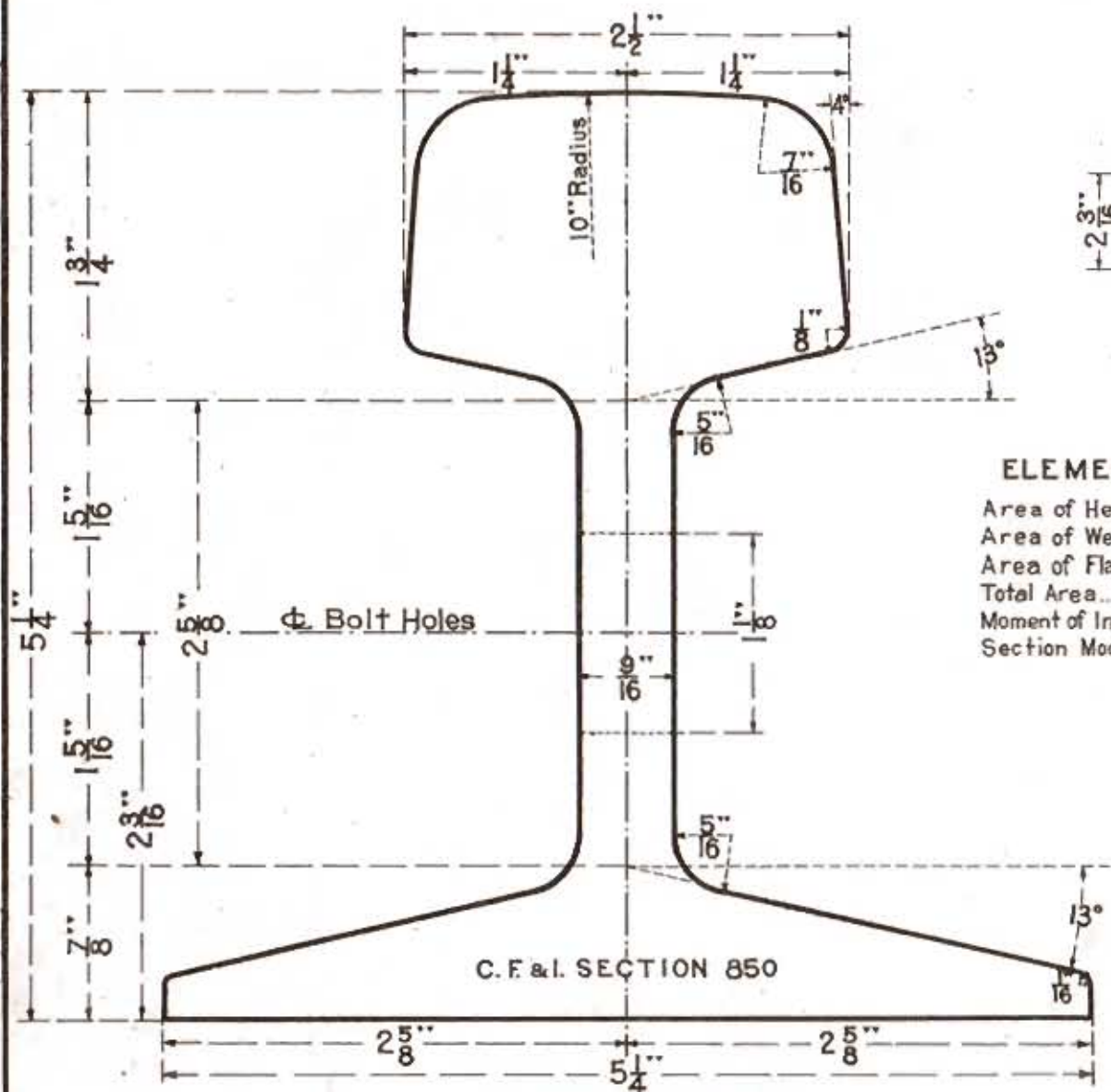
Pc. Mk.	Name of Part	Reqd.	Remarks
①	Sign Boards	4	1'x6"x4'-0" D.F. S4S
②	Posts	4	2"x3"x4'-0" D.F. S4S
③	Bolts	2	3/8" Sq. Hd. Mach. Bolt with 1 Sq. Nut & 3 Cut Washers.
④	Sash Cord	2	1/4" Sash Cord - 26" Long

Use 8d common nails to fasten Sign Boards to Posts.

Approved: *Frank R. Wood*
Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
PORTABLE "NO PARKING" SIGN

NO SCALE ADOPTED: Oct. 15, 1954



ELEMENTS OF RAIL SECTION

Area of Head	3.814 Sq. In.	45.68%
Area of Web	1.506 Sq. In.	18.04%
Area of Flange	3.029 Sq. In.	36.28%
Total Area	8.349 Sq. In.	100.00%
Moment of Inertia	29.80 Bq. In.	
Section Modulus	11.22 Cu. In.	

C.F.&I. SECTION 850

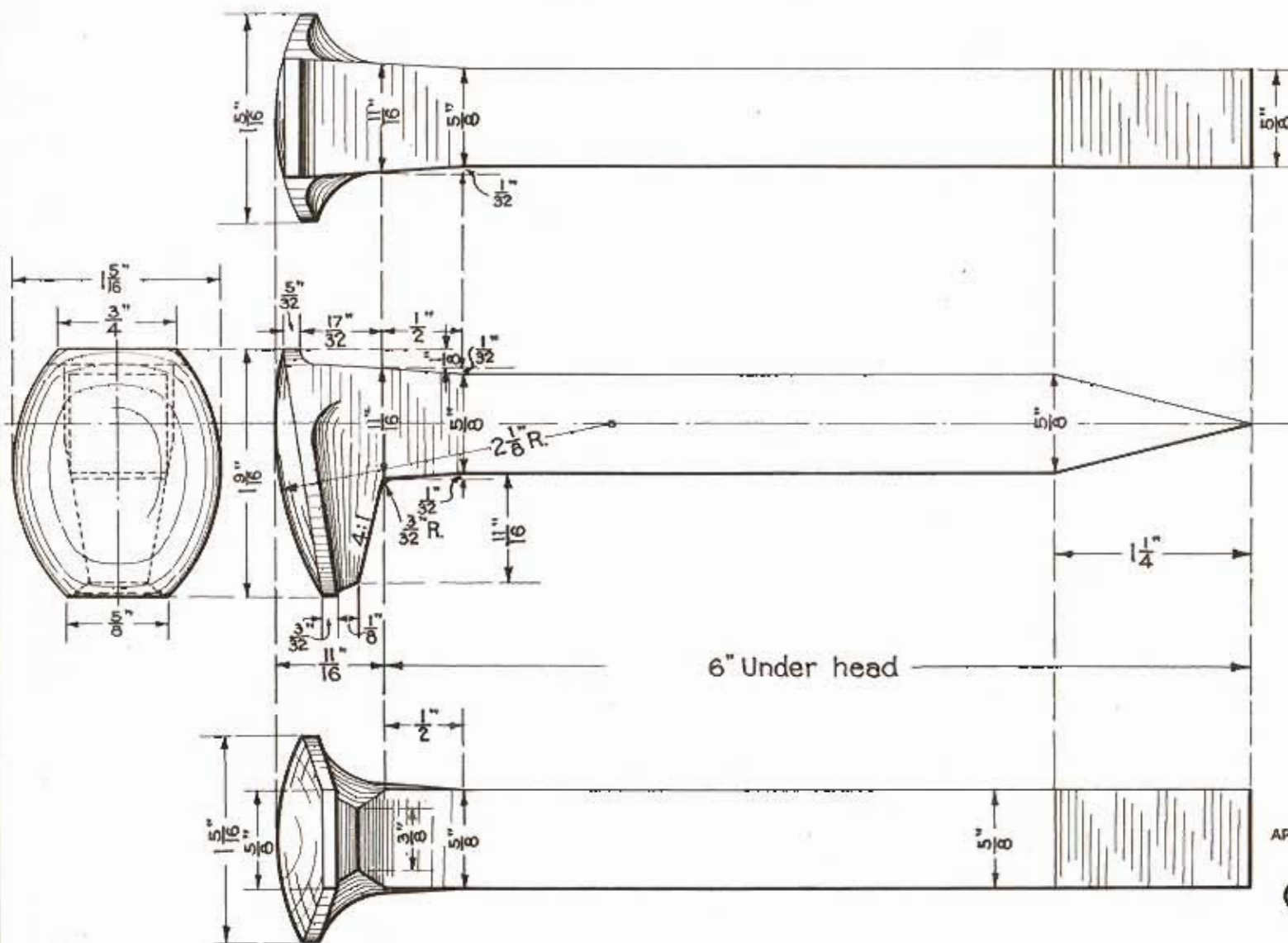
SECTION OF RAIL
SCALE: FULL SIZE

APPROVED: *J.M. Williams*
CHIEF ENGINEER

APPROVED: *E. W. Mason*
VICE-PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
85 LB. RAIL

SCALES: AS NOTED. ADOPTED SEPTEMBER-1923



A.R.E.A. design for cut track spike with reinforced throat, adopted March 1937.

- 6" SPIKE:
 Average number per box - 241
 Average weight per spike - 0.83 lb.
 For use in:
 (1.) Main track, Oakland to Salt Lake City, and Keddie to Bieber.
 (2.) All main track turnouts.

APPROVED: *J. M. Williams*
 CHIEF ENGINEER

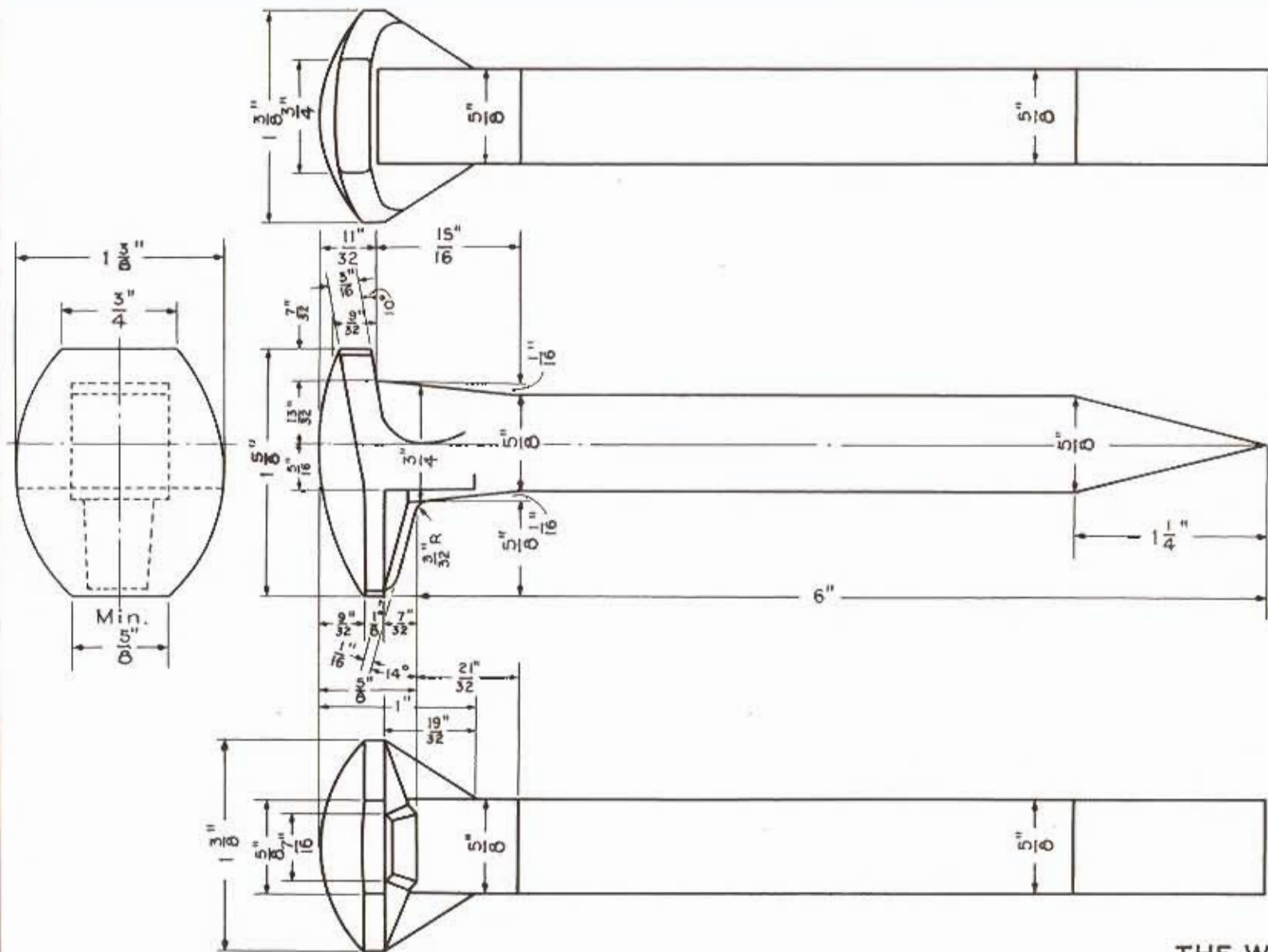
THE WESTERN PACIFIC RAILROAD CO.
 STANDARD

6" TRACK SPIKE

NO SCALE

ADOPTED NOV. 12, 1937.

016
1-31-37



Faries design for full throated cut track spike.
Manufactured per A.R.E.A. specifications for soft steel cut track spikes - Reapproved 1953.

6" Spike:
Average number per keg - 241
Average weight per spike - 0.83 lb.
For use in:
(1) Main track, Oakland to Salt Lake City, and Keddie to Bieber.
(2) All main track turnouts.
(3) All main track crossing installations.

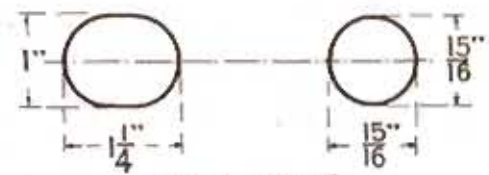
121 spikes/CWT.

APPROVED: *Frank R. Woolford*
CHIEF ENGINEER

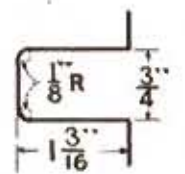
THE WESTERN PACIFIC RAILROAD CO.
STANDARD

**6" FULL THROATED
TRACK SPIKE**

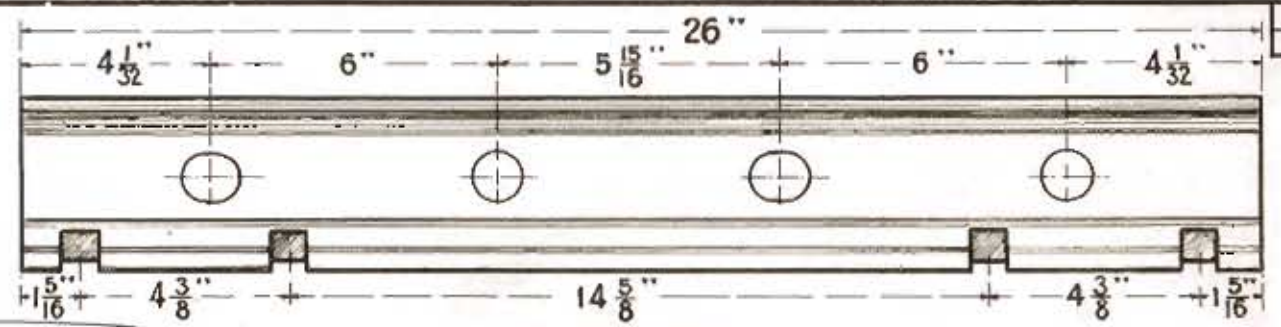
NO SCALE ADOPTED June 1, 1963



BOLT HOLES
ALTERNATE OVAL AND ROUND



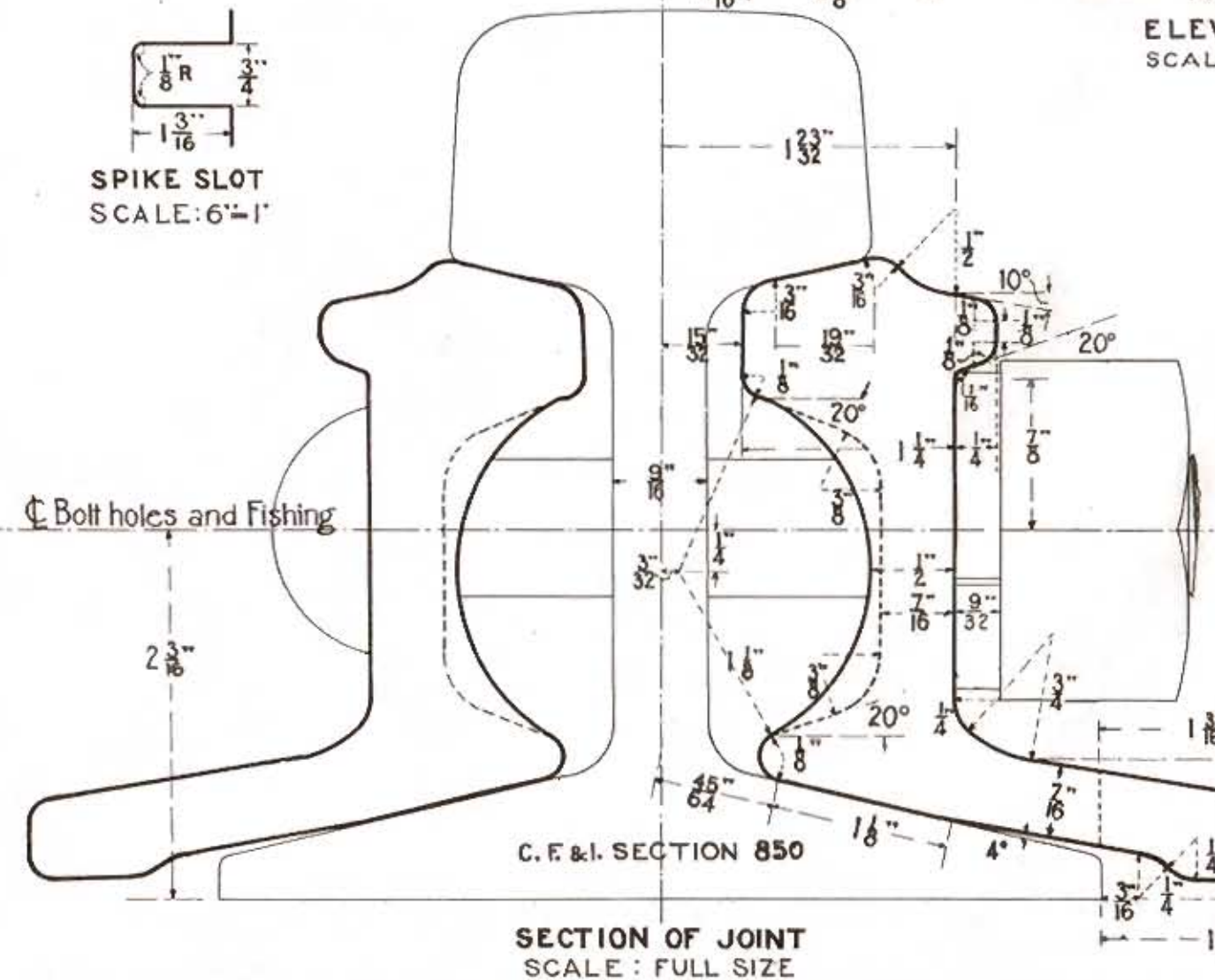
SPIKE SLOT
SCALE: 6"-1"



ELEVATION
SCALE: 3"-1"

ELEMENTS OF ANGLE BAR

I	4.95
M	{ T 2.54
	{ B 2.88
A	3.70 Sq. In.
WT/IN	1.01 Lbs.
Weight of Angle Bars 5241 Lbs. per Pair.	
Rail Joint Co. File No. 852-33, Jan. 10, 1925, Issue No. 1.	



C. F. & I. SECTION 850

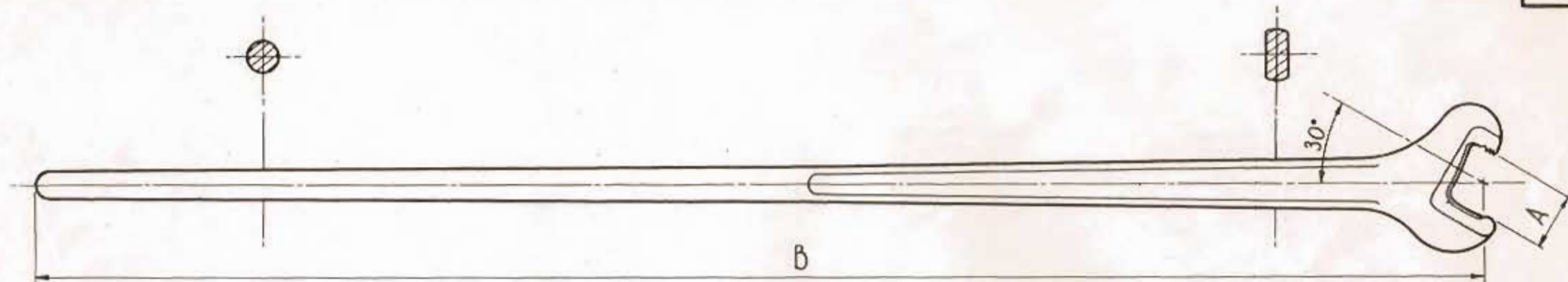
SECTION OF JOINT
SCALE: FULL SIZE

APPROVED *J. W. Williams*
CHIEF ENGINEER.

APPROVED *E. W. Mason*
VICE-PRESIDENT AND GENERAL MANAGER.

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
100% 85 LB. JOINT
SCALES: AS NOTED ADOPTED JULY, 1927.

1-31-26



NOTES

Width of nut shall be stamped plainly on one side of head near jaw.

Piece Marks 1 through 3 are stock items.

Piece Marks 4 through 14 are available sizes and lengths but are not to be stocked or ordered without special authority.

When ordering, specify piece mark and Standard number in addition to specifying width of nut.

Pc. Mk.	Bolt Sizes	Width of Nut	A	B
①	$\frac{7}{8}$	$1\frac{7}{16}$	$1\frac{1}{2}$	36
②	1	$1\frac{5}{8}$	$1\frac{11}{16}$	42
③	$1\frac{1}{8}$	$1\frac{13}{16}$	$1\frac{15}{16}$	48
④	$\frac{7}{8}$	$1\frac{7}{16}$	$1\frac{1}{2}$	18
⑤	$\frac{7}{8}$	$1\frac{7}{16}$	$1\frac{1}{2}$	24
⑥	$\frac{7}{8}$	$1\frac{7}{16}$	$1\frac{1}{2}$	30
⑦	1	$1\frac{5}{8}$	$1\frac{11}{16}$	18
⑧	1	$1\frac{5}{8}$	$1\frac{11}{16}$	24
⑨	1	$1\frac{5}{8}$	$1\frac{11}{16}$	30
⑩	1	$1\frac{5}{8}$	$1\frac{11}{16}$	36
⑪	1	$1\frac{5}{8}$	$1\frac{11}{16}$	48
⑫	$1\frac{1}{8}$	$1\frac{13}{16}$	$1\frac{15}{16}$	30
⑬	$1\frac{1}{8}$	$1\frac{13}{16}$	$1\frac{15}{16}$	36
⑭	$1\frac{1}{8}$	$1\frac{13}{16}$	$1\frac{15}{16}$	42

All dimensions in inches.

Approved:

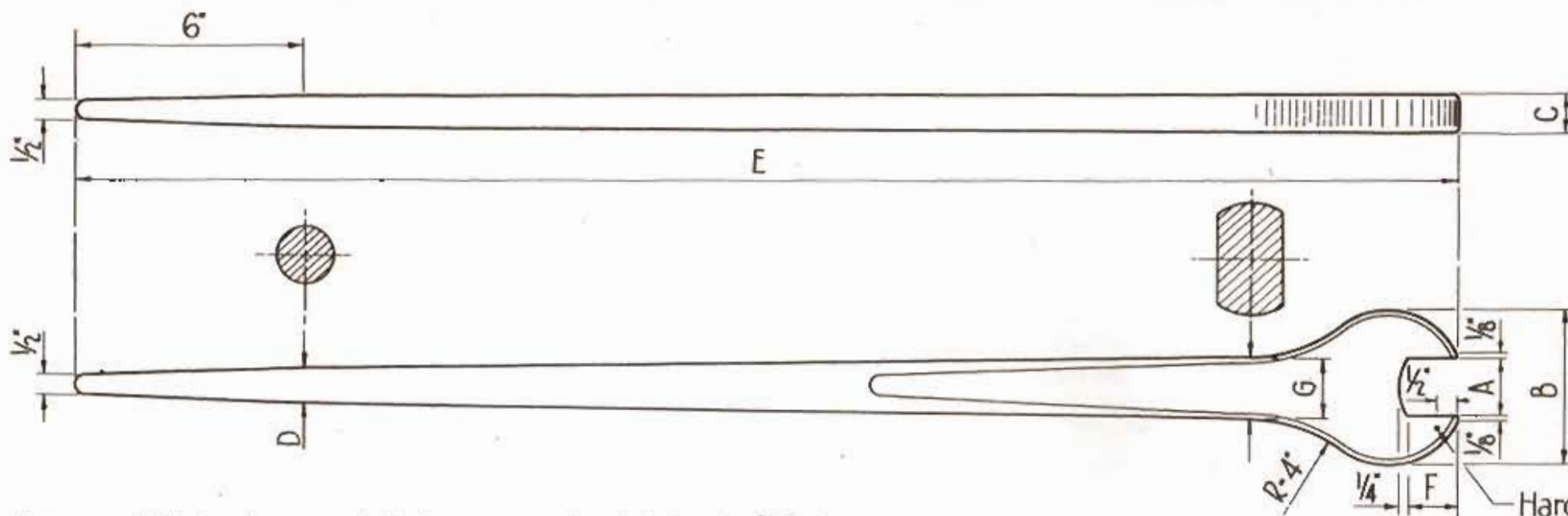
Fram R. Moore
Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
RATCHET ACTION

TRACK WRENCHES

NO SCALE

ADOPTED : Sept. 15, 1955



Note: Width of nut shall be stamped plainly in $\frac{3}{4}$ " characters on one side of head near jaw.

Tolerance: 2% on length, 5% on cross section.

All wrench jaws shall be milled to dimensions shown.

When ordering, specify Piece Mark and Standard Number in addition to specifying Width of Nut.

Hardness at this point to be Brinell 375-450. Test to be taken on all wrenches.

Approved:

Frank R. Neuffer
Chief Engineer

Pc. Mk.	Bolt Sizes	Width of Nut	A		B	C	D	E	F	G
			Min.	Max.						
①	$\frac{3}{4}$	$1\frac{1}{4}$	1.257	1.330	$3\frac{1}{2}$	$1\frac{5}{16}$	$\frac{3}{4}$	30	$1\frac{1}{4}$	$1\frac{1}{2}$
②	$\frac{7}{8}$	$1\frac{1}{16}$	1.445	1.519	4	$1\frac{5}{16}$	$\frac{3}{4}$	36	$1\frac{1}{4}$	$1\frac{1}{2}$
③	1	$1\frac{5}{8}$	1.634	1.709	4	$1\frac{5}{16}$	$\frac{7}{8}$	42	$1\frac{3}{8}$	$1\frac{1}{2}$
④	$1\frac{1}{8}$	$1\frac{13}{16}$	1.822	1.898	$4\frac{1}{8}$	$1\frac{5}{16}$	$\frac{7}{8}$	48	$1\frac{9}{16}$	$1\frac{1}{2}$
⑤	$1\frac{1}{4}$	2	2.011	2.088	$4\frac{1}{2}$	1	$\frac{7}{8}$	48	$1\frac{3}{4}$	$1\frac{1}{2}$
⑥	$1\frac{3}{8}$	$2\frac{3}{16}$	2.199	2.277	5	1	$\frac{7}{8}$	54	$1\frac{15}{16}$	$1\frac{1}{2}$

All dimensions in inches.

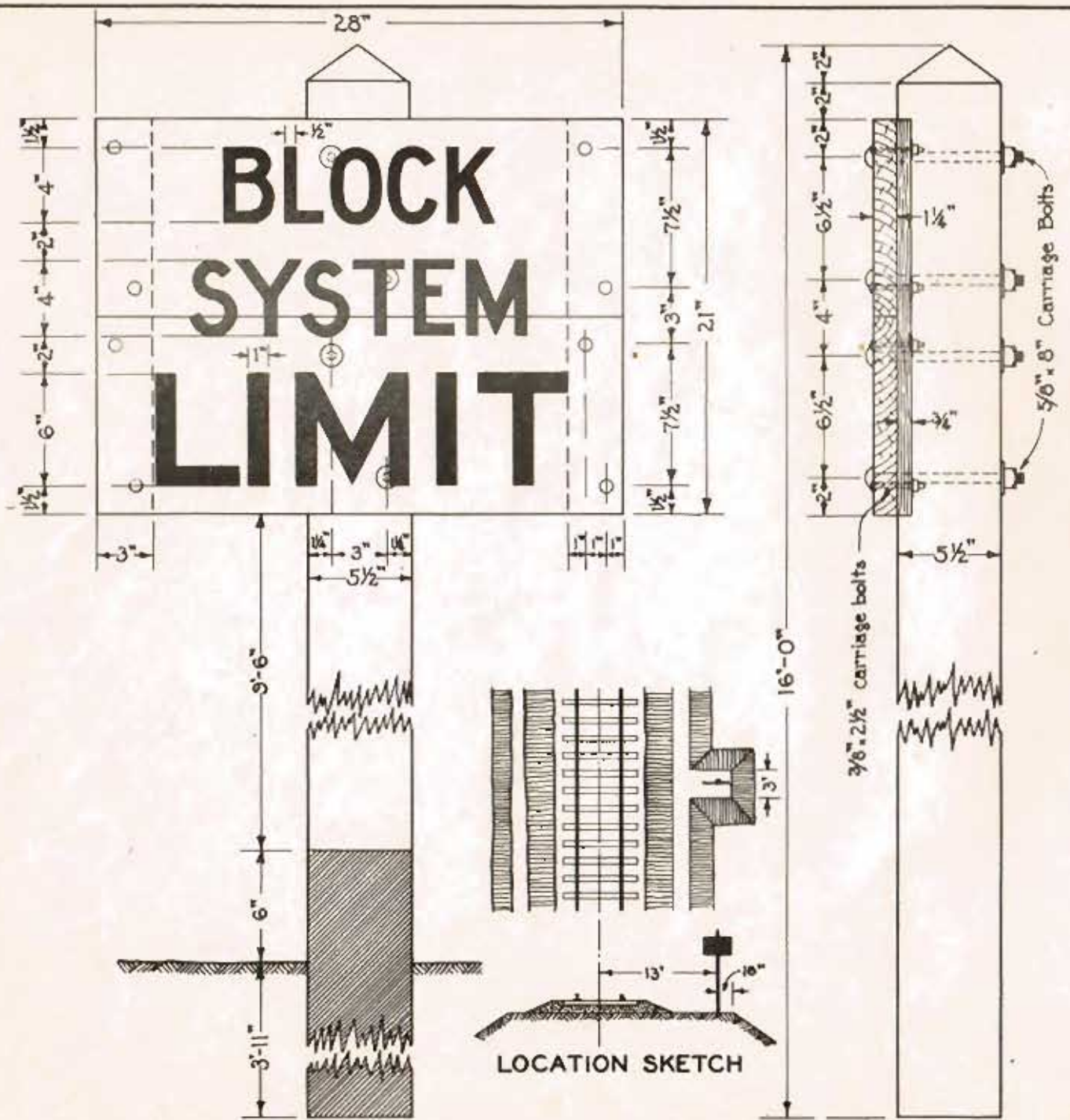
THE WESTERN PACIFIC RAILROAD CO.
STANDARD

TRACK WRENCHES

NO SCALE

ADOPTED: Feb. 20, 1923

REVISED: Dec. 1, 1954



POSTS: 6"x6"x16'-0" S4S Redwood Extra Merch
BOARDS: Redwood Clear.
BOLTS: 3/8" x 8" & 3/8" x 2 1/2" Carriage Bolts with cut washers.
PAINTING: Face of board white, letters black. Posts to have a coat of coal tar applied hot, to 6" above ground, balance of post and back of board painted with metallic and lamp black making a very dark brown.
 Face of board to be given one priming coat of white lead and oil paint thinned with turpentine and two coats of white lead and oil paint.
LETTERING: Gothic, of size and weight shown.
LOCATION: On engineer's side of track leaving Block System, 13'-0" from center line of track.

APPROVED: *[Signature: J. Phillips]*
 CHIEF ENGINEER.

APPROVED: *[Signature: E. W. Mason]*
 VICE-PRESIDENT AND GENERAL MANAGER.

**THE WESTERN PACIFIC RAILROAD CO.
 STANDARD**

BLOCK SYSTEM LIMIT SIGN

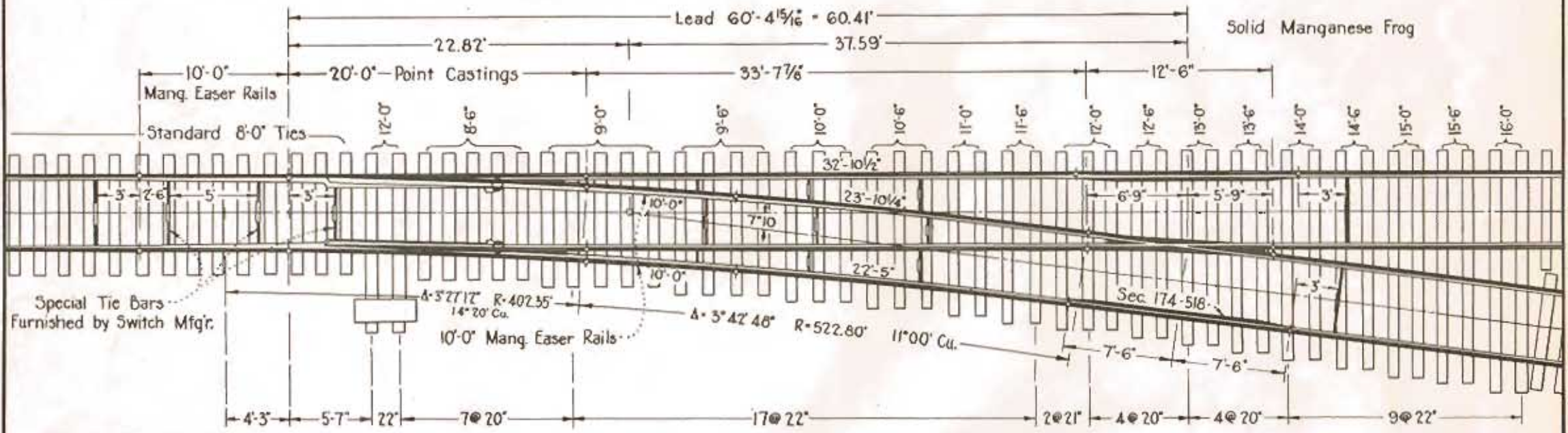
Scale: 1/2" = 1'-0" ADOPTED, Dec. 16, 1922.
 REV. April 12, 1944.

1-31-66

SWITCH TIE LIST															TOTAL NUMBER PIECES	TOTAL FEET B.M.	
Pieces 7x9"																	
8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"	15'-6"	16'-0"	45	2730.9

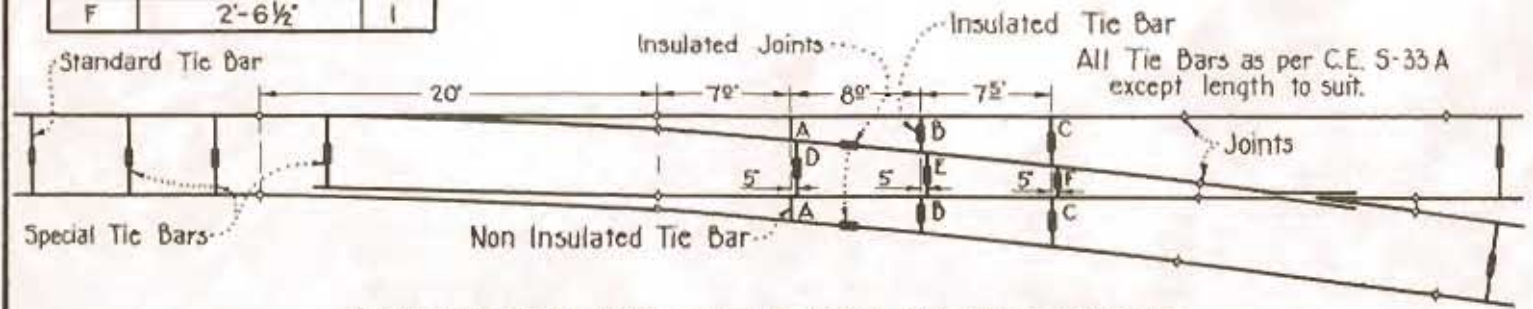
FROG ANGLE _____ 7° 10'
 DEGREE OF TURNOUT CURVE 11° 00'
 LEAD _____ 60'-4 15/16"

C. E.
S-9



I SET SWITCH TIE BARS		
BAR	OVERALL LENGTH	NO.
A	1'-11 1/2"	2
B	2'-3"	2
C	3'-0"	2
D	4'-1"	1
E	3'-3"	1
F	2'-6 1/2"	1

PLAN OF NO 8 GIRDER RAIL TURNOUT

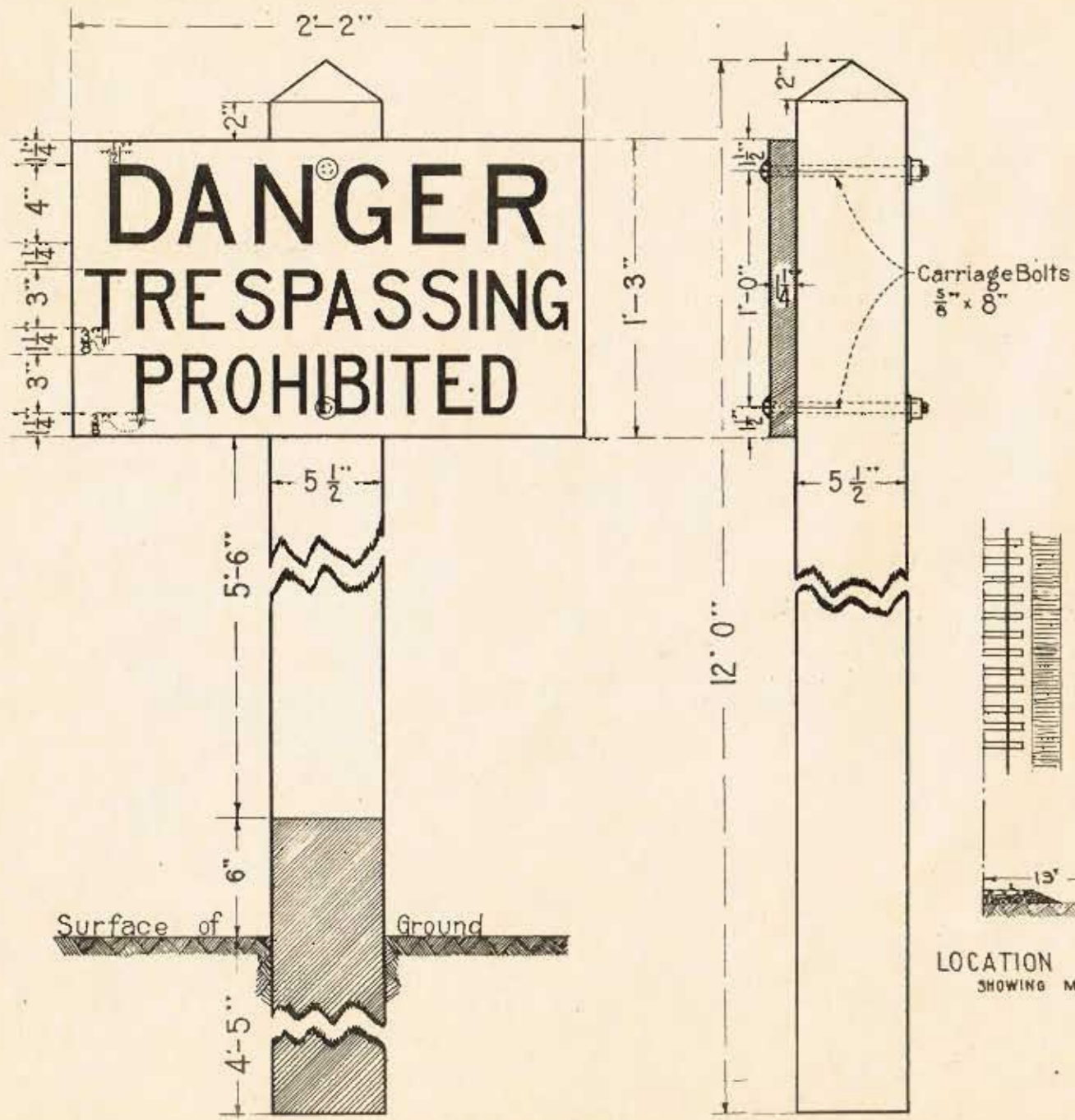


LOCATION OF TIE BARS IN TURNOUT

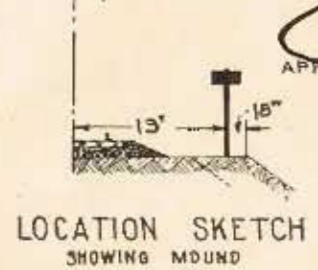
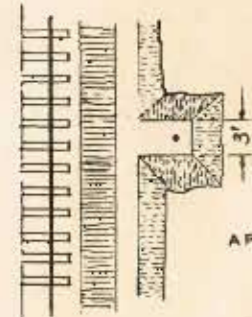
Approved: *Frank R. M...*
Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
**NO 8 GIRDER RAIL
TURNOUT**
WITH 400' RADIUS SWITCH

NO SCALE
ADOPTED: Feb. 12, 1956
REVISED: April 8, 1955



POST: 6" x 6" x 12'-0" S4S Redwood Extra Merch.
 BOARDS: Redwood Clear
 BOLTS: 5/8" Diameter with washers
 PAINTING: Face of board white, letters black. Post to have a coat of coal tar applied hot, to 6" above ground, balance of post and back of board painted with metallic and lamp black making a very dark brown. Face of board to be given a priming coat of white lead and oil paint thinned with turpentine and two coats of white lead and oil paint.
 LOCATION: 13'-0" from center line of track.



APPROVED: *J. M. Williams*
 CHIEF ENGINEER

APPROVED: *Emerson*
 VICE-PRESIDENT AND GENERAL MANAGER

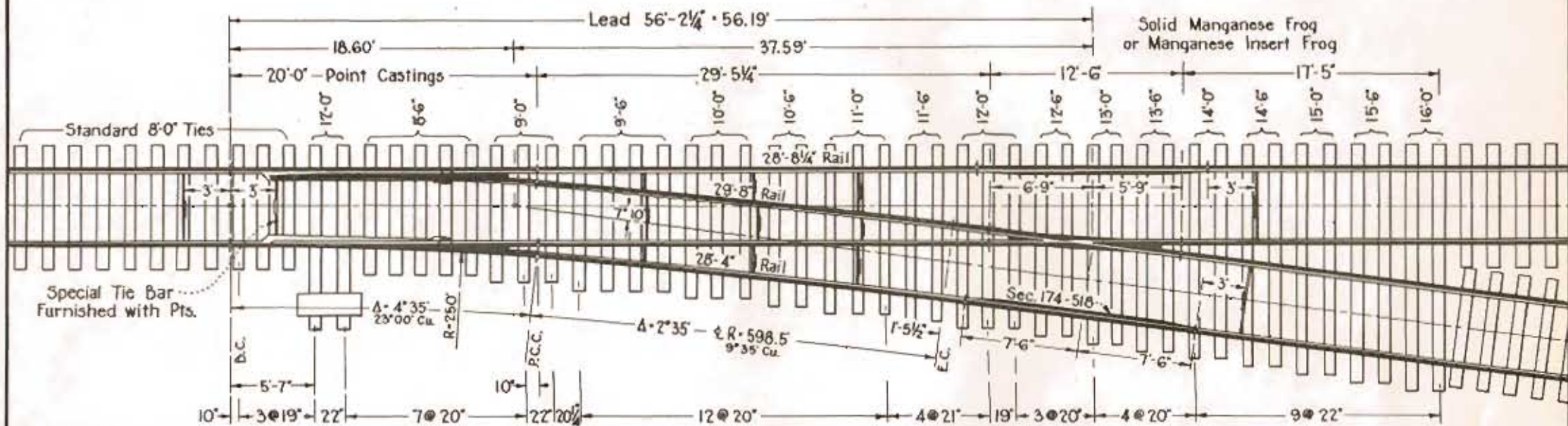
THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
 NON TRESPASSING SIGN
 SCALE: 1 1/2" = 1' ADOPTED AUGUST 1924
 REV. JUNE 1, 1936

1-31-66

SWITCH TIE LIST														TOTAL NUMBER PIECES	TOTAL FEET B.M.		
Pieces 7"x9"																	
8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"	15'-6"	16'-0"		
5	3	4	3	2	3	2	5	2	2	2	2	2	2	2	2	43	2638'

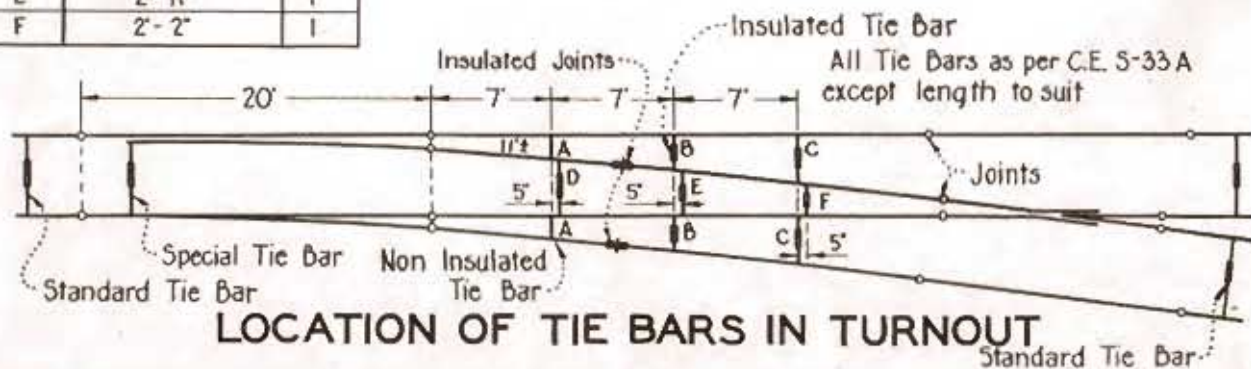
FROG ANGLE $7^{\circ} 10'$
 DEGREE OF TURNOUT CURVE $9^{\circ} 35'$
 LEAD $56'-2\frac{1}{4}"$

C.E.
S-11



I SET SWITCH TIE BARS		
BAR	OVERALL LENGTH	NO.
A	1'-9"	2
B	2'-5"	2
C	3'-2"	2
D	3'-6"	1
E	2'-11"	1
F	2'-2"	1

PLAN OF NO 8 GIRDER RAIL TURNOUT



LOCATION OF TIE BARS IN TURNOUT

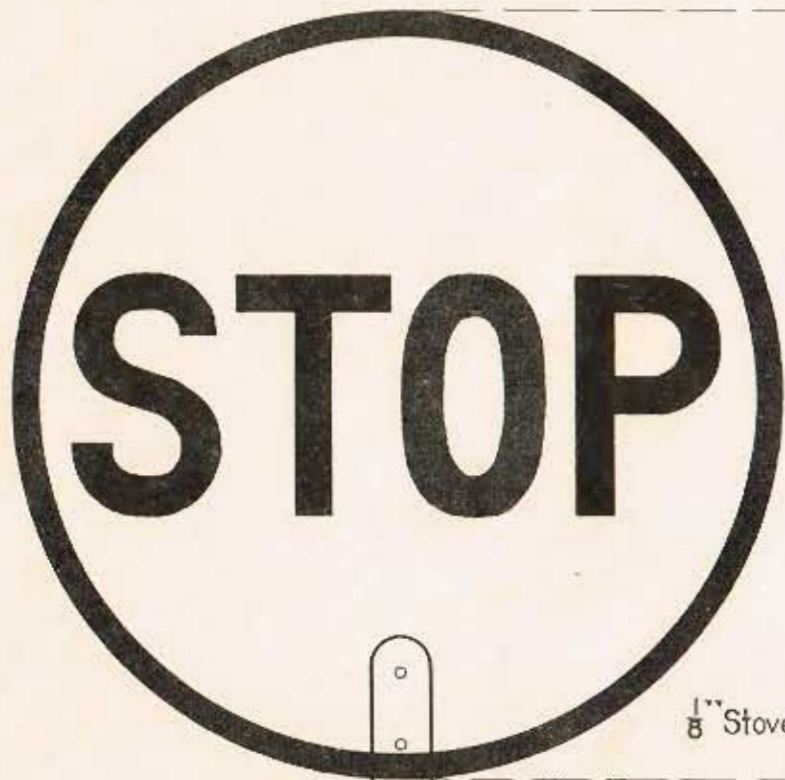
Approved: *Frank A. Woolf*
Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
STANDARD

NO 8 GIRDER RAIL TURNOUT WITH 250' RADIUS SWITCH

NO SCALE

ADOPTED: Feb. 2, 1938
REVISED: April 8, 1955

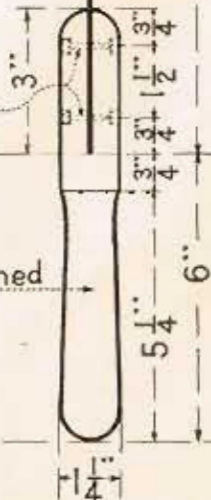


$\frac{1}{16}$ " Black Iron

$\frac{1}{8}$ " Stove Bolts $\frac{7}{8}$ " Long

Turned

16"
22"



Metal Disc 16" in Diameter
Painted White Field with
Black Letters 5" High, 3" Wide,
Lines $\frac{3}{4}$ " Stroke.
Border Line Black, $\frac{1}{2}$ " Wide.
Both Sides of Disc the Same.

APPROVED:

J. M. Williams
CHIEF ENGINEER

APPROVED:

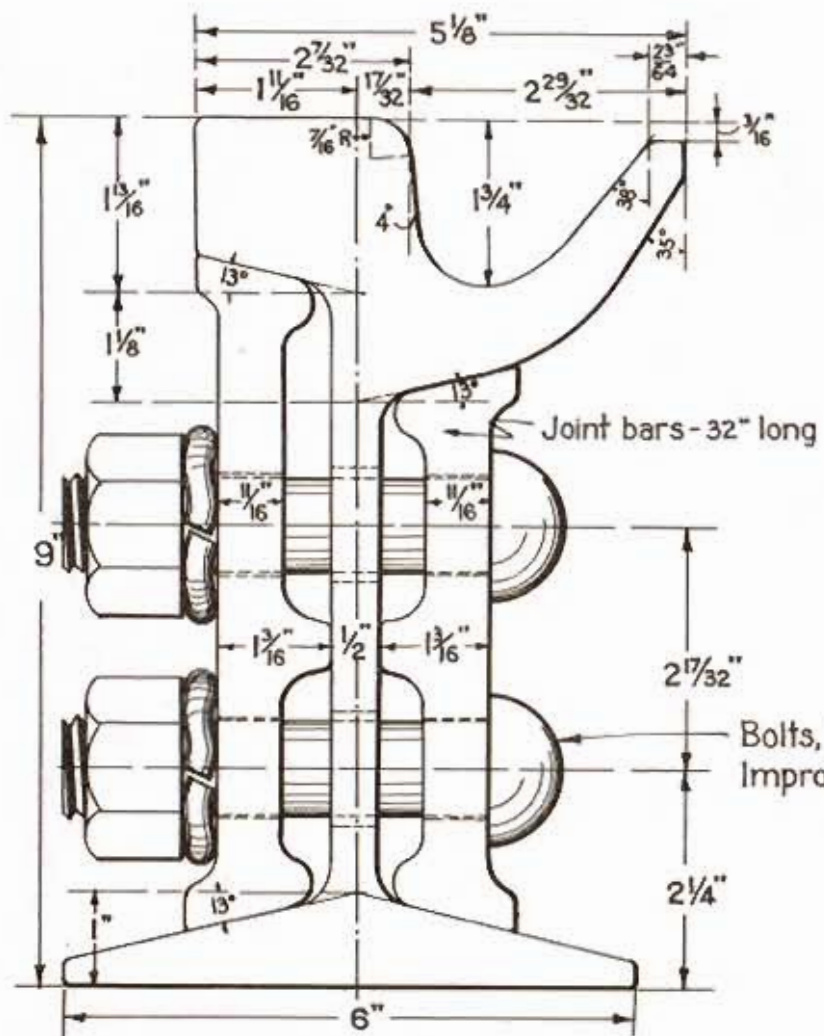
E. W. Mason
VICE-PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
FLAGMAN'S STOP SIGN

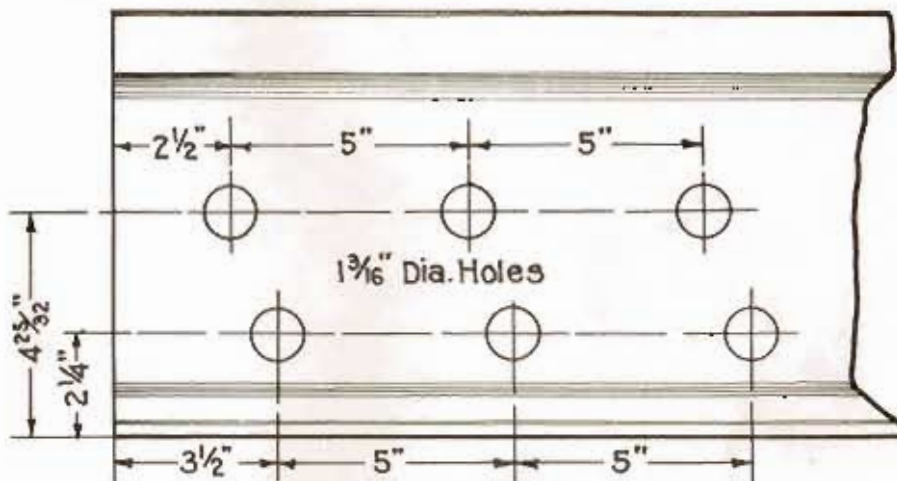
SCALE: 3" = 1'

ADOPTED AUGUST 29TH, 1923.

mc
1-31-26



SECTION
SCALE HALF SIZE
(L.S.Co. Sec. 141-465)
(Beth. Sec. 141-263)



DRILLING OF RAIL
SCALE: 3" = 1'-0"

OLD STANDARD
OBSOLETE

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
141 LB. GIRDER RAIL

SCALE AS SHOWN

JAN. 1924
Rev. Dec. 9, 1937
Sept. 17, 1954

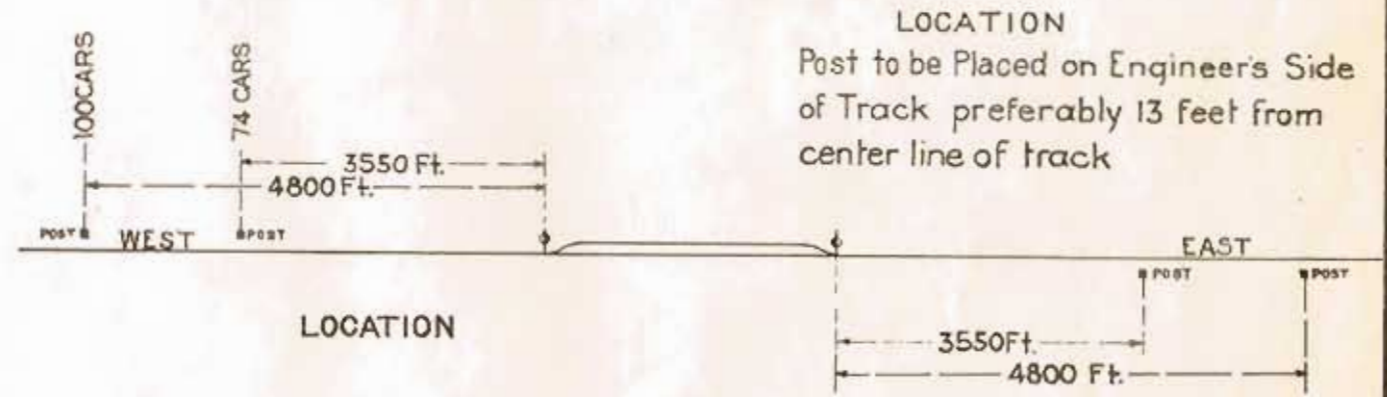
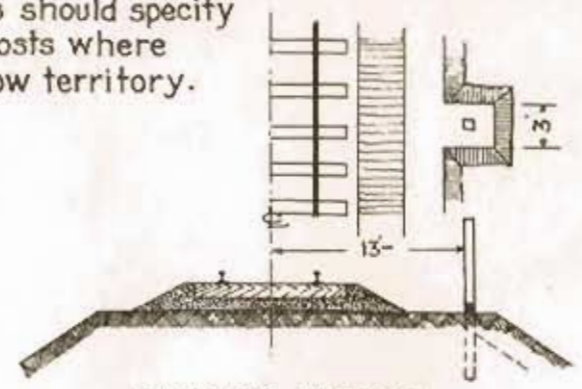
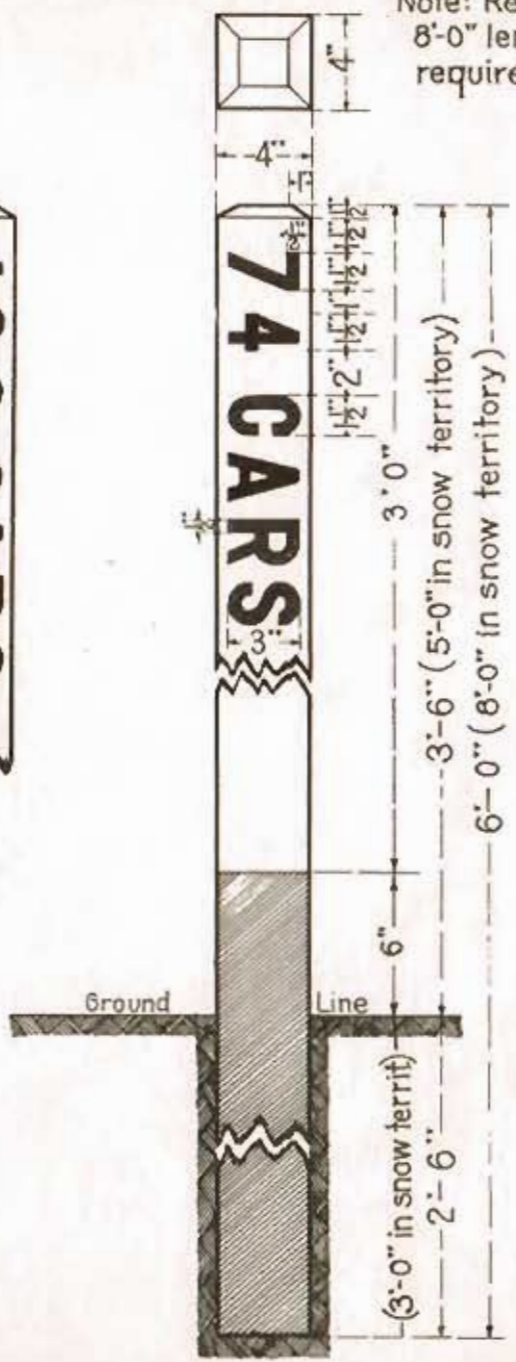
Approved: *Frank R. Moore*
Chief Engineer

1-31-66

Note: Requisitions should specify 8'-0" length of posts where required for snow territory.

POST: 4"x4" x 6'-0" Redwood Extra Merch.
PAINTING: Post to have a coat of coal tar applied hot to 6" above ground. Balance of post to have one priming coat of white lead and oil paint thinned with turpentine and two coats of white lead and oil paint. Letters black.

100 CARS



LOCATION
Post to be Placed on Engineer's Side of Track preferably 13 feet from center line of track

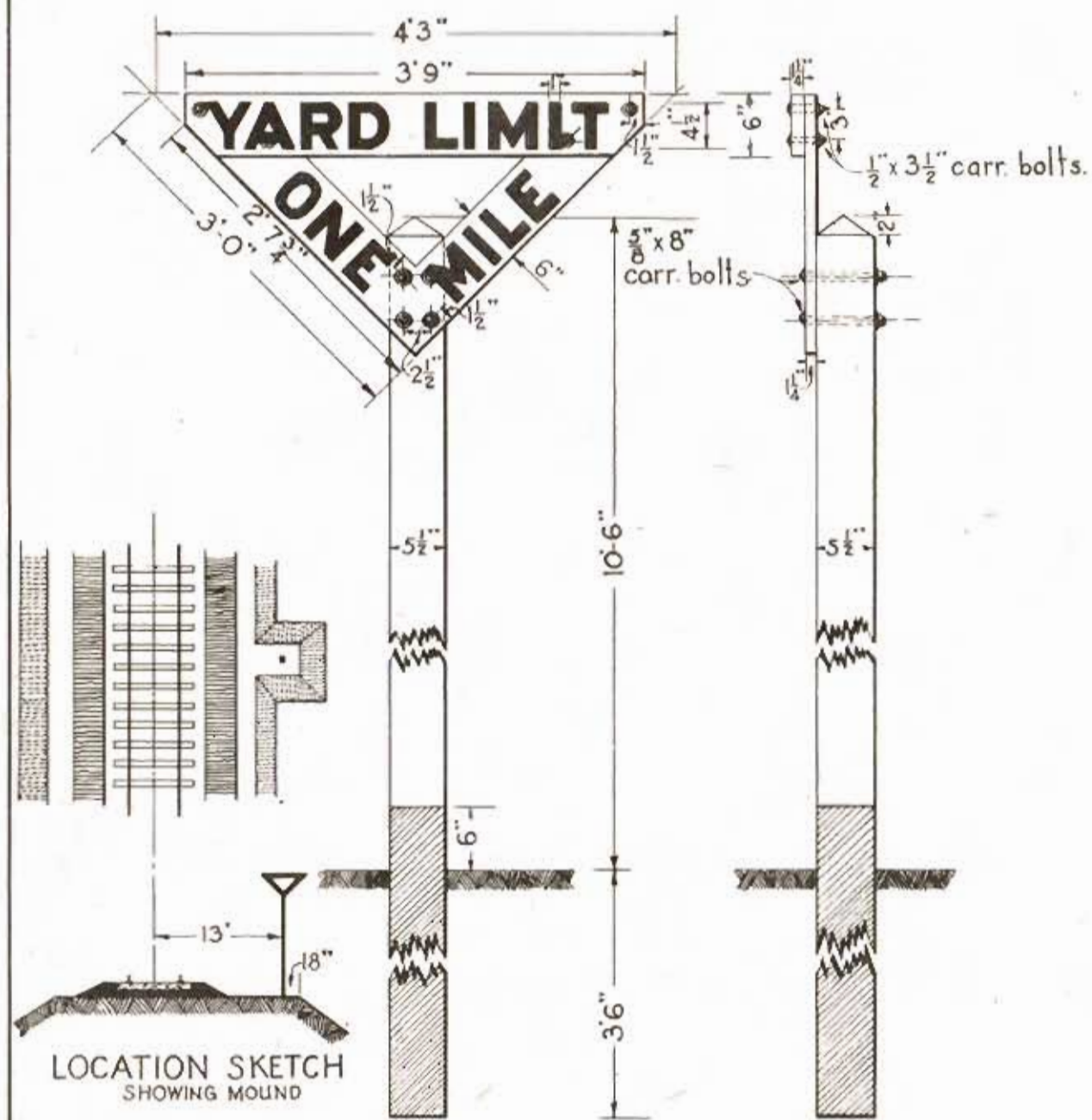
APPROVED: *J. M. Williams*
CHIEF ENGINEER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
SIGN INDICATING
CAR LENGTHS FROM SWITCH

Revised: Dec. 1924 - Dec. 1927

SCALE: 1 1/2" = 1'
ADOPTED FEBRUARY 29-1924
REV. JUNE 1, 1936
REV. SEPT. 5, 1952
Revised June 19, 1935 Rev. Dec. 30, 1940

OK
1-31-66



POST: 6" x 6" x 14'-0" S4S Redwood Extra Merch.
 BOARDS: Redwood Clear.
 BOLTS: $\frac{5}{8}$ " and $\frac{1}{2}$ " diameter as indicated With cut washers.
 PAINTING: Face of board white. Letters black.
 Post to have a coat of coal tar applied hot to 6" above ground, balance of post and back of boards painted with metallic and lamp black making a very dark brown.
 STYLE OF LETTERS: Egyptian $4\frac{1}{2}$ " high with 1" stroke as indicated.
 PAINTING OF BOARDS: Face of boards to be given one priming coat of white lead and oil paint thinned with turpentine and two coats of white lead and oil paint.
 LOCATION: Post to be set on Engineer's side 13'0" from the center of track. To be used only in conjunction with yard limit sign

APPROVED: *J. Phillips*
 CHIEF ENGINEER.
 APPROVED: *H. A. ...*
 VICE-PRESIDENT AND GENERAL MANAGER.

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
YARD LIMIT ONE MILE SIGN
 SCALE $\frac{3}{4}$ " = 1'-0"
 ADOPTED JAN. 1, 1947

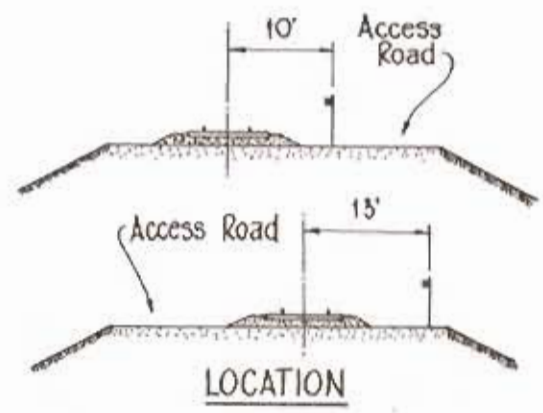
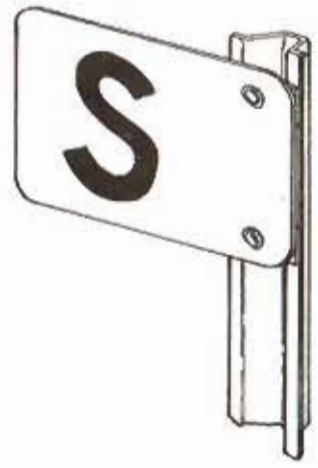
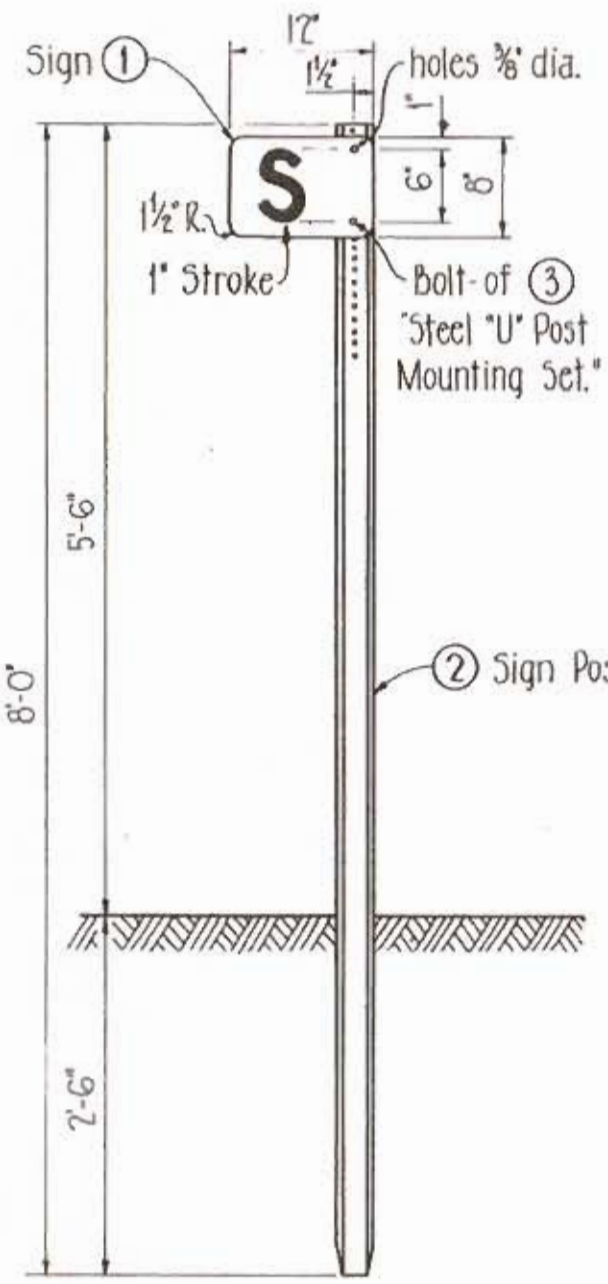
NOTES

For letter stroke and shape see S-39.

Sign to be placed one mile in advance of siding switch in areas as designated by the Chief Engineer.

Sign to be of .081 gage aluminum sheet, unpainted, specification for aluminum alloy 6061-T6.

Letter to be of black, non-reflective material, on one side only. Material to be as per letter instructions.



PARTS LIST

Pc. Mk.	Name	Req'd.	Remarks
1	Sign Face	1	
2	Sign Post	1	Type "C", S-82.
3	Steel "U" Post Mounting Set	1	Complete-as per S-82.

When ordering replacement parts refer to Piece Mark and Dwg. N^o in addition to Name of Part.

When order states "Station One Mile Sign Complete" store will furnish Piece Marks 1 through 3, assembled.

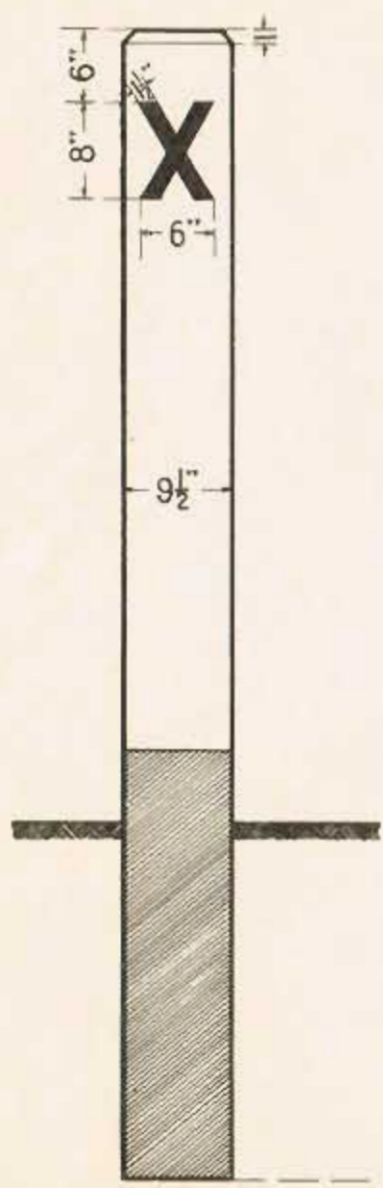
Approved: *Frank R. Woodford*
Chief Engineer

THE WESTERN PACIFIC RAILROAD COMPANY
STANDARD

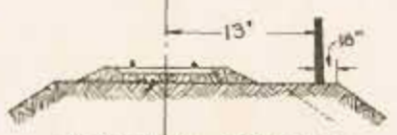
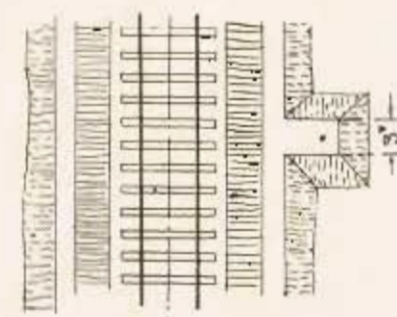
STATION ONE MILE SIGN

No Scale

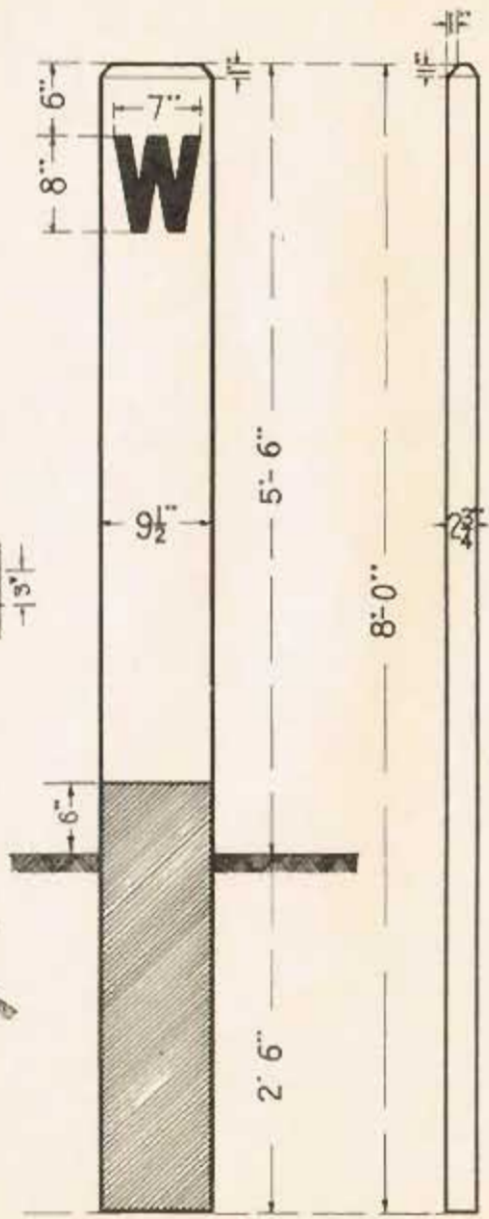
Adopted: Nov. 16, 1959



GROSSING



LOCATION SKETCH
SHOWING MOUND



TUNNEL ETC.

POST: 3"x10"x 8'-0" S.4S. Redwood Extra Merch.
PAINTING: Face of post white, Letters black, sides and back of post painted with metallic and lamp black making a very dark brown, Post to have a coat of coal tar applied hot to 6" above ground.
STYLE OF LETTERS: Egyptian 8" high with 1 1/2" stroke as indicated.
LOCATION: Place at right angles to track on Engineer's side 13 feet from center of track.
X and W Posts to be placed as nearly as practicable 1/4 mile distant from crossing, tunnel, etc.
PAINTING OF FACE: Face of post to be given one priming coat of white lead and oil paint thinned with turpentine and two coats of white lead and oil paint.

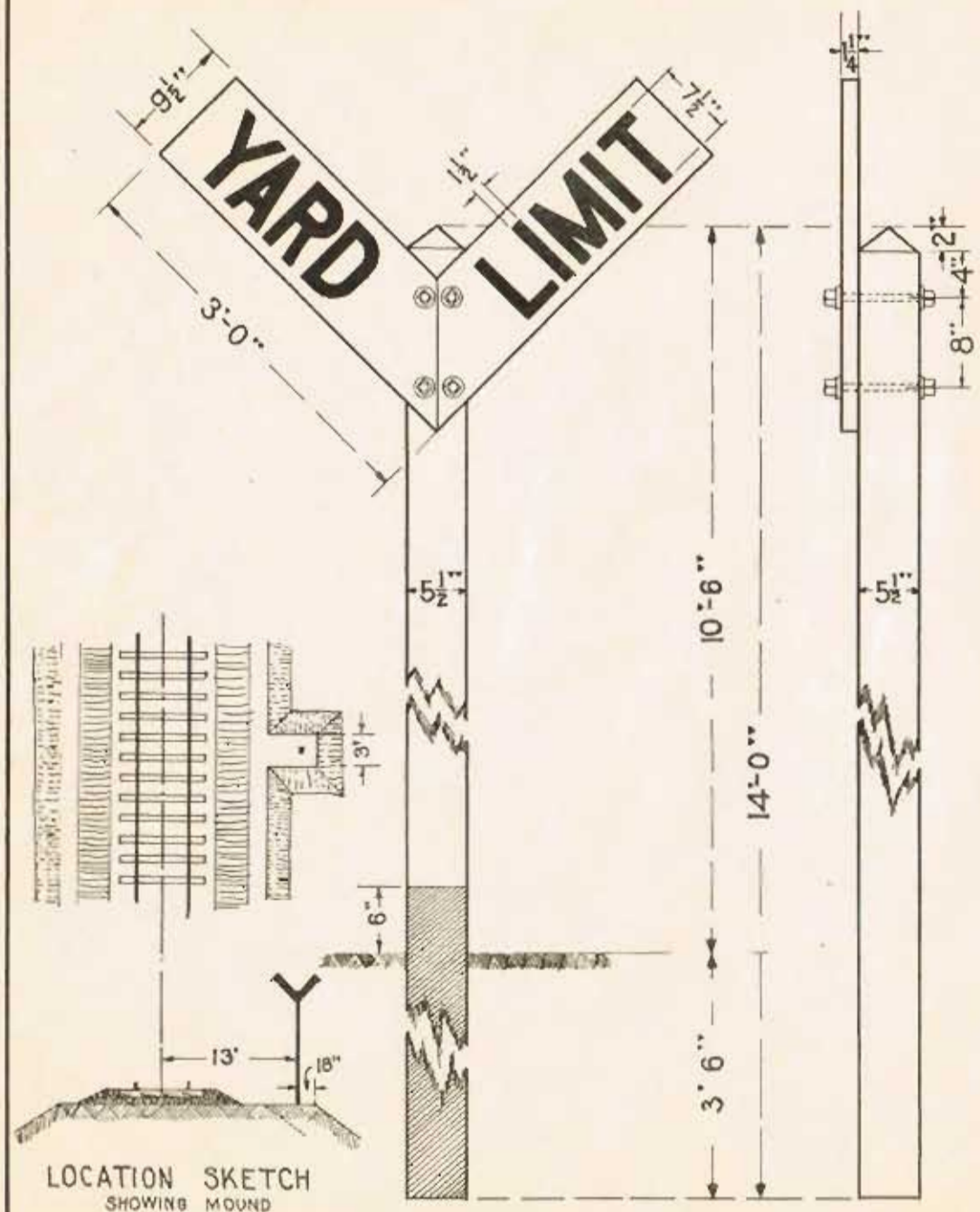
APPROVED: *J. M. Williams*
CHIEF ENGINEER

APPROVED: *Everman*
VICE-PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
 WHISTLING POSTS

SCALE: 3/4" = 1'-0" ADOPTED JUNE 30-1924
 REV. JUNE 1, 1936

See
 New
 Dist
 1-21-11



LOCATION SKETCH
SHOWING MOUND

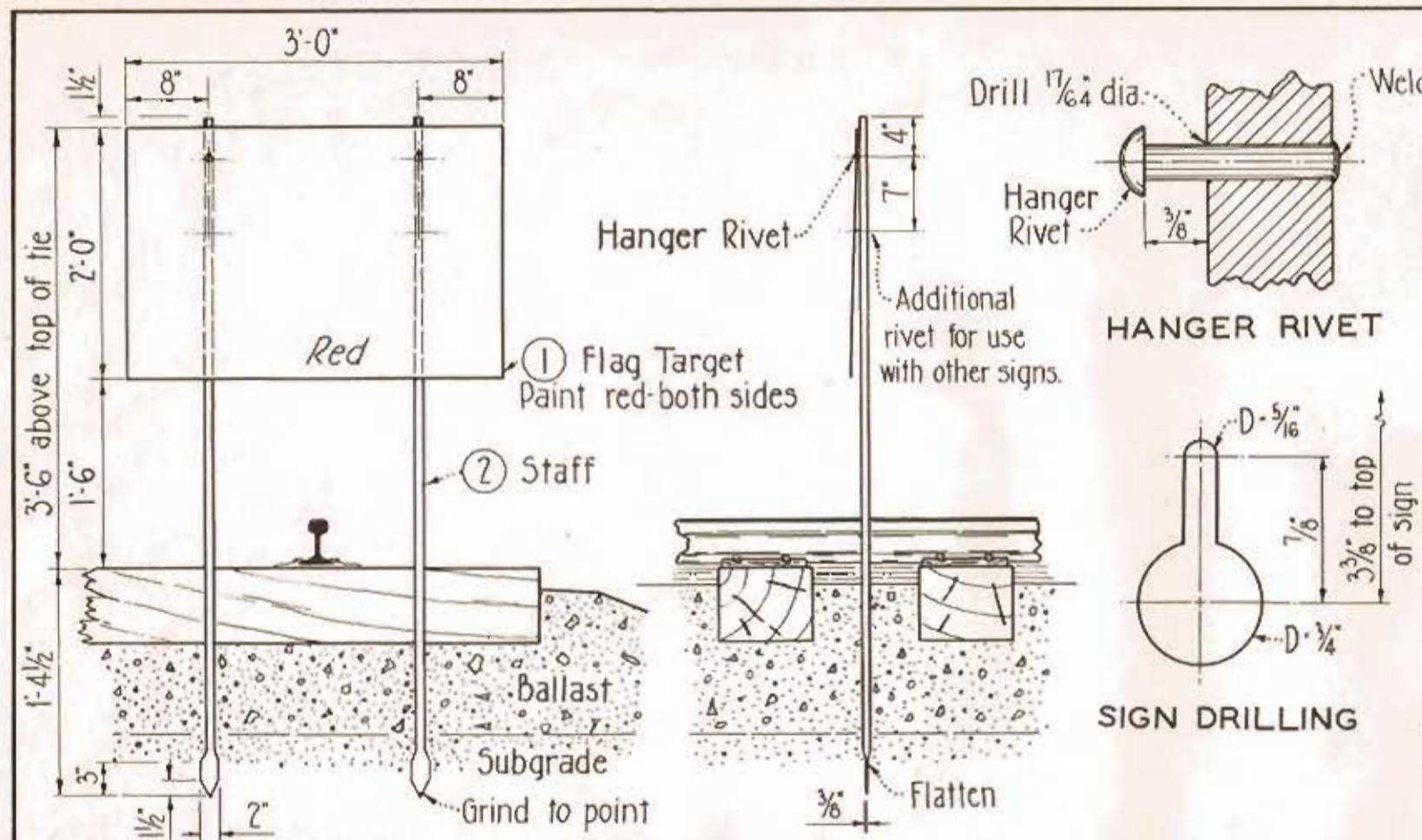
POST: 6"6"14-0" S 4S Redwood Extra Merch.
 BOARDS: Redwood Clear
 BOLTS: 5/8" Diameter with washers.
 PAINTING: Face of board white. Letters black. Post to have a coat of coal tar applied hot to 6" above ground, balance of post and back of boards painted with metallic and lamp black making a very dark brown.
 STYLE OF LETTERS: Egyptian 7 1/2" high with 1 1/2" stroke as indicated.
 LOCATION: Posts to be set on Engineer's side 13'0" from the center of track.
 PAINTING OF BOARDS: Face of boards to be given one priming coat of white lead and oil paint thinned with turpentine and two coats of white lead and oil paint.

APPROVED: *J. M. Williams*
 CHIEF ENGINEER
 APPROVED: *Evermason*
 VICE-PRESIDENT AND GENERAL MANAGER.

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
 YARD LIMIT SIGN
 SCALE 3/4" = 1'-0"
 ADOPTED JUNE 1924
 REV. JUNE 1, 1936

022
1-31-66

When pt. rivet
 red: one added.



NOTES

Both faces of sign to be painted. Color to be red, number 1538 as shown in Paint Standard C.E. 5-195. Staffs and Hanger Bolts to be painted black. For proper use of these signs see Maintenance of Way and Structures Rule Book, rules 2003 thru 2005.

PARTS LIST

When order states "Red Warning Flag Complete" store will furnish one Target and two Staffs with rivets.

Pc. Mk.	Name of Part	Reqd.	Remarks
1	Target	1	16 Gage sheet metal - both faces painted red.
2	Staff	2	1" Rod - 5'-0" long, painted black - includes rivets.

When ordering replacement parts refer to Piece Mark and Drawing Number in addition to Name of Part.

Approved: *Frank A. Wood*
 Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD

RED WARNING FLAG

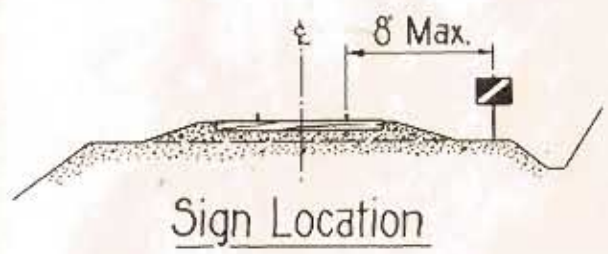
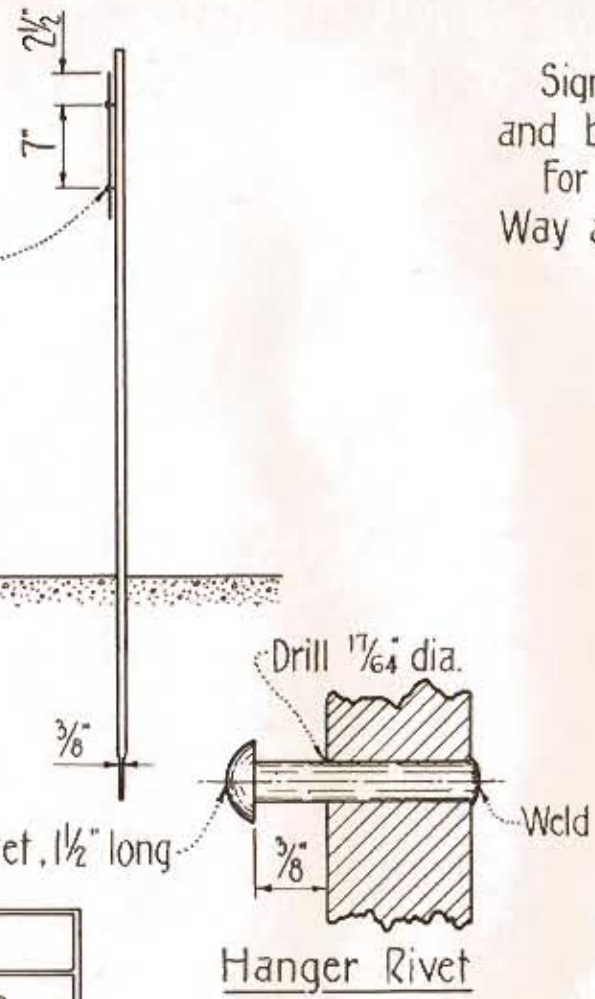
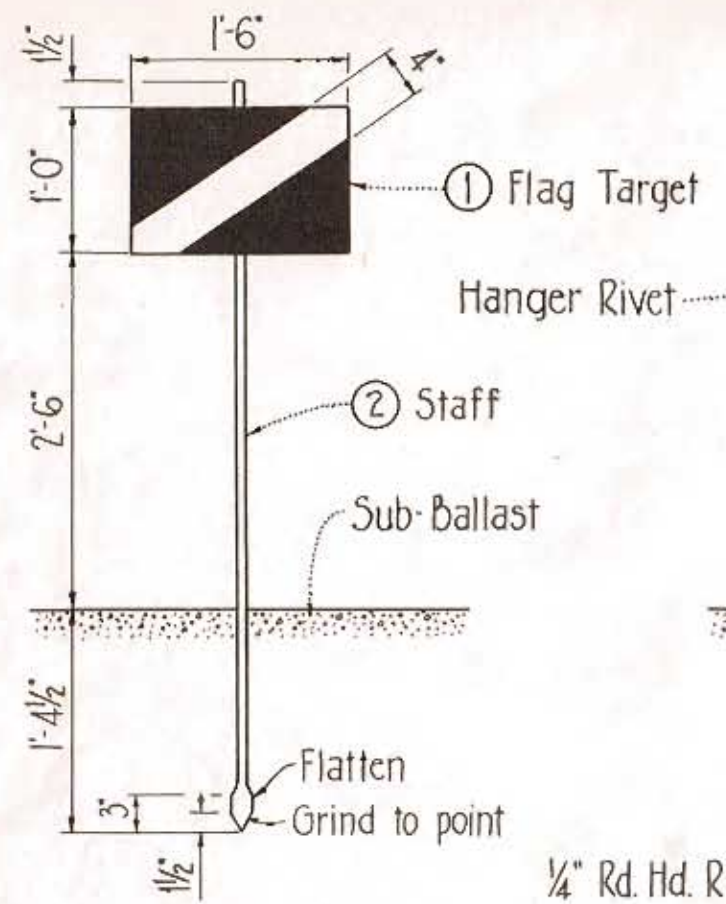
NO SCALE

ADOPTED: Jan. 17, 1956
 Revised: April 1, 1957

○ Indicates Piece Mark

atten point.

C. E.
S-25 B



NOTES

Sign to have yellow diagonal Scotchlite stripe and black Scotchlite background, both sides.
For proper use of this sign see Maintenance of Way and Structures Rule Book, Rule 10 B.

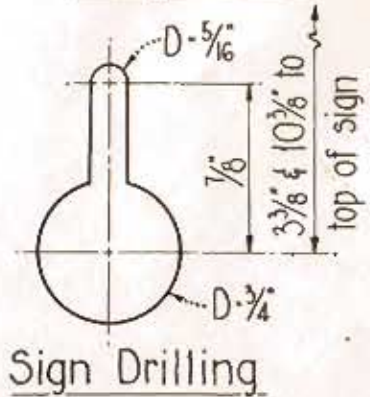
ent
1-31-66

PARTS LIST

When order states "Multiple Speed Flag Complete" store will furnish one Target and one Staff with rivets.

Pc. Mk.	Name of Part	Req'd.	Remarks
1	Target	1	16 Gage sheet metal
2	Staff	1	1" Rod-5'-0" long, painted black-includes rivets.

When ordering replacement parts specify piece mark and drawing number in addition to name of part.



○ Indicates Piece Mark

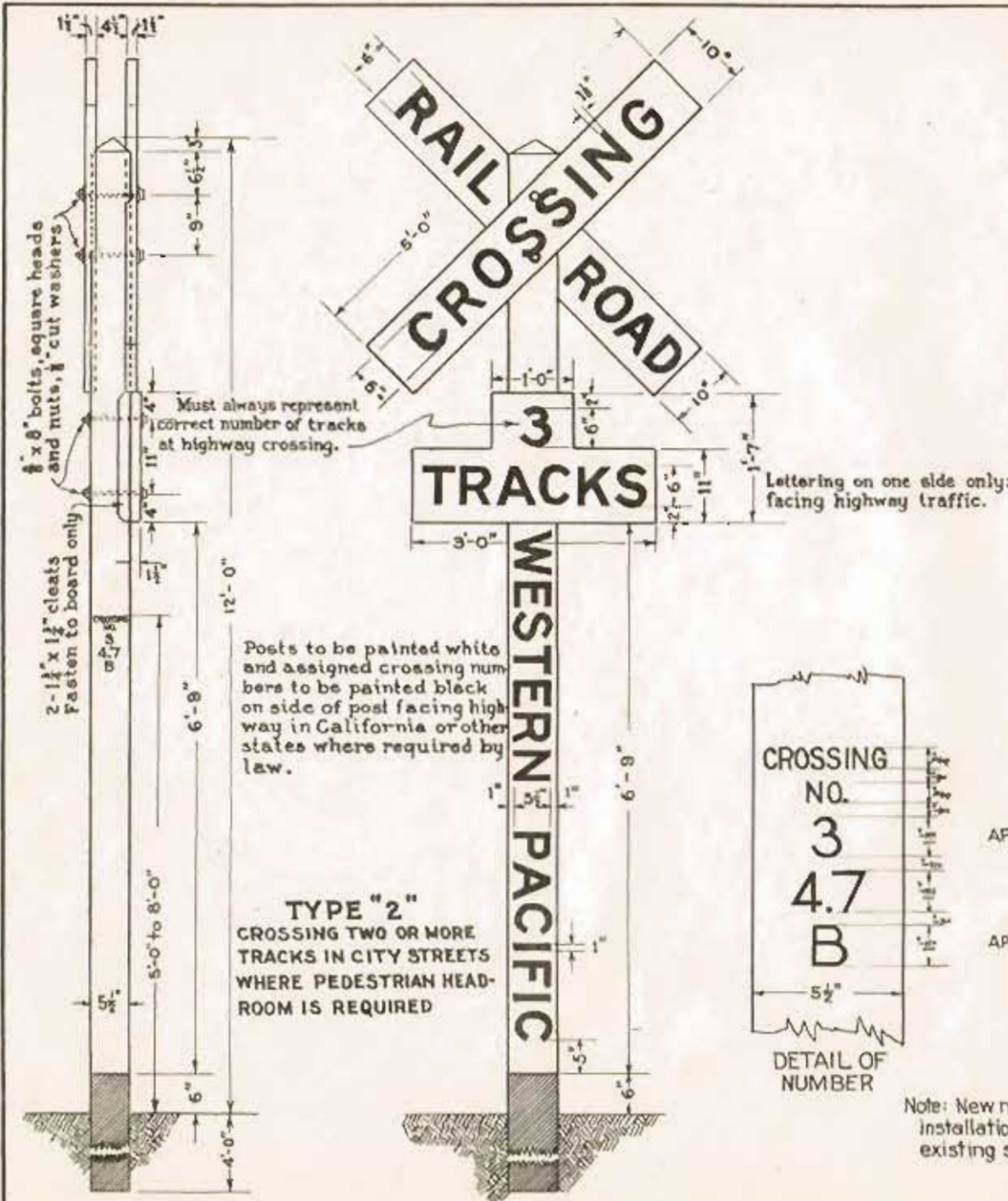
Approved: *Frank R. Woodford*
Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
STANDARD

MULTIPLE SPEED FLAG

NO SCALE

ADOPTED: Oct. 15, 1956
REVISED: April 1, 1957



POSTS: 6"x8"x16'-0" S 4 S Redwood Extra Merch.

BOARDS: Redwood-Clear S 4 S.

PAINTING: Base of posts to have a coat of coal tar applied hot to 6" above ground, balance of post and both sides of boards to be given one priming coat of white lead and oil paint thinned with turpentine and two coats of white lead and oil paint. The words "Railroad Crossing" and "Western Pacific" to be painted black on one side only.

STYLE OF LETTERS: Egyptian-6" on boards, and 5 1/2" on post as indicated.

LOCATION: Post to be set in most conspicuous place about 25 feet from center of nearest track, facing highway travel, preferably at corner of crossing intersection on right hand side of highway traffic and in advance of railroad track.

Use two of these signs where two or more tracks are crossed, placing one sign on each side of tracks crossed on right hand side of highway traffic.

NOTE: When WESTERN PACIFIC tracks parallel foreign line tracks, the total number of tracks of both carriers shall be shown, each carrier furnishing one sign. The road crossing number is to be used in California only and number is to be painted on one 5 1/2" face of post facing highway.

APPROVED:

J. J. Williams
CHIEF ENGINEER

APPROVED:

Everman
VICE-PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.

STANDARD

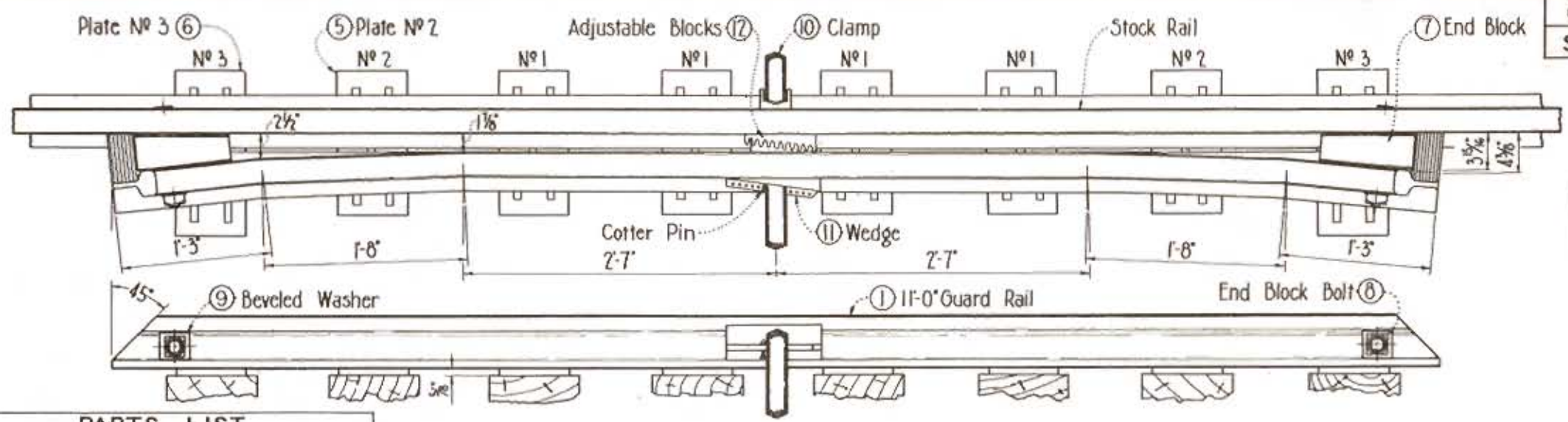
HIGHWAY CROSSING SIGN
FOR CITY STREETS

SCALE 1/2" = 1 FT.

ADOPTED APRIL 4, 1931
REVISED AUGUST 18, 1931
JUNE 16, 1932
JUNE 1, 1936

Note: New numbers to be used on new installations and at such times as existing signs are repainted.

see
ppp
see
1-3166



REVISION
1-31-54

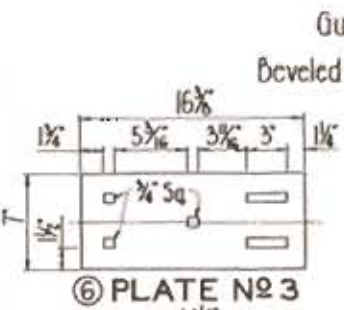
PARTS LIST
GUARD RAIL COMPLETE

Pc. MK	Name of Part	Qty	Remarks
1	Guard Rail	1	85 Lb Rail, 11'-0" long
2	End Block Assembly	2	Includes Block & Mach Bolt with Nut, Lock-washer, Headlock & Beveled Washer.
3	Clamp Assembly	1	Includes Clamp, Wedge, Rail Block & Pair of Adjustable Blocks.
4	Plate No 1	4	
5	Plate No 2	2	
6	Plate No 3	2	

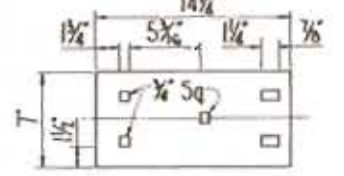
REPLACEMENT PARTS

End Block Assembly			
7	End Block	1	Cast Iron
8	End Block Bolt	1	1 1/2" x 9 1/2" Sq Hd Mach Bolt, includes 1 Sq Nut, 1 Hi Chrome Nut Lock & 1 1/2" Headlock.
Clamp Assembly			
9	Beveled Washer	1	Racor No F-3
10	Clamp	1	Racor Forged-HI-No 2
11	Wedge	1	Includes Cotter Pin
12	Adjustable Blocks	1 pr	Racor, No L-605 & L-853
13	Rail Brace	1	Racor, No L-927

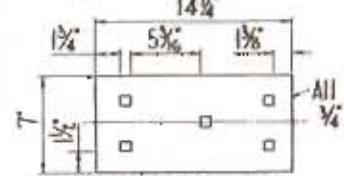
Note: When ordering, specify Piece Mark and Drawing Number in addition to Name and Size of Part.
All fastening for 11'-0" Guard Rail and obsolete 8'-5" Guard Rail are interchangeable.



⑥ PLATE NO 3



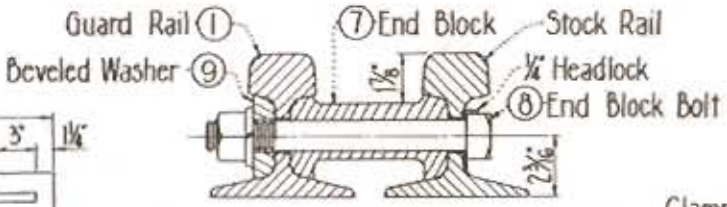
⑤ PLATE NO 2



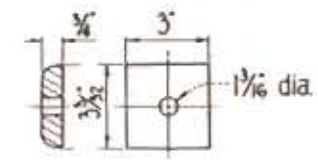
④ PLATE NO 1
TIE PLATES

All plates 5/8" thick

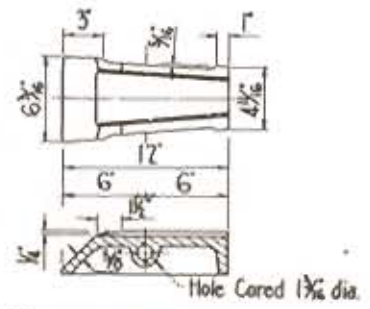
○ Indicates Piece Mark



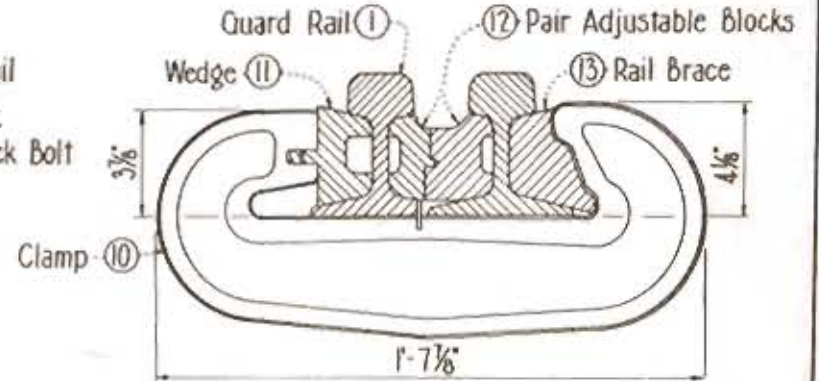
SECTION AT END BLOCK



⑨ BEVELED WASHER



⑦ END BLOCK



SECTION AT CLAMP

OLD STANDARD
OBSOLETE

Approved: *Frank A. Macfarlane*
Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
STANDARD

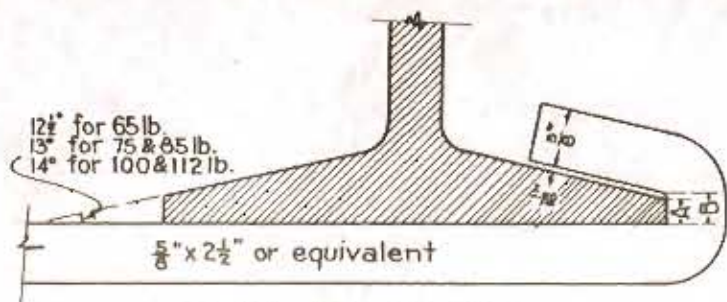
11 FOOT 85 LB. GUARD RAIL

NO SCALE

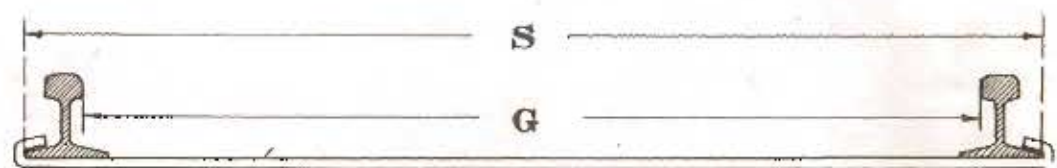
ADOPTED: JULY, 1925
REVISED: DEC. 9, 1954

DIMENSIONS 'A' and 'B' FOR
VARIOUS WEIGHTS OF RAIL

WT. OF RAIL	A	B
65 [#]	$\frac{1}{4}$ "	$\frac{5}{16}$ "
75 [#]	$\frac{3}{32}$ "	$\frac{11}{32}$ "
85 [#]	$\frac{1}{4}$ "	$\frac{5}{16}$ "
100 [#]	$\frac{3}{8}$ "	$\frac{7}{16}$ "
112 [#]	$\frac{7}{16}$ "	$\frac{1}{2}$ "



DETAIL OF TIE ROD



DEGREE OF CURVE	8°	10°	12°	14°	16°	18°	20°
G - GAUGE	4'-8 1/2"	4'-8 5/8"	4'-8 3/4"	4'-8 7/8"	4'-9"	4'-9 1/8"	4'-9 1/4"
WEIGHT OF RAIL	S - SPREAD OF RAIL						
45 [#]	5'-2 1/4"	5'-2 3/8"	5'-2 1/2"	5'-2 5/8"	5'-2 3/4"	5'-2 7/8"	5'-3"
56 [#]	5'-2 1/2"	5'-2 5/8"	5'-2 3/4"	5'-2 7/8"	5'-3"	5'-3 1/8"	5'-3 1/4"
60 [#]	5'-3 1/8"	5'-3 1/4"	5'-3 3/8"	5'-3 1/2"	5'-3 5/8"	5'-3 3/4"	5'-3 7/8"
65 [#]	5'-3 3/8"	5'-3 1/2"	5'-3 5/8"	5'-3 3/4"	5'-3 7/8"	5'-4"	5'-4 1/8"
70 [#]	5'-3 5/8"	5'-3 5/8"	5'-3 5/8"	5'-3 5/8"	5'-4 1/8"	5'-4 3/8"	5'-4 5/8"
75 [#]	5'-3 3/4"	5'-3 7/8"	5'-4"	5'-4 1/8"	5'-4 1/4"	5'-4 3/8"	5'-4 1/2"
85 [#]	5'-4 1/4"	5'-4 3/8"	5'-4 1/2"	5'-4 5/8"	5'-4 3/4"	5'-4 7/8"	5'-5"
100 [#]	5'-4 1/2"	5'-4 5/8"	5'-4 3/4"	5'-4 7/8"	5'-5"	5'-5 1/8"	5'-5 1/4"
112 [#]	5'-4 11/16"	5'-4 13/16"	5'-4 15/16"	5'-5 1/16"	5'-5 3/16"	5'-5 5/16"	5'-5 7/16"

G = Track gauge.
 S = Spread, out to out of base, or length of rod.
 Maximum track gauge for 20 degree curve or over is 4'-9 1/4".
 Curves 8° degrees and under should be standard gauge of 4'-8 1/2".
 Degree of curvature should be specified when ordering tie rods.
 Gauge should be widened one eighth inch for each two degrees or fraction thereof over eight degrees, to a maximum of 4'-9 1/4" for track of standard gauge. Gauge, including widening due to wear, should never exceed 4'-9 1/2".
 Rods to be spaced 5'-6" center to center.
 Rods to be used on all curves over 10° and at other locations approved by General Manager.

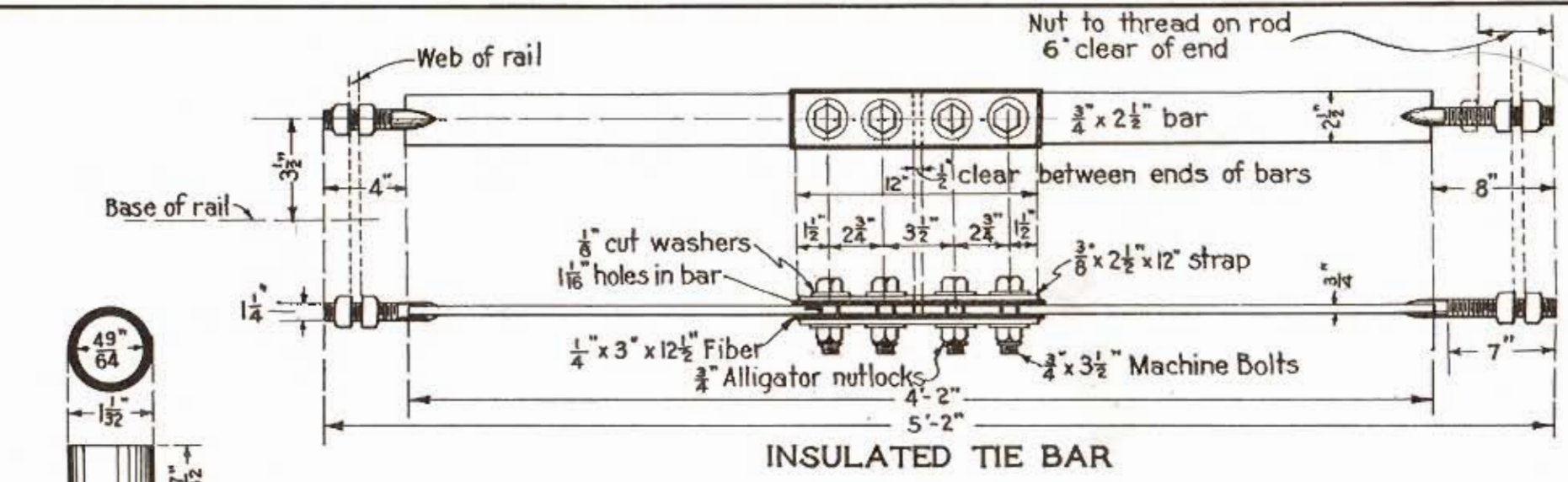
none
1-31-66

OBSOLETE

~~OLD STANDARD~~

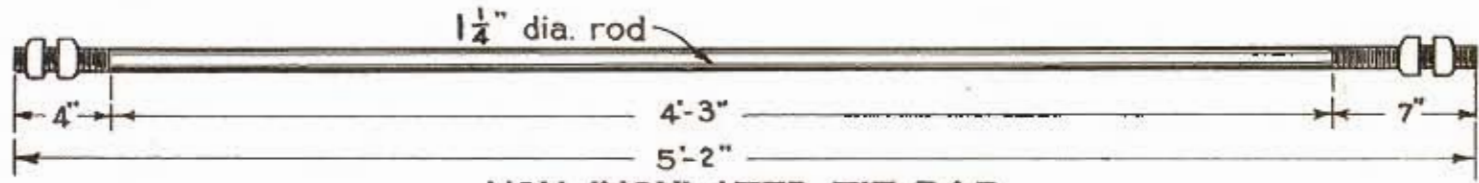
APPROVED: *J. M. Williams*
CHIEF ENGINEER
 APPROVED: *E. W. Mason*
VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
TIE BARS
 FOR VARIOUS WEIGHTS OF TEE RAIL ON CURVED TRACK USED BY ROAD ENGINES

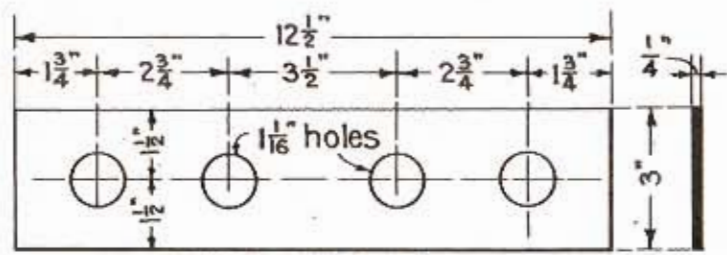


INSULATED TIE BAR

FIBER BUSHING
4 required

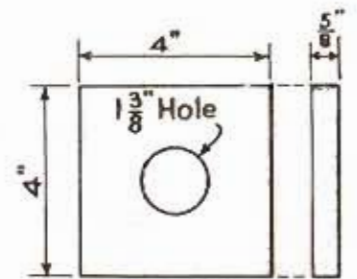


NON-INSULATED TIE BAR

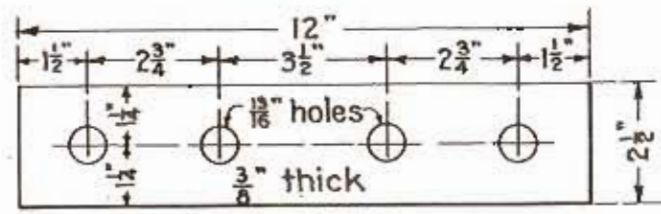


FIBER PLATE
2 required

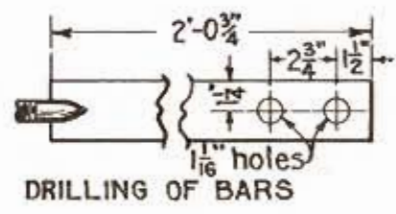
Bars to be spaced 5'-0" to 5'-6" centers.
Bars of 1 1/4" dia. rod to be used when
insulated bars are not required.



STEEL WASHER
2 per bar.



STEEL STRAP
2 required



THE WESTERN PACIFIC RAILROAD CO.
STANDARD

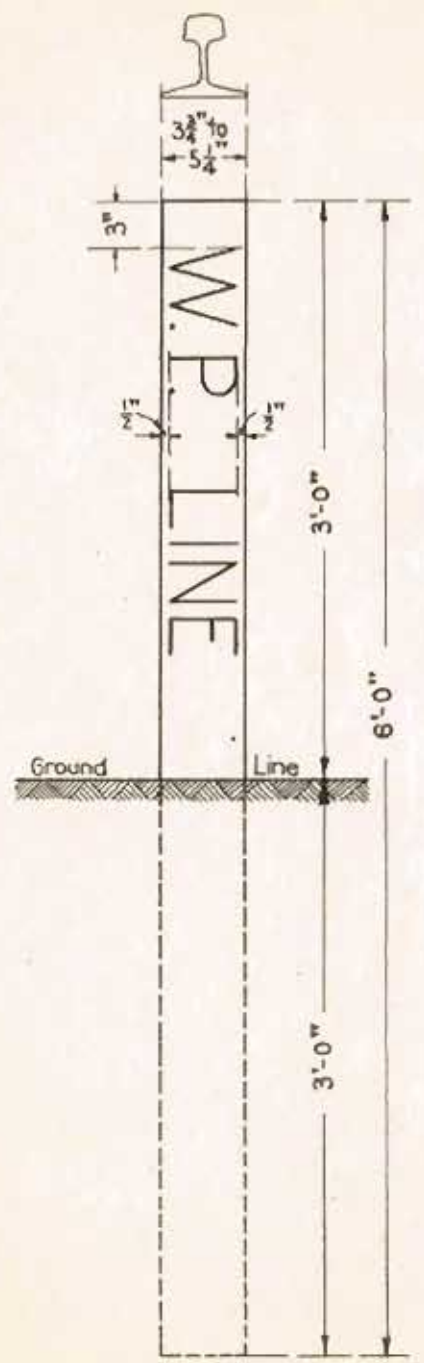
TIE BAR FOR GIRDER RAIL

Approved: *Frank R. Woolford*
Chief Engineer

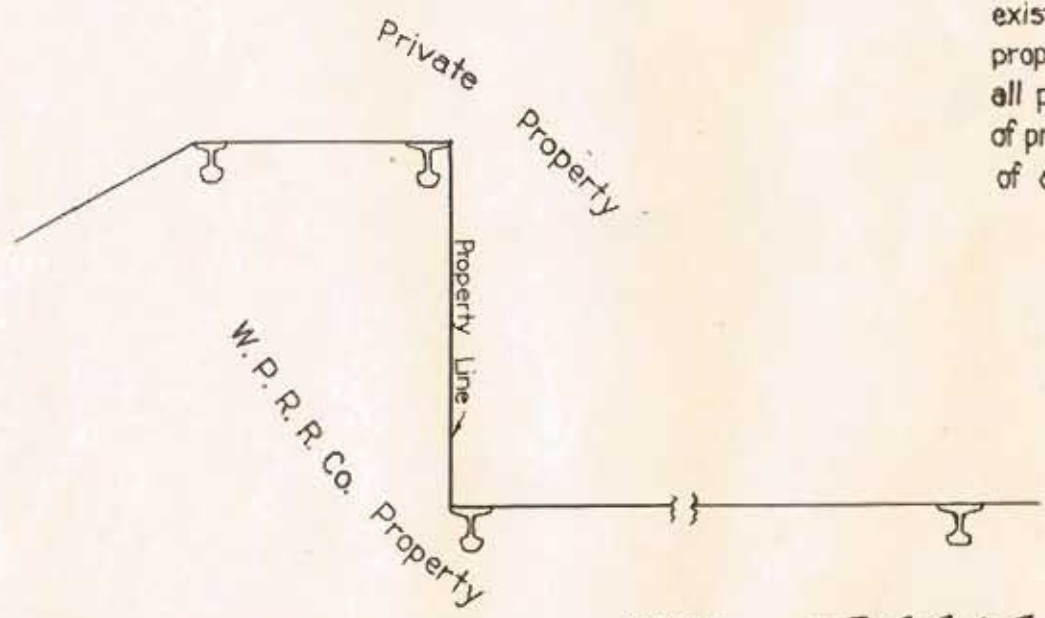
NO SCALE

SEPT. 1, 1916
Rev. Mar. 28, 1935, Jan. 14, 1938, Sept. 3, 1938
Mar. 27, 1939, May 23, 1944, Nov. 27, 1945

MATERIAL: Scrap Rail, 45 to 85 lb.
 LETTERS: Lettering to be raised on base of rail by means of electric welder.
 LOCATION: Per location diagrams.
 Railroad property line post to be used where no right of way fences exist and it is desired to define property line. Posts to be set at all points of change in direction of property line and at intervals of about 1000 feet or as directed.



Where ground is soft, rock should be placed in ground around the rail to hold it rigid.



APPROVED:

J. M. Williams
 CHIEF ENGINEER

APPROVED:

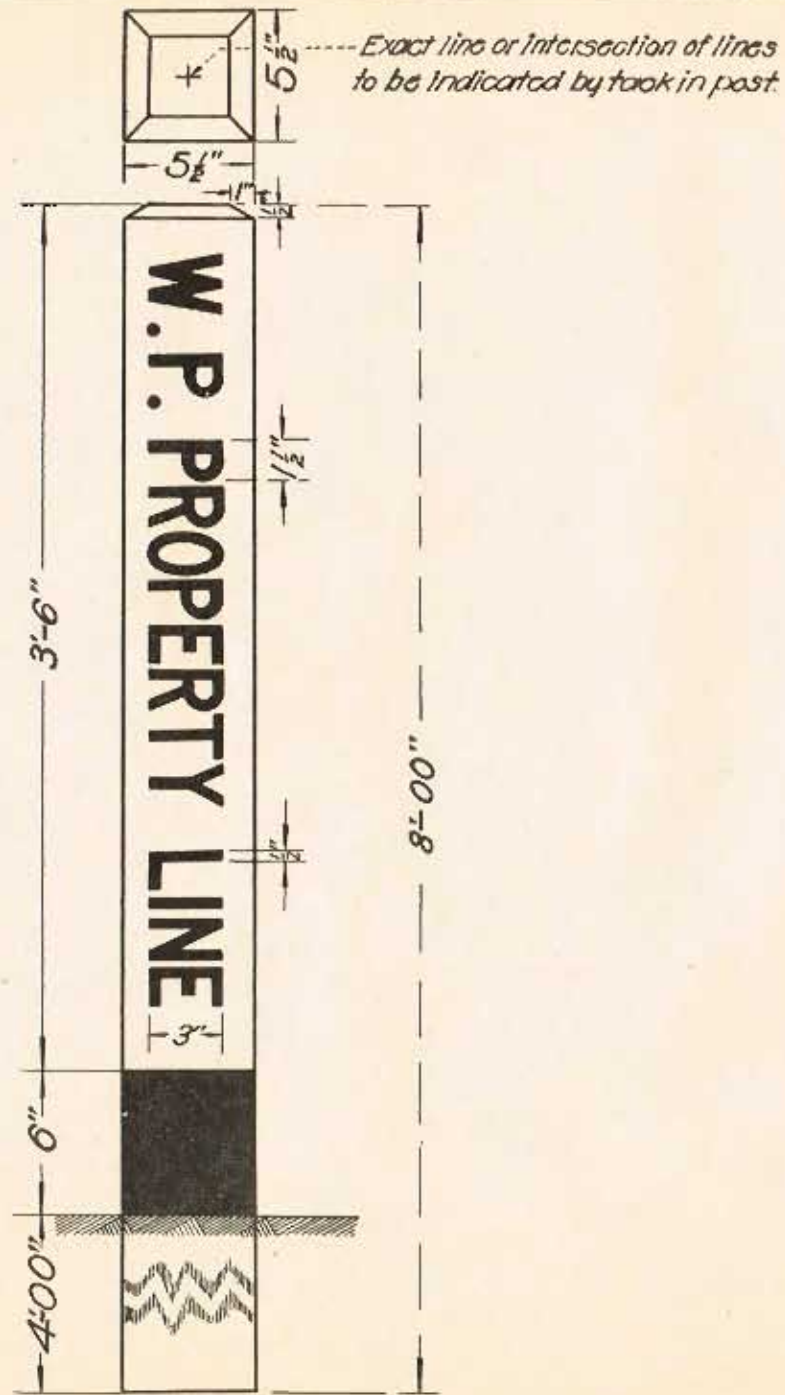
E. W. Mason
 VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
 PROPERTY LINE POST

SCALE: 1" = 1'-0"

ADOPTED MAY, 3, 1932.
 REVISED JUNE 20, 1932.

02
 1-31-66



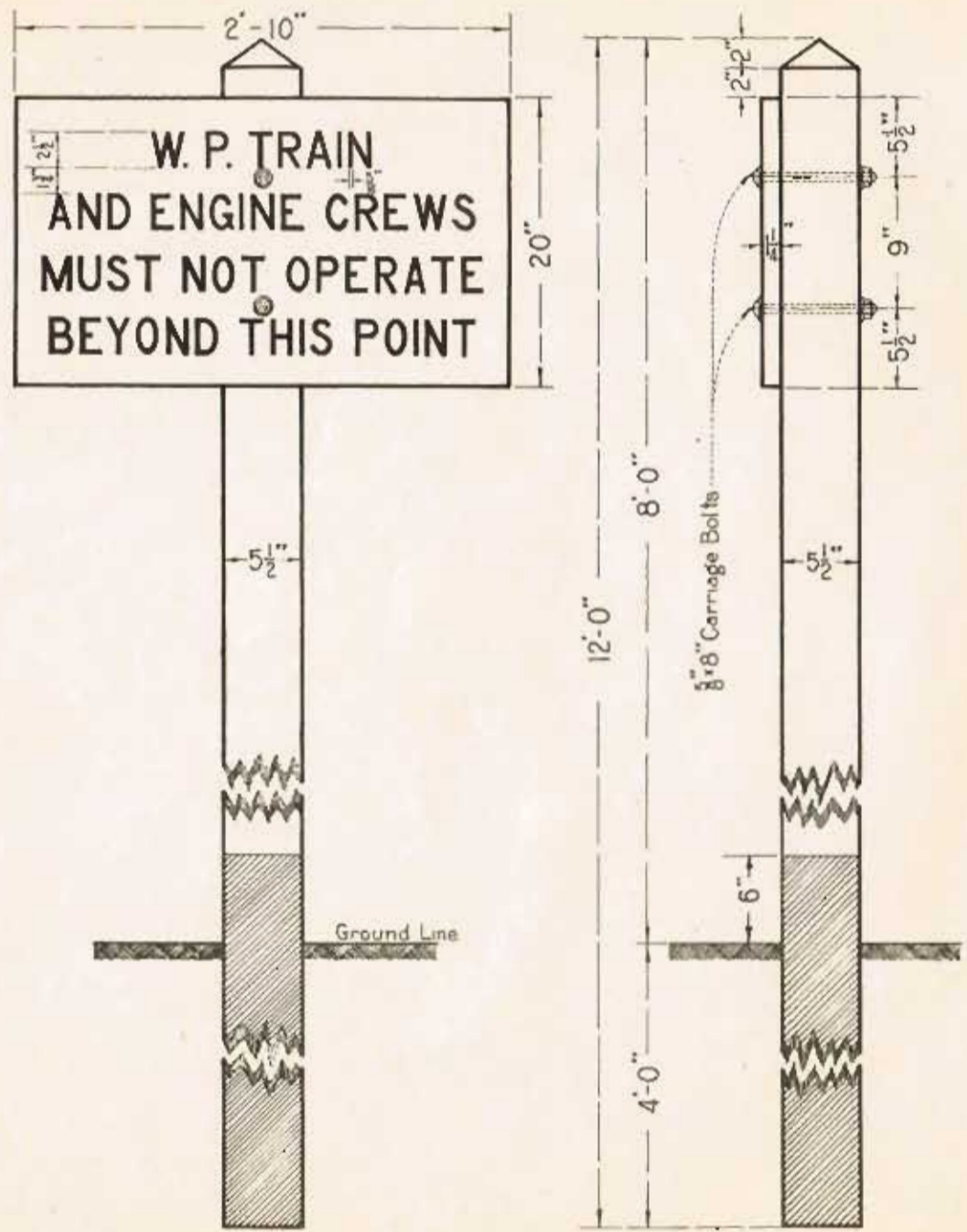
NOTE: To be used only when authorized. See C.E.-5-35 for Standard Property Line Post.

POSTS: 6x6x8: S.S. Redwood Extra Merch.
PAINTING: Posts to have a coat of coal tar applied hot to 6" above ground. balance of post white, letters black
STYLE OF LETTERS: Egyptian, as indicated.
LOCATION: To be set at all corners of property; at places where no fences exist and at points where it is desirable to define the property line.

OK
1-31-66

THE WESTERN PACIFIC RAILROAD CO.
 SPECIAL
 PROPERTY LINE POST

SCALE: 1 1/2" = 1' ADOPTED JULY 1925
 REV. JUNE 1, 1936



POST: 6x6x12-0 3/4 S4S Redwood Extra Merch

BOARDS: Redwood Clear

BOLTS: 3/8" Diameter with washers.

PAINTING: Face of board white, Letters black, Post to have a coat of coal tar applied hot to 6" above ground, balance of post and back of boards painted with metallic and lamp black making a very dark brown

STYLE OF LETTERS: Egyptian 2 1/2" high with 3/16" stroke as indicated.

LOCATION: On Engineer's side, 13 ft. from center line of track.

PAINTING OF BOARD: Face of board to be given one priming coat of white lead and oil paint thinned with turpentine and two coats of white lead and oil paint.

APPROVED: *J. M. Williams*
CHIEF ENGINEER

APPROVED: *Everman*
VICE-PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO
STANDARD

LIMIT OF OPERATION SIGN

SCALE 1"=1'-0" ADOPTED OCTOBER 1925
REV. JUNE 1, 1936

rc
1-31-26

NOTE

For numeral shape and stroke see S-39.
 Sign to have black non-reflective numerals on white non-reflective background. Materials to be as per current instructions.

Mile markers to be located on south side of track except where visibility will be improved by locating on north side, or where sidings or close clearances prevent locating on south side.

PARTS LIST

Pc. Mk.	Name	Req'd.	Remarks
1	Sign Board	1	
2	Nails (Galv.)	4	2" No 9 Nails with 1 No 8-1/16 thick lead washer each.
3	Sign Post	1	Type "B", 5-82.

When requisition states "Mile Marker Sign Complete" and states mile post required Store will furnish Piece Marks 1 through 3, assembled.

When ordering replacement parts refer to Piece Mark, Drawing Number and mile post, if necessary, in addition to Name of Part.

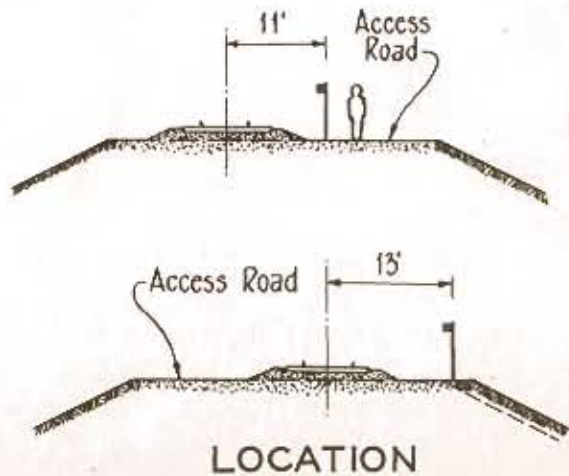
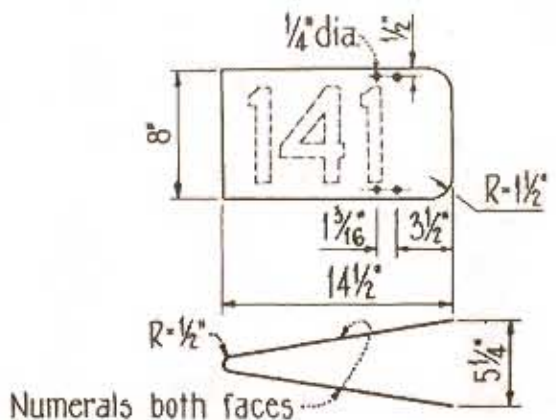
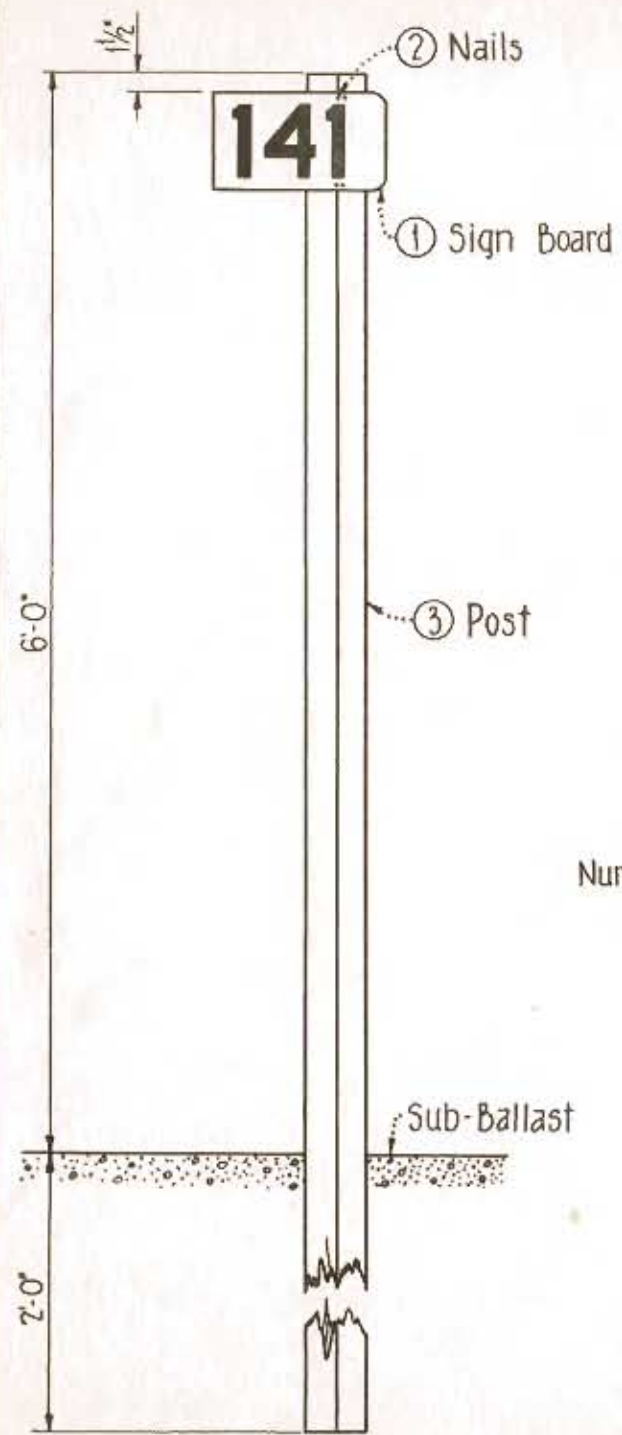
Approved: *Frank A. Maxwell*
 Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD

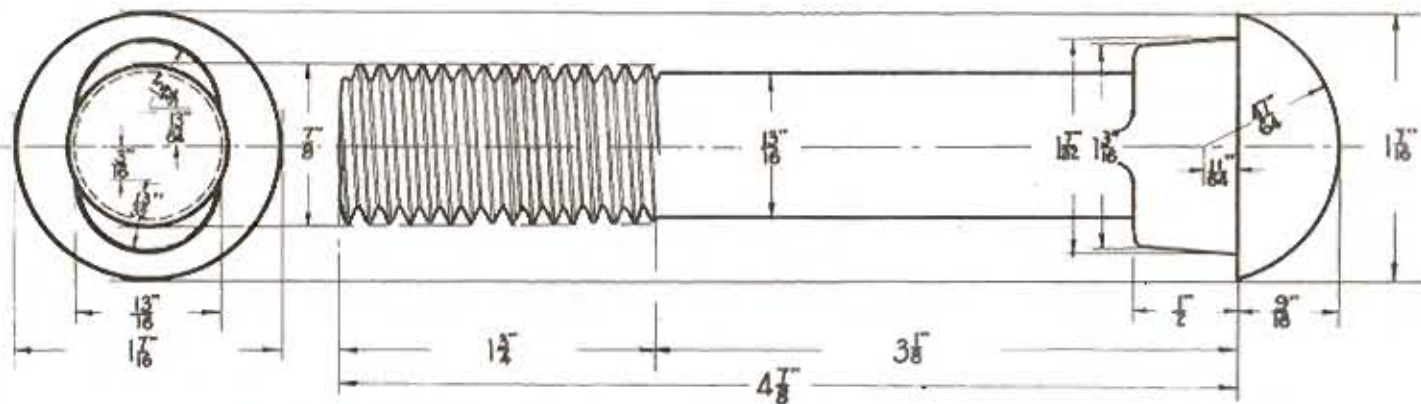
MILE MARKER

NO SCALE

ADOPTED: May 15, 1958

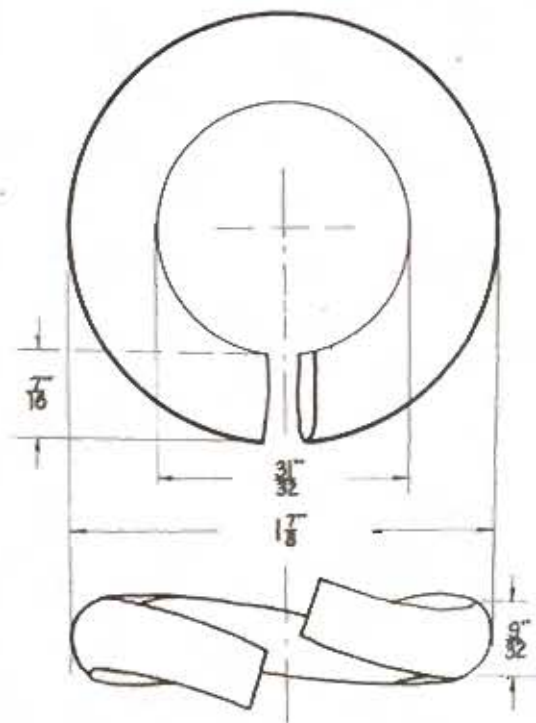
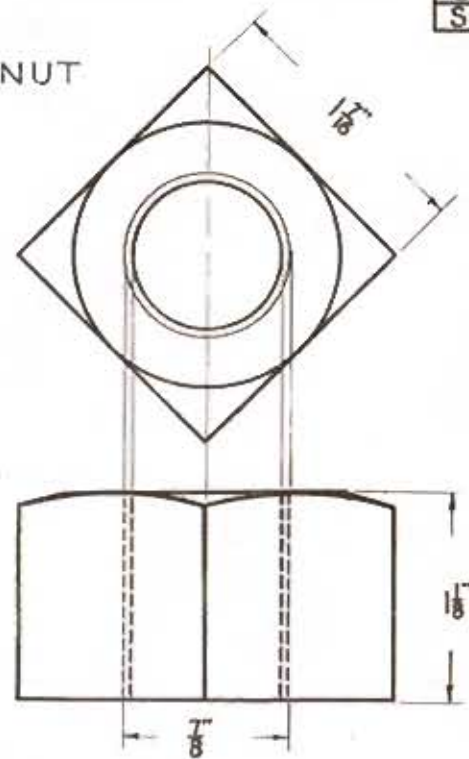


TRACK BOLT



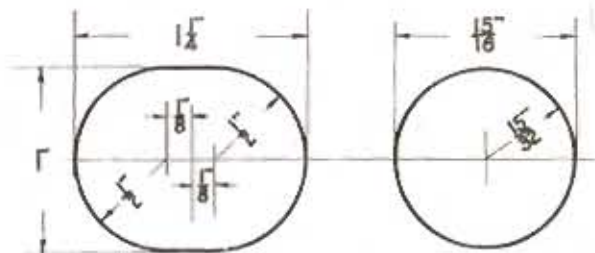
Scale: Full Size

NUT



IMPROVED HIPOWER SPRING WASHER
No Scale

ALTERNATE
ACCEPTABLE DEAD



BAR PUNCHING
Scale: Full Size

APPROVED

J. M. Williams
CHIEF ENGINEER

APPROVED

E. W. Mason
VICE-PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO
STANDARD
QUENCHED CARBON STEEL TRACK BOLT.

SCALES AS NOTED ADOPTED DEC. 1926

OK
1-2-26

10-12-59: change
20' access rd. to 21'

C. E.
S-42A

NOTES

Undercut one foot in rock cuts to place Selected Material Sub-Ballast. In cuts through clay or other unsuitable material Selected Material Sub-Ballast to be two feet. Selected Material Sub-Ballast to be two feet thick on all fills. Suitability of sub-grade to be as directed by the Chief Engineer.

Selected Material for Sub-Ballast shall be as directed by the Chief Engineer.

Minimum ditch grade shall be 0.2%.

The Main Track and any other track shall be 15' centers minimum. All other tracks shall be 14' centers.

Cut slopes may vary to suit material. Maximum cut slope to be 1/2:1.

Fill slopes may vary to suit material. Maximum fill slope to be 1 1/2:1.

Widen fill shoulder 6" for each 15' of fill. Amount of widening to be determined by difference in elevation between toe and shoulder.

Need for and location of access road to be as determined by the Chief Engineer.

OK as in 1-21-58

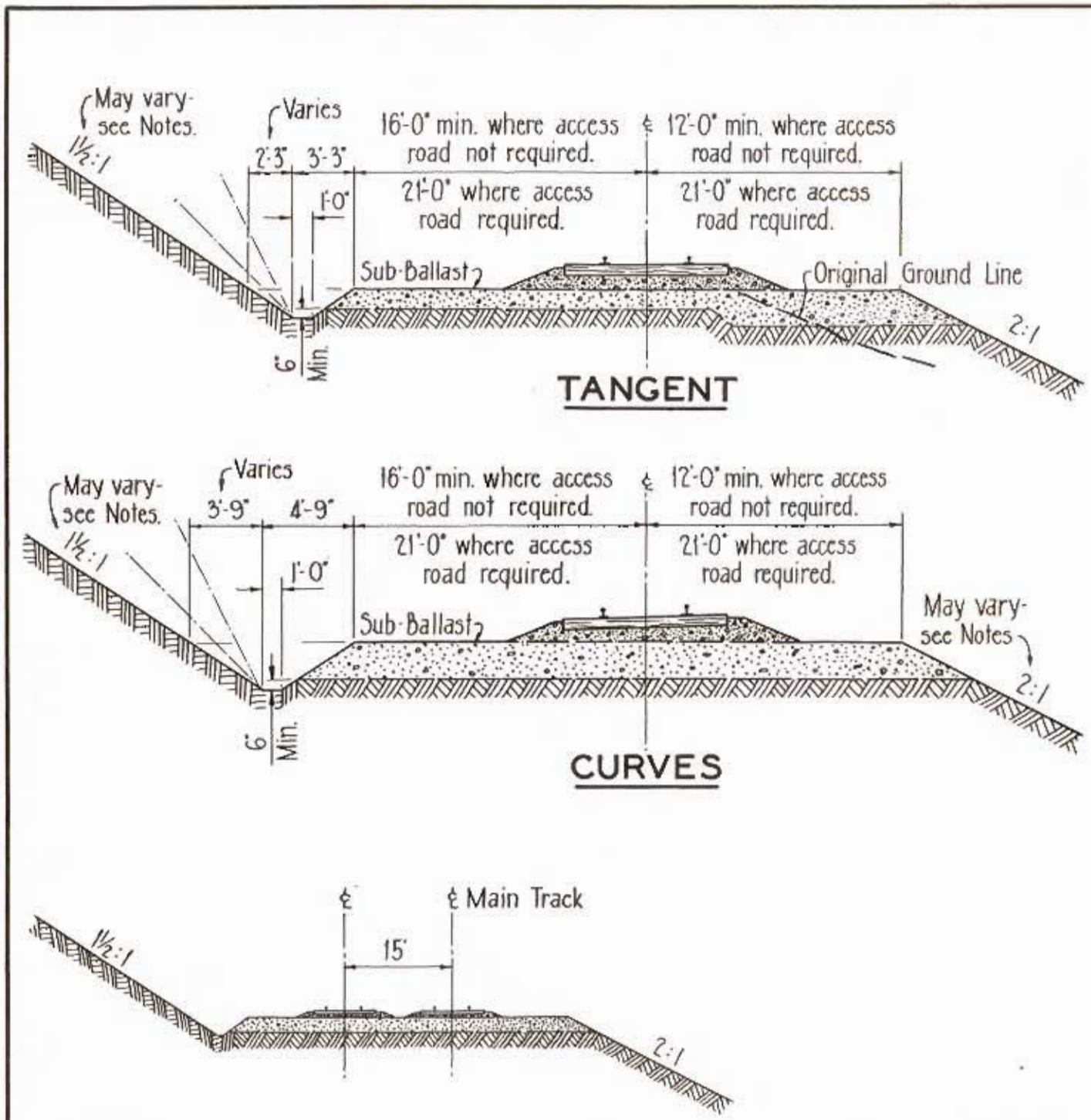
Approved: Frank R. Woolford
Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
STANDARD

ROADBED SECTIONS
MAIN LINE AND BRANCH LINES

NO SCALE

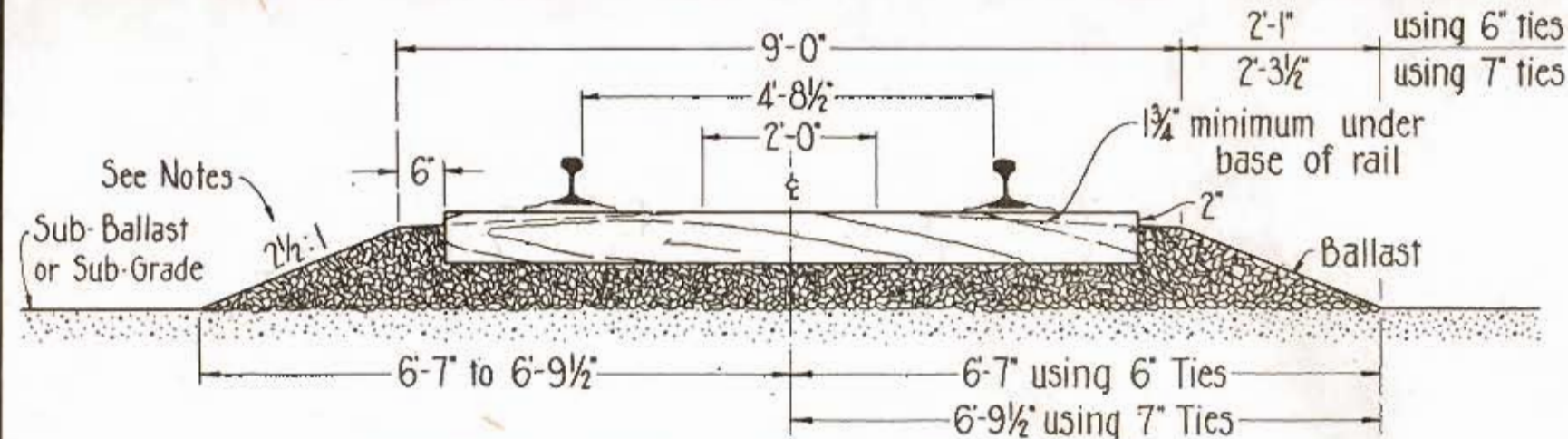
Adopted : Feb. 1, 1958
Revised : Oct. 12, 1959



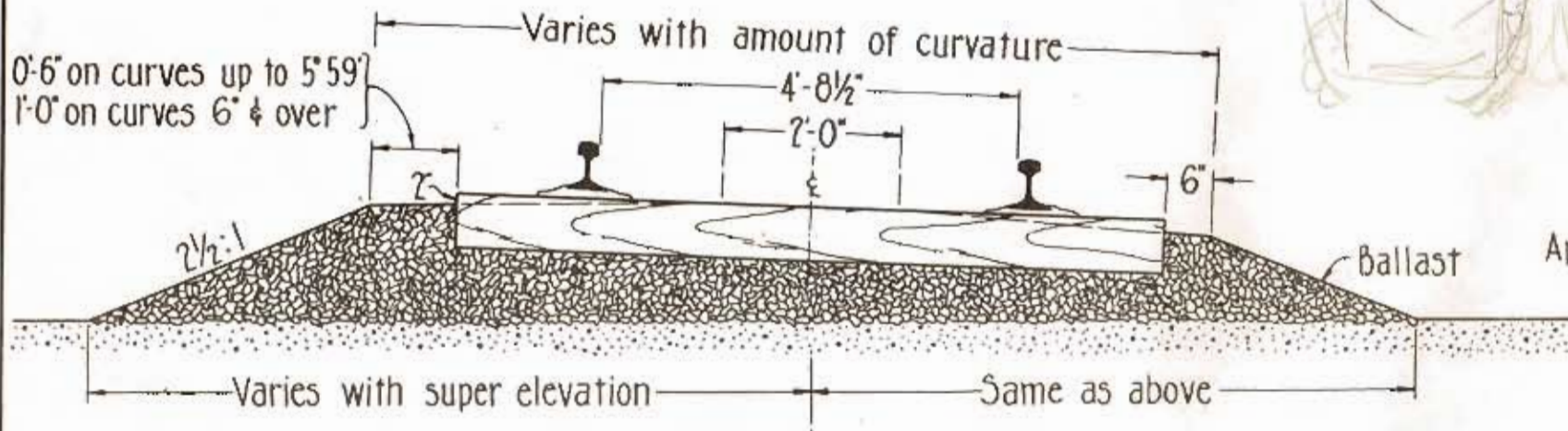
NOTES

These dimensions are based on a minimum of 6" ballast under the tie and 6"x8" or 7"x8" ties, 8'-0" long.

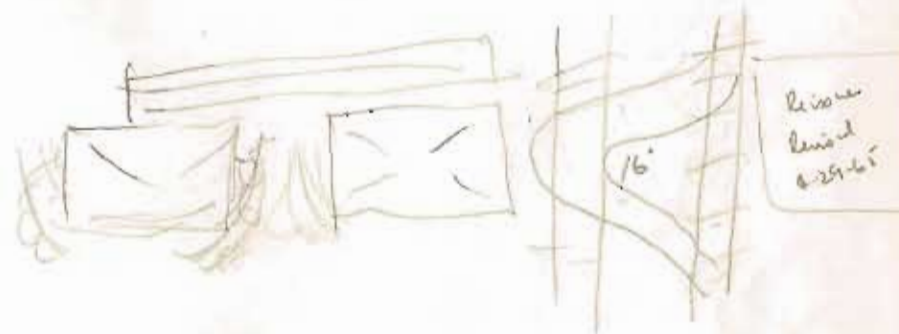
Where ballast material will stand at steeper slopes than 2½:1 slopes may be steepened to 2:1.



SECTION FOR USE ON TANGENTS



SECTION FOR USE ON CURVES



Approved: *Frank R. Wainwright*
Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
STANDARD

BALLAST SECTION
FOR BRANCH LINES AND
IMPORTANT SECONDARY TRACKS

NO SCALE

ADOPTED: Oct. 19, 1955

For Roadbed Sections see C.E. 5-42, 42A, 42 B, 42C.

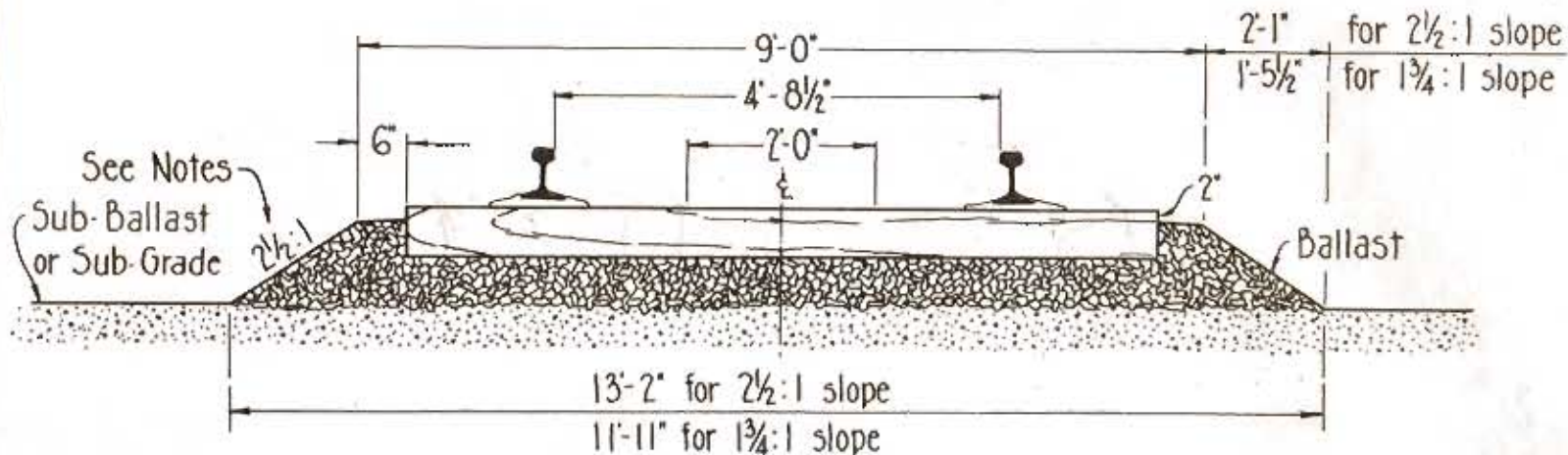
NOTES

These dimensions are based on a minimum of 6" ballast under the tie and 6"x8" ties 8'-0" long.

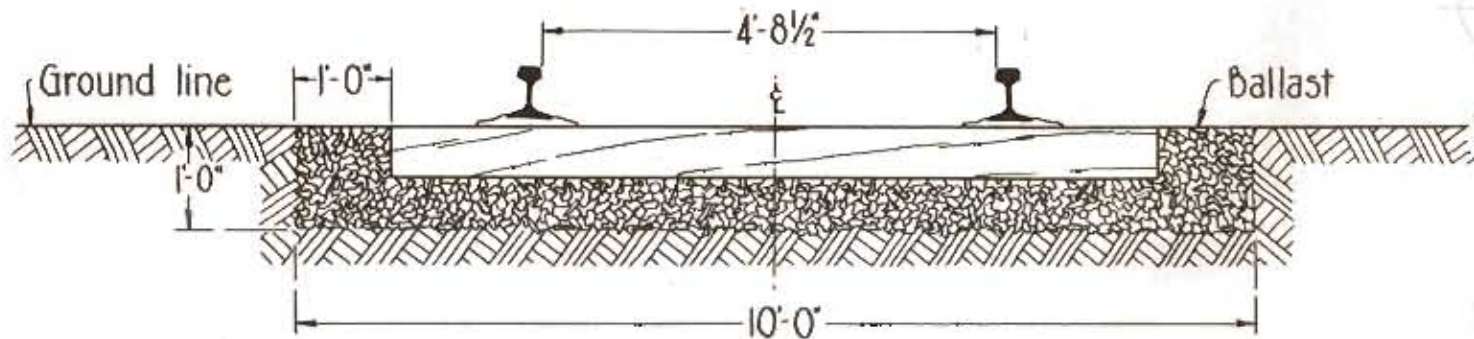
Special attention must be given to provide drainage of trench section.

Where ballast material will stand at steeper slopes than 2½:1 slopes may be steepened to 2:1 or to 1¾:1.

OK 2-19
1-31-64



STANDARD SECTION



TRENCH SECTION

Approved: *Frank P. Woolford*
Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
STANDARD

BALLAST SECTIONS

FOR INDUSTRIAL AND YARD TRACKS

NO SCALE

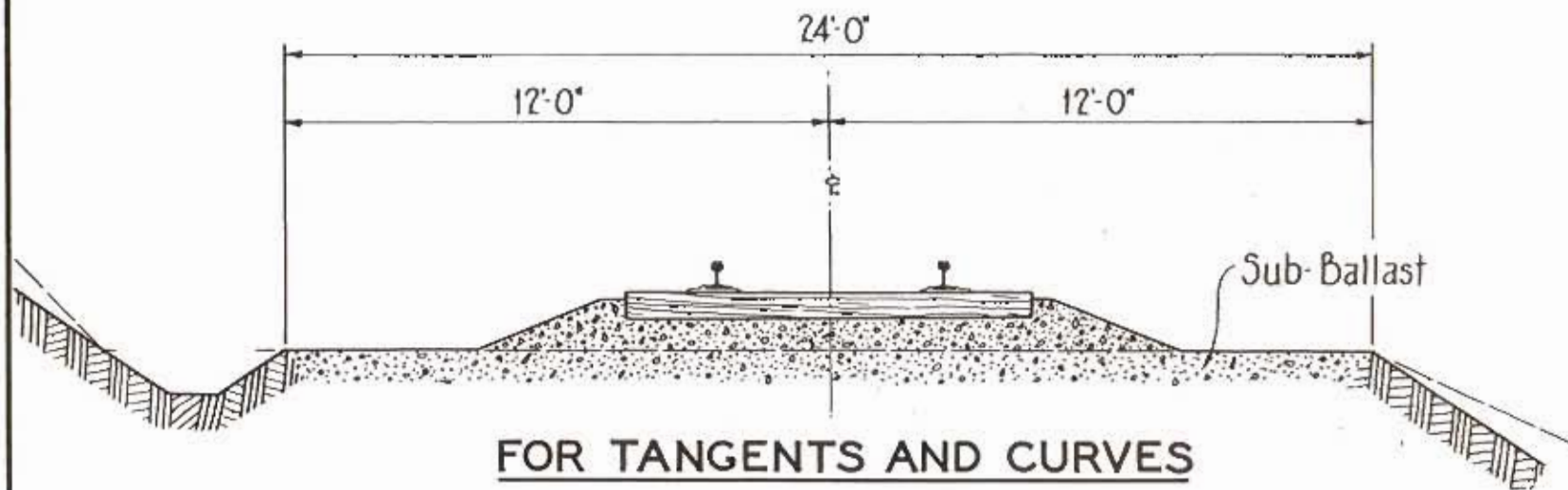
ADOPTED: Oct. 19, 1955

For Roadbed Sections see C.E. 5-42A, 42B, 42C.

NOTES

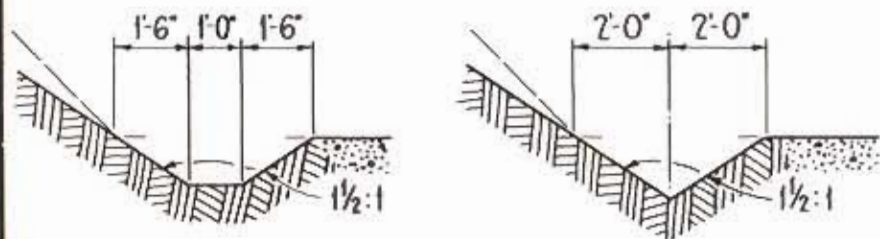
Side slopes may vary to suit material.
Either of the two ditch types shown
may be used.

Minimum ditch grade to be 0.2%.



SEE PG 14
1-51-66

Approved: *Frank R. Warford*
Chief Engineer



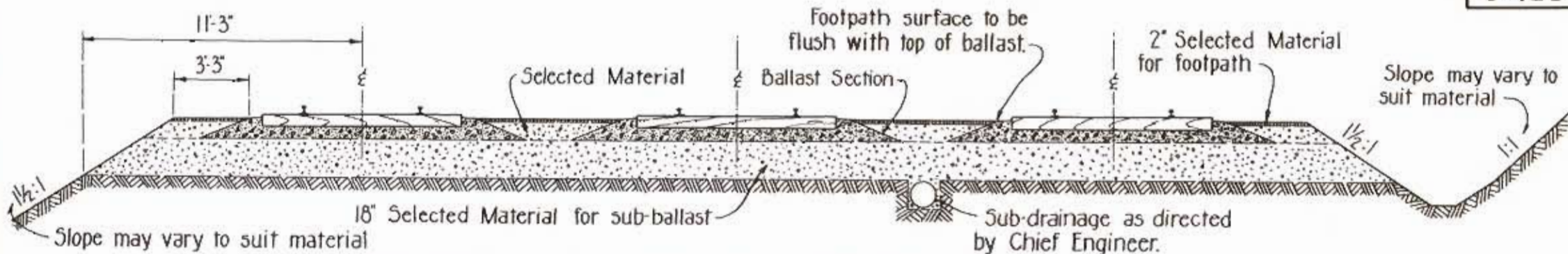
ALTERNATE DITCH TYPES

THE WESTERN PACIFIC RAILROAD CO.
STANDARD

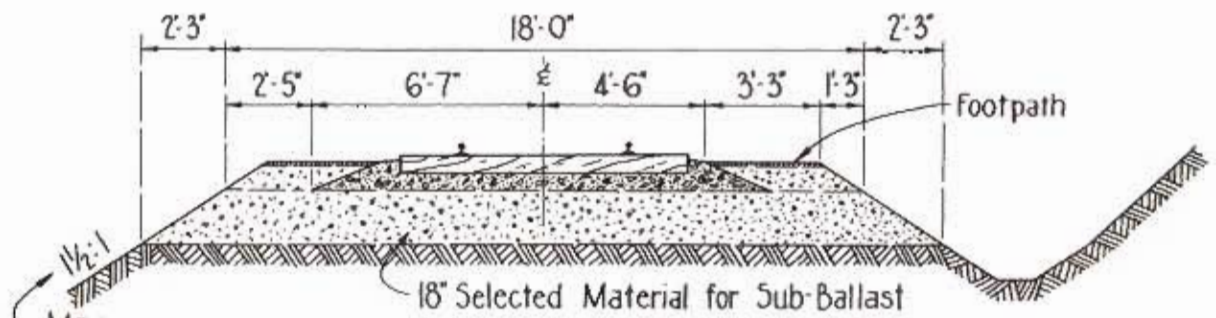
MINIMUM ROADBED SECTION
MAIN LINE AND BRANCH LINES

SCALE: $\frac{1}{4}'' = 1'-0''$

ADOPTED: Feb. 1, 1958



SECTION FOR USE ON YARD TRACKS

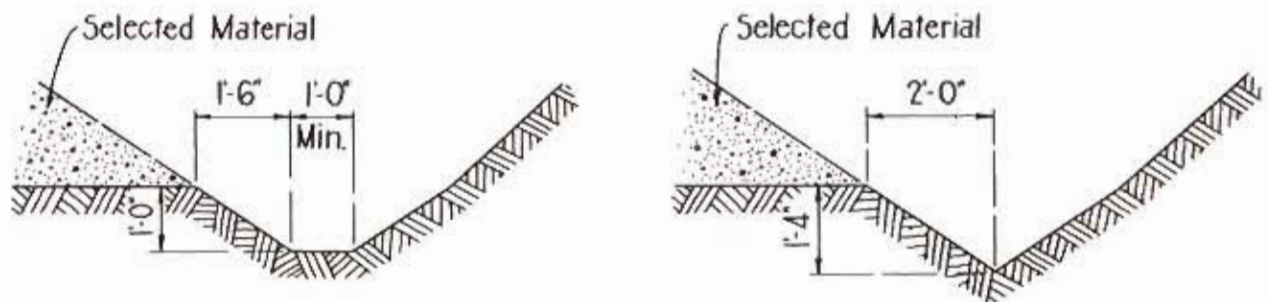


SINGLE YARD TRACK

NOTES

Selected Material shall be as directed by the Chief Engineer.
 Minimum ditch grade shall be 0.1 %.
 Cut and Fill slopes may vary to suit material.
 Maximum cut slope to be 1/2 : 1. Maximum fill slope to be 1/2 : 1.
 The Main Track and any other track shall be 15' centers minimum. All other tracks shall be 14' centers.

OK Add in 1-31-66



ALTERNATE DITCH TYPES

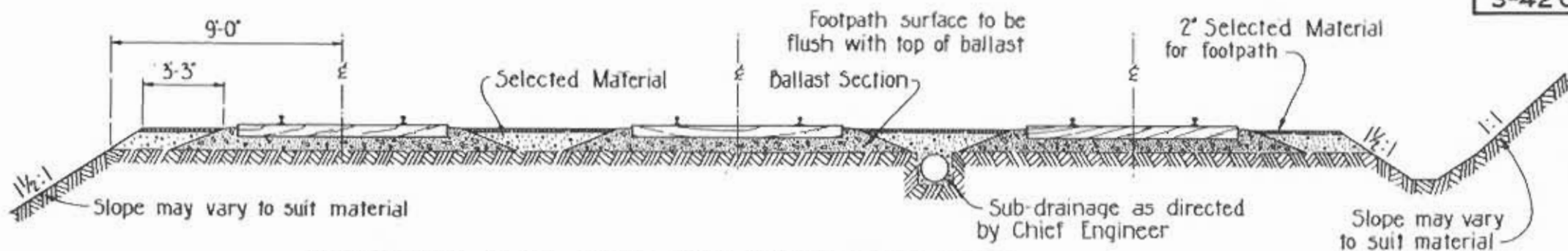
Approved: *Frank R. Wood*
 Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD

ROADBED SECTIONS
 YARD TRACKS WITH SELECTED MATERIAL SUB-BALLAST

NO SCALE

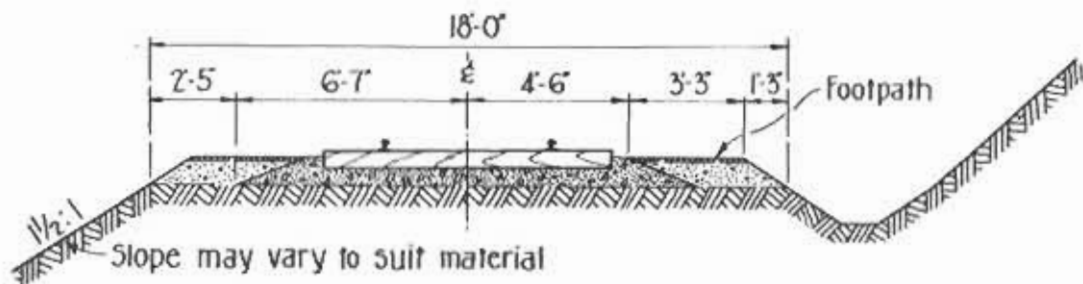
ADOPTED : Feb. 1, 1958



SECTION FOR USE ON YARD TRACKS

NOTES

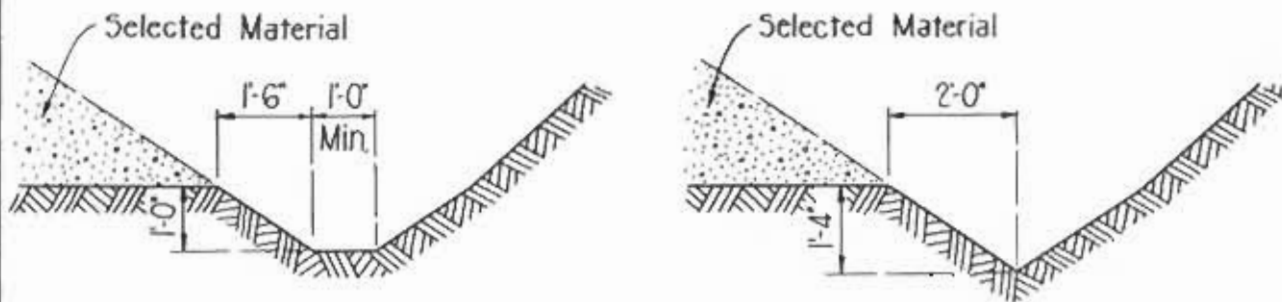
Selected Material shall be as directed by the Chief Engineer.
 Minimum ditch grade shall be 0.1%.
 Cut and Fill slopes may vary to suit material.
 Maximum cut slope to be 1/2:1. Maximum fill slope to be 1 1/2:1.
 The Main Track and any other track shall be 15' centers minimum. All other tracks shall be 14' centers.



SINGLE YARD TRACK

OK
1-31-66

Approved: Frank R. Macford
Chief Engineer



ALTERNATE DITCH TYPES

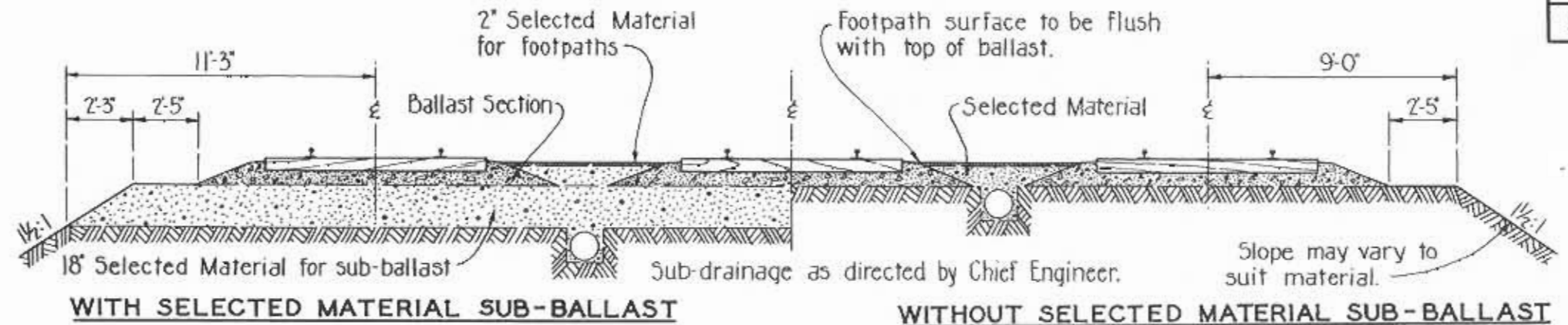
THE WESTERN PACIFIC RAILROAD CO.
STANDARD

ROADBED SECTIONS

YARD TRACKS WITHOUT
SELECTED MATERIAL SUB-BALLAST

NO SCALE

ADOPTED: Feb. 1, 1958



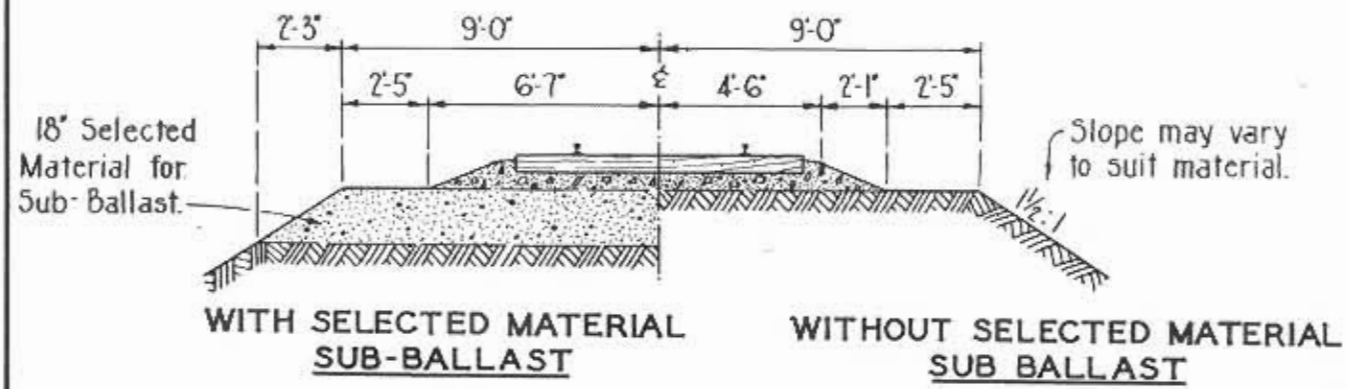
WITH SELECTED MATERIAL SUB-BALLAST

WITHOUT SELECTED MATERIAL SUB-BALLAST

SECTION FOR USE ON INDUSTRIAL TRACKS

NOTES

- Selected Material shall be as directed by the Chief Engineer.
- Minimum ditch grade shall be 0.1%.
- Cut and Fill slopes may vary to suit material. Maximum cut slope to be 1/2:1. Maximum fill slope to be 1 1/2:1.
- Track centers shall be 14' minimum.



WITH SELECTED MATERIAL SUB-BALLAST

WITHOUT SELECTED MATERIAL SUB-BALLAST

SINGLE INDUSTRIAL TRACK

Approved: *Frank A. Weaver*
Chief Engineer



ALTERNATE DITCH TYPES

THE WESTERN PACIFIC RAILROAD CO.
STANDARD

ROADBED SECTIONS

INDUSTRIAL TRACKS

NO SCALE

ADOPTED: Feb. 1, 1958

OK as per
1-31-66

77: change 20
rd. to 21'

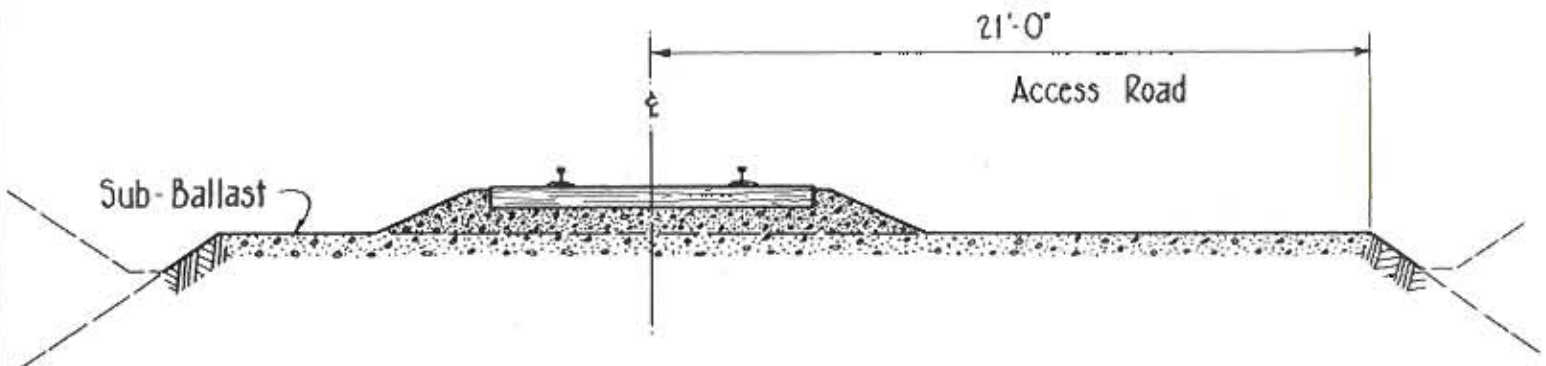
C. E.
S-42 E

NOTES

Fill to be widened on one side only unless otherwise directed by the Chief Engineer.

Both cut and fill slopes may vary to suit material.

Standard ditch sections as per S-42 shall be maintained when widening in cut.



FOR TANGENTS AND CURVES

see also
1-31-66

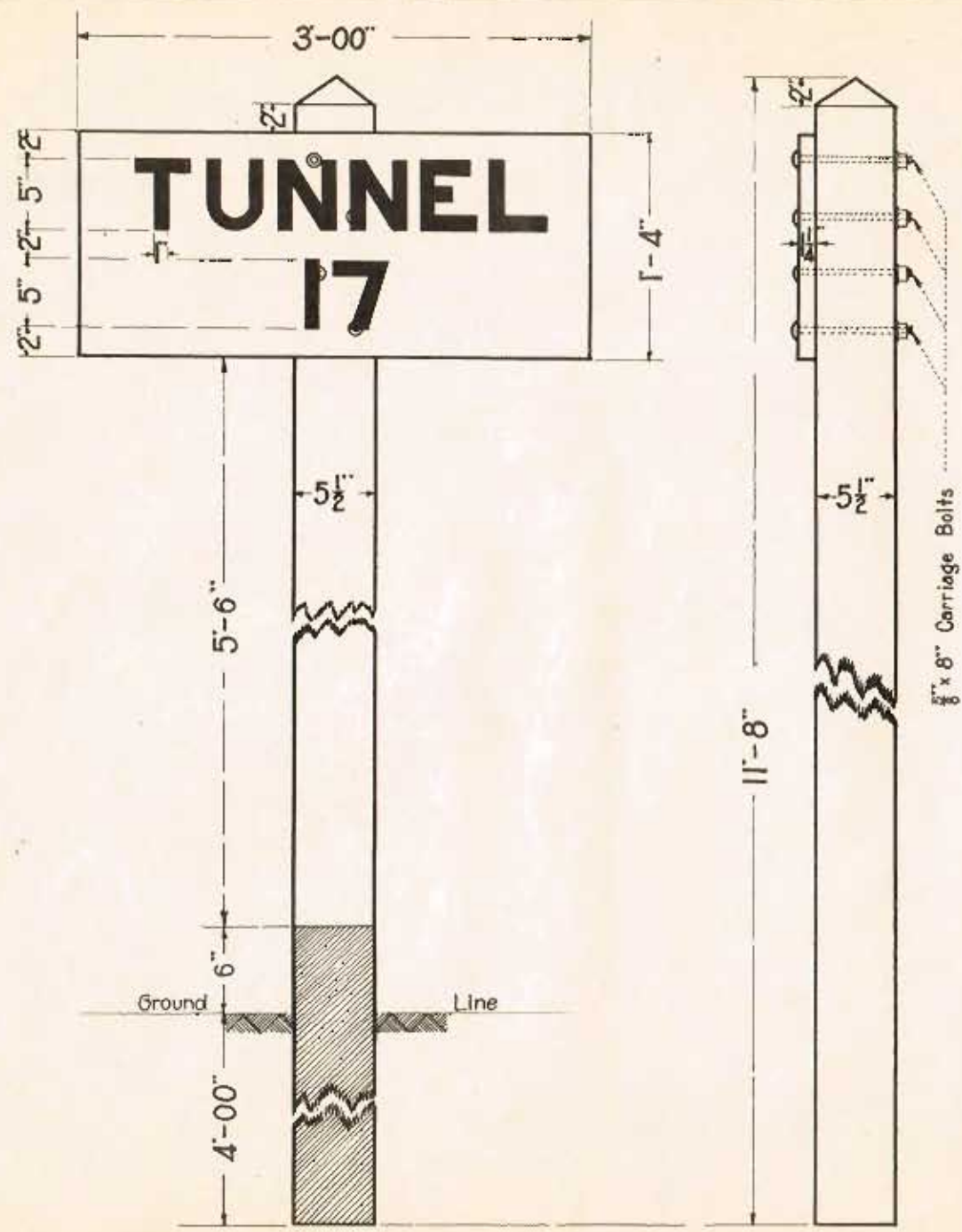
Approved: *Frank A. Maxwell*
Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
STANDARD

ROADBED WIDENING TO PROVIDE ACCESS ROAD

SCALE: $\frac{1}{8}'' = 1'-0''$

Adopted: Feb. 1, 1958
Revised: Oct. 12, 1959



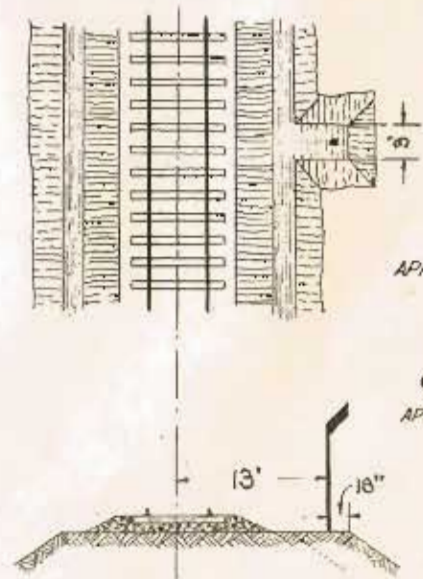
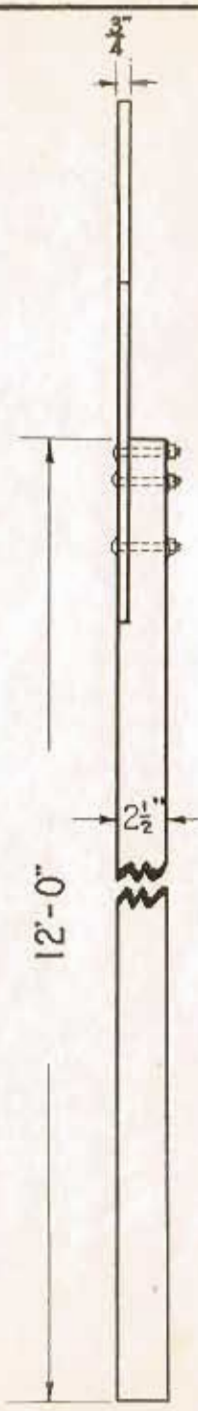
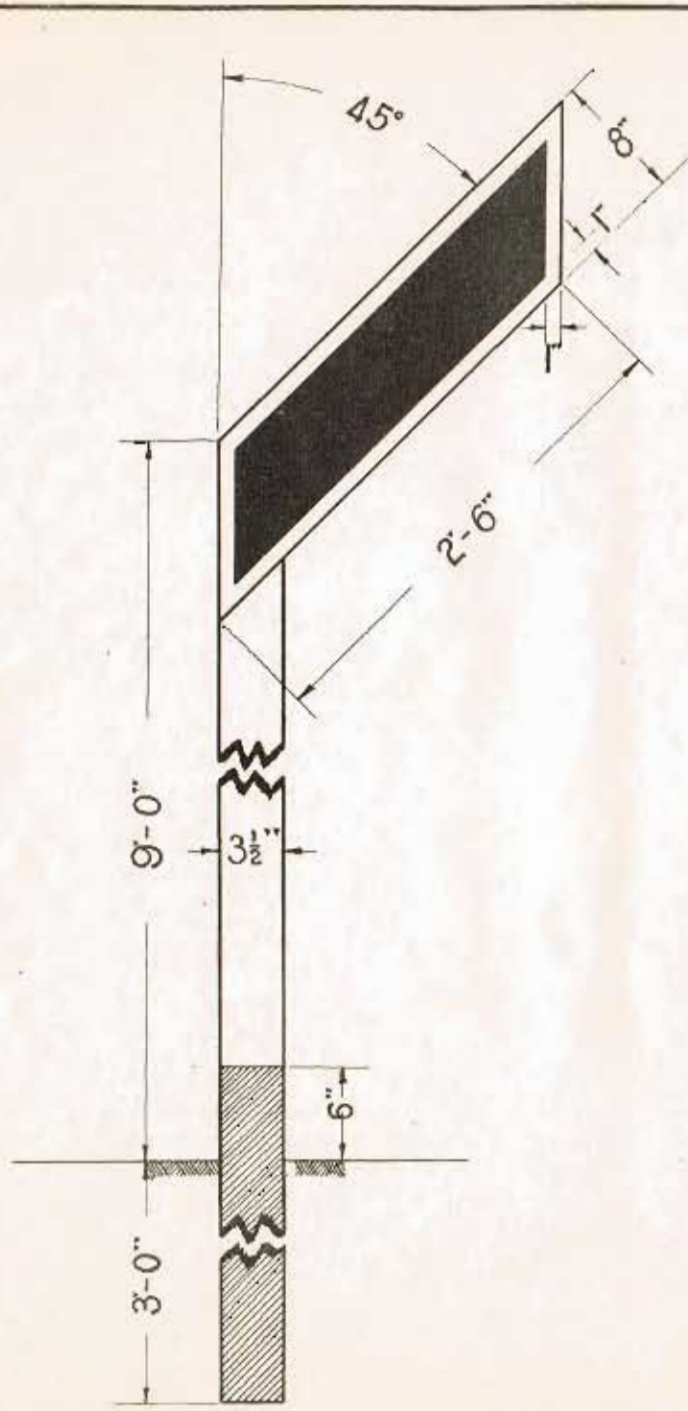
POST: 6" x 6" x 12'-0" S.4 S. Redwood Extra Merch.
 BOARDS: Redwood Clear.
 BOLTS: 5/8" Diameter with washers.
 PAINTING: Face of board white, Letters black, Post to have a coat of coal tar applied hot to 6" above ground, balance of post and back of boards painted with metallic and lamp black making a very dark brown.
 LOCATION: On Engineer's side, near as possible to each tunnel portal where local conditions will permit location of sign 13 ft. from center line of track.
 PAINTING OF BOARD: Face of be given one priming coat of white lead and oil paint thinned with turpentine and two coats of white lead and oil paint.

APPROVED: *J. W. Williams*
 CHIEF ENGINEER
 APPROVED: *E. W. Mason*
 VICE-PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
 TUNNEL SIGN

SCALE: 1" = 1'-0" ADOPTED MAY, 1926.
 REV. JUNE 1, 1936

016
1-31-66



LOCATION SKETCH
SHOWING MOUND

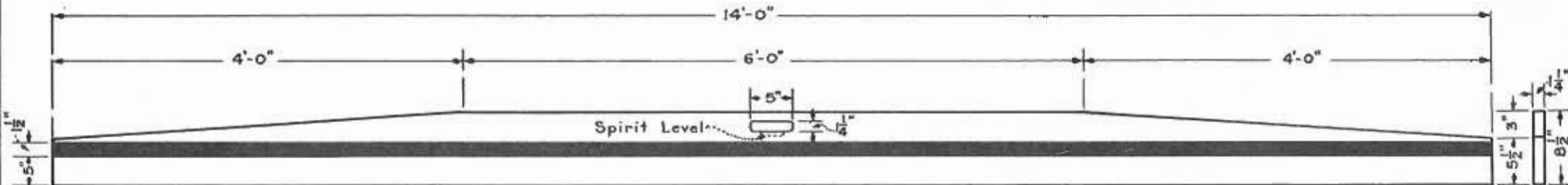
POST: 3"x4"x12'-0" S. 4 S. Extra Merch.
BOARD: Redwood Clear.
BOLTS: 1/2" Diameter with washers.
PAINTING: Base of Post to have a coat of coal tar applied hot to 6 inches above ground. Balance of Post and Board to be given one priming coat of white lead and oil paint thinned with turpentine, and two coats of white lead and oil paint. Face of Board black with one inch white margin. REFLECTORIZED
LOCATION: Engineer's side 13 feet from center of track at point where flanger is to be raised.

APPROVED: *J. M. Williams*
CHIEF ENGINEER
 APPROVED: *E. W. Mason*
VICE-PRESIDENT AND GENERAL MANAGER

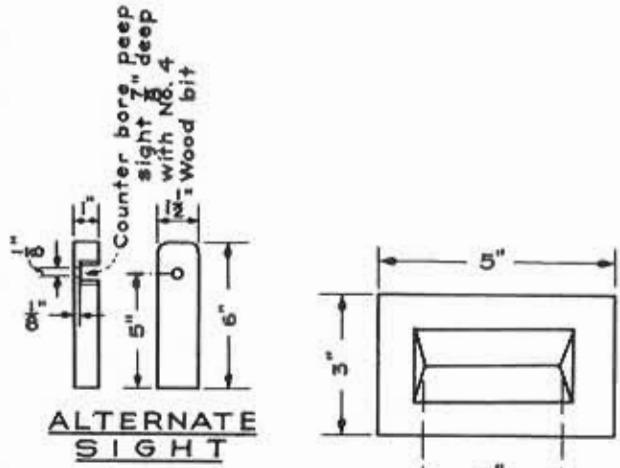
THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
 FLANGER SIGN

SCALE: 1" = 1'-00"
 ADOPTED NOVEMBER 1926.
 REVISED OCT. 19, 1931.
 JUN 1, 1935
 REV. MARCH 1, 1951

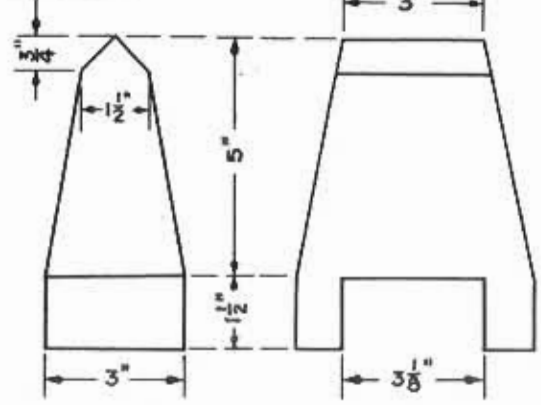
02
1-21-2



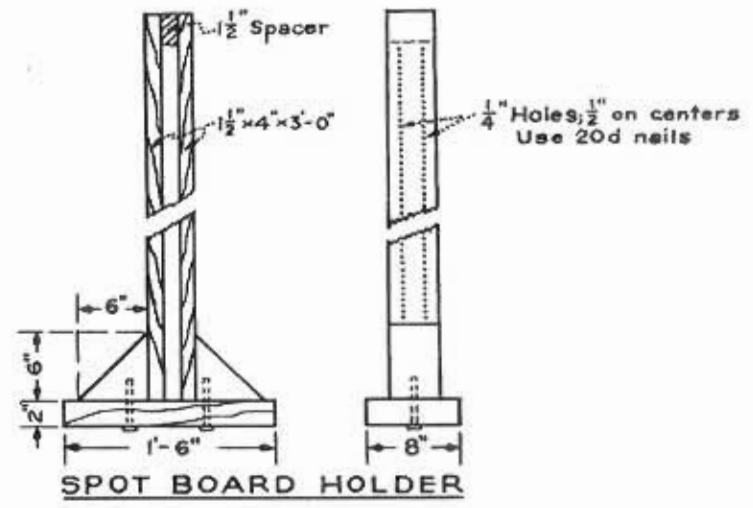
SPOT BOARD: Use soft wood (White Wood or White Pine)
Painted white with 1/2" Black Strip both sides



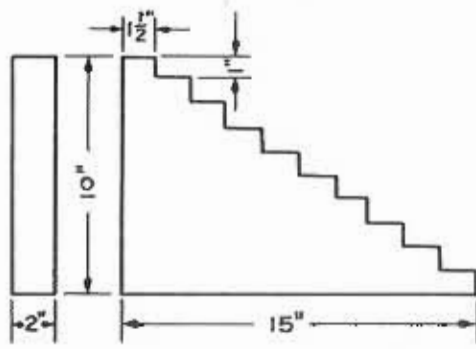
ALTERNATE SIGHT



SIGHTING BLOCK
2 Required
Painted White



SPOT BOARD HOLDER



ELEVATION BLOCK
2 Required
Painted White

MC n 2
1-2-61

APPROVED: *Frank R. Wood*
CHIEF ENGINEER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD

SPOT BOARD

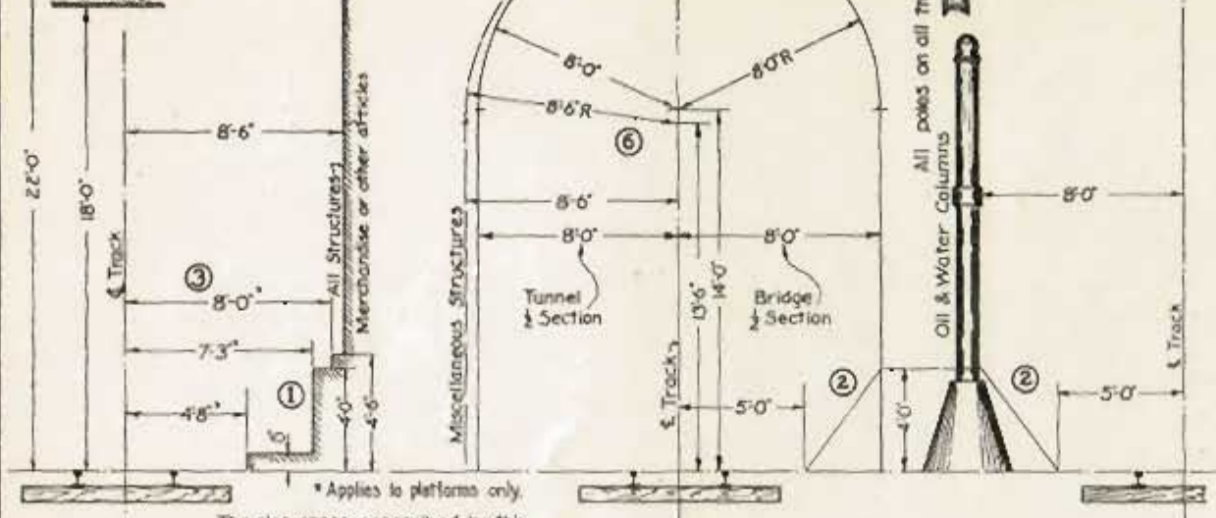
SCALE: 3/4" = 1'-0"

ADOPTED: Nov. 16, 1959

When track passes thru building or under any overhead structure.

All poles adjacent to any track shall have a minimum side clearance of 8'-6" from the center line of said track.

When track ends in building

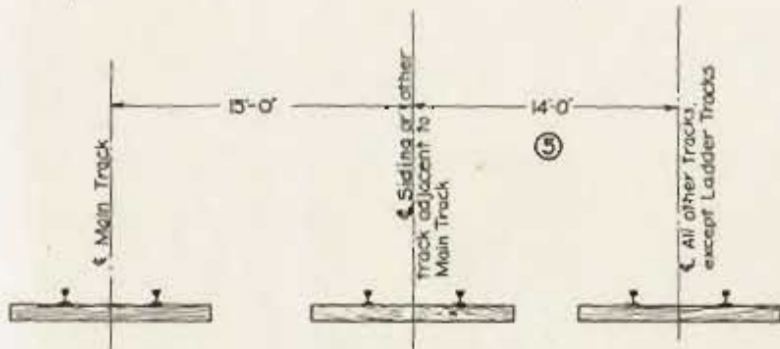
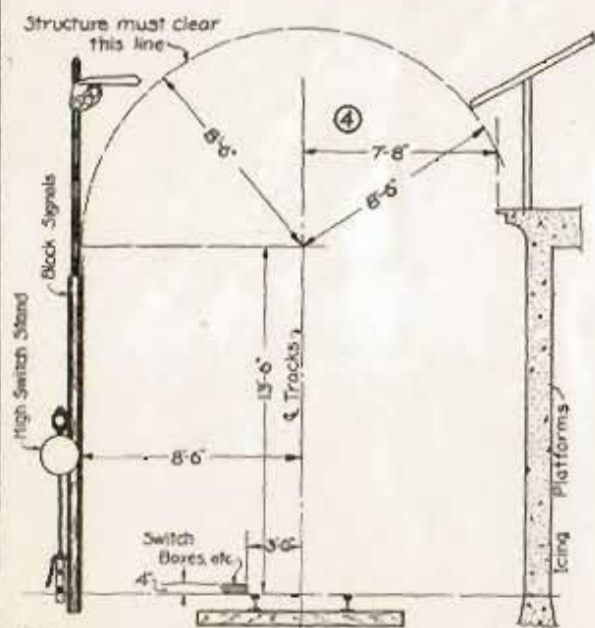


* Applies to platforms only.
The clearances prescribed by this order do not apply to mail cranes.

ADDITIONS AND EXCEPTIONS

- ① Stepped Platforms not permitted.
- ② Governs hand rails, water barrels, refuge platforms on bridges or trestles, water or oil columns, block signals, cattle guards and cattle chutes provided minimum clearance for such hand rails is 7'-6" and for fences of cattle guards is 5'-9".
- ③ Used principally for loading and unloading refrigerator cars or other cars in lieu thereof.
- ④ Where practicable, tracks adjacent to icing platforms should have 7'-8" clearance. Note: Existing platforms used for loading or unloading refrigerator cars and existing icing platforms heretofore constructed, may be extended at the existing clearance, provided that such clearance shall not be less than 6'-0" from the center line of track, but no switching or stowing of ordinary freight cars is permitted on such tracks.
- ⑤ Team tracks may be set at 11'-6" centers provided standard clearances are maintained on opposite side of each track. Minimum clearance between center lines of parallel house or industry tracks shall be 15'-0". Existing tracks may be maintained, reconstructed, or extended at centers in existence as of the effective date of this order.
- ⑥ Overhead and side clearances do not apply to engine houses, in shops and buildings in which freight cars are moved for repairs, doorways shall have minimum side clearance of 7'-8".
- ⑦ Ladder tracks parallel to any other track shall have a clearance of not less than 20 feet from center line of such other track.
- ⑧ A suitable line or marker shall be maintained on all platforms, except passenger platforms, at a distance of 8'-6" from center line of track, to indicate minimum clearance for merchandise and other articles placed thereon.

Log railways may be erected and maintained with impaired clearance when adjacent to tracks operated exclusively for logging purposes.
Where railroads cross above public roads, highways, and streets, the minimum overhead clearance shall be 14 feet and the minimum width of opening for a single span shall be 20 feet, or for two or more spans shall be 12 feet for each opening.
Where public roads, highways, and streets cross above railroad tracks, minimum standard clearances prevail, except that at time of installations of crossings, the minimum overhead clearance of 23 feet above the top of rail shall be observed.



GENERAL INSTRUCTIONS

For curved track one foot additional clearance is required. When space is limited side clearance may remain the same for curves not over 12 degrees; for curves over 12 degrees add 1/4 inch to standard clearances for each degree of curve. Where track contains superelevation, minimum side clearances shall be increased as necessary to give the equivalent clearances based on tangent track.
Posts, pipes, signs, and other small obstructions, where practicable, 10'-0" or more clearance is recommended. Hand rails other than on bridges and trestles to be not less than 8'-6" from center line unless authorized by General Manager.
No tracks to be less than 13'-0" centers unless authorized by General Manager.

Note:
Low switch stands or block signals, 3 feet or less in height above top of rail, located between tracks may have horizontal clearance reduced from 8'-6" to a minimum of 6'-0" if actually necessary.

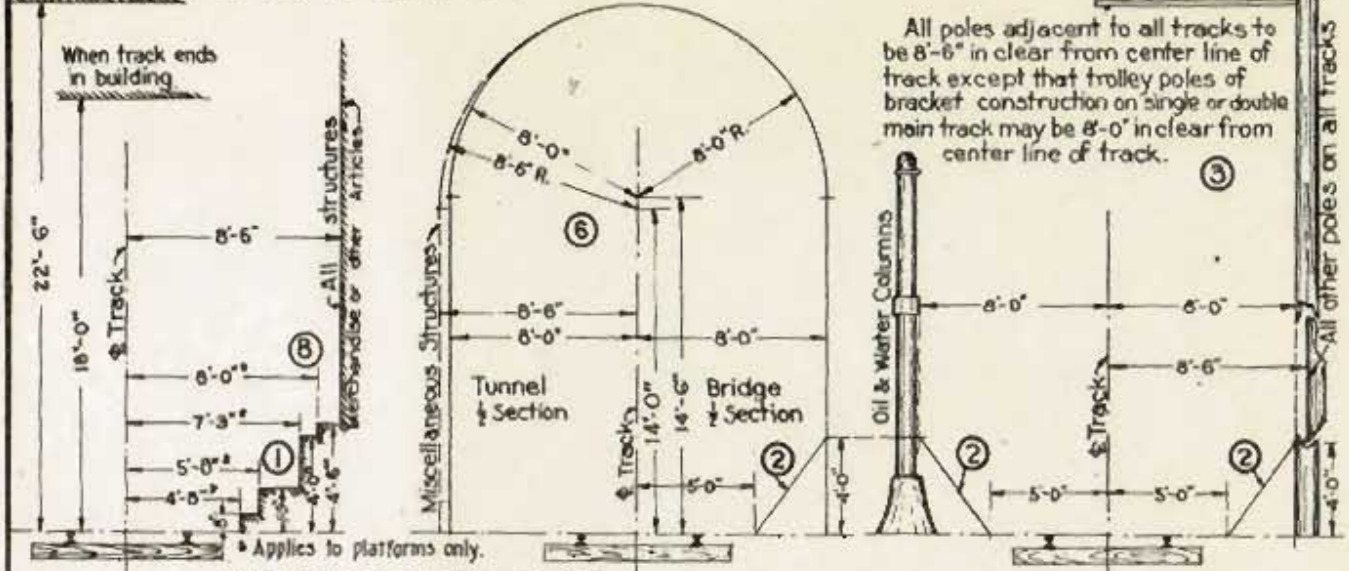
APPROVED: *M. Miller*
CHIEF ENGINEER.

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
MINIMUM CLEARANCES
AS PRESCRIBED BY THE
PUBLIC SERVICE COMMISSION OF NEVADA

CASE 1159 EFFECTIVE JUNE 2, 1947
NO SCALE REVISED NOV. 12, 1948

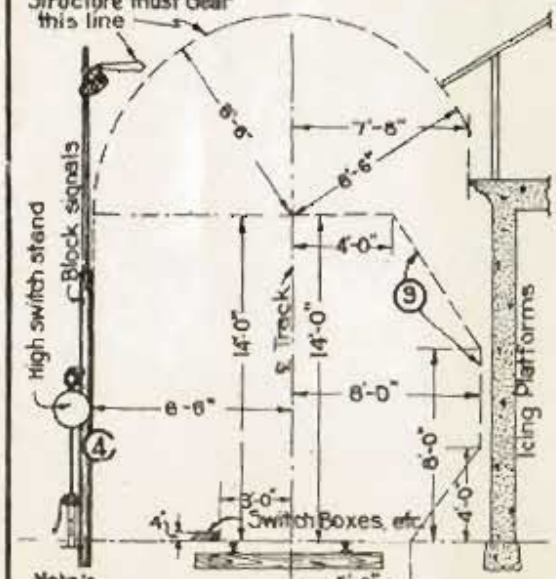
OK
1-21-46

When track passes thru building or under any overhead structure.

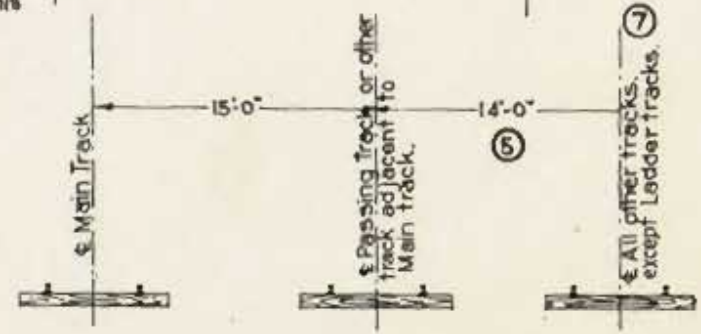


All poles adjacent to all tracks to be 8'-6" in clear from center line of track except that trolley poles of bracket construction on single or double main track may be 8'-0" in clear from center line of track.

The clearances prescribed by this order do not apply to mail cranes



Note: Low switch stands or block signals 3 feet or less in height above top of rail, located between tracks, may have horizontal clearance reduced from 8.5 feet to a minimum of 6 feet if actually necessary.



GENERAL INSTRUCTIONS

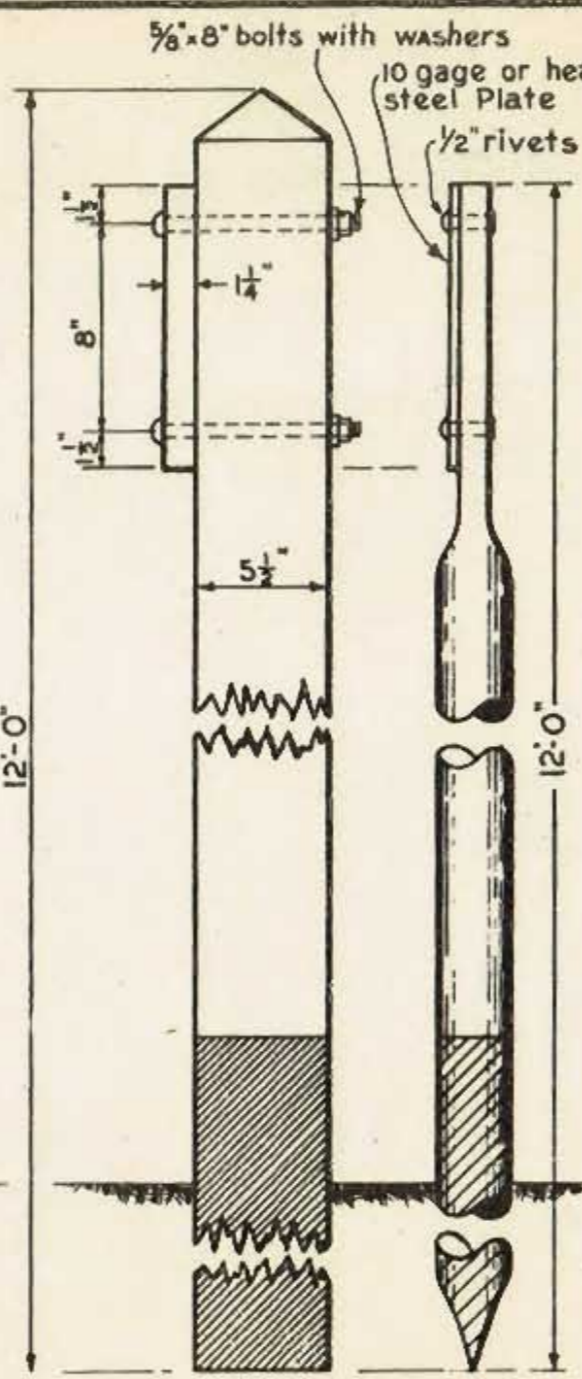
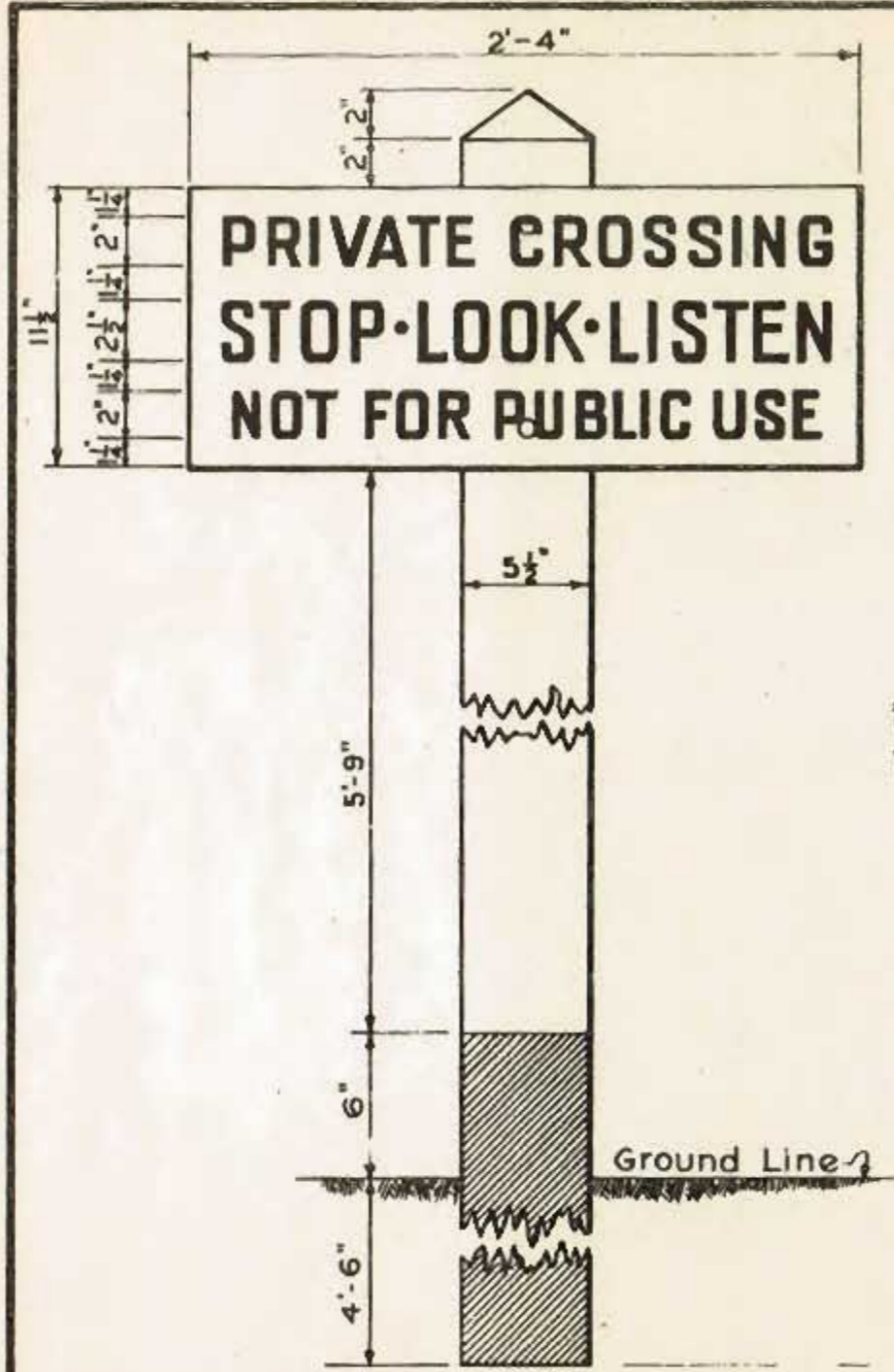
For curved track one foot additional clearance is recommended. When space is limited side clearance may remain the same for curves not over 12 degrees; for curves over 12 degrees add 1/4 inch to standard clearances for each degree of curve. Posts, pipes, signs and other small obstructions, where practicable, 10'-0" or more, clearance is recommended. Hand rails other than on bridges and trestles to be not less than 8'-6" from center line unless authorized by General Manager. No tracks to be less than 13'-0" centers unless authorized by General Manager.

ADDITIONS AND/OR EXCEPTIONS

- ① Stepped Platforms not permitted.
- ② Governs hand rails, water barrels, refuge platforms on bridges or trestles, water or oil columns, block signals, cattle guards and cattle chutes, except minimum clearance for such hand rails is 7'-6" and for fences of cattle guards is 6'-9".
- ③ Trolley poles of bracket construction adjacent to other than main track must be 8'-6" in clear from center line of track.
- ④ When clear vision of switch stand target is obscured by poles at legal clearance, switch stand may be set at 7'-6".
- ⑤ Team or freight house tracks may be set at 11'-6" centers provided standard clearances are maintained on opposite side of each track.
- ⑥ Overhead and side clearances shall not apply to engine houses or shops and buildings in which equipment is moved for repairs but doorways to said buildings shall have a minimum side clearance of 7'-6" from center line of track.
- ⑦ Ladder tracks parallel to any other ladder track shall have a clearance of 20 foot centers. Ladder tracks parallel to any track other than a ladder track shall have a clearance of 17 foot centers.
- ⑧ A suitable line or marker shall be maintained on all platforms at a distance of 8'-6" from center line of track to indicate minimum clearance for merchandise and other articles thereon.
- ⑨ This clearance line for use only in passenger terminals and coach yards where no freight cars are moved. Where railroads cross above public roads, highways and streets, the minimum overhead clearance shall be 14 feet, and the minimum width of opening for a single span shall be 20 feet or for two or more spans shall be 12 feet for each opening.

APPROVED: *J. M. Williams*
CHIEF ENGINEER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
MINIMUM CLEARANCES
AS PRESCRIBED BY THE
PUBLIC UTILITIES COMMISSION OF UTAH
GENERAL ORDER NO. 25 EFFECTIVE FEBRUARY 10, 1929
NO SCALE Revised: Nov. 16, 1955 ADOPTED MAY 11, 1932



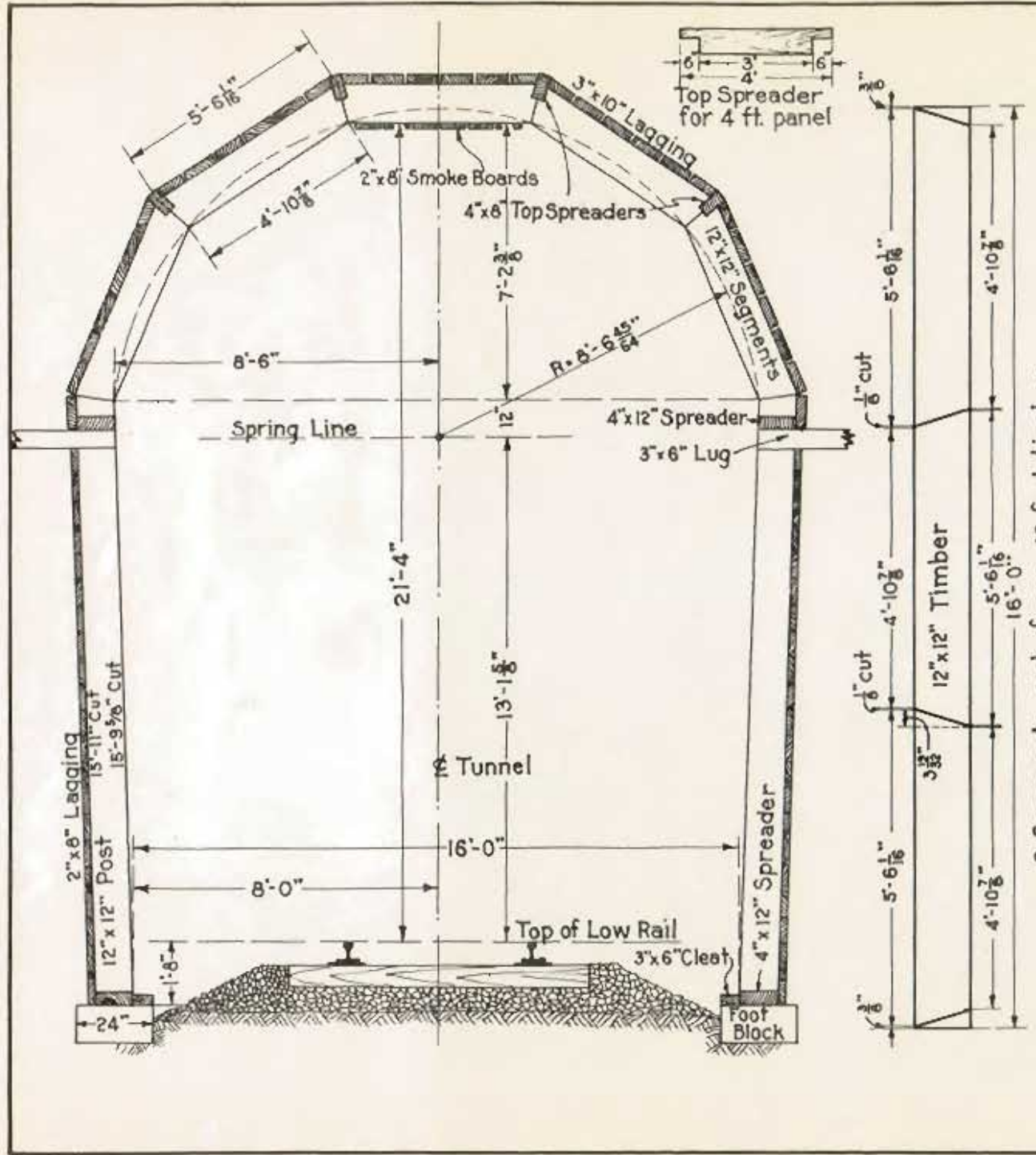
POST: 6"×6"×12'-0" Redwood Extra Merch. or 2 1/4" to 3" S.H. Boiler Tube.
 BOARD: Redwood or 10 gage steel Plate
 BOLTS: 5/8"×8" with washers.
 RIVETS: 1/2" diameter.
 PAINTING: Face of board white, letters black. Post to have a coat of coal tar applied hot to 6" above ground, balance of Post and back of Board painted with metallic and lamp black making a very dark brown. Face of Board to have one priming coat of white lead and oil paint thinned with turpentine and two coats of white lead and oil paint.

LOCATION
 Sign to be located not less than 25 ft. from Center of Track in most conspicuous place facing Private Road Travel and to be on side of Track toward Highway from which Private Road diverges.

APPROVED *A. Phillips*
 CHIEF ENGINEER
 APPROVED *J. A. ...*
 VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
 PRIVATE ROAD CROSSING SIGN

SCALE: 1" = 1 1/2"
 ADOPTED SEPT. 1927
 REV. MAY 1948



Material for 3 sets (Any spacing)		
11 Pcs.	12"x12"x16'-0"	Posts & Segments
2 Pcs.	12"x12"x 6'-0"	Foot Blocks
12 Lin.ft.		Dowels
3 Pcs.	3"x6"x12'-0"	Lugs & cleats

Material for 1-4 ft. Panel (Bet. sets)		
11 Pcs.	3"x10"x12'-0"	Top Lagging
15 Pcs.	2"x8"x12'-0"	Side Lagging
1 Pc.	4"x12"x12'-0"	Spreaders
2 Pcs.	2"x8"x12'-0"	Smoke boards
1 Pc.	4"x 8"x 16'-0"	Top Spreaders

Miscellaneous		
50 Pcs.	2"x4"x1'-2"	Wedges for 1 set
4 Pcs.	4"x6"x18'-0"	Crown Bars - 3 sets

Note:
For other than 4 ft. panels, it will be necessary to modify above quantities of lagging, spreaders and smoke boards to fit spacing of tunnel sets.

TABLE OF OFFSETS FROM TUNNEL TO TRACK	
Degree of Curve	Offset
Tangent	0"
1°	2"
2°	3"
3°	4"
4°	5"
5°	6"
6° to 10°	6"

APPROVED: *J. M. Williams*
CHIEF ENGINEER

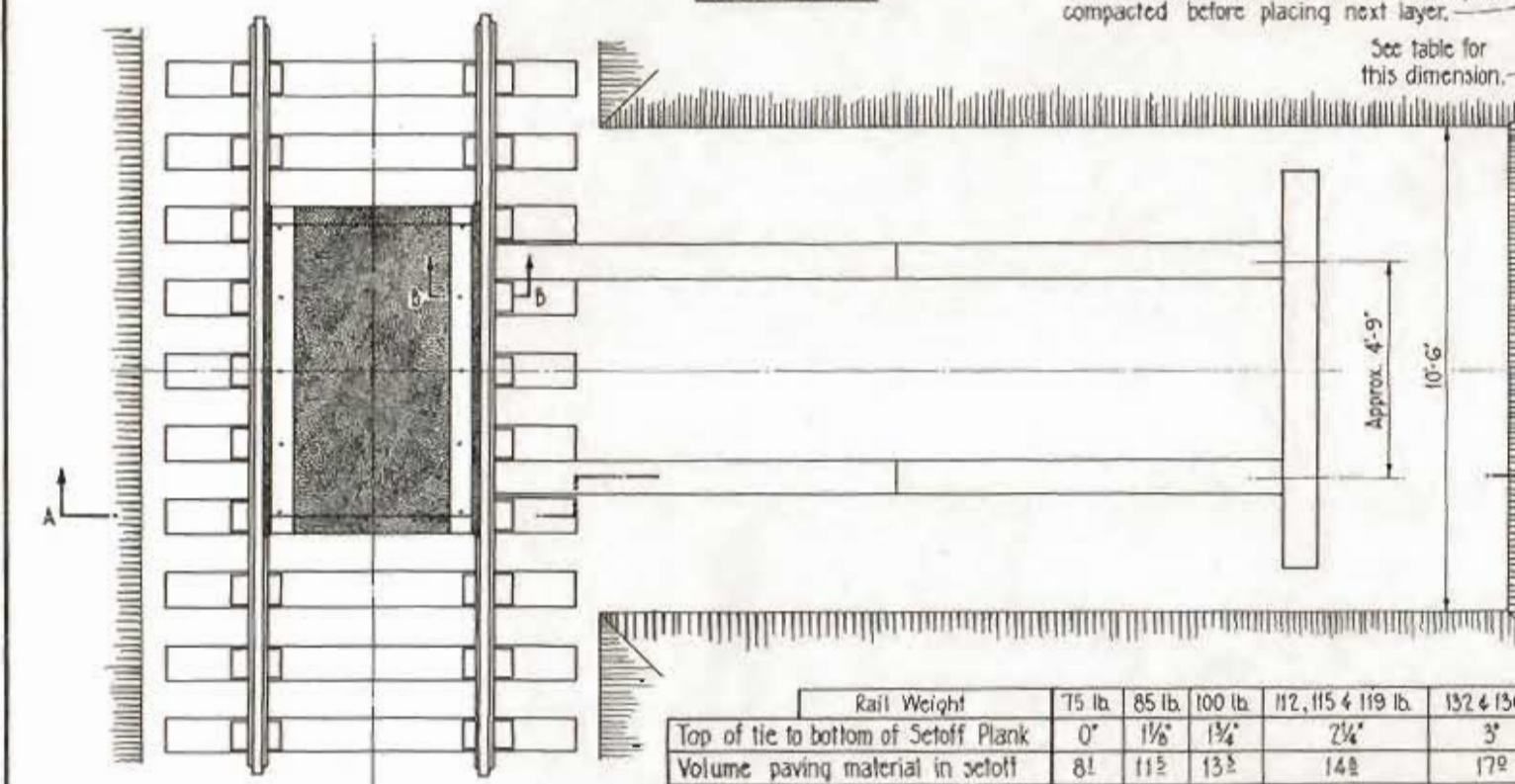
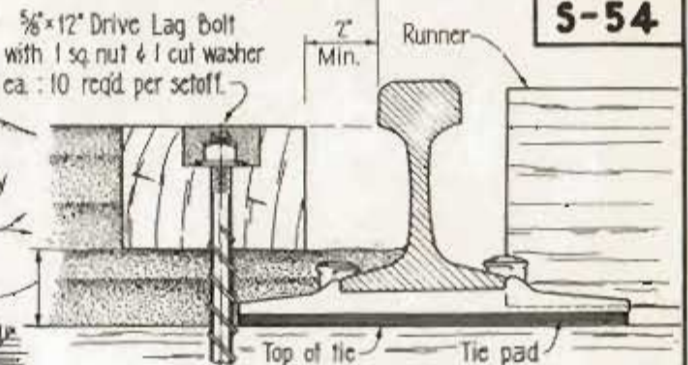
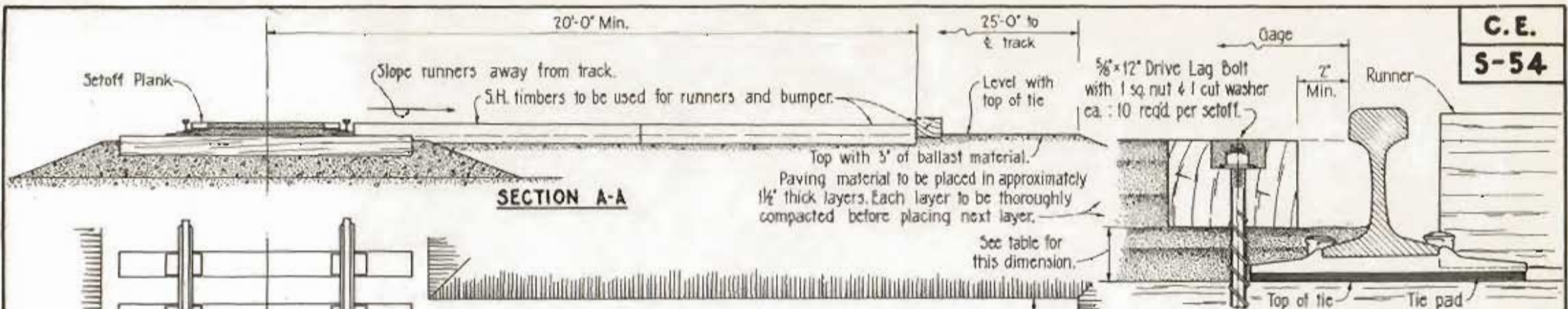
APPROVED: *E. W. Mason*
VICE PRESIDENT AND GENERAL MANAGER.

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
TUNNEL TIMBER SET
MAIN LINE
SAN FRANCISCO TO SALT LAKE CITY
NO SCALE
ADOPTED JAN. 30, 1940

1-31-46

8-24-59: Added notes
 "emulsified asphalt"
 "dusty conditions."

C.E.
 S-54



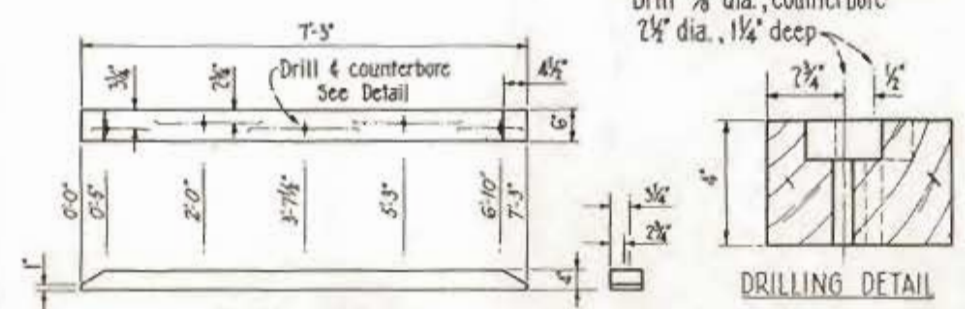
SECTION B-B

NOTE

Setoffs to be built and maintained as authorized by the Chief Engineer.
 Tie cribs to be full and thoroughly compacted before placing paving material.
 Paving material to be hot-mixed cold-laid asphaltic concrete. Specifications for this material to be as per current letter instructions.
 Surfaces to be covered by asphalt material shall be swabbed or sprayed with emulsified asphalt before placing asphalt material. If construction is interrupted between paving material courses last course should be swabbed or sprayed as above before placing next course.
 To Requisition: When requisitioning order should state "Two 4'x6'x7-3" Setoff Planks and ten 5/8"x12" Drive Lag Bolts with nut and washer each-all as shown on S-54, Motor Car Setoff, dated 6-15-59.
 Paving material will not be furnished from the Sacramento Store. Upon request a list of qualified local suppliers will be furnished by the Office of the Chief Engineer.

Rail Weight	75 lb.	85 lb.	100 lb.	112, 115 & 119 lb.	132 & 136 lb.
Top of tie to bottom of Setoff Plank	0'	1 1/8"	1 3/4"	2 1/4"	3'
Volume paving material in setoff	81	115	135	148	170

Note: Volume of paving material in setoff is in cu. ft., and is the compacted amount required.
 Asphalt material should not be placed under dusty conditions.



SETOFF PLANK
 2 Req'd. per Setoff

DRILLING DETAIL

THE WESTERN PACIFIC RAILROAD COMPANY
 STANDARD

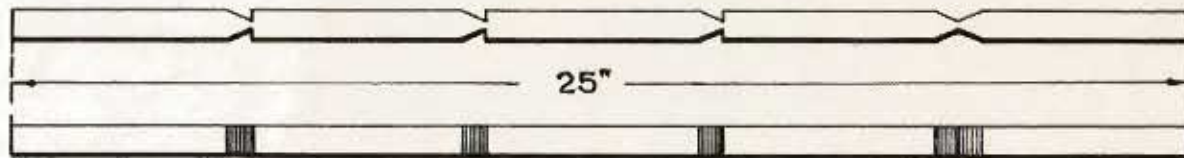
MOTOR CAR SETOFF

PAVED CENTER: ALL WEIGHTS RAIL

Approved: *Frank R. Woolford*
 Chief Engineer

No Scale Revised: 8-24-59 Adopted: June 15, 1959

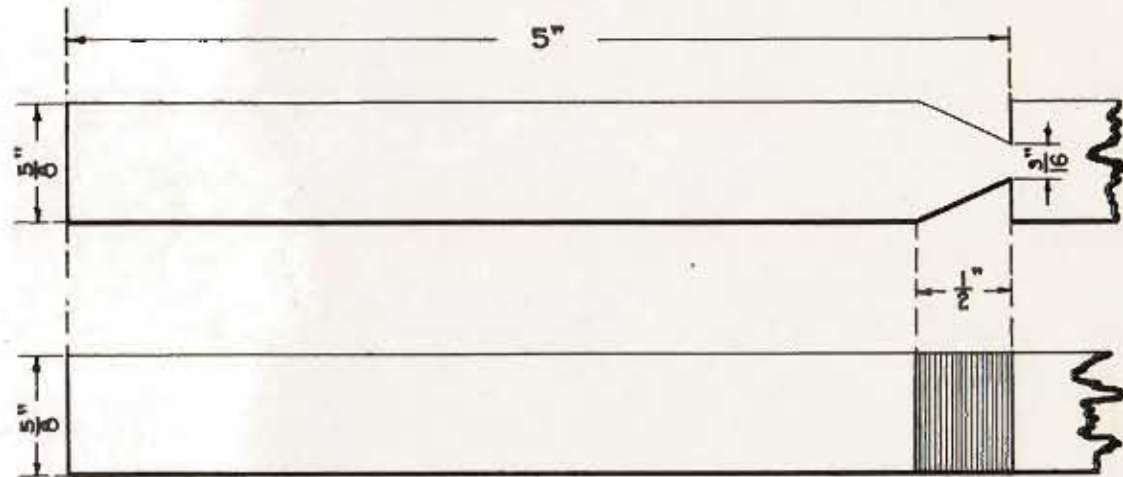
MULTIPLE PLUG



Tie plugs shall be sound, seasoned, straight grained Fir, Pine, Cedar or Spruce and free from knots or other defects.

Tie plugs to be manufactured in multiple as indicated, five plugs to a stick, and shipped in bundles of 100 sticks tied securely with wire.

Tie plugs to be creosoted.



APPROVED:

J. M. Williams
CHIEF ENGINEER

APPROVED:

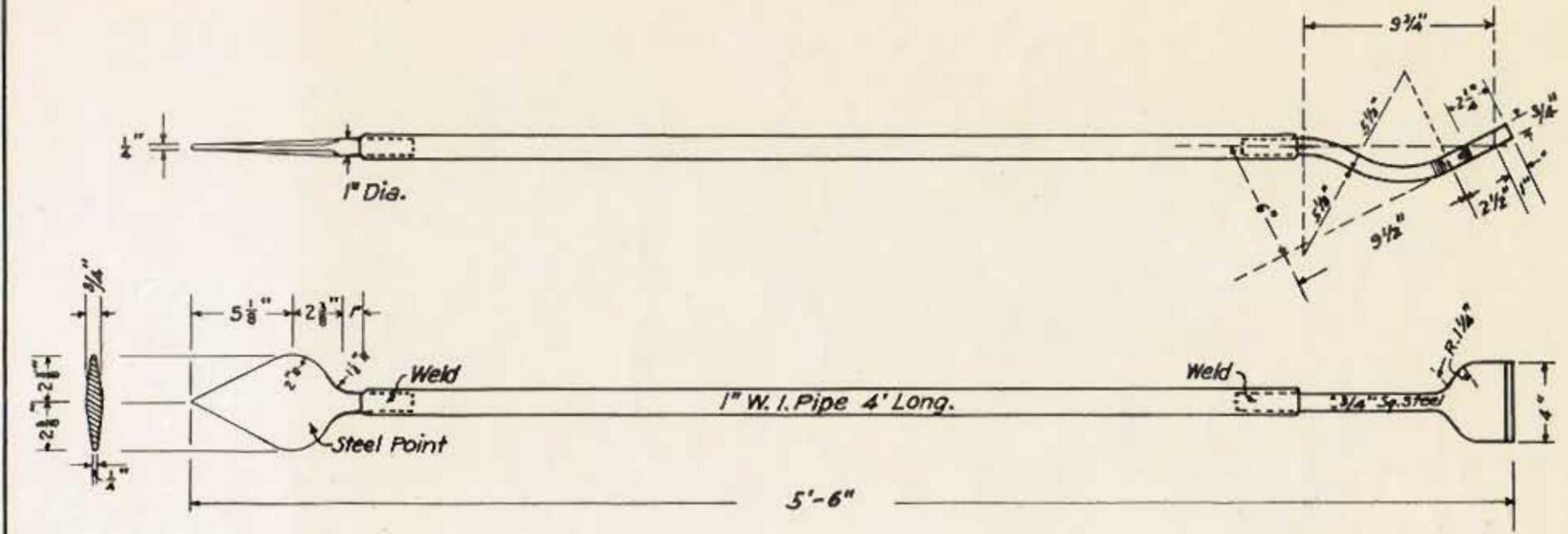
E. W. Mason
VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
TIE PLUG

NO SCALE

ADOPTED MAY 11, 1932
REVISED DEC. 30, 1939
DEC. 15, 1954

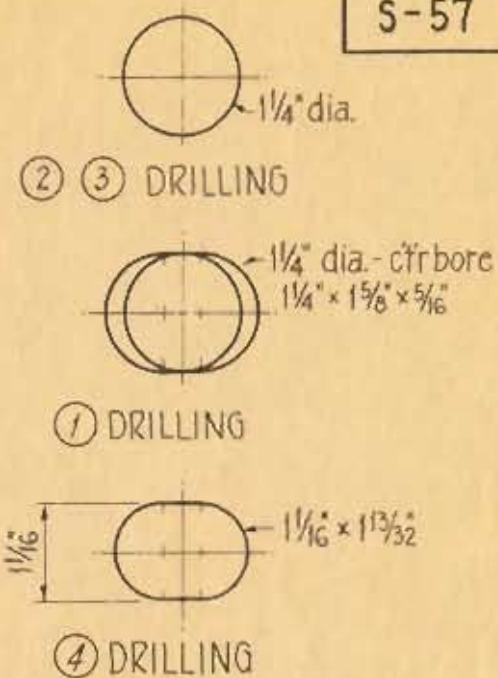
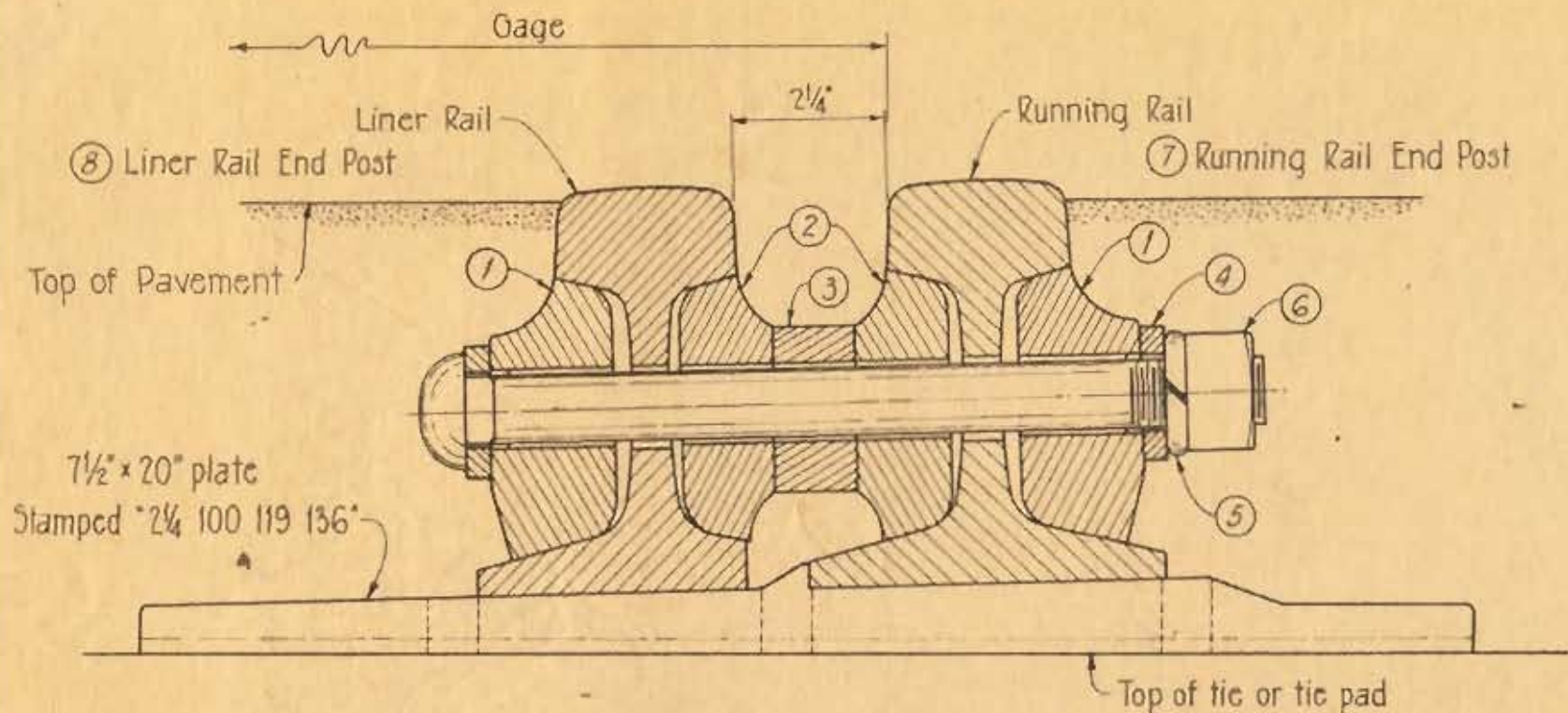
OK
1-27-54



APPROVED *J. M. Williams*
CHIEF ENGINEER.

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
TAMPING BAR

SCALE 1 1/4" = 1' ADOPTED FEBRUARY, 1928.
REVISED MARCH, 1931.
SEPT. 20, 1955



PARTS LIST

Pc. Mk.	Name of Part	Req'd.	Remarks
1	Outside Joint Bar	2	24" long: drilled 5 1/2", 5 3/4", 5 1/2" ctrs.
2	Inside Joint Bar	2	24" long: drilled 5 1/2", 5 3/4", 5 1/2" ctrs.
3	Packer Block	1	24" long: drilled 5 1/2", 5 3/4", 5 1/2" ctrs.
4	Washer Plate	4	3/8" x 2 1/4" x 9"; drilled 5 1/2" ctrs.
5	Lock Washer	4	for 1" dia. bolt
6	1" dia. Track Bolt	4	H.C.H.T.; 12" min. long, ea. with 1 sq. nut
7	Running Rail End Post	1	3/8" thick
8	Liner Rail End Post	1	3/8" thick

Approved: _____
Chief Engineer

THE WESTERN PACIFIC RAILROAD COMPANY
STANDARD

INSULATED DOUBLE JOINT

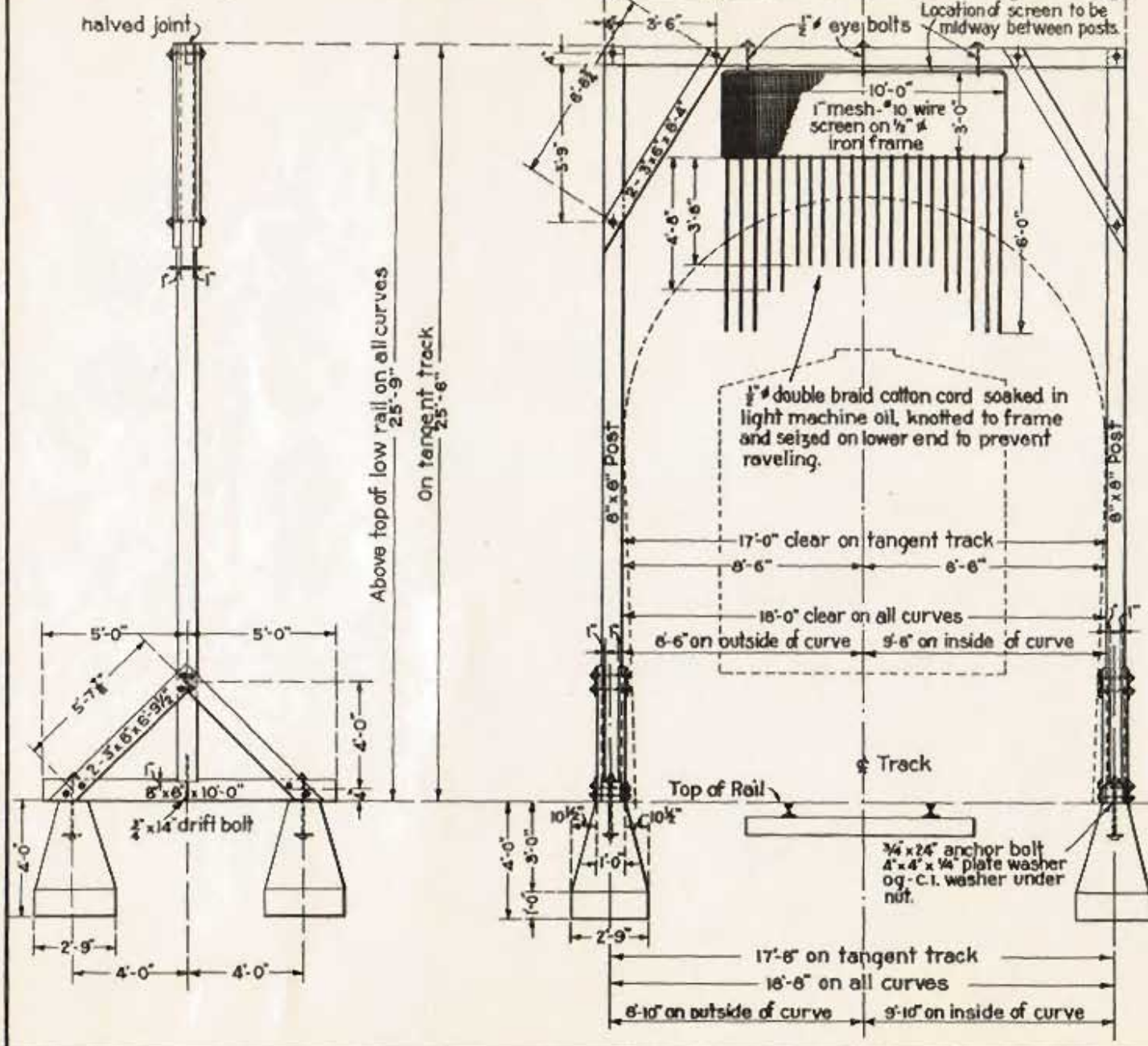
100 LB. R.E. RAILS - 2 1/4" FLANGEWAY

No Scale

7-10-60

Adopted:

Note: Where tunnel warning spans more than one track or dist. between vertical posts is more than 20' see dwg. C.E.S-58A for type of construction used for warning at east portal of Tunnel No 32.



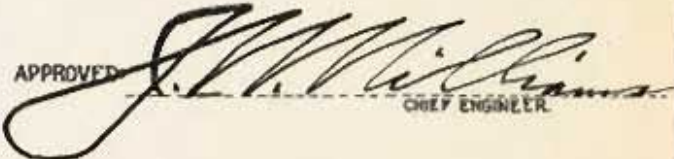
NOTES:

All bolts in frame to be 3/8" with cut washers. Screen to be Galvanized after manufacture. Bolts to be Sherardized. Eye bolts to be 10" long outside of eye and are to be forged around screen frame. LOCATION: Warnings shall be placed at each end of and 200 feet in advance of structures having an overhead clearance of less than 22 feet above top of rail. Distances of more or less than 200 feet may be used only by authority of the General Manager.

OBSOLETE

OLD STANDARD

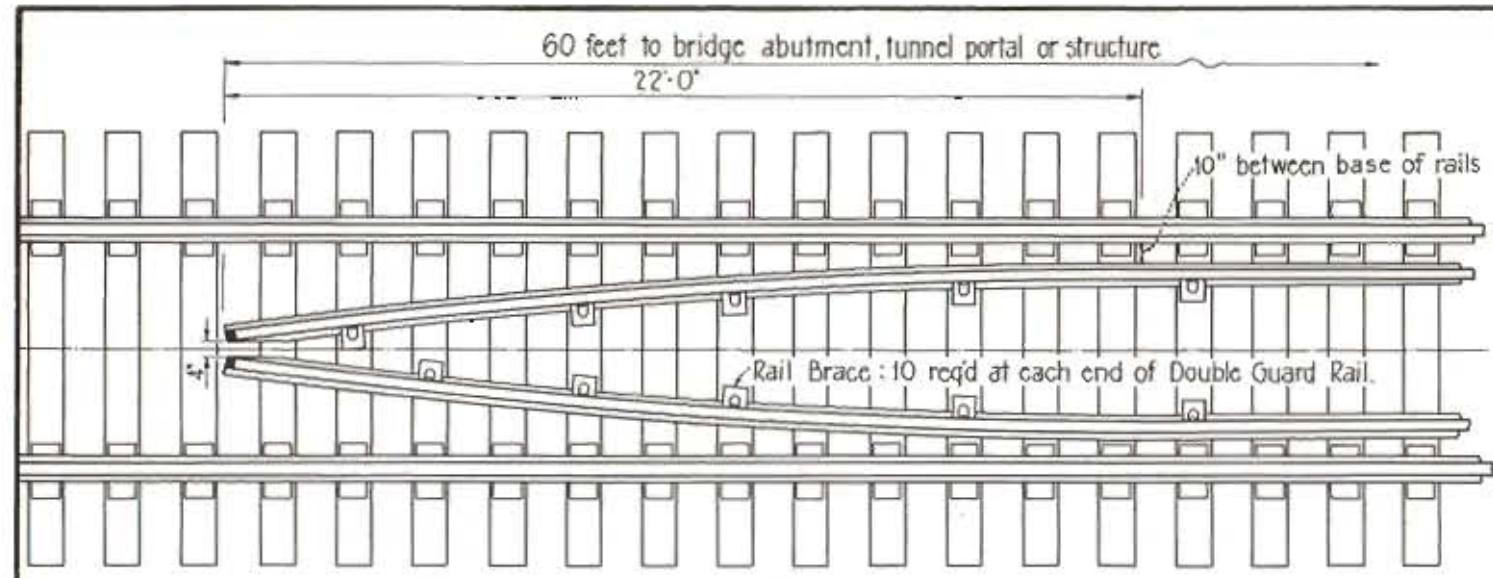
BILL OF MATERIAL			
2	8'-6" x 10'-0"		4 anchor bolts 3/4" x 24"
1	" x 18'-4"	on tang. tr.	24 bolts 3/8" x 13"
1	" x 19'-4"	on curve tr.	4 anchor pls. 4" x 1/4" x 4"
2	" x 25'-7"	on tang. tr.	2 drift bolts 3/4" x 14"
2	" x 25'-10"	on curve tr.	3 1/2" C.I. Og washers
4	3' x 6" x 8'-4"		52 3/8" cut washers
8	3' x 8" x 6'-9 1/2"		4 3/4" C.I. Og washers
3	eye bolts 1/2" x 10"		100 lin. ft. 1/2" cotton cord
2	bolts 3/8" x 9"		1 Screen a frame 3'-0" x 10'-0"

APPROVED  CHIEF ENGINEER

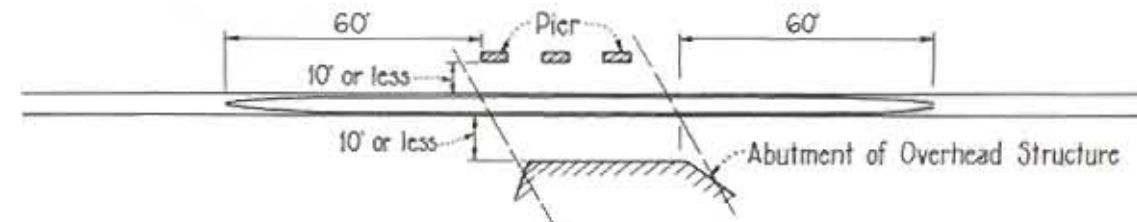
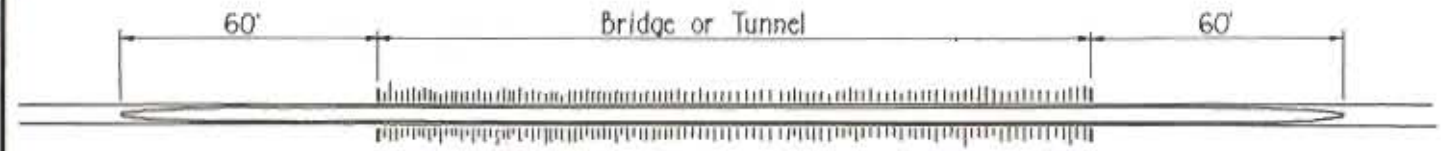
THE WESTERN PACIFIC RAILROAD CO.
STANDARD
BRIDGE AND TUNNEL WARNING
SCALE: 1/16" = 1'-0"
ADOPTED JAN. 1930
REVISED FEB. 18, 1938

NOTES

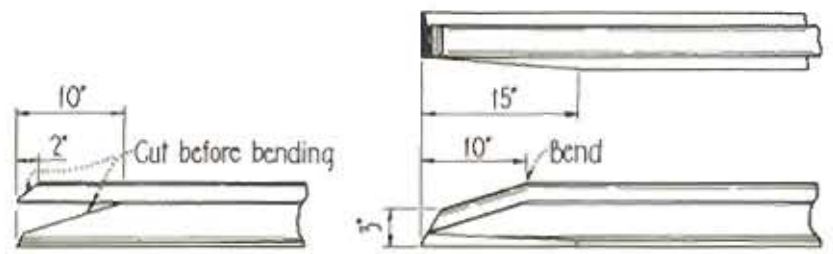
- When authorized by the Chief Engineer double guard rails will be installed and maintained at the following locations:
- 1) Through all tunnels having unlined or timber lined sections,
 - 2) Through all concrete lined tunnels any part of which is tangent or contains a curve of less than 4°00'.
 - 3) On all through truss and through girder bridges,
 - 4) On all ballast or open bridges or trestles, 60 feet or more in length, and 10 feet or more in height, any part of which is tangent or contains a curve of less than 4°00'.
 - 5) Opposite adjacent abutments, piers or other structures when such structures are on both sides of main track and within 10 feet of the nearest rail,
 - 6) At other locations where height, alignment, clearances, grade or other local conditions make installation advisable.
- When the distance between adjacent structures to be guarded is less than 200 feet guard rail will be continuous.
- When there is a curved approach to the structure the distance from the end of the guard rail to the structure, normally 60 feet, may be increased by the Chief Engineer.
- Guard rails to be of 85 lb. or 100 lb. rail as directed by the Chief Engineer.
- Guard rail joints to be complete - with 2 joint bars, 4 bolts, nuts and spring washers per joint.
- Guard rail to be spiked two spikes per tie per rail except at rail braces which require three spikes each.
- Tie plates are not to be used under guard rail.



PLAN



LOCATION



Detail of Rail End

Approved: *Frank R. Woolford*
Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
DOUBLE GUARD RAILS
FOR TUNNELS AND BRIDGES

NO SCALE

ADOPTED: April 15, 1958
REVISED: July 15, 1963

NOTES

When authorized by the Chief Engineer single guard rails will be installed and maintained at the following locations:

- 1) Through all concrete lined tunnels all of which is curved and the curve or curves are 4'01" or sharper,
- 2) On all ballast or open deck bridges or trestles, 60 feet or more in length, and 10 feet or more in height, all of which is curved and the curve or curves are 4'01" or sharper,
- 3) Opposite adjacent abutments, piers or other structures when such structures are on only one side of the main track and within 10 feet of the nearest rail,
- 4) At other locations where height, alignment, clearances, grade or other local conditions make installation advisable.

When the distance between the ends of adjacent single guard rails on the same rail is less than 75 feet guard rail will be continuous.

Where desirable, the distance from the end of the guard rail to the structure or curve, normally 60 feet, may be increased by the Chief Engineer.

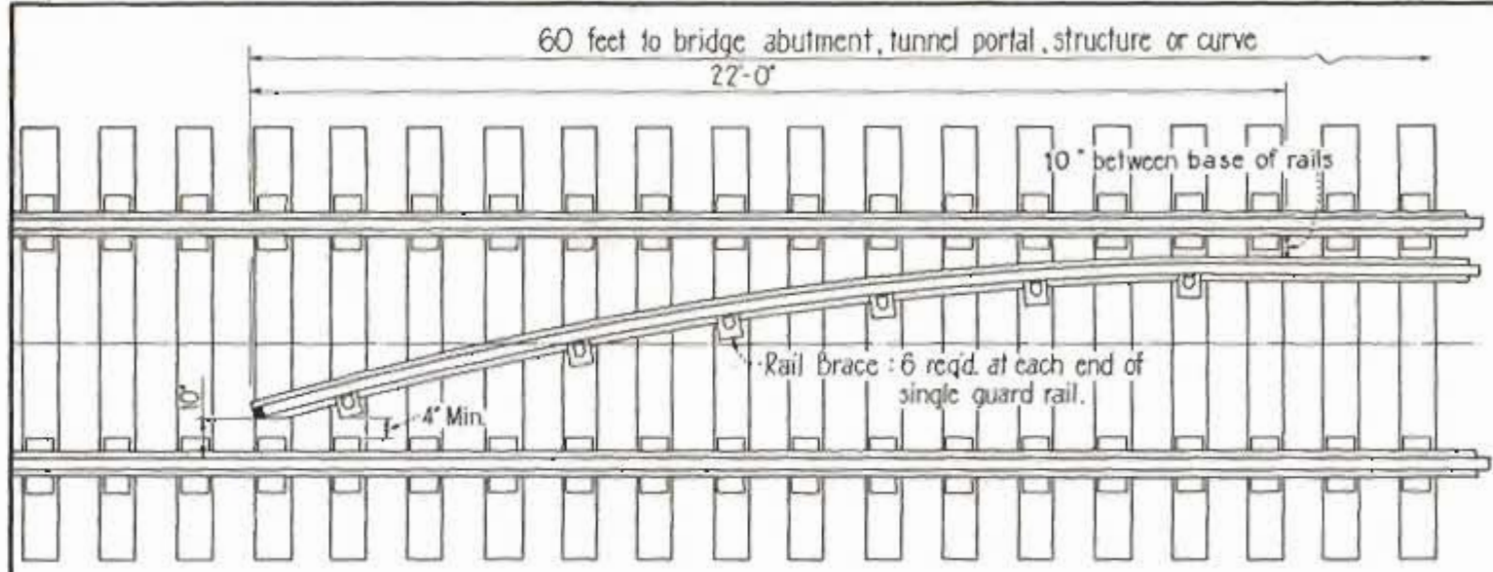
Guard rail to be of 85 lb. or 100 lb. rail as directed by the Chief Engineer.

Guard rail joints to be complete - with 2 joint bars, 4 bolts, nuts and spring washers per joint.

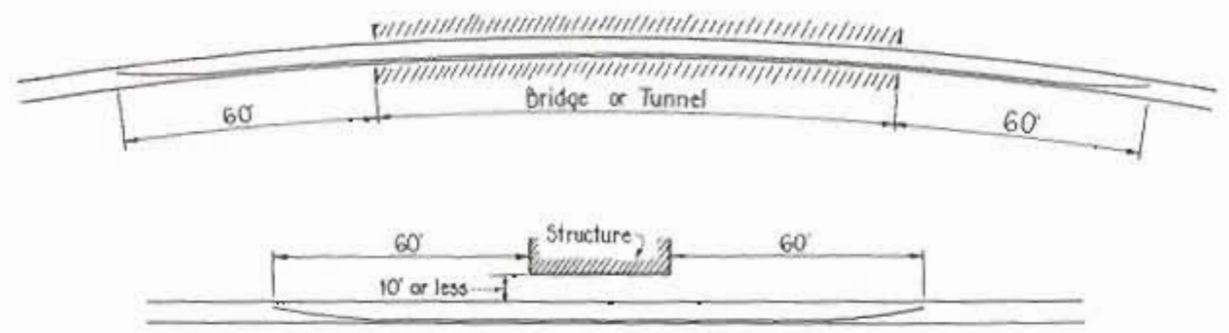
Guard rail to be spiked two spikes per tie except at rail braces which require three spikes each.

Tie plates are not to be used under guard rail.

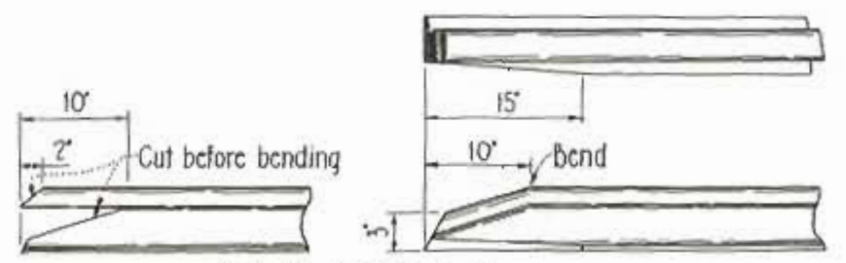
When used to protect structure guard rail will always be on rail farthest from structure, otherwise guard rail will be on inner rail.



PLAN



LOCATION



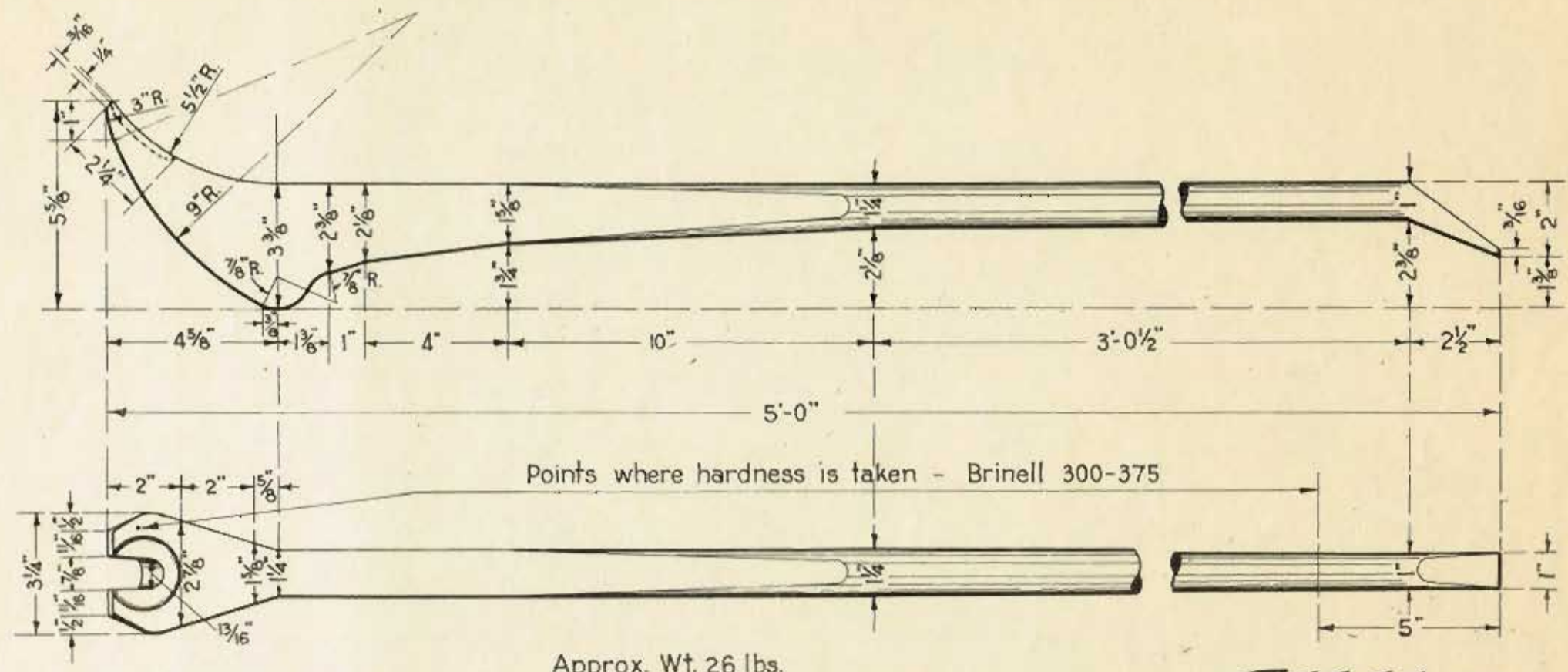
Detail of Rail End

Approved: *Frank R. Woodford*
Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
SINGLE GUARD RAIL
FOR CURVES, TUNNELS & BRIDGES

NO SCALE

ADOPTED: April 15, 1958
REVISED: July 15, 1963



Points where hardness is taken - Brinell 300-375

Approx. Wt. 26 lbs.

Tolerance-
2% on length
5% on cross-section

APPROVED: *J. M. Williams*
CHIEF ENGINEER
APPROVED: *E. W. Mason*
VICE PRESIDENT AND GENERAL MANAGER

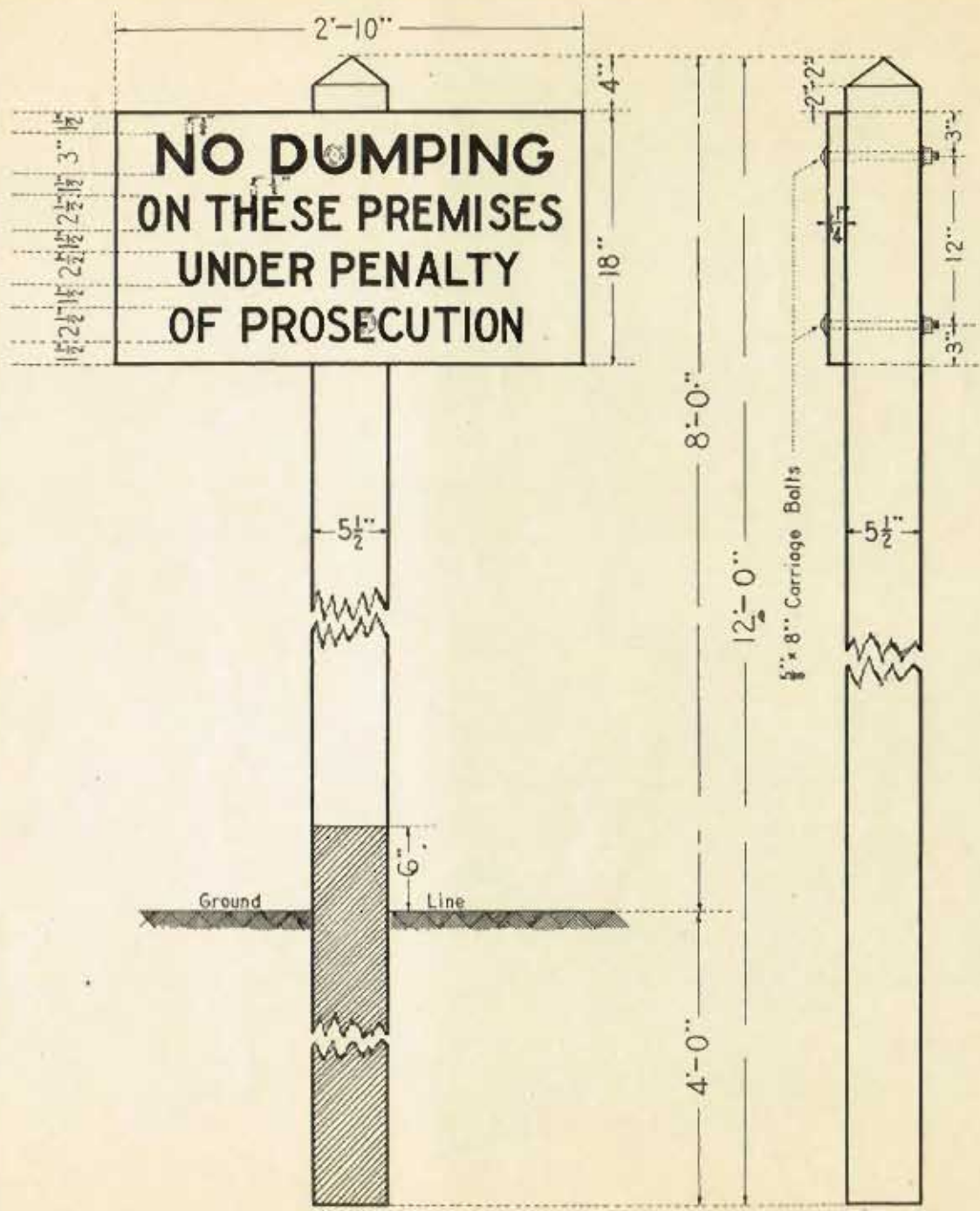
THE WESTERN PACIFIC RAILROAD CO.
STANDARD
CLAW BAR

Scale: 3" = 1'-0"

Adopted Mar. 1, 1935
Rev. Mar. 1936

Revised March, 1936 to conform to
A.R.E.A. Design No. 1, Plan No. 11

PK
1-11-36



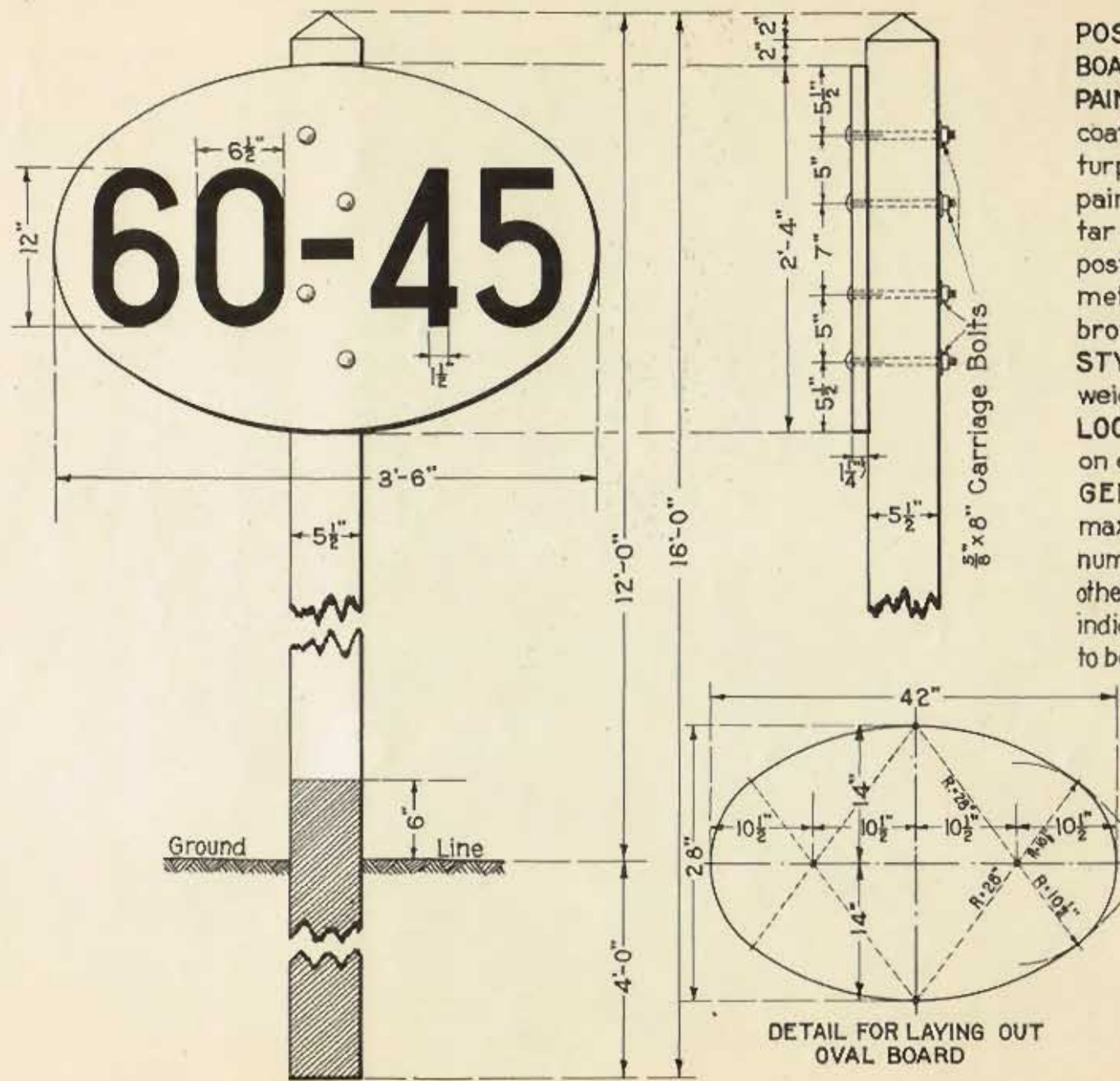
POST : 6*6*12'-0" S 45 Redwood Extra Merch.
 BOARDS: Redwood Clear.
 BOLTS : 1/2" Diameter with washers.
 PAINTING: Face of board white, Letters black,
 Post to have a coat of coal tar applied hot to 6"
 above ground, balance of post and back of
 boards painted with metallic and lamp black
 making a very dark brown.
 STYLE OF LETTERS : Egyptian, and of sizes
 shown and strokes as indicated.
 LOCATION: To be placed at location
 designated but not less than 13'-0" from
 center line of nearest track.
 PAINTING OF BOARD: Face of board to be given
 one priming coat of white lead and oil paint
 thinned with turpentine and two coats of white
 lead and oil paint.

APPROVED *J. M. Williams*
 CHIEF ENGINEER
 APPROVED *E. W. Mason*
 VICE-PRESIDENT & GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
 NO DUMPING SIGN

SCALE 1"=1'-0" ADOPTED AUGUST, 1928.
 REVISED 11/10/28 REV. JUNE 1, 1936

ML
1-31 44



POST: 6"x6"x16'-0" S4S Redwood Extra Merch.
BOARD: Redwood, Clear.

PAINTING: Face of board to be given one priming coat of white lead and oil paint thinned with turpentine, and two coats of white lead and oil paint. Letters black. Posts to have a coat of tar applied hot to 6" above ground, balance of post and back of board to be painted with metallic and lamp black making a very dark brown.

STYLE OF LETTERS: Gothic, of height and weight as shown.

LOCATION: To be placed at right angles to track on engineer's side, 11 ft. from center of track.

GENERAL: The higher number (60) indicates the maximum speed for passenger trains, the lower number (45) indicates the maximum speed for all other trains, and when but one number is shown it indicates the maximum speed for all trains. This is to be covered by suitable bulletin notice to be issued by superintendents. When two numbers are shown the higher number shall always precede the lower number.

APPROVED: *J. M. Williams*
CHIEF ENGINEER

APPROVED: *E. W. Mason*
VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
SPEED CONTROL BOARD

11-99: Change stas. #26,
 4-61: Change stas. #36,
 Line # 36

THE WESTERN PACIFIC RAILROAD COMPANY

TUNNEL LIST

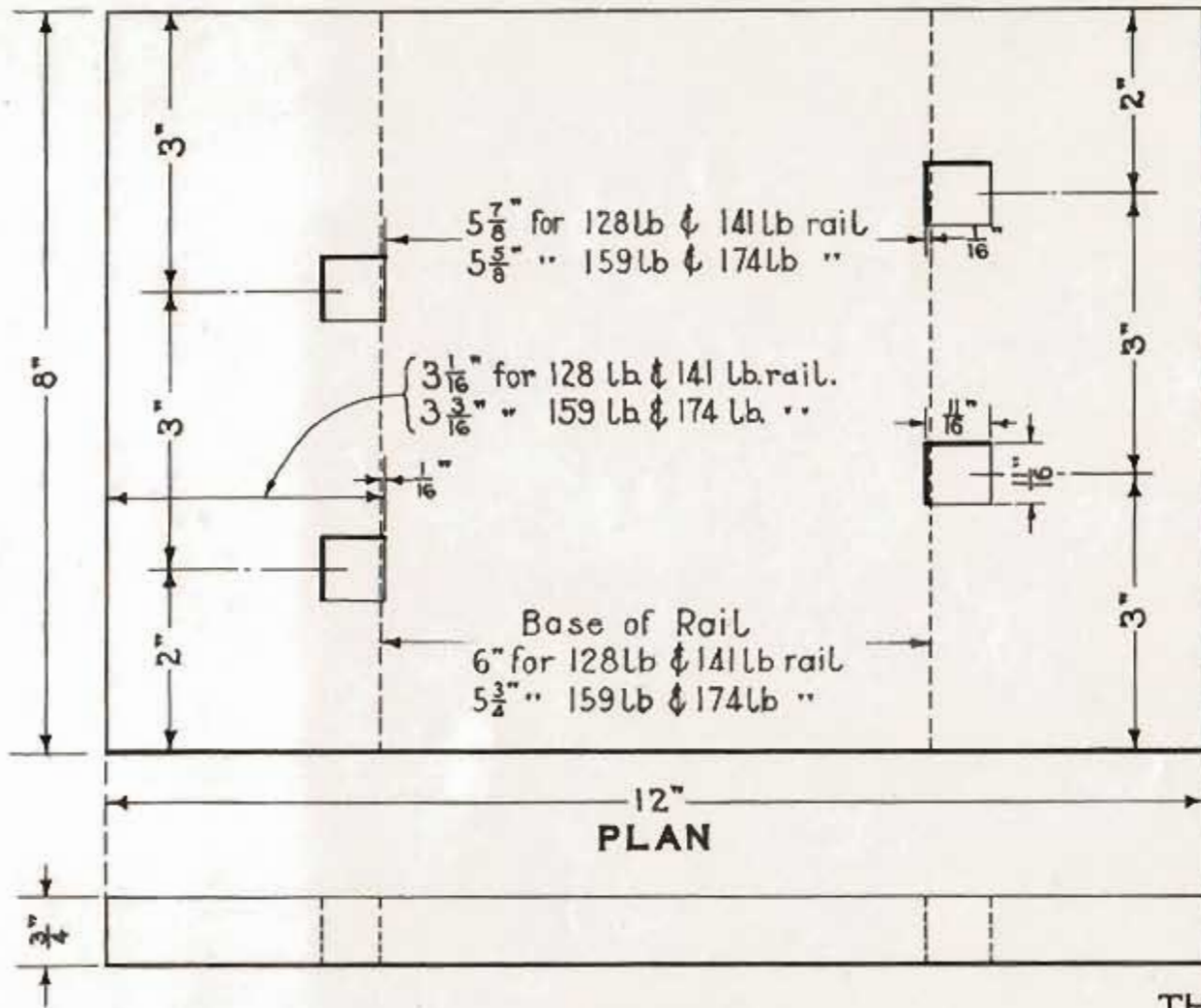
C. E.
S-64

Office of Chief Engineer.

San Francisco, Calif. June 1, 1939

O.L.C.

NO.	M.P. WEST PORTAL	ENGINEERS STATION		BETWEEN STATIONS		ALIGNMENT	LENGTH LIN. FT.	TIMBER LINED LIN. FT.	CONCRETE LINED LIN. FT.	CONCRETE INVERT LIN. FT.	NOT LINED LIN. FT.	CONC. SILLIS LIN. FT.	TYPE OF PORTAL		HEIGHT ABOVE TOP OF LOW RAIL	WIDTH AT TOP OF RAIL		DATE OF LAST REVISION	
		WEST PORTAL	EAST PORTAL										WEST	EAST		TOP OF RAIL	SPRING LINE		
1	32.12	441+43.5	398+22.6	FREEMONT	SUNOL	Tangent	4320 ⁹		4320 ⁹				CONCRETE	CONCRETE	20.37	15.7	16.0	1/15/58	
2	33.39	373+58.5	369+51.2	"	"	226 Sp to 620 CR - 181 ² Tan.	407 ³		407 ³				"	"	21.1	15.8	16.8		
3	57.67	63+43.4	67+58.1	ALTAMONT	MIDWAY	158 ¹ Sp - 254 ⁸ 6'00" C.R.	414 ⁷	414 ⁷					TIMBER	TIMBER	20.6	16.3	16.9		
4	224.66	828+90.0	852+99.5	ELSEY	JAMES	4°30' C.R.	2409 ²		2409 ²	2409 ²			CONCRETE	CONCRETE	24.0	18.0	18.0	11/1/62	
5	227.34	968+62.5	997+85.0	JAMES	POE	Tangent	2922 ⁹		2922 ⁹	2922 ⁹			"	"	24.0	18.0	18.0	"	
6	228.14	1010+87.0	1036+70.0	"	"	1955 ² Tan - 400 ² Sp - 227 ¹ 4°00" C.R.	2583 ⁹		2583 ⁹	2583 ⁹			"	"	24.0	18.0	18.0	"	
7	229.54	1084+63.0	1128+69.5	"	"	Tangent	4406 ²		4406 ²	4406 ²			"	"	24.0	18.0	18.0	"	
8	230.42	1130+93.8	1219+50.1	"	"	Tangent	8856 ²		8856 ²	8856 ²			"	"	24.0	18.0	18.0	"	
9	236.37	865+53.7	860+25.9	POE	PULGA	76 Sp to 3'30" CR - 390' 0" CR - 62' 0" CR	551 ²		551 ²	Granite	496 ⁹	1105 ⁹	CONC.	CONC.	22.8	16.1	16.8	1/1/54	
10	237.01	831+49.8	829+18.0	"	"	160' 0" CR - 72 Sp.	231 ⁸	170 ⁸			61 ⁹		TIMBER	TIMBER	20.4	16.0	16.9	"	
11	237.33	814+58.1	812+34.5	"	"	1'45" C.L.	223 ⁸	97 ²			126 ²	189 ¹	"	"	20.4	16.2	16.8	"	
12	237.69	795+72.0	795+20.6	"	"	4'05" C.L. (Rock Shed)	514	514					"	"	22.5	16.3	16.7	"	
13	244.92	415+07.4	413+11.5	CRESTA	MERLIN	97 Sp to 9'30" CR - 99 Tan.	195 ²	195 ²				371 ²	"	"	21.0	16.1	16.9	10/27/50	
14	246.25	344+55.9	342+11.0	"	"	6' 8" CR - 200' 8" CR - 38 ² 7'58" C.L.	244 ²	244 ²				385 ¹	"	"	21.0	16.2	16.8	1/1/54	
15	250.1	141+73.7	110+55.9	ROCK CR.	TOBIN	113 ² 2'55" C.L. - 150 ² 1m - 200' 0" CR - 265 ² 11 ²	3117 ⁸		3117 ⁸				CONC.	CONC.				1/25/57	
16	257.43	650+67.9	644+67.0	CAMP RODGERS	BELDEN	174 ² 8'00" CR - 200' 8" CR - 158 ² Sp - 67 ² Tan.	600 ²	442 ²			158 ²		"	"	20.8	16.0	16.7		
17	257.85	628+68.0	625+78.5	"	"	10'00" C.R.	324 ²		100 ²		274 ¹		CONC.	CONC.	20.5	16.2	16.7	1/1/54	
18	258.08	616+84.1	615+34.0	"	"	150 ¹ Sp to 10'08" C.L.	150 ¹			150 ¹			ROCK	ROCK	19.9	16.2	17.1	"	
19	258.16	612+60.0	610+86.0	"	"	64 ² 10'08" CL - 100' Sp.	164 ²			164 ²			"	"	21.0	20.0	17.5		
20	258.32	604+16.5	601+25.0	"	"	10'00" C.R.	291 ¹			291 ¹			"	"	22.0	20.0	20.0		
21	258.85	576+10.0	572+05.0	"	"	342 ² 10'00" CR - 62 ² Sp.	405 ²			405 ²			"	"	22.0	20.0	19.7		
22	259.55	539+33.0	536+26.3	"	"	211 ² 8'00" CR - 55 ² Sp.	306 ¹		306 ¹				CONC.	CONC.	19.8	16.3	16.5	4/5/56	
23	262.87	364+70.8	352+13.1	BELDEN	RICH BAR	8'00" C.R.	1257 ¹		1257 ¹				CONC.	CONC.	20.7	16.0	16.1	2/1/56	
24	263.89	310+66.2	304+50.1	"	"	39 ² Sp - 577 ² 10'00" C.R.	616 ¹		616 ¹				"	"	20.8	16.2	16.8	3/28/57	
25	265.20	241+86.5	239+80.1	RICH BAR	VIRGILIA	10'00" C.R.	186 ¹	77 ²			109 ¹	61 ¹	TIMBER	TIMBER	20.6	16.1	16.9	2/1/56	
26	271.58	658+93.4	654+47.4	VIRGILIA	TWAIN	Tangent	446 ²		446 ²				CONC.	CONC.	20.7	16.1	17.0	10/16/59	
27	278.42	295+97.0	292+32.6	PAXTON	KEDDIE	347 ² 8'00" CR - 17 ² 9'00" C.R.	364 ⁴		364 ⁴				"	"	20.9	15.8	16.5	2/6/59	
28	278.56	267+44.0	261+34.4	"	"	10'00" C.R.	608 ²		608 ²				"	"	20.8	16.0	16.5	1/20/59	
29	279.19	255+73.3	249+85.5	"	"	Tangent	587 ⁸		587 ⁸				"	"	20.9	16.0	16.4	9/15/56	
30	279.55	235+95.8	230+58.3	"	"	317 ² 10'00" CR - 166 ² Sp - 55 ² Tan.	537 ²		537 ²				"	"	20.9	16.0	16.5	8/2/56	
31	280.08	207+77.3	200+90.0	"	"	407 ² 10'00" CR - 120 ² Sp - 159 ² Tan.	687 ²		687 ²				"	"	21.0	16.0	17.0	1/1/54	
32	280.37	192+43.1	186+47.9	"	"	212 ² Tan - 112 ² Sp - 270 ² 3'00" C.R.	595 ²		595 ²				"	"	20.1	16.0	16.6	5/24/56	
33	283.06	50+51.5	38+80.0	KEDDIE	SIERRA	644 ² 7'00" CL - 175 ² Sp - 352 ² Tan.	1270 ²		1152 ²		118 ¹		TIMBER	ROCK	20.2	16.1	15.9	10/1/55	
34	283.71	16+43.8	13+39.2	"	"	107 ² 6'00" CL - 171 ² Sp - 26 ² Tan.	304 ²		304 ²				CONC.	CONC.	21.2	16.1	16.7	1/1/54	
35	297.18	77+73.5	1328+132	SPG GARDEN	SLOAT	10 ² Sp to 3'00" CR - 7115 ² Tan - 152 ² Sp - 65 ² 8" CL	7343 ²		7343 ²				"	"	20.9	16.1	16.4		
36	316.00	1283+73.4	1276+08.2	CLIO	MABIE	623 ² Tan - 139 ² Sp to 8'10" C.R.	765 ²		765 ²				"	"				12/31/60	
37	340.34	293W+0+61E	59+40.7	CHILCOOT	RENO JCT.	5982 ⁴ Tan. - 19 ² Sp to 3'00" C.L.	6001 ⁷		4509 ²		1492 ²	3954 ¹	"	"	20.2	16.1	16.2	10/1/55	
38	628.73	2005+69.4	2000+38.1	CLURO	PALISADE	4 ² Sp - 82 ² 4'30" CL - 400 ² 4'00" C.L.	531 ²	531 ²				80 ²	TIMBER	TIMBER	20.2	16.1	16.6	"	
39	635.37	1654+04.2	1644+23.5	"	"	790 ² Tan - 204 ² Sp - 66 ² 5'06" C.R.	1080 ¹		1080 ¹				CONC.	CONC.	20.7	15.6	16.5	12/14/57	
40	636.80	1578+97.0	1575+75.0	PALISADE	CARLIN	16 ² 4'36" CR - 209 ² Sp	322 ⁹		21 ²		301 ⁹		CONC.	ROCK	20.3	16.2	16.5	12/14/57	
41	649.24	92+2+94.4	89+52.6	CARLIN	TONKA	185 ² Sp to 3'00" CR - 2256 ² Tan.	2341 ²	2341 ²				888 ²	TIMBER	TIMBER	20.8	16.2	16.8	10/1/55	
42	650.71	844+67.2	833+95.5	TONKA	HUNTER	230 ² Sp to 4'10" CR - 932 ² Tan.	1071 ²	1071 ²				1724 ⁹	"	"	20.6	16.1	16.9	"	
43	753.69	1430+81.9	1374+06.0	SPRUCE	LUKE	42 ² Sp to 3'02 ² CL - 5633 ² Tan.	5675 ²	1133 ²			4547 ²	2356 ²	"	ROCK	20.0	16.1	14.9	1/1/54	
KEDDIE - BIEBER LINE																			
NC-1	-	2116+94.3	2110+08.4	EAST LEG - KEDDIE WYE		84 ² Tan - 200 ² Sp - 266 ² 10" C - 94 ² Sp.	685 ²		685 ²				CONC.	CONC.	22.5	18	18	1/1/54	
NC-2	0.97	2070+23.7	2064+35.4	KEDDIE	MOCCASIN	22 ² Sp - 476 ² 10'00" C.R. - 87 ² Sp.	588 ²	477 ²	110 ²	78 ²		955 ²	TIMBER	"	"	18	18	"	
NC-3	2.81	1983+49.7	1977+28.7	"	"	9 ² Sp - 354 ² 10' CR - 206 ² Sp - 57 ² Tan.	621 ²	166 ²	454 ²	30 ²		323 ²	CONC.	"	"	17.0	17.57	"	
NC-4	3.39	1942+09.3	1937+39.1	"	"	10'00" C.R.	470 ²	398 ¹	72 ¹	72 ¹		322 ²	TIMBER	"	"	18.0	18	"	
NC-5	3.71	1925+28.4	1922+49.7	"	"	Tangent	278 ²	278 ²					"	TIMBER	"	17	17	"	
NC-6	21.03	1009+36.7	998+33.7	COHALA	ALMANOR	252 ² Tan 255 ² Sp - 173 ² 10' CR - 416 ² 10'00" CR	1103 ²		1103 ²	1103 ²			CONC.	CONC.	"	17.32	17.32	1/1/54	
NC-7		BY-PASSED	1954	"	"													10/1/54	
NC-8		BY-PASSED	1954	"	"													10/1/54	
NC-9		DAYLIGHTED	1953	DIXIE	PIT RIVER													1/1/54	
Note: Curves are shown as R (right) or L (left) facing east from San Francisco.							69,523 ⁶	8093 ¹	52,788 ²	22,461 ¹	8,842 ²	12,695 ²	Totals	Correct as of 11/1/62					

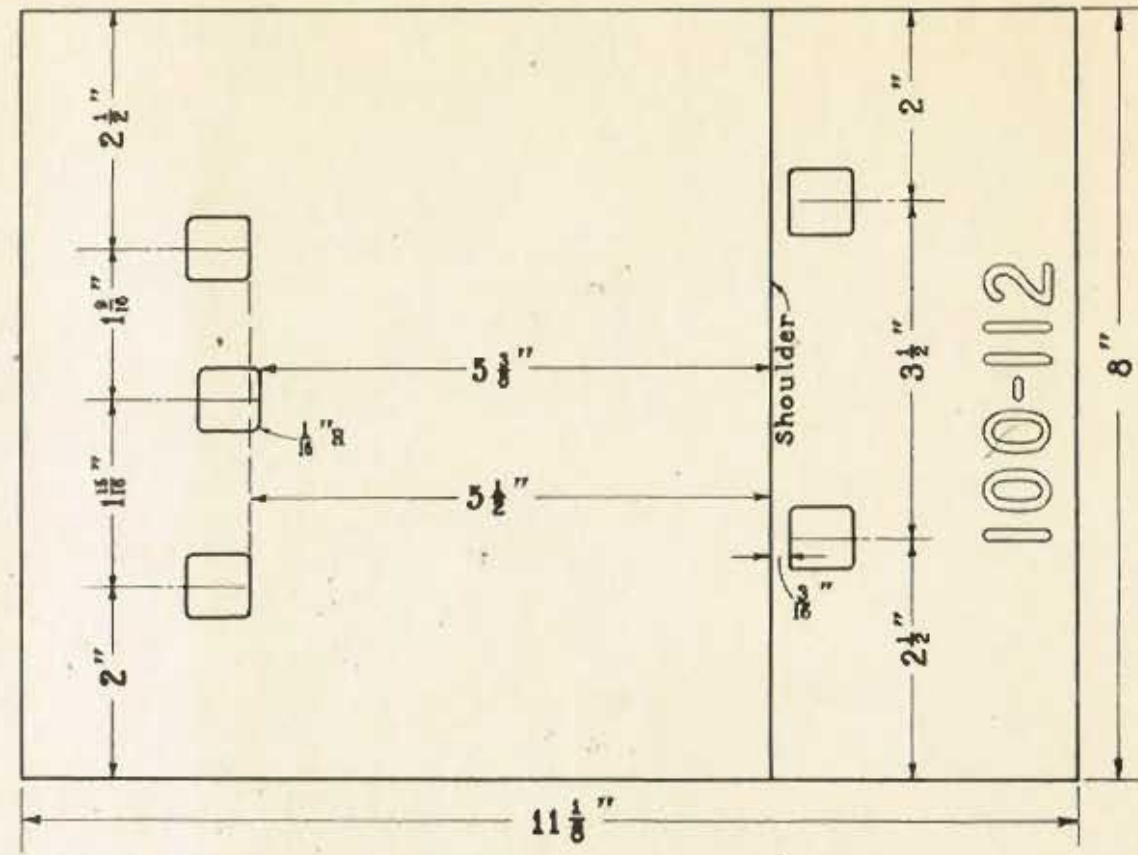


This tie plate for use on intermediate and joint ties.
Plates should be made from second hand material, if available, in which case thickness may vary from 1/2" to 3/4". When purchased new, thickness shall be 3/4".

Approved: *Frank R. Macpherson*
Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
TIE PLATE
FOR GIRDER RAILS

Scale: half size Adopted: Sept. 1, 1916
Revised: Dec. 9, 1954



All holes to be punched $\frac{11}{16}$ " square with $\frac{1}{16}$ " R in corners.

Note: Center Spike Hole moved to $1\frac{9}{16}$ " c-c from nearest hole. 3/22/35

THE WESTERN PACIFIC RAILROAD CO.
STANDARD PUNCHING
FOR 8"x11 $\frac{1}{8}$ " INTERMEDIATE TIE PLATE
FOR 100lb. AND 112lb. R.E. RAIL.
SCALE :- HALF SIZE FEB. 25, 1935.
REV. MAR. 22, 1935.

DRWG. NO. STP-99
 SECTION NO. 1121 ISSUED
 ORDER NO. See Table JAN 5 1937
 CUSTOMER Western Pacific R.R.

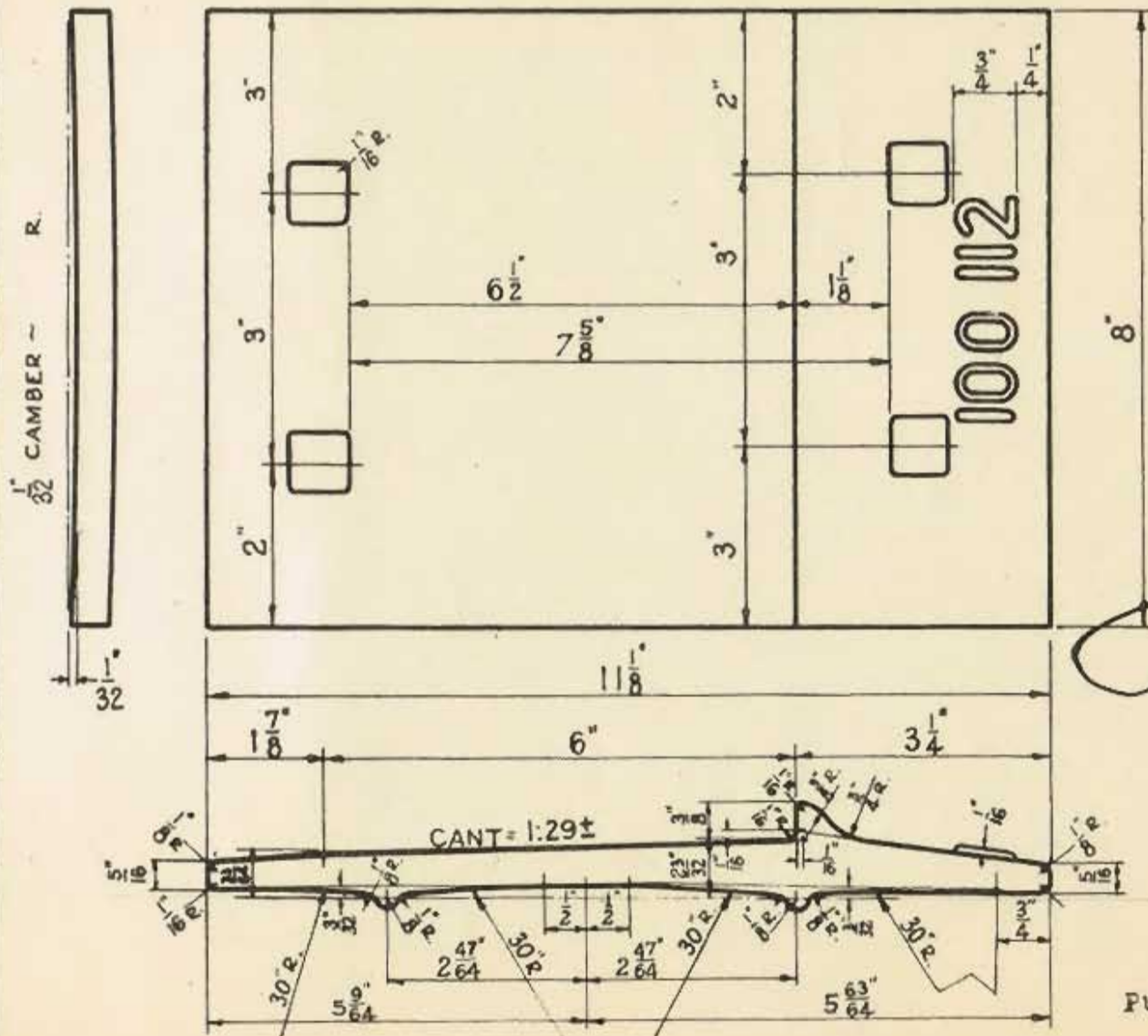
Rev. Jan. 4 -37-Mo.
 Camber Reduced to $\frac{1}{32}$ "

Columbia Steel Company
 PITTSBURG, CALIF.

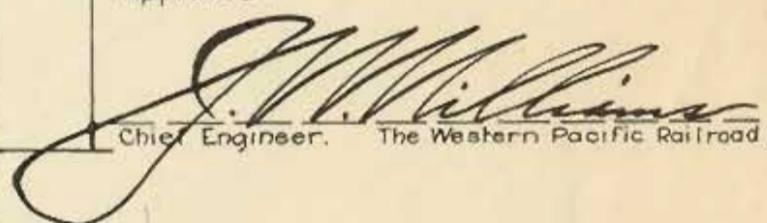
CE-5
 67D (ST. 1939)

Dim'd. by M.O. Approved by
 Checked by L.T.F. Date

DATE	ORDER NO.	NO. PCS.
	PRM-2380	27,000
	" 2381	46,000
	" 2382	32,500
8-31-36	" 3078	100,000



Approved:


 Chief Engineer, The Western Pacific Railroad Co

Size of Hole $1\frac{1}{16}$ " Sq.
 Gross Wt. per Ft. 19.856 lbs.
 Wt. per Tie Plate 12.998 lbs.
 Gross Wt. per Inch 1.655 lbs.
 For use with 100-112 Lb. R.E. Rail

JOINT PLATE
 Punch Details Drwg. No. STP-151

1-31-46

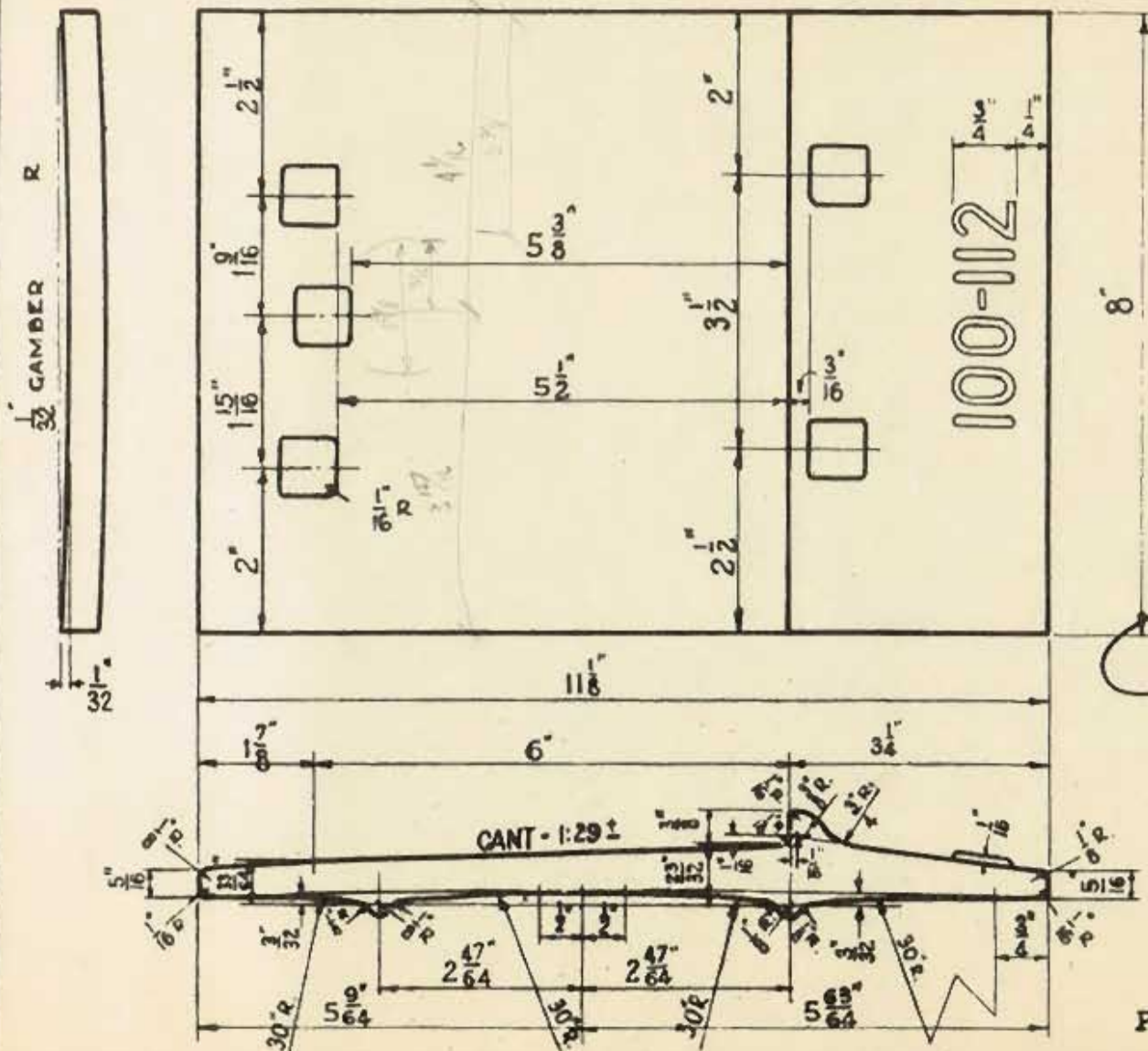
DRWG. NO. STP- 94 ISSUED
 SECTION NO.- 1121 JAN 5 1937
 ORDER NO.
 CUSTOMER WESTERN PACIFIC R.R.

Rev. March 28-35-MO
 29-35
 Jan. 4-37-
 {Camber reduced to 1/32}

COLUMBIA STEEL CO.
 PITTSBURG, CALIF.

CE-5
 67E (STP94)

Dim'd. by M. Olvera Approved by
 Checked by L.T.P. Date



DATE	ORDER NO.	NO. PCS.
	PRM 1641	120,000
	1637	293,000
	1639	5,700
	1640	3,000
	1638	21,300
	2380	285,000
	2381	250,000
	2382	336,500
8-31-36	3078	410,000

Approved :

J. M. Williams
 Chief Engineer The Western Pacific Railroad Co.

Size of Hole 1 1/8" Square
 Gross Wt. per Ft. 19.856 lbs.
 Wt. per Tie Plate 12.8173 lbs.
 Gross Wt. per inch 1.655 lbs.
 For use with 100-112 lb. R.E. RAIL

INTERMEDIATE PLATE
 Punch Details Drwg. No. STP- 149

54
 2-1-36

Drawing No. STP-510 APPROVED BY W.P.R.R. 1-4-45.
 Section No. 1121
 Order No. See order.
 Customer - Western Pacific Railroad

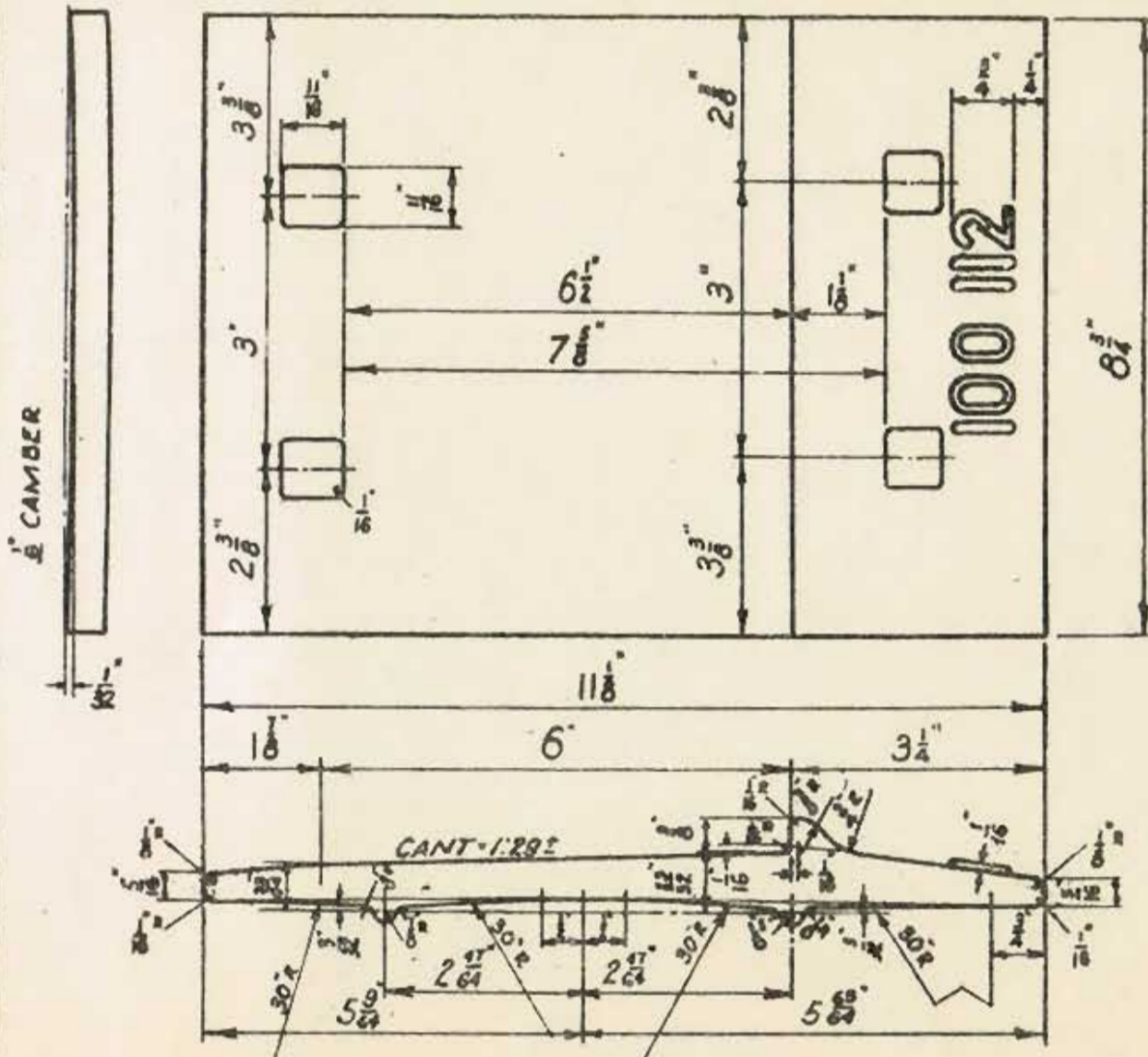
COLUMBIA STEEL COMPANY
 Pittsburg, California

C. E.
 67 - F

Dim'd. by P. G.
 Checked by M. O.

Approved by
 Date

Date	Order No.	No. Pieces
12-18-44	PHF-4550	7,000
3-10-45	PHF-5818	7,000



APPROVED

J. Phillips
 CHIEF ENGINEER

Size of Hole - 11/16 sq.

Gross wt. per ft. 19.856 lbs.

Wt. per plate, punched 14.239 lbs.

For use with 100-112 lb. R.E. Rail

Punch details - Dwg. No. STP-151

JOINT PLATE

Approved by WPRR Co. Jan. 3, 1947

Drawing No. - STP-332

Section No. - 1121

Customer - Western Pacific

COLUMBIA STEEL COMPANY
Pittsburg, California

C.E.
S-67G

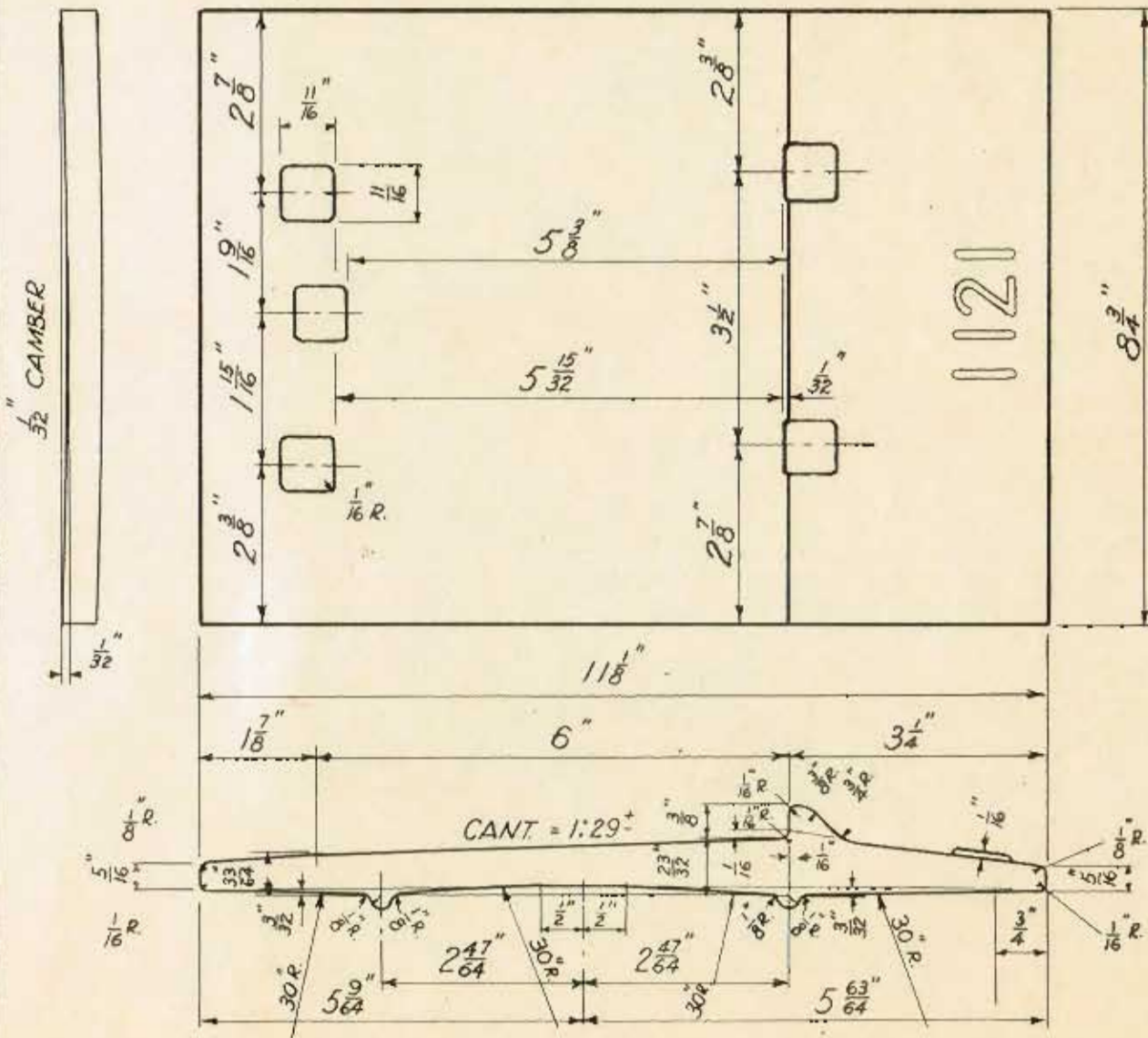
Dimensioned by: C.S.

Approved by:

Checked by: M.O.

Date:

Date	Order No.	No. Pieces
12/13/45	PHP-5939	240,000



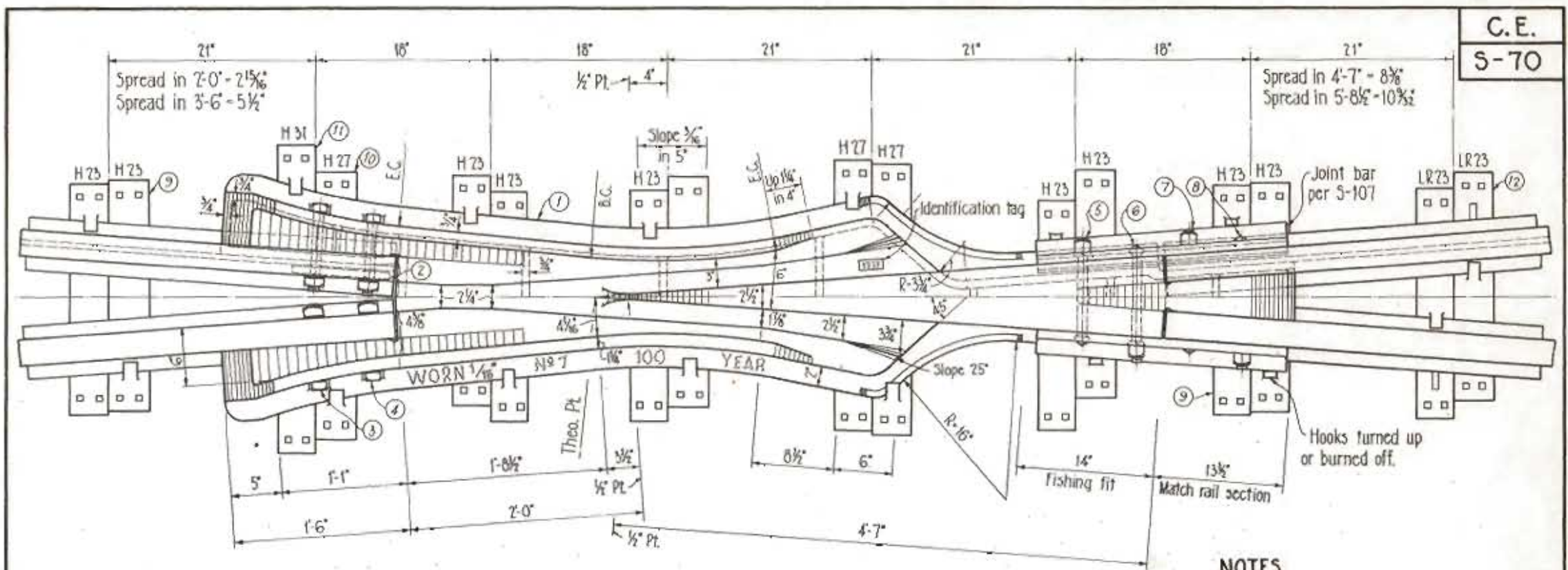
APPROVED *J. Phillips*
CHIEF ENGINEER

Size of Hole - $\frac{11}{16}$ " $\frac{3}{4}$.
Gross Wt. - 19.856 Lbs.
Wt. per Plate, Punched - 14.0583 Lbs.
For use with 100, 112 & 115 lb. R.E. Rail

INTERMEDIATE PLATE

Punch Details - Dwg. No. STP-

C.E.
S-70



SPECIFICATIONS

Frog to be of manganese steel, and as per A.R.E.A. plan 641-55 except as shown, and as per A.R.E.A. Specifications.
 Wall thickness to be 3/4" as shown and as per A.R.E.A. plan 640-41.
 Depressed point per A.R.E.A. plan 600 B-55.
 Rail drilling and joint bars per W.P. Dwg. S-107, dated March, 1935. Rail worn 1/16".
 Joint bars furnished by R.R.
 Identification tag furnished manufacturer by R.R. Tag to be tack welded to casting.
 Flangeways to be 1 1/8" wide, 1 1/8" deep.
 Unless otherwise specified manufacturer to furnish Piece Marks 1 through 12 with each frog.
 Manufacturer to submit complete set of shop prints for approval before starting work.

PARTS LIST

Pc. Mk.	Name of Part	Req'd.	Remarks
1	Frog Casting	1	Solid Manganese
2	"D" Bar	2	3/4" D x 10" drilled 1 1/8" dia.
3	1" x 8 1/2" Machine Bolt	2	H.C.H.T., Sq.Hd., Heavy Sq. Nut. Each with 1 spring wash.
4	1" x 7 1/2" Machine Bolt	2	H.C.H.T., each with 1 thick sq. nut and 1 spring washer.
5	1 1/8" x 10" Track Bolt	1	1" shank dia., 1 1/8" thread dia., H.C.H.T., each with 1 thick sq. nut and 1 spring washer.
6	1 1/8" x 11" Track Bolt	1	
7	1 1/8" x 11 1/2" Track Bolt	1	
8	1 1/8" x 12 1/2" Track Bolt	1	
9	H-25 Hook Twin Tie Plate	10	As per S-219
10	H-27 Hook Twin Tie Plate	3	
11	H-31 Hook Twin Tie Plate	1	
12	LR-23 Hook Twin Tie Plate	2	

NOTES

When requisition states "No. 7 100 lb Self Guarded Frog Complete per S-70" store will furnish Piece Marks 1 through 8, assembled, and 9 through 12, loose.
 When ordering replacement parts refer to Piece Mark and Drawing Number in addition to Name of Part.
 Use only one spike in each end of each Hook Twin Tie Plate.

Approved: *Frank R. Woodford*
 Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD

No. 7 SELF GUARDED FROG
 FOR 100 LB. R.E. RAIL

No Scale

Adopted: Nov. 15, 1959

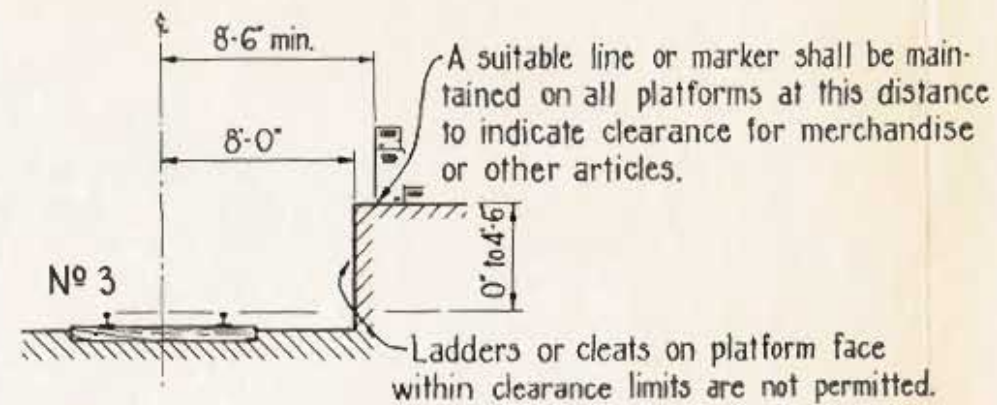
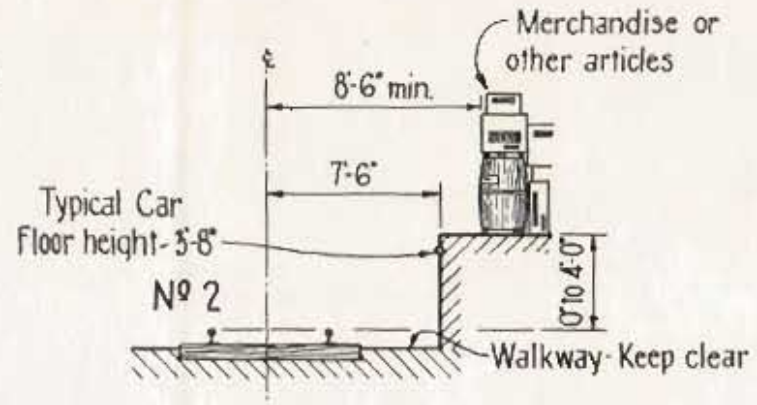
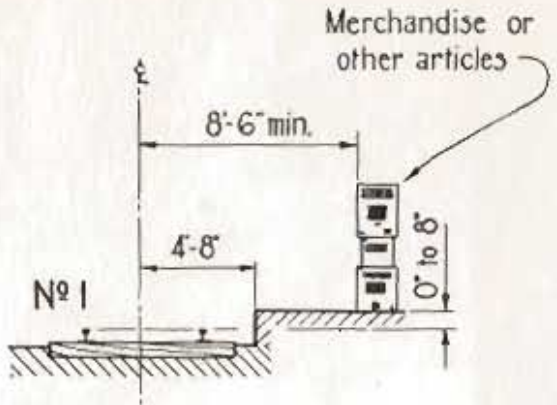
PLATFORM CLEARANCES

Platform No 3 to be used prior to and unloading refrigerator cars.

Platforms No 1 and No 2 or Platform No 3 may be combined provided platform centerline of track and is level from the form No 2 or No 3.

Iceing platforms and supports shall have side clearance of 7-8'.

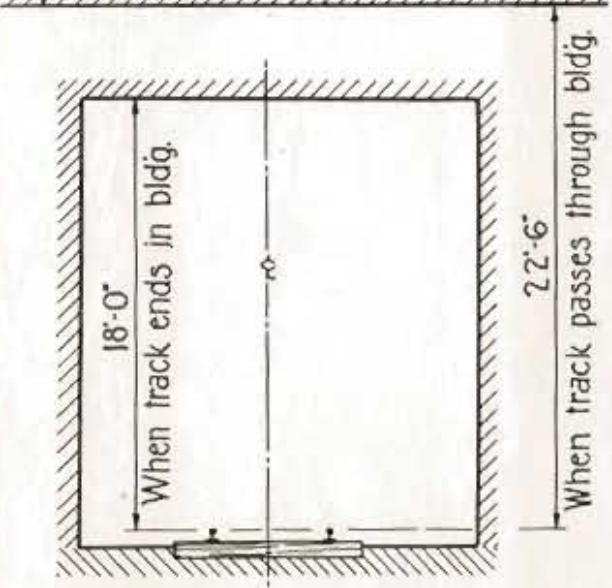
Hand railings for stairs, either in wells, that project above platform shall have 8-6" clearance from track centerline.



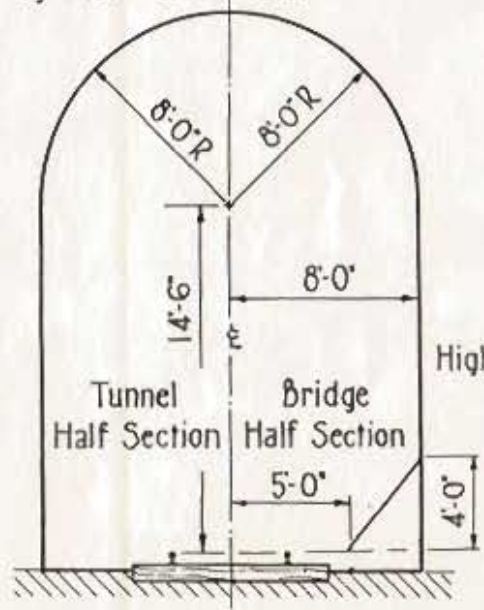
PLATFORM CLEARANCES

Fences for cattle guards and water barrels and hand rails on trestles are not covered by these clearances.

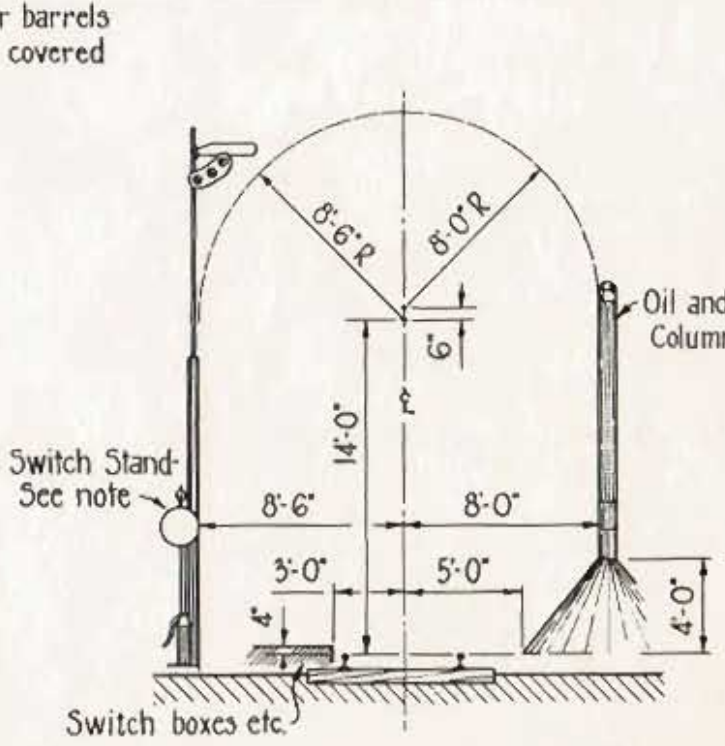
Applies to any overhead structure



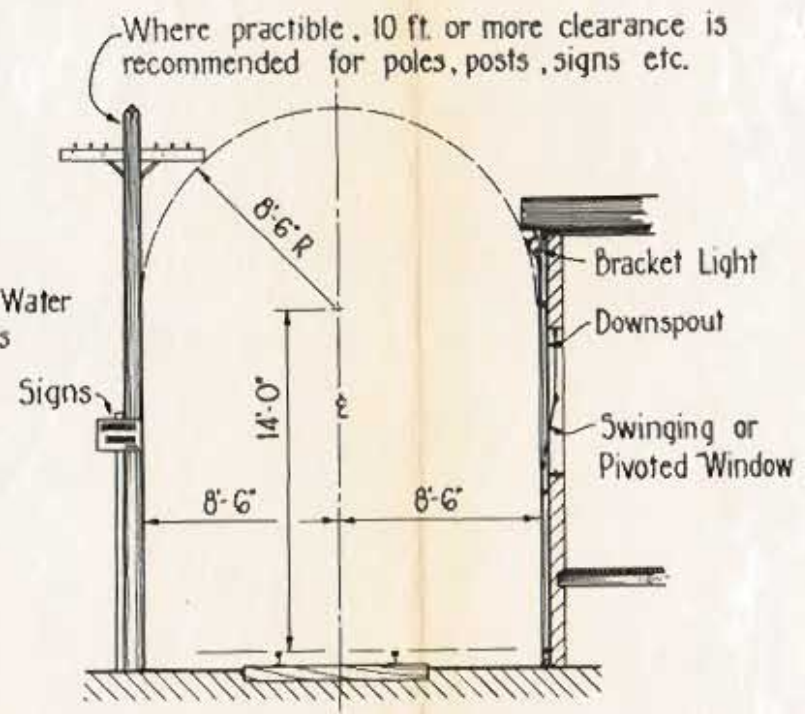
OVERHEAD CLEARANCES BUILDINGS



TUNNEL & BRIDGE CLEARANCES



SIDE CLEARANCES GENERAL



OVERHEAD CLEARANCES

Low switch stands 10 feet or less in height located between tracks shall have clearance reduced of 6-0" if actually located between tracks.

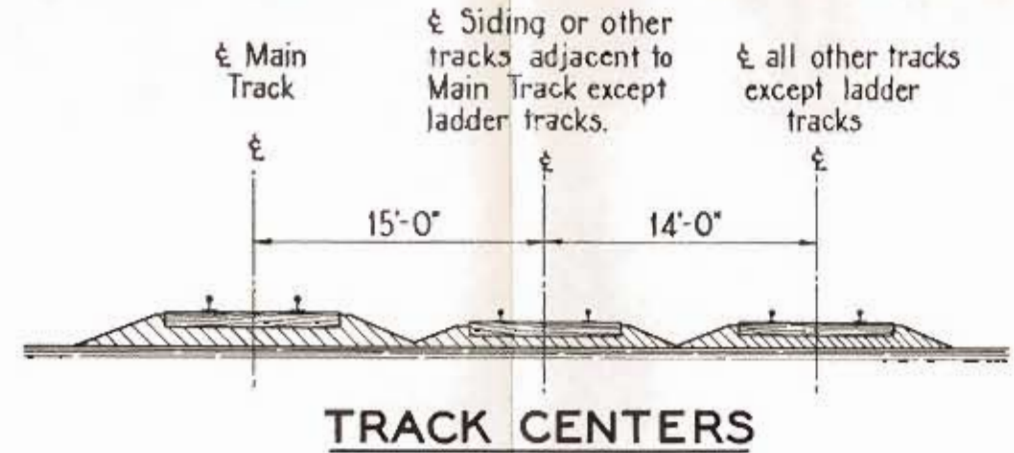
When clear view of signal is obscured by overhead structure, legal clearance shall be reduced to 7-6'.

Trolley poles of single or double main lines shall be 8-3" from track centerline. These clearances apply to cranes in delivery.

Labels: Bracket Light, Downspout, Swinging or Pivoted Window.

PLATFORM CLEARANCES

Platform No 3 to be used principally for loading and unloading refrigerator cars.
 Platforms No 1 and No 2 or Platforms No 1 and No 3 may be combined provided platform No 1 starts 4'-8" from centerline of track and is level from that point to the face of platform No 2 or No 3.
 Loading platforms and supports shall have a minimum side clearance of 7'-8".
 Hand railings for stairs, either at end of platform or in wells, that project above platform floor must have 8'-6" clearance from track centerline.



TRACK CENTERS

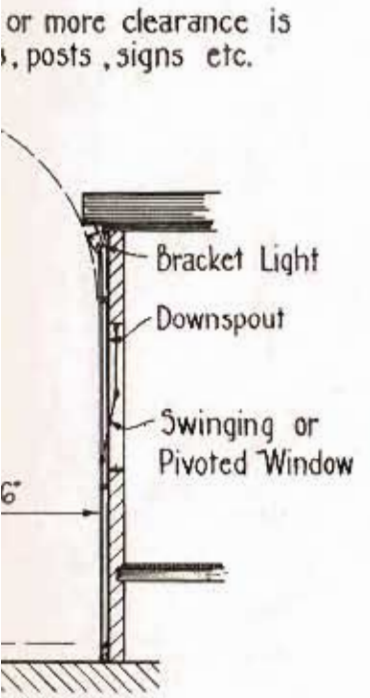
No tracks shall be set at less than 14'-0" centers except parallel team, house and industry tracks which may be set at 13'-0" centers.
 The centerline of any ladder track, parallel to any other track, including other ladder tracks, shall have a minimum clearance of 20'-0" with such track.

NOTES

All side clearances shown apply to tangent track. For curved track one foot additional clearance is required. Where space is limited this may be amended on authority of the Chief Engineer.
 The centerline of any track constructed in and along a public street shall be at least 10 feet from the property line, or if the street has a lawfully established curb line, such track shall be at least 10 feet from such curb line.

OVERHEAD & SIDE CLEARANCES

Low switch stands or block signals 3 feet or less in height above top of rail, located between tracks, may have horizontal clearance reduced from 8'-6" to a minimum of 6'-0" if actually necessary.
 When clear vision of switch stand target is obscured by trolley poles set at legal clearance switch stand clearance may be reduced to 7'-6".
 Trolley poles of bracket construction, on single or double main track, may be set at 8'-3" from track centerline.
 These clearances do not apply to mail cranes in delivery position.



THE WESTERN PACIFIC RAILROAD COMPANY
 STANDARD
MINIMUM CLEARANCES
 CALIFORNIA

Approved: *Frank R. Woolford*
 Chief Engineer

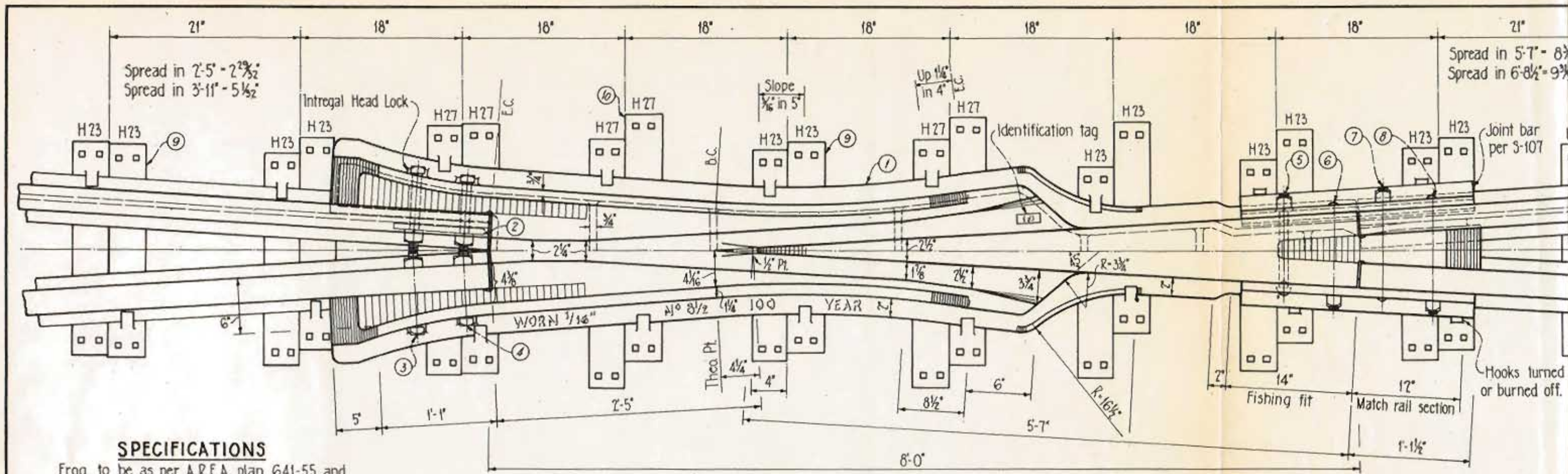
NO SCALE

ADOPTED: Feb. 1, 1948
 Redrawn: Aug. 15, 1957

Reference: P.U.C. General Order No 26 D, Effective 2-1-48

mc 50 in
1-31-61

23-59: changed worn
 1/8" to worn 1/16"
 15-59: 1" ribs to 3/4";
 flare 7/8"-7/8" to 8/16"-6"



SPECIFICATIONS

Frog to be as per A.R.E.A. plan 641-55 and A.R.E.A. Specifications except as shown.
 Wall thickness to be 3/4" as shown and as per A.R.E.A. plan 640-41.
 Depressed point as per A.R.E.A. plan 600 B-55.
 Rail drilling and joint bars for 100 lb. R.E. rail as per W.P. Dwg. S-107, dated March, 1935.
 Identification tag furnished manufacturer by railroad. Tag to be tack welded to casting.
 Flangeways to be 1 7/8" wide, 1/8" deep.
 Unless otherwise specified, manufacturer to furnish Piece Marks 1 through 12 with each frog.
 Manufacturer to submit complete set of shop drawings for approval before starting work.

PARTS LIST

Pc. Mk.	Name of Part	Req'd.	Remarks
1	Frog Casting	1	Solid Manganese
2	"D" Bar	2	3/4" "D" x 10": drilled 1/8" dia.
3	1" x 8 1/2" Machine Bolt	2	Sq. Hd., heavy Sq. Nut. Each with 1 spring washer. H.C.H.T.
4	1" x 7 1/2" Machine Bolt	2	
5	1 1/8" x 10" Track Bolt	1	1" Shank dia., 1 1/8" thread dia. High carbon, heat treated. Each with 1 thick sq. nut & 1 spring washer.
6	1 1/8" x 11" Track Bolt	1	
7	1 1/8" x 11 1/2" Track Bolt	1	
8	1 1/8" x 12" Track Bolt	1	
9	H-23 Hook Twin Tie Plate	12	As per W.P. Dwg. No S-219.
10	H-27 Hook Twin Tie Plate	6	
11	LR-23 Hook Twin Tie Plate	2	
12	LR-27 Hook Twin Tie Plate	2	

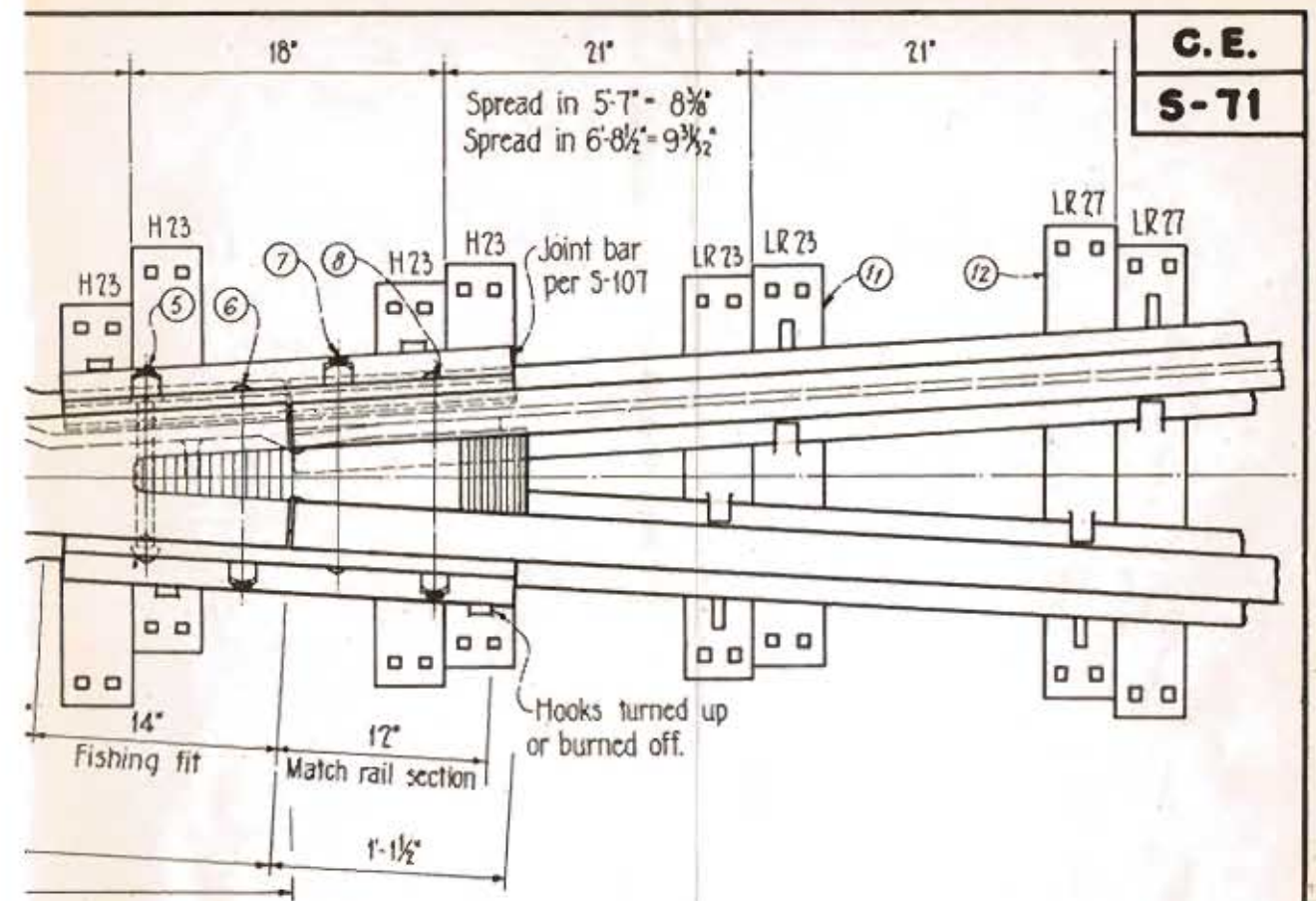
NOTES

When requisition states "No 8 1/2 Self Guarded Frog per S-71, complete" store will furnish Piece Marks 1 through 8, assembled, and 9 through 12, loose.
 When ordering replacement parts refer to Piece Mark, Name of Part and number needed in addition to Drawing Number and Drawing date.
 Use only 1 spike in each end of each Hook Twin Tie Plate.

Approved: *[Signature]*

THE WESTERN
 STA
No 8 1/2 SELF
FOR 10

No Scale Revised



C. E.
S-71

Self Guarded Frog
 Piece Marks 1
 gth 12, loose.
 rts refer to Piece
 needed in addition
 late.
 f each Hook Twin

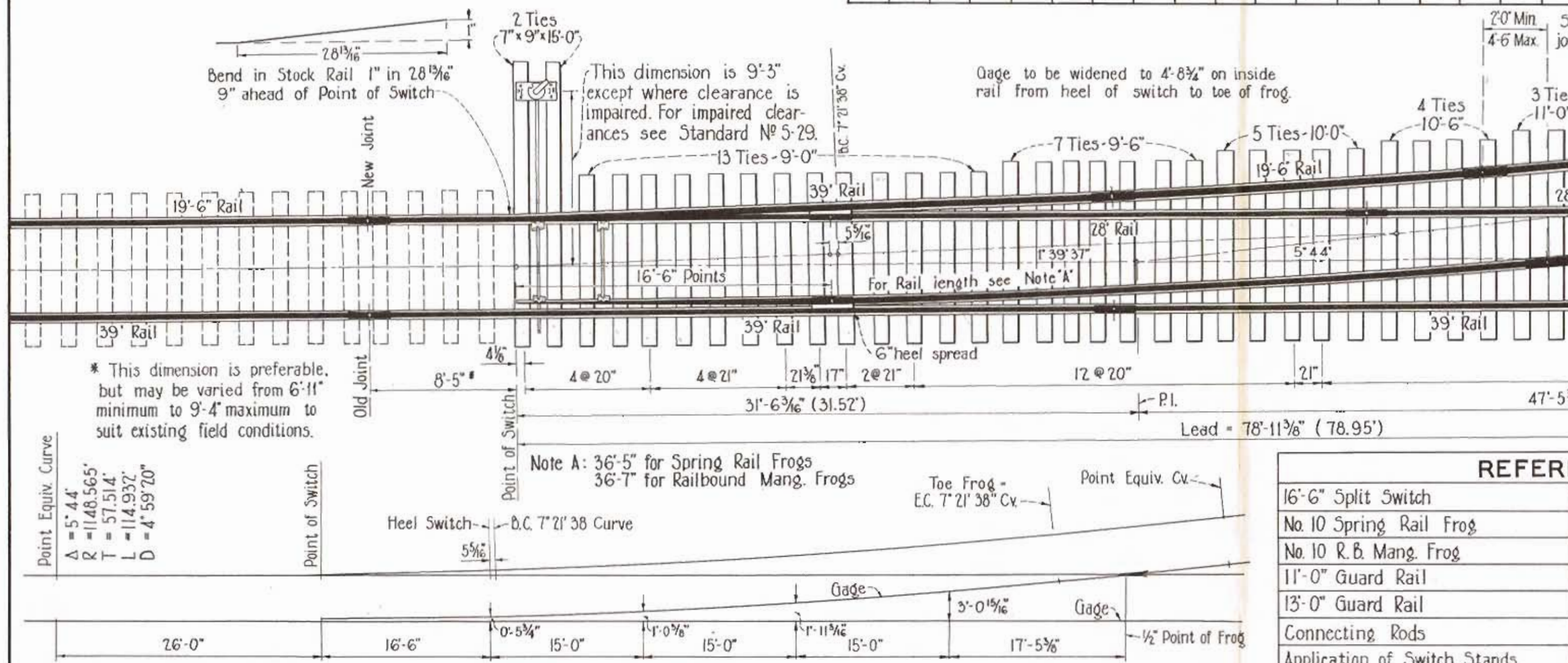
Approved: *Frank R. Woolford*
 Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
№ 8½ SELF GUARDED FROG
FOR 100 LB. R.E. RAIL

No Scale Revised : 7-15-'59 Adopted: June 1, 1959

in. 4 Max. pl lead note.
 ed Spread. Title, Ties
 1-63 Corrected
 total number
 ies.

7" x 9"																	Tot Num Pie
9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"	15'-6"	16'-0"	16'-6"	17'-0"	
13	7	5	4	3	3	3	3	3	4	3	3	5	3	4	4	3	7



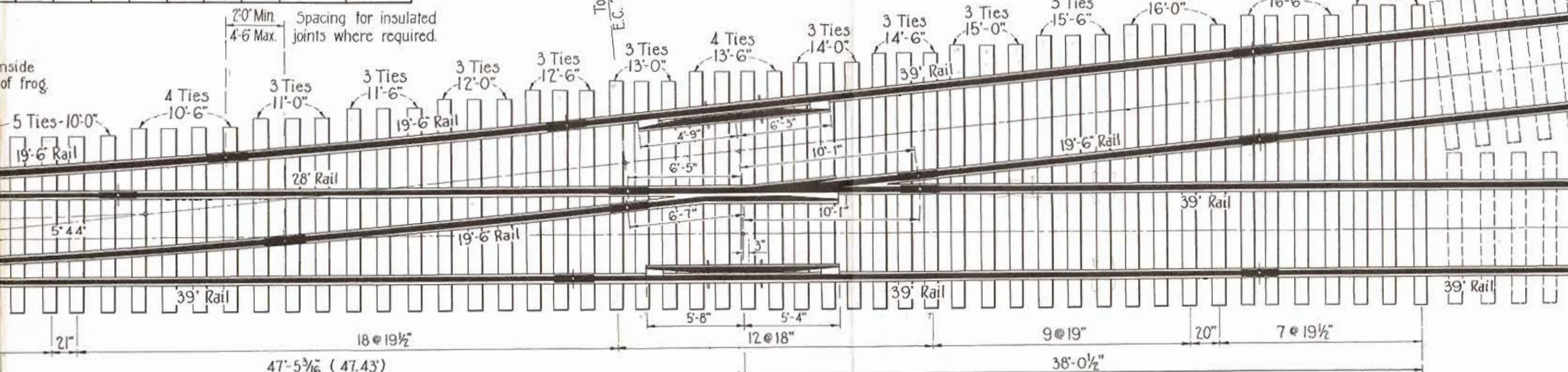
OFFSET DIAGRAM

REFER
16'-6" Split Switch
No. 10 Spring Rail Frog
No. 10 R.B. Mang. Frog
11'-0" Guard Rail
13'-0" Guard Rail
Connecting Rods
Application of Switch Stands

6'	14'-0"	14'-6"	15'-0"	15'-6"	16'-0"	16'-6"	17'-0"	Total Number Pieces	Total Feet D. M.
3	3	5	3	4	4	3	73	4711 ²	

Where required, insulated joints are to be first joints behind frog.
Compromise joints need not be opposite.

Frog Angle 5° 44'
Degree of Turnout Curve 7' 21"
Lead 78'-11³/₈"



Note: The closure rails may vary from lengths shown if necessary, but should not be less than 19'-6".

REFERENCES

16'-6" Split Switch	5-71 : 5-109 : 5-121 : 5-207
No. 10 Spring Rail Frog	5-110 : 5-120 : 5-205
No. 10 R. B. Mang. Frog	5-136 : 5-137
11'-0" Guard Rail	5-70 : 5-108 : 5-119
13'-0" Guard Rail	5-204
Connecting Rods	5-141
Application of Switch Stands	5-29

Approved: *Frank R. Woodford*
Chief Engineer

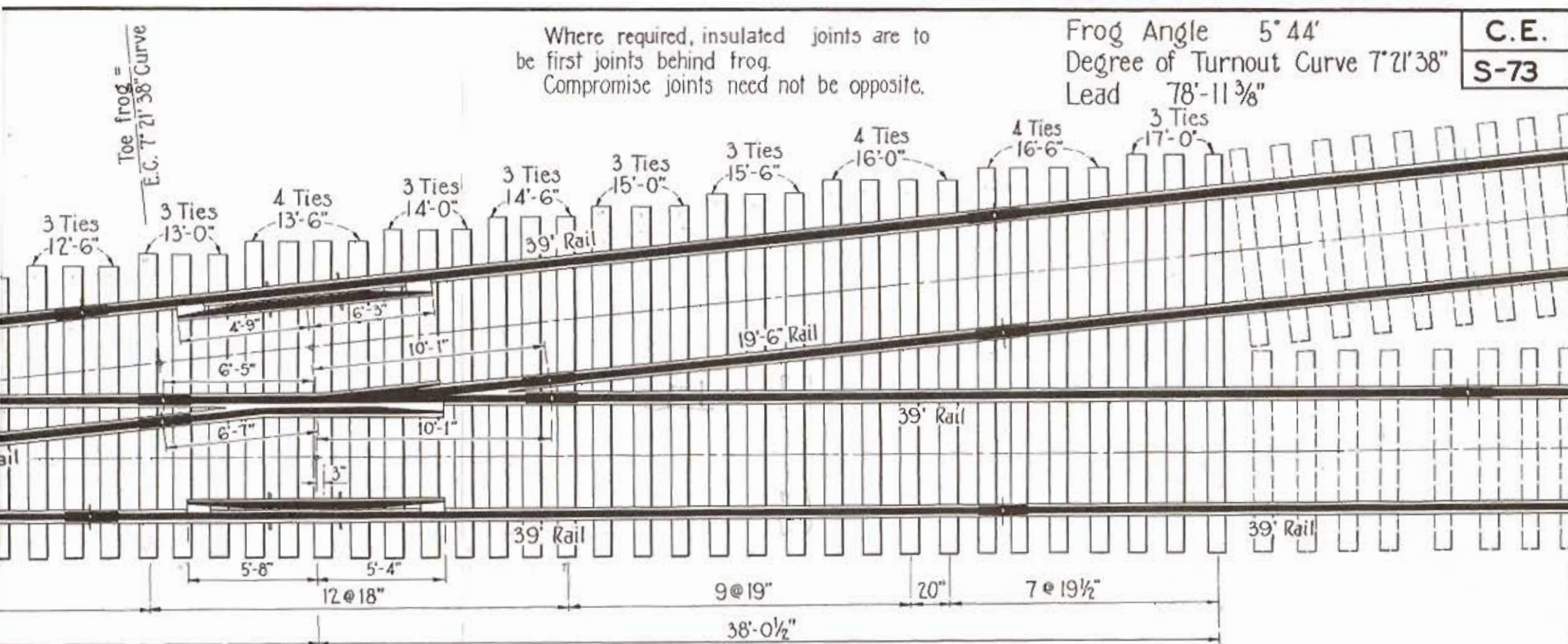
THE WESTERN PACIFIC RAILROAD CO.
STANDARD
No 10 TURNOUT COMPLETE
SPRING RAIL AND R. B. MANG. FROG
RAIL 100 LBS. AND HEAVIER

No Scale
39 FOOT RAILS
Adopted: Jan
Revised: Nov

Where required, insulated joints are to be first joints behind frog.
Compromise joints need not be opposite.

Frog Angle 5° 44'
Degree of Turnout Curve 7° 21' 38"
Lead 78'-11 3/8"

C.E.
S-73



This tie spacing also applies to Railbound Manganese Frogs.

Note: The closure rails may vary from lengths shown if necessary, but should not be less than 19'-6".

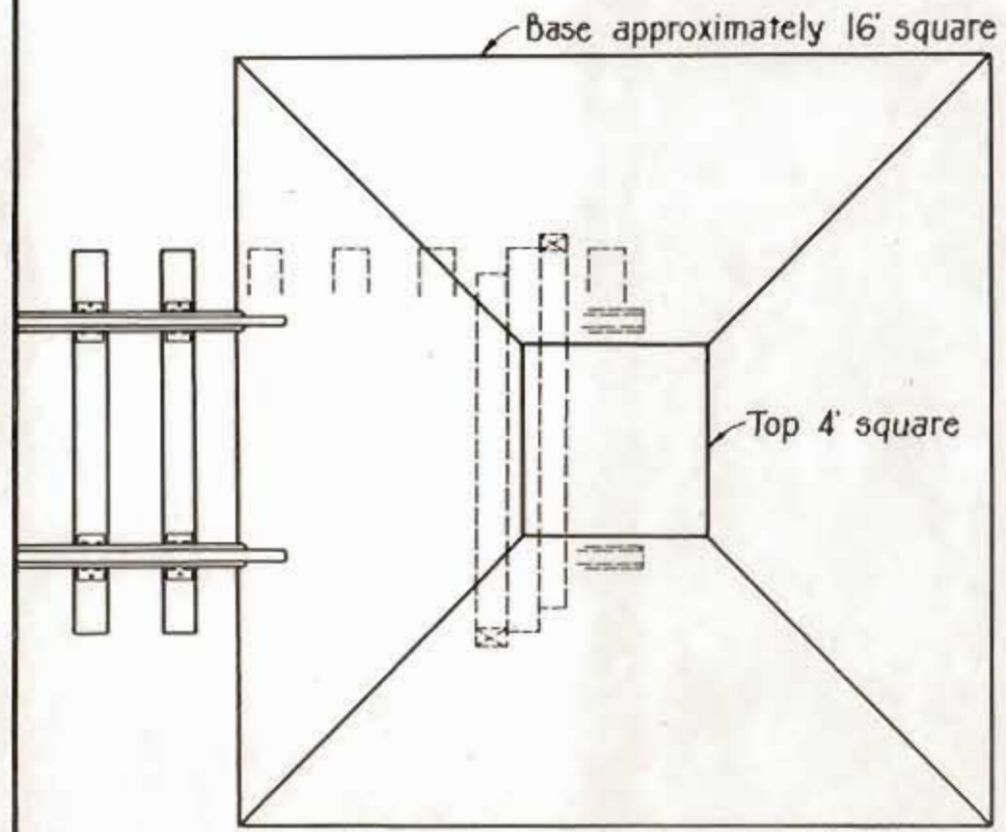
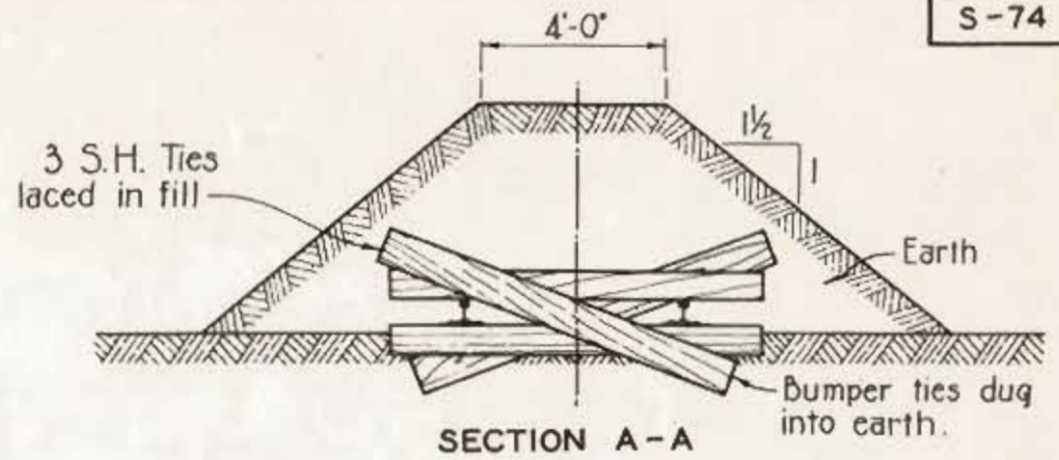
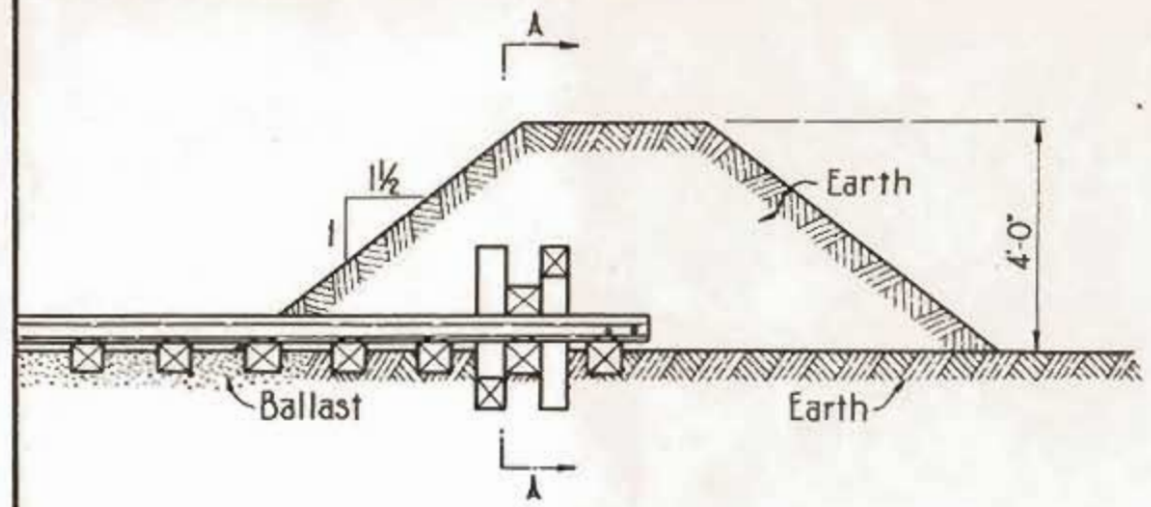
THE WESTERN PACIFIC RAILROAD CO.
STANDARD
No 10 TURNOUT COMPLETE
SPRING RAIL AND R. B. MANG. FROGS
RAIL 100 LBS. AND HEAVIER

No Scale

39 FOOT RAILS

Adopted: Jan. 21, 1955
Revised: Nov. 1, 1963

Approved: *Frank A. Woolford*
Chief Engineer



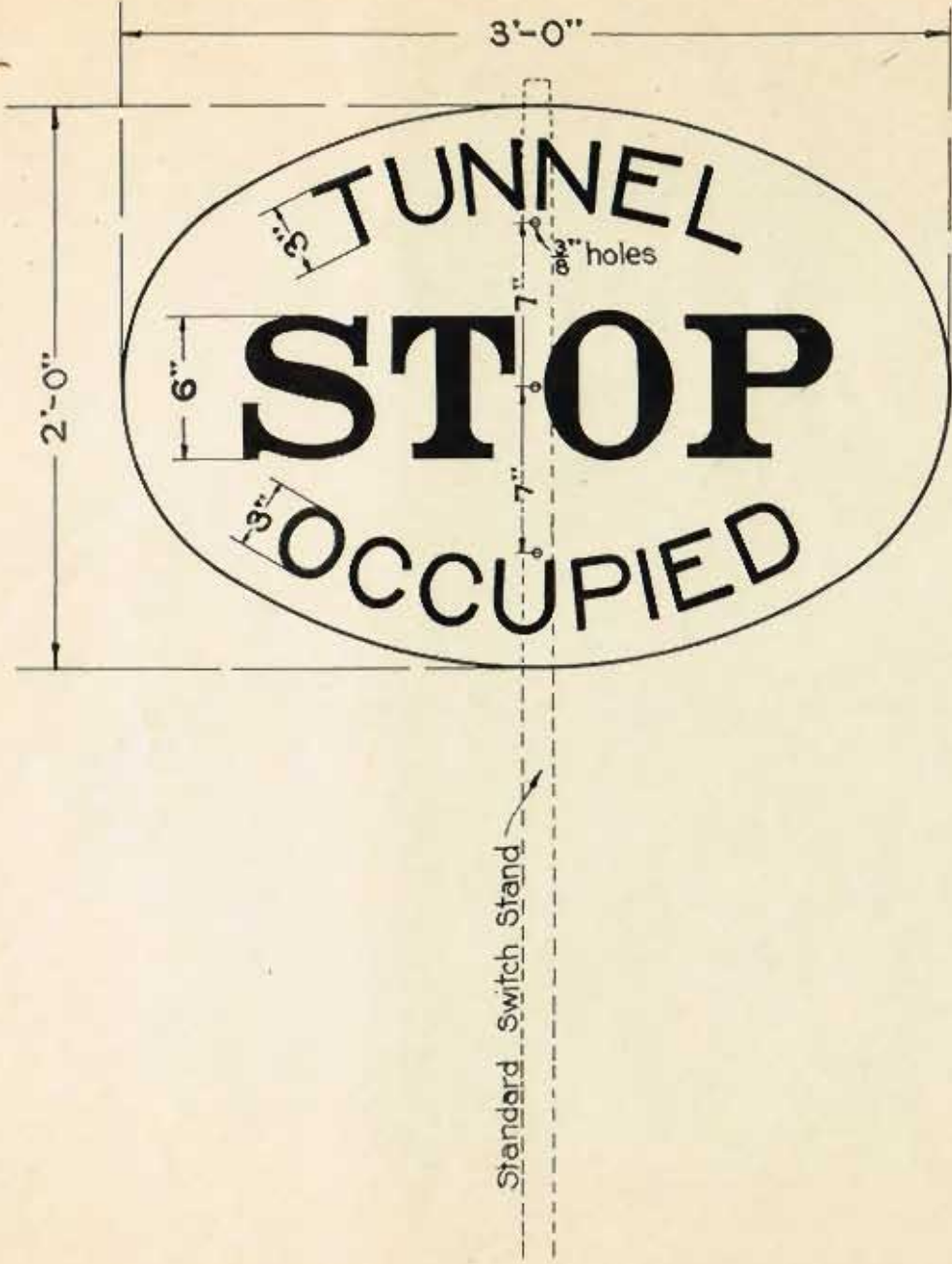
NOTES

Earth for bumper to be clean and free from any rubbish.
Top and sides of mound to be sodded where possible, otherwise top and sides to be compacted and neatly dressed.

Approved: *Frank R. Weaver*
Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
STANDARD

EARTH BUMPER



MATERIAL: N° 14 Gauge (B.W.G.) Sheet Iron

PAINTING: Face to be painted red. Letters to be painted white.

STYLE OF LETTERS: Gothic 3" high with 3/8" stroke and Roman 6" high as indicated.

LOCATION: Sign to be put on a standard switch stand mounted on a headblock timber on right-hand side approaching tunnel at each end of tunnel at the clearance distance specified in tunnel order.

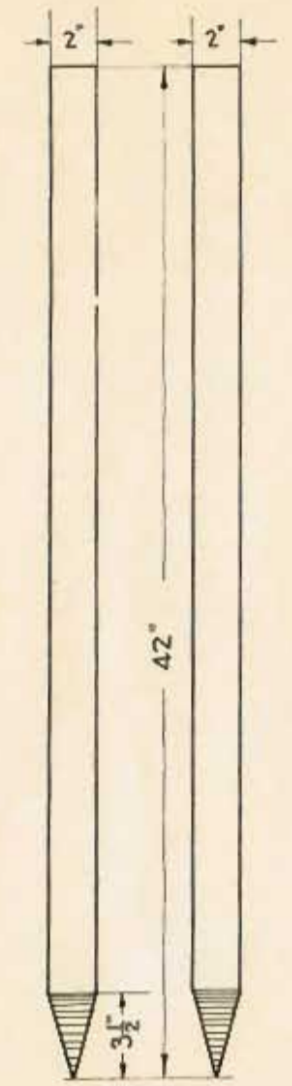
APPROVED: *A. Phillips*
CHIEF ENGINEER

APPROVED: *E. W. Mason*
VICE-PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
STOP TUNNEL OCCUPIED SIGN

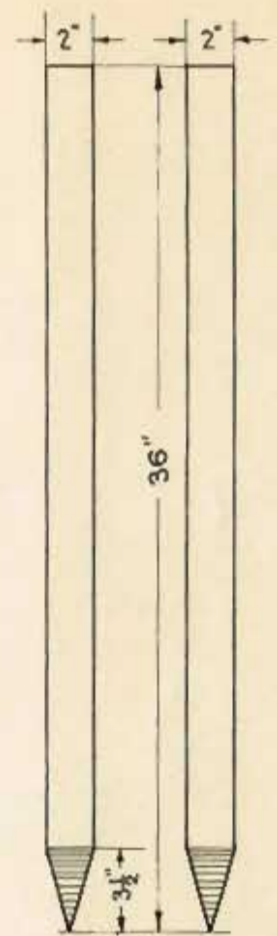
SCALE: 1 1/2" = 1'-0" ADOPTED DEC. 16, 1842

all
1-3-66

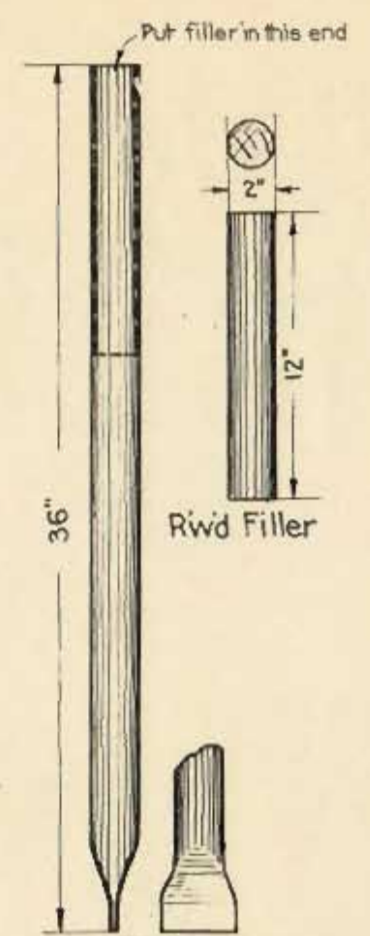


No 6
GRADE STAKES
2"x2"x42" Rough
Material: Pine
To be securely tied
in bundles of 25

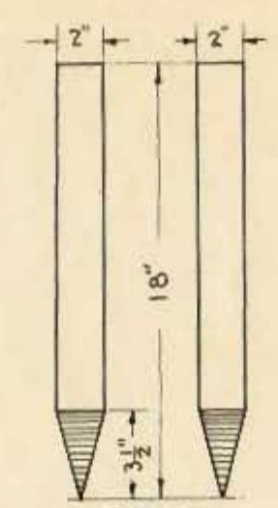
No 6 furnished in 48" lengths
when specified in requisition.



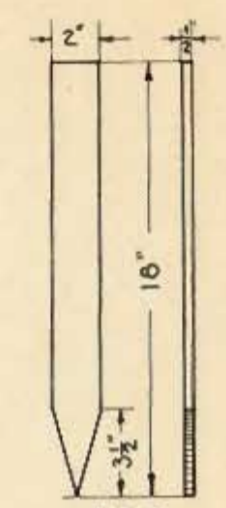
No 5
GRADE STAKES
2"x2"x36" Rough
Material: Pine
To be securely tied
in bundles of 25



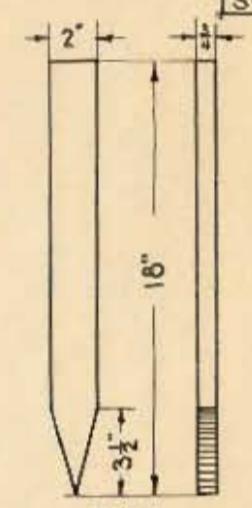
No 4
PIPE MONUMENT FOR CURVE POINTS
Material: Old Boiler flue
Filler, Redwood
Redwood filler to be put
in pipe and end of pipe flattened
as indicated unless otherwise
specified in requisition.



No 3
HUBS
2"x2"x18" Rough
Material: Pine
To be securely tied
in bundles of 25



No 2
MARKERS
1"x2"x18" S2S
Material: Pine
To be securely tied
in bundles of 100

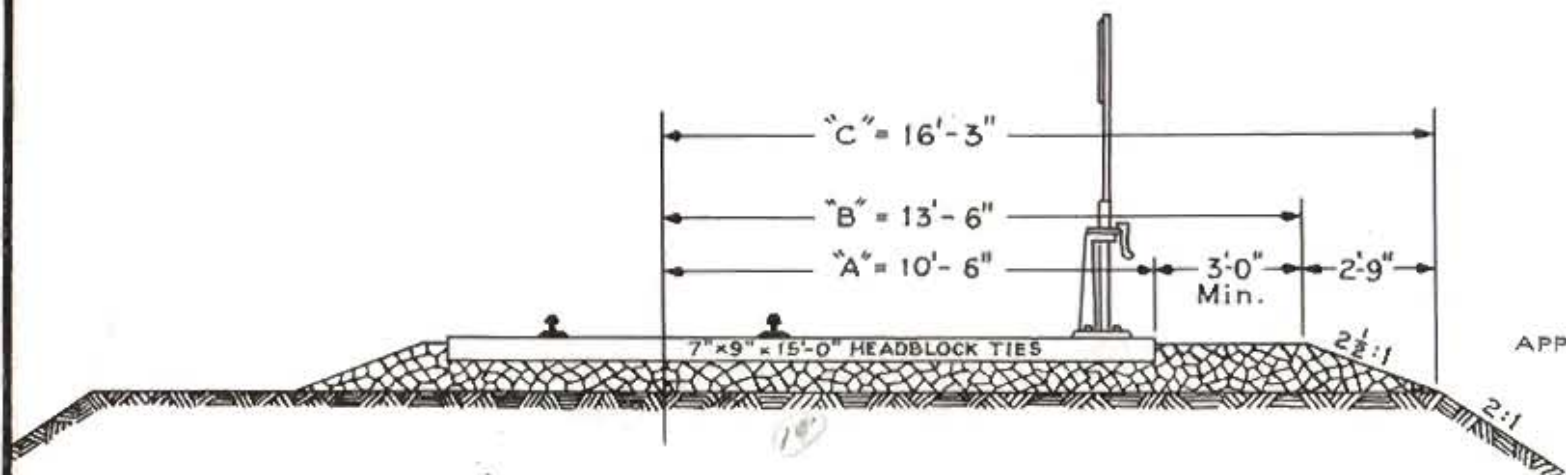
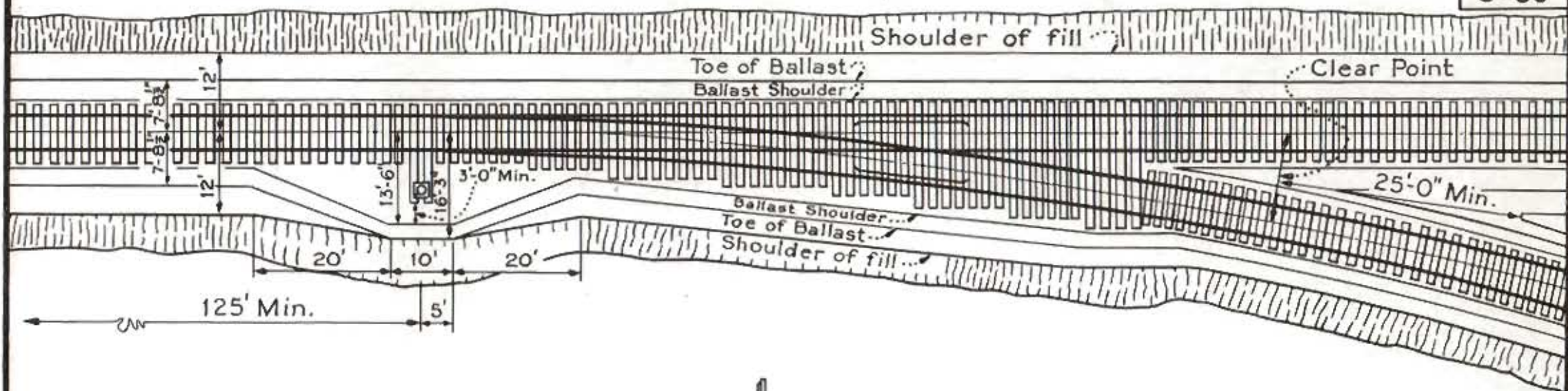


No 1
MARKERS
1"x2"x18" S2S
Material: Pine
To be securely tied
in bundles of 50

APPROVED: *J. M. Williams*
CHIEF ENGINEER
APPROVED: *E. W. Mason*
VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
STAKES AND MONUMENTS
FOR SURVEYS
SCALE 1" = 1 1/2' ADOPTED APRIL 4, 1931.

154
1-31-31



APPROVED: *Frank R. Woolford*
CHIEF ENGINEER

Notes:

Ballast material to be used to a depth of 8" under tie.
Slope of Ballast and shoulder of fill to conform to Standard Ballast Section and Standard Roadbed Section C.E. S-41 & C.E. S-42
Interritory where switch is power operated 9" x 10" x 11'-6" Headblock ties will be used. Distance "A" will be 7'-0", Distance "B" will be 10'-0" and Distance "C" will be 12'-9".

THE WESTERN PACIFIC RAILROAD CO.
STANDARD

**HEADBLOCK MOUND
MAIN LINE & BRANCH LINES**

NO SCALE

ADOPTED: Dec. 1, 1963

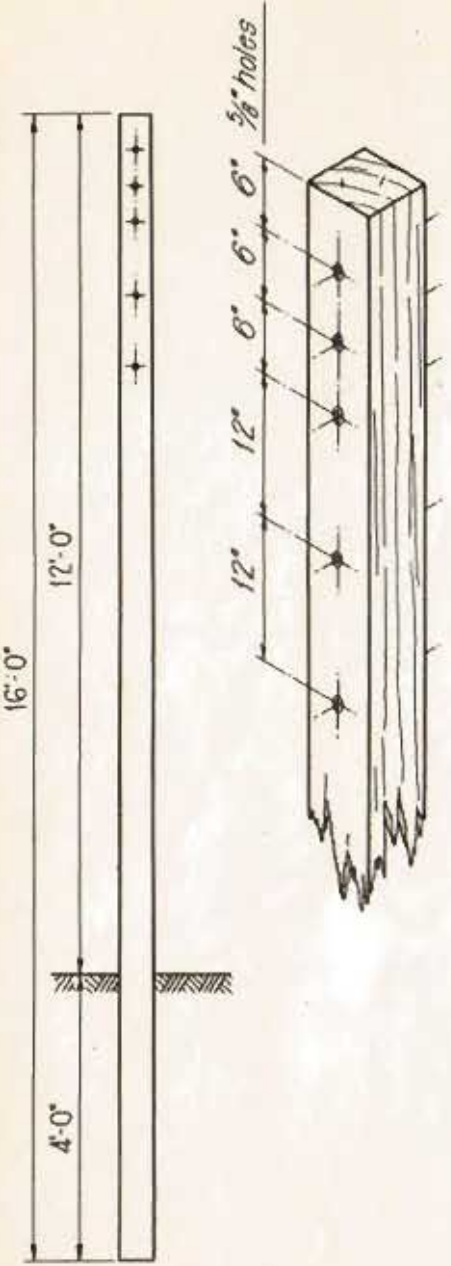
NOTES

When ordering posts specify type and Standard Number.

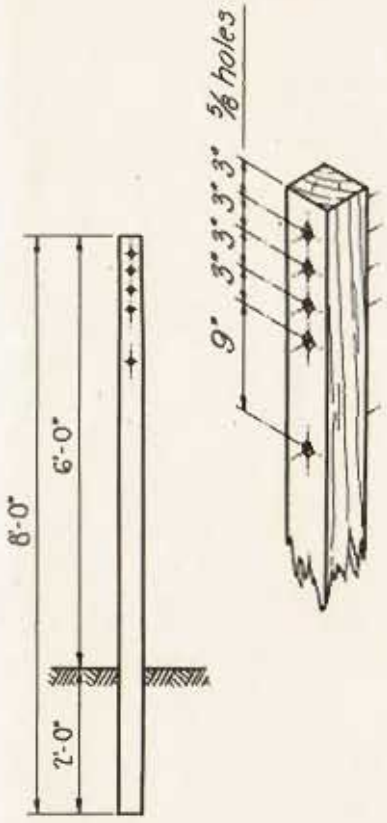
Wood posts to be creosoted after drilling.

Steel posts to be galvanized.

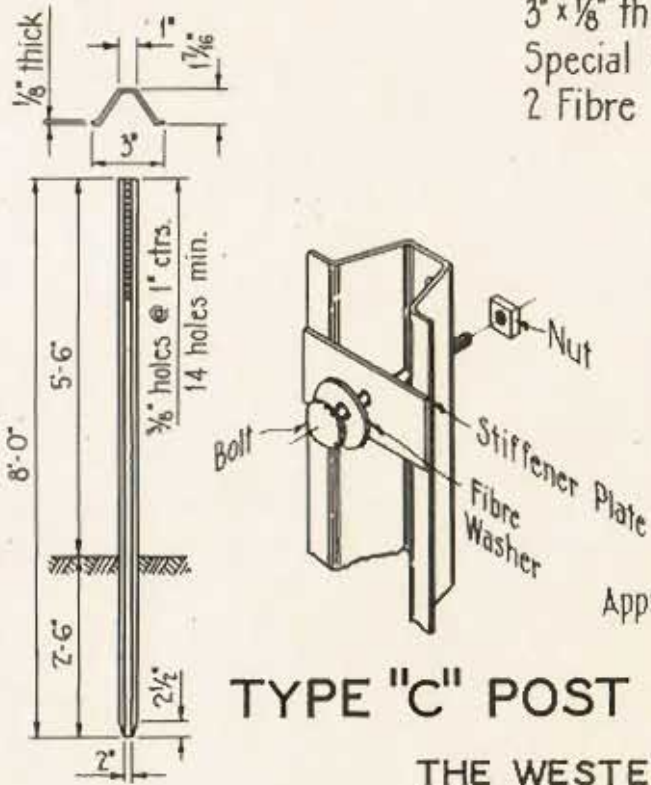
When "Steel U Post Mounting Set" is requisitioned store will furnish 2-1½" x 3" x ½" thick Stiffener Plates, 2-5/16" x 2¼" Special Bolts with Nuts, all galvanized, and 2 Fibre Washers.



TYPE "A" POST
6" x 6"



TYPE "B" POST
4" x 4"



TYPE "C" POST

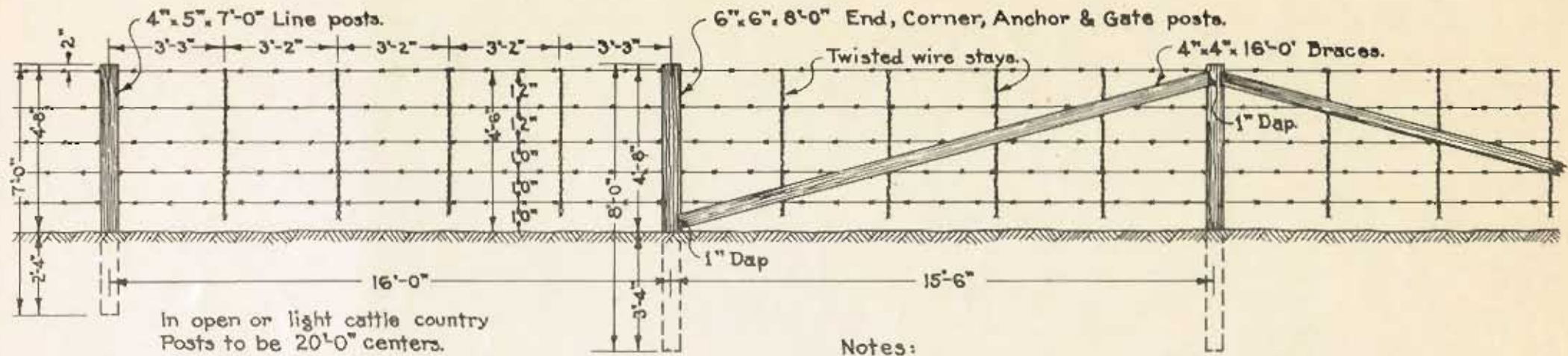
THE WESTERN PACIFIC RAILROAD CO.
STANDARD

SIGN POSTS

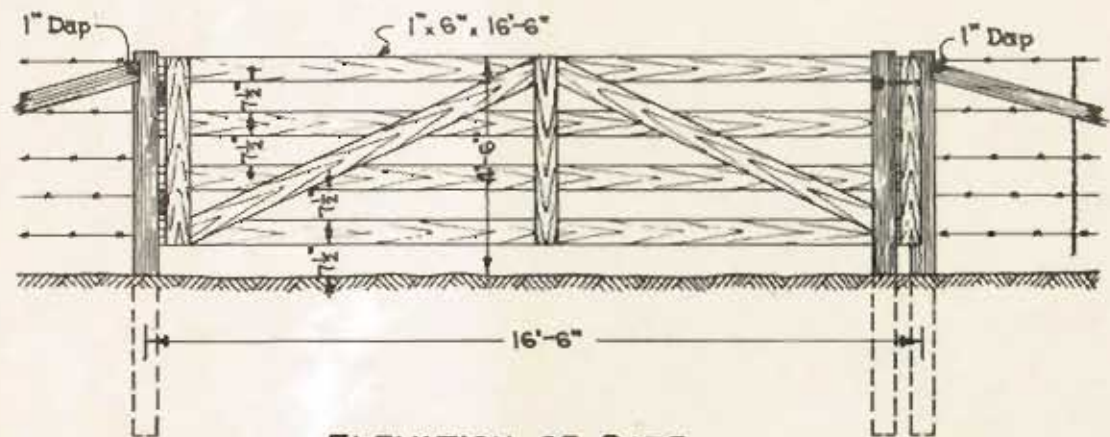
NO SCALE

ADOPTED: May 15, 1958

Approved: *Frank A. Woolf*
Chief Engineer



Notes:
 Brace posts every 1000 ft. and at fence angles.
 In sags, posts to be anchored with 2-2" x 4" x 18" cleats.
 Wires shall be fastened to outside of posts on outside of curves and to inside of posts on inside of curves.
 On tangents, wires shall be fastened to outside of posts.
 Question of whether 16 or 20 ft. panels are to be used in each case to be submitted to Chief Engineer for approval.



ELEVATION OF GATE



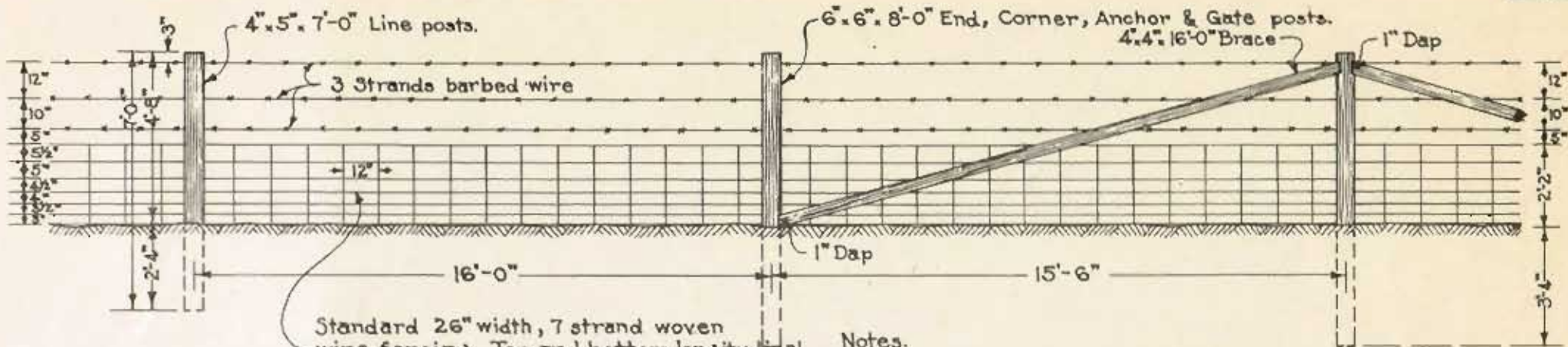
PLAN OF GATE

APPROVED: *J. Phillips*
 CHIEF ENGINEER
 APPROVED: *E. W. Mason*
 VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO
 STANDARD
 BARBED WIRE RIGHT-OF-WAY FENCE
 AND FARM GATE.

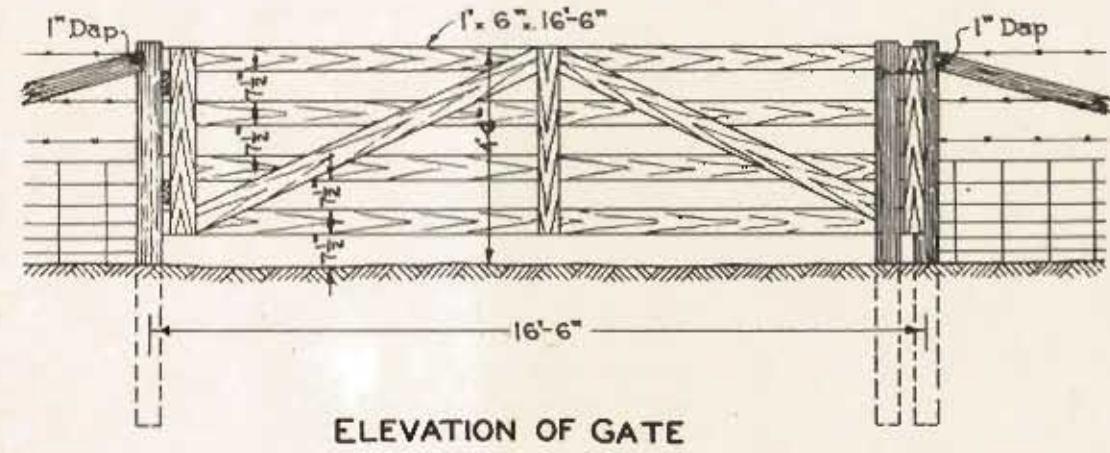
Scale: 1/4" = 1'-0" Adopted March, 1944.

076
1-71-66



Standard 26" width, 7 strand woven wire fencing. Top and bottom longitudinal wire #9 gage, intermediate and stay wires #11 gage. Stay wires 12" centers.

Notes.
Brace posts every 1000 ft. and at fence angles.
In sags, posts to be anchored with 2-2" x 4" x 18" cleats.
Wires shall be fastened to outside of posts on outside of curves and to inside of posts on inside of curves.
On tangents, wires shall be fastened to outside of posts.



PLAN OF GATE

APPROVED: *J. Phillips*
CHIEF ENGINEER

APPROVED: *E. W. Mason*
VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
WOVEN WIRE RIGHT-OF-WAY FENCE
AND FARM GATE.

Scale: 1/4" = 1'-0" Adopted, March, 1944.

TO REQUISITION :

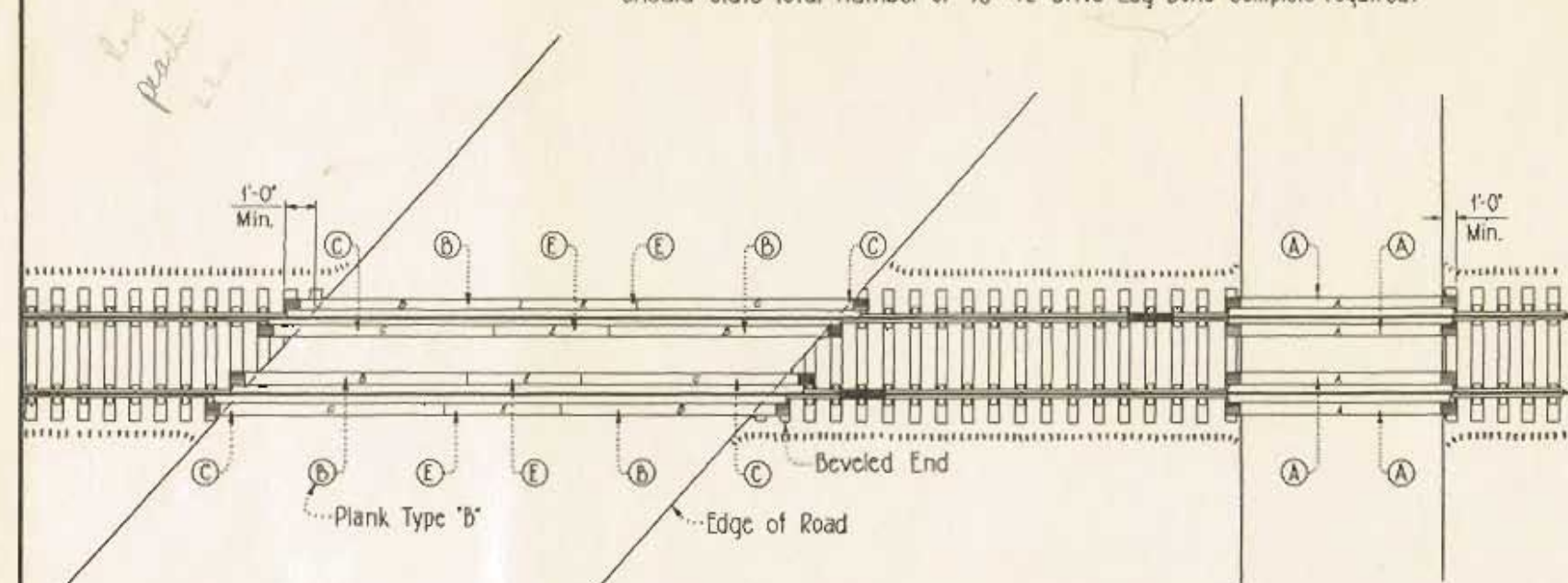
Requisition should state number of each type plank required and weight of rail in addition to Standard Number.

Types "A", "B", "C" & "D" planks require 11 Drive Lag Bolts Complete each. Type "E" planks require 6 Drive Lag Bolts Complete each. Requisition should state total number of $\frac{5}{8}$ " x 12" Drive Lag Bolts Complete required.

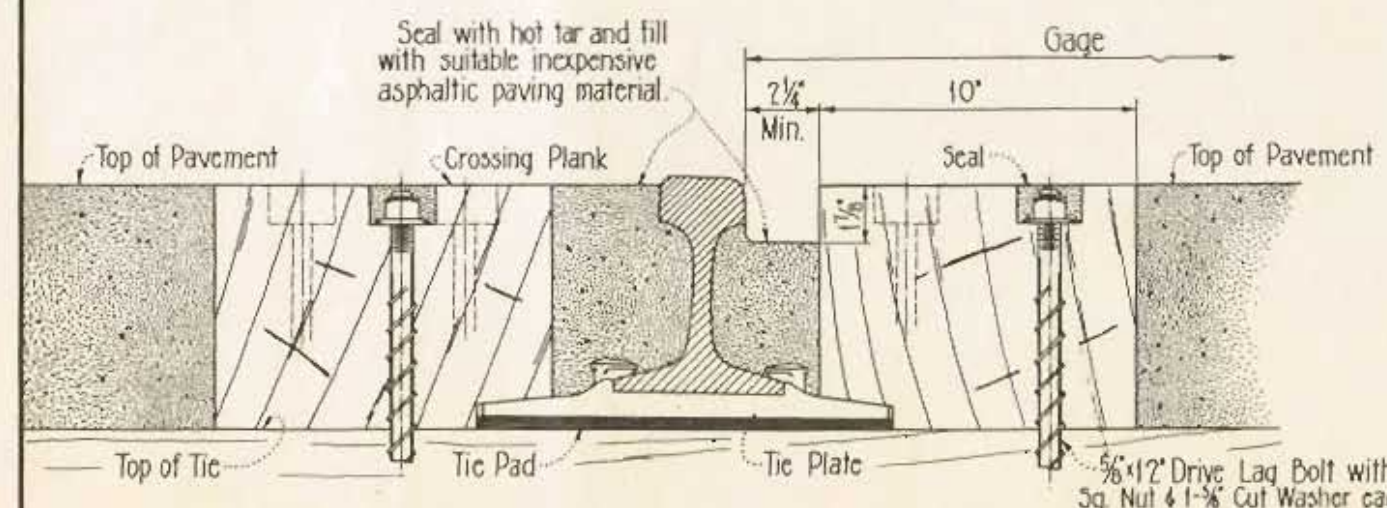
C. E.
S-84

NOTES

See Drawing No S-87 for Crossing Plank details.
All planks, as delivered from store, to be 16'-0" long except Type "E", which are 8'-0" long.
Planks shall extend at least one foot beyond edge of road on all crossings, measured along plank. Planks to be shortened in field to avoid excessive projection beyond edge of road.
Tie spacing through crossing to be 19 $\frac{1}{4}$ " or approximately 24 ties per 39 foot rail. Where necessary, ties will be respaced to match drilling.
Ties under crossing planks which require more than a minor amount of adzing will be replaced when installing crossing.
Asphaltic paving material shall be as per current instructions.
Signal bootleg connections must not be closer than two tie spaces to crossing plank.
Unless otherwise directed by the Chief Engineer, welded rail, tie pads and largest plates available for rail weight will be used in all crossings.



TYPICAL INSTALLATIONS



Approved: *Frank R. Weaford*
Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
ROAD CROSSING
PAVED CENTER - 10" PLANKS
FOR USE ON TANGENT TRACK AND
CURVES UP TO 8°

$\frac{5}{8}$ " x 12" Drive Lag Bolt with 1 Sq. Nut & 1- $\frac{1}{2}$ " Cut Washer each.

NO SCALE

ADOPTED: May 15, 1958

TO REQUISITION: Requisition should state number of each type plank required and weight of rail in addition to Standard Number.

Types 'A', 'B', 'C', 'D', 'F', 'G' & 'H' planks require 11 Drive Lag Bolts Complete each. Types 'E' & 'J' planks require 6 Drive Lag Bolts Complete each. Requisition should state total number of $\frac{3}{8}$ " x 12" Drive Lag Bolts Complete required.

C. E.
S-85

NOTES

Plank center crossings will not be built or maintained without the approval of the Chief Engineer.

See Drawing No 5-87 for Crossing Plank details. All planks, as delivered from store, to be 16'-0" long except Types 'E' & 'J' which are 8'-0" long.

Planks shall extend at least one foot beyond edge of road on all crossings, measured along plank. Planks to be shortened in field to avoid excessive projection beyond edge of road.

Tie spacing through crossing to be $19\frac{1}{4}$ " or approximately 24 ties per 39 foot rail. Where necessary, ties will be respaced to match drilling.

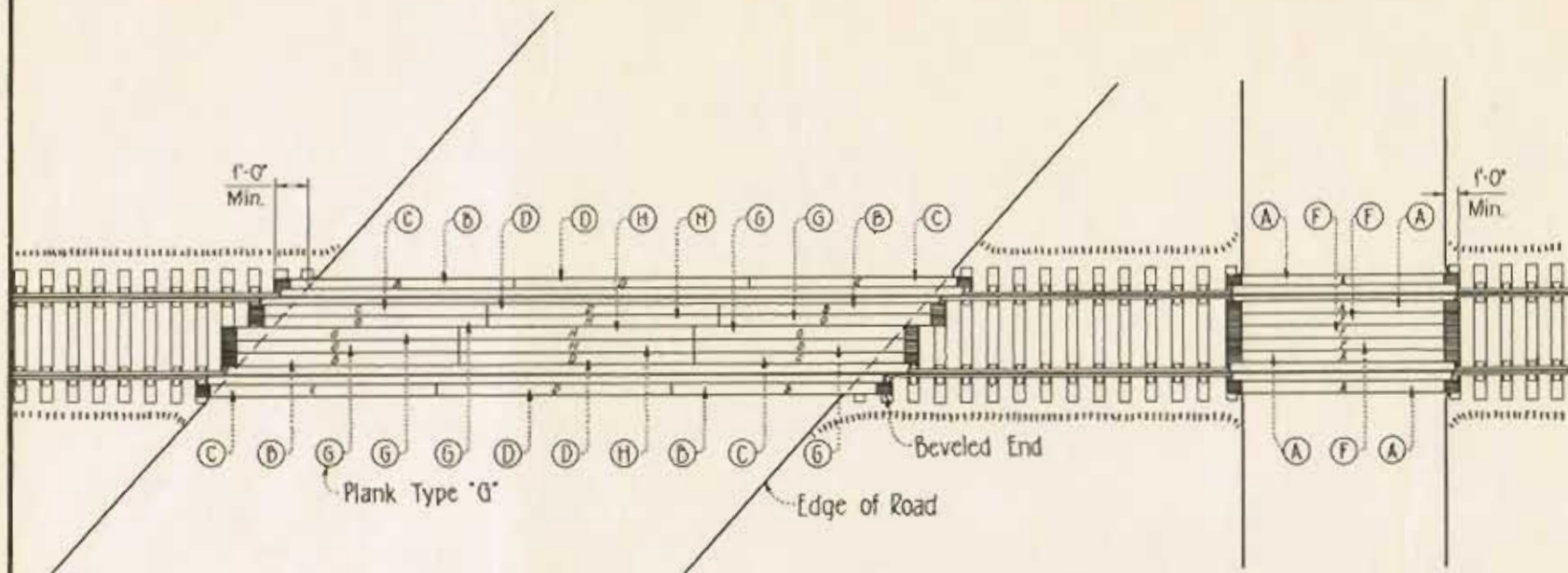
Ties under crossing planks which require more than a minor amount of adzing will be replaced when installing crossing.

Asphaltic paving material shall be as per current instructions.

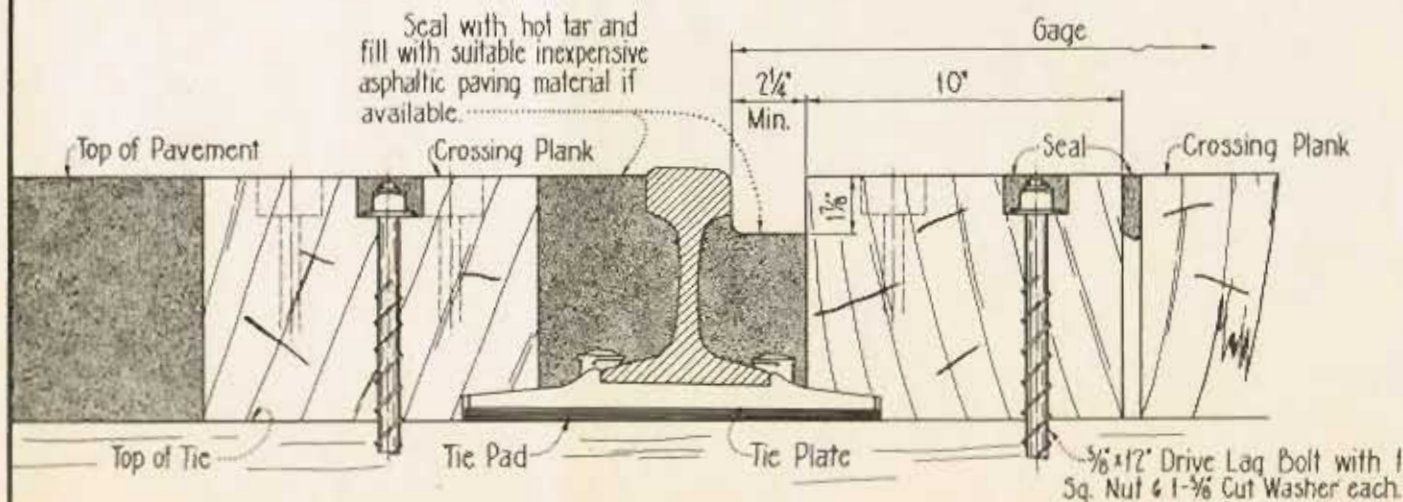
Signal bootleg connections must not be closer than two tie spaces to crossing plank.

Unless otherwise directed by the Chief Engineer, welded rail, tie pads and largest plates available for rail weight will be used in all crossings.

1-31-64



TYPICAL INSTALLATIONS

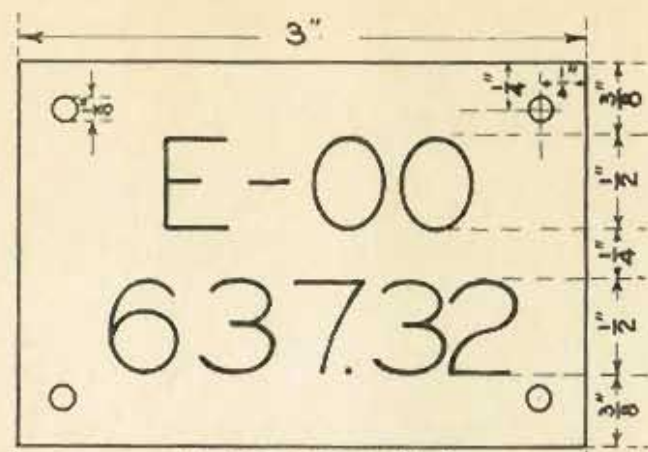


Approved: *Frank R. Woolf*
Chief Engineer

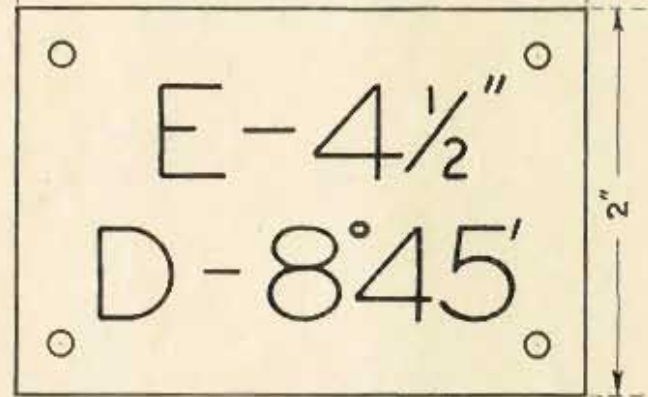
THE WESTERN PACIFIC RAILROAD CO.
STANDARD
ROAD CROSSING
PLANK CENTER - 10" PLANKS
FOR USE ON TANGENT TRACK AND
CURVES UP TO 8°

NO SCALE

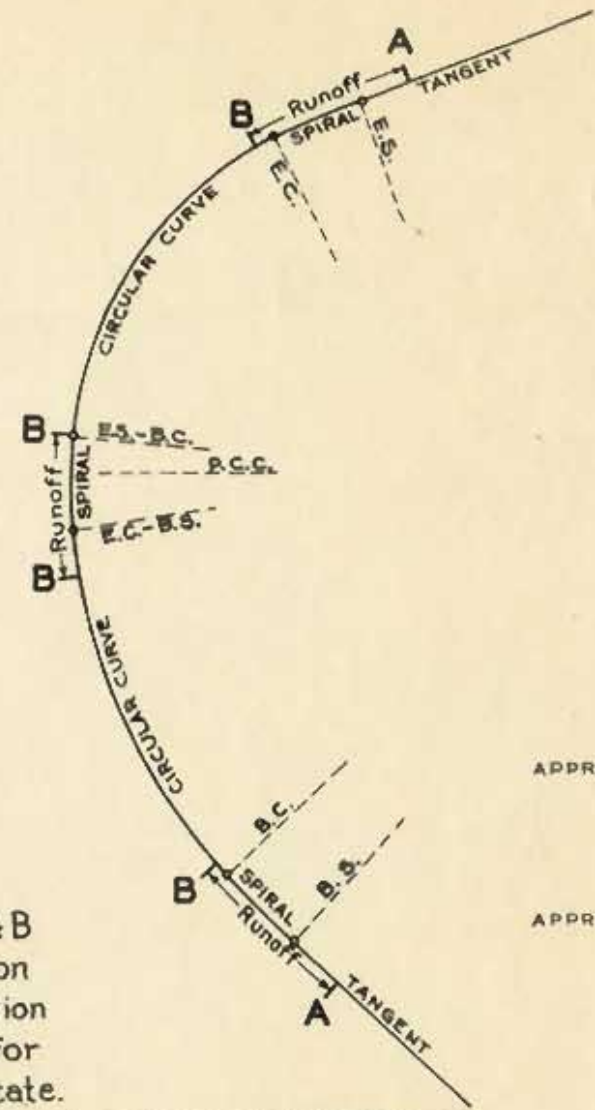
ADOPTED: May 15, 1958



MARKER "A"



MARKER "B"



LOCATION OF MARKERS ON
COMPOUND CURVE
NO SCALE

Markers shall be made of #18 B&S gage, Aluminum. Letters shall be stamped with dies having clean, sharp faces. Markers shall be fastened to tie, one foot inside of North rail, with four 6^d aluminum nails.

Note: On compound curves, markers A & B shall be placed as indicated on location sketch, i.e., markers A at points of 00 elevation and markers B at points of full elevation for the respective circular curves they indicate.

Curves are numbered at the B.S. on the west or San Francisco end and the numbers indicate the mile post at that point. Each curve is assigned one number regardless of whether the curve is single or compound.

APPROVED *J. W. Williams*
CHIEF ENGINEER

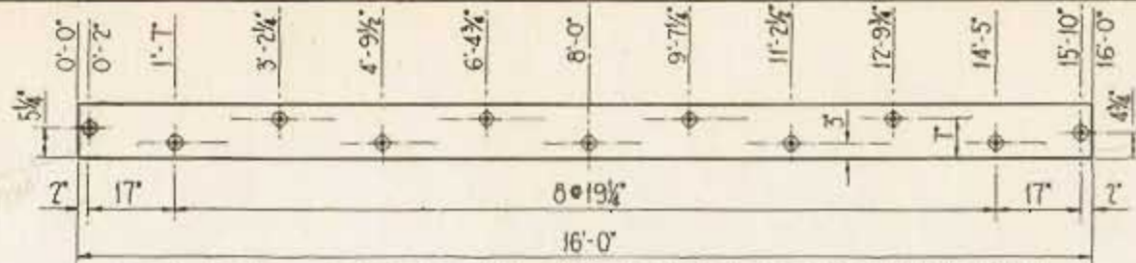
APPROVED *E. W. Mason*
VICE PRESIDENT & GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
SUPERELEVATION MARKERS
NATURAL SCALE ADOPTED MAY, 3, 1932.

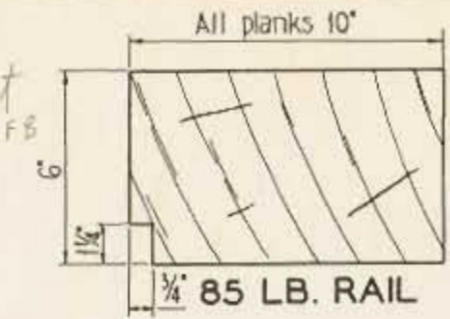
W. J. Williams
1-31-36

NOTES

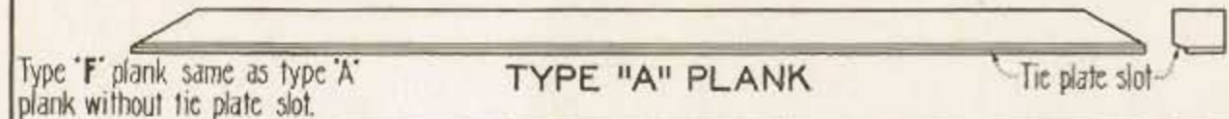
All planks to be framed accurately to dimensions shown.
 Planks to be cedar or fir, straight and free from warp or twist.
 Second-hand stringers or other second-hand timbers, properly framed, may be used provided wood is in sound condition.
 Requisition should state number and type of each plank required and weight of rail in addition to Standard Number.



DRILLING - TYPES "A", "B", "C", "D", "F", "G" AND "H"

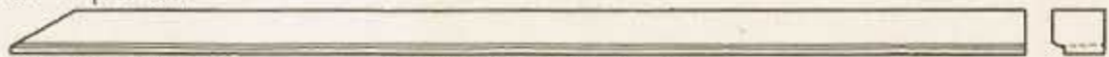


85 LB. RAIL



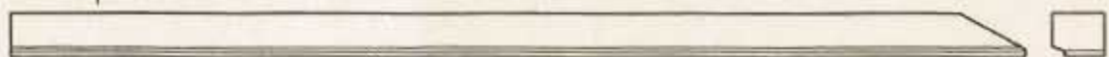
TYPE "A" PLANK

Type "F" plank same as type "A" plank without tie plate slot.

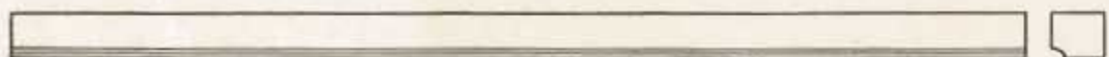


TYPE "B" PLANK

Type "G" plank same as type "B" plank without tie plate slot.

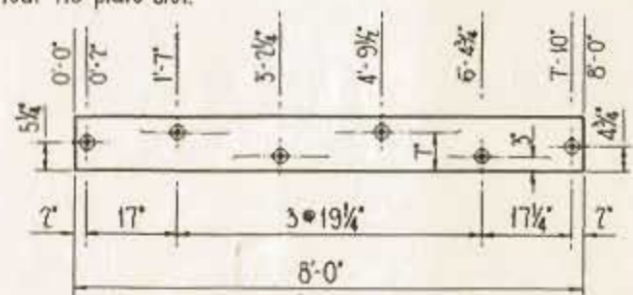


TYPE "C" PLANK



TYPE "D" PLANK

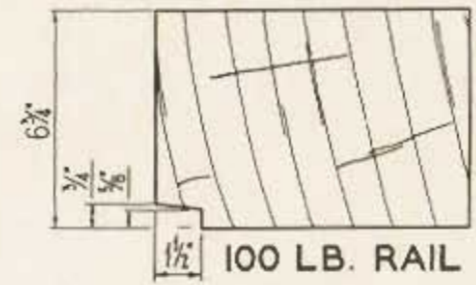
Type "H" plank same as type "D" plank without tie plate slot.



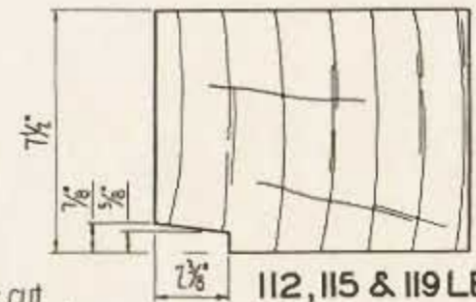
DRILLING - TYPES "E" AND "J"

All drilled holes to be 5/8" dia., counterbore 2 1/2" dia. 1/4" deep except omit counterbore on end hole when end beveled.

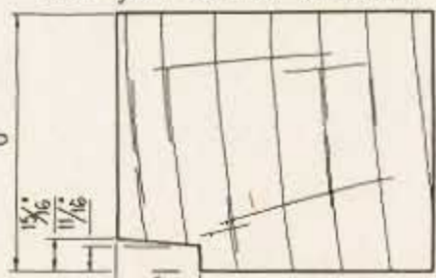
When practicable, plank to be cut with grain vertical as shown.



100 LB. RAIL



112, 115 & 119 LB. RAIL

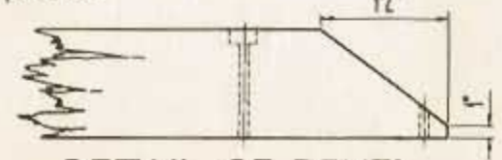


132 & 136 LB. RAIL

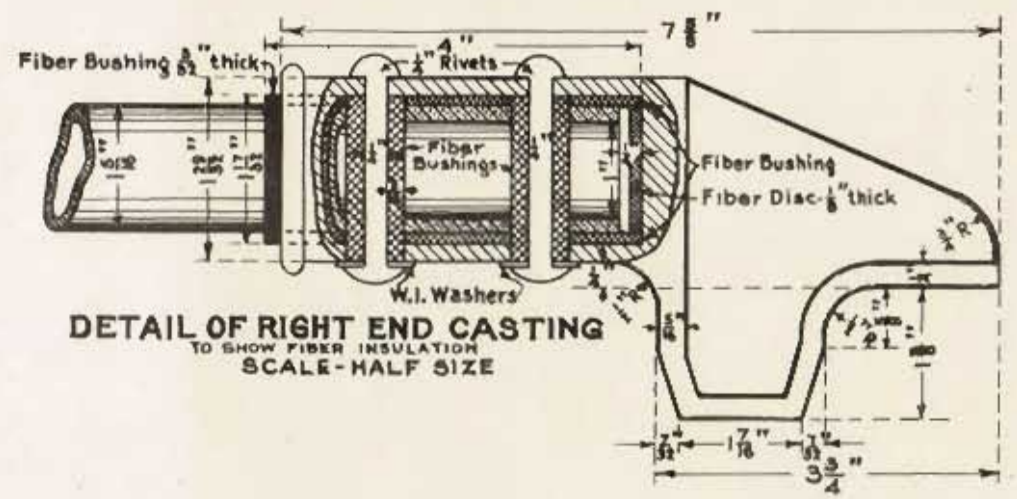
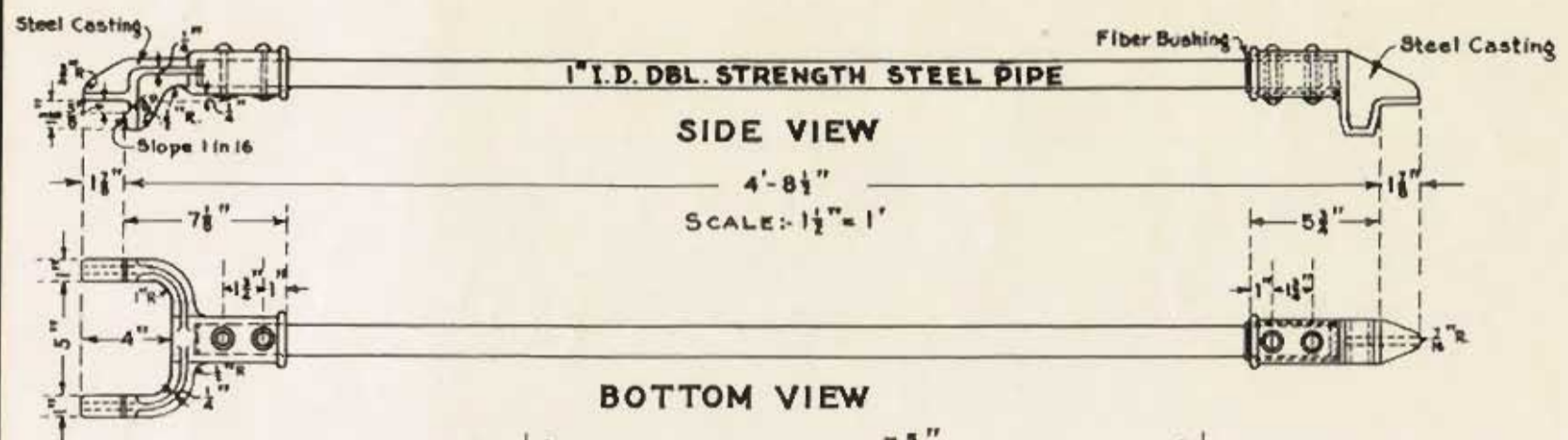
Approved: *Frank R. Macfarlane*
Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
STANDARD

10" CROSSING PLANKS
FOR USE ON ROAD CROSSINGS



DETAIL OF BEVEL



APPROVED

J. M. Williams
CHIEF ENGINEER

Notes:
 Insulate by use of Fiber Bushings & Disc at one end.
 Center Line to be marked on Gage.
 No Tolerance allowed in Gage Distance.

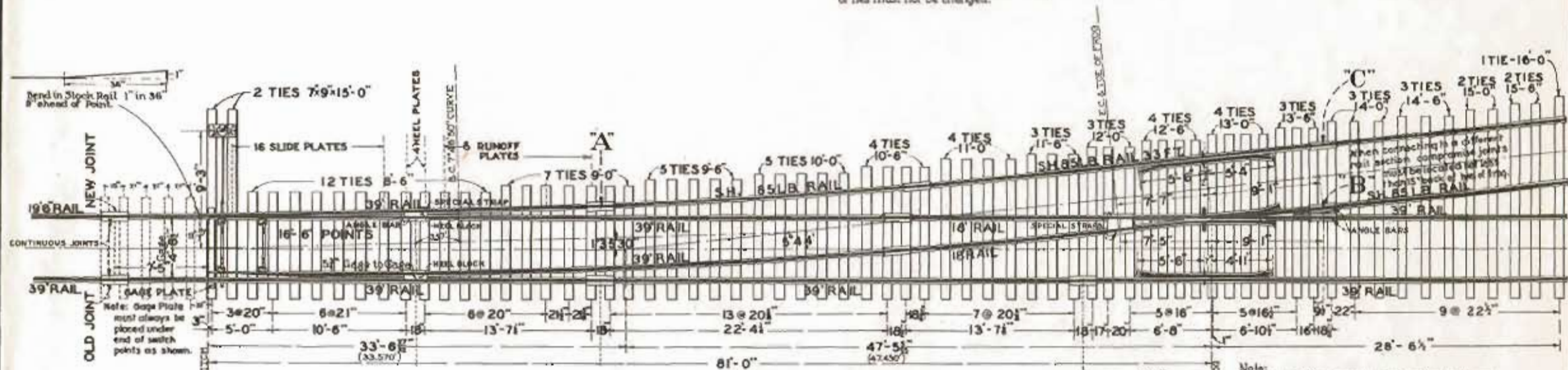
THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
TRACK GAGE
 A.R.E.A. PLAN No. 20.
 SCALES AS SHOWN ADOPTED MAR. 12, 1931.
 REVISED SEPT. 14, 1955

LIST OF TIES

PIECES 7' X 9"														TOTAL NUMBER PIECES	TOTAL F.B.M.		
6'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"			15'-6"	16'-0"
12	7	5	5	4	4	3	3	4	4	3	3	3	2	2	1	65	3801

FROG ANGLE 5° 44'
 DEGREE OF TURNOUT CURVE 7° 46' 50"
 LEAD 81'-0"
 CLOSURE RAILS 2-18' & 2-39'
 ALTERNATE CLOSURE RAILS MAY BE USED AS FOLLOWS:-
 2-26' & 2-31'
 2-27' & 2-30'

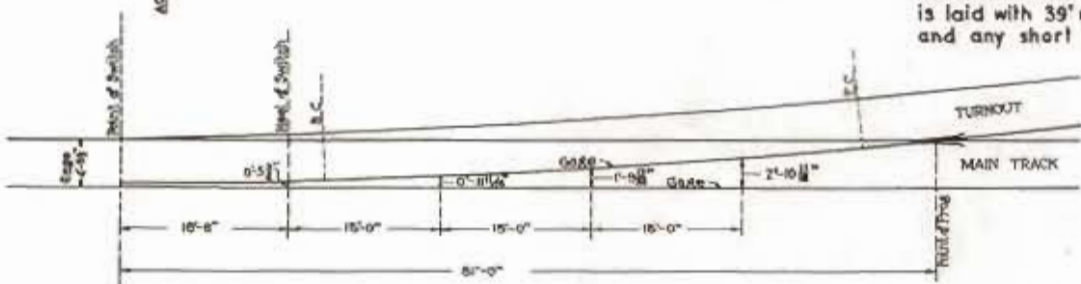
Note: When alternate closure rails are used it will be necessary to change tie spacing to fit. However the number and length of ties must not be changed.



PLAN OF No 10 TURNOUT COMPLETE

For installations of new turnouts in sections where main track is laid with 39" rails, use two S.H. 85 lb. 33" rails beyond point "A" and any short lengths not less than 15' beyond points "B" and "C".

APPROVED: *J.M. Williams*
 CHIEF ENGINEER



OFFSET DIAGRAM

Equivalent Curve
 Δ = 5° 44'
 R = 1178.595
 T = 56.514
 L = 117.933
 D = 5° 04' 40"

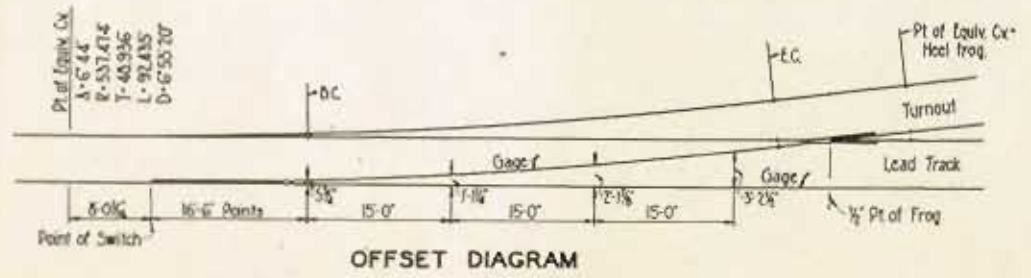
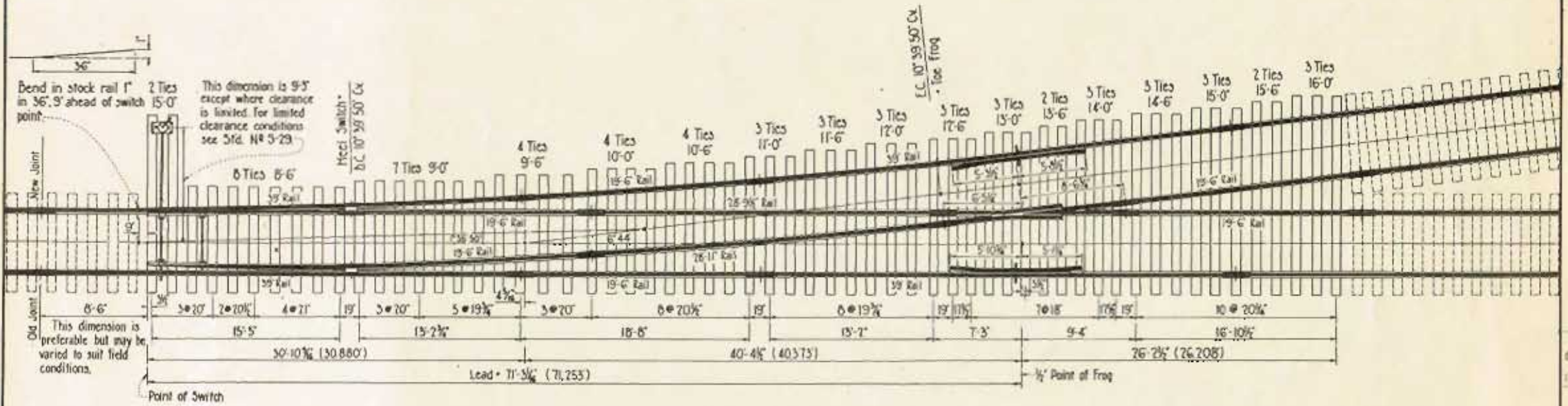
THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
 No 10 TURNOUT COMPLETE
 FOR USE WITH C.F.&I. SEC. 850 - 39" RAIL

NO SCALE

ADOPTED MARCH 1, 1934
 REVISED FEB. 25, 1936
 REVISED DEC. 1, 1949, | AUG. 15, 1957

FROG ANGLE 6°44'
 DEGREE OF TURNOUT CURVE 10°39'50"
 LEAD 71'-3 1/4"
 CLOSURE RAILS 2'-19'-6", 1'-26'-9", 1'-28'-11"
 Other lengths may be used for closure rails but minimum length should be 15'-0".

SWITCH TIE LIST														Total Number Pieces	Total Feet D.M.			
Pieces 7x9"																		
8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"	15'-6"	16'-0"			
8	7	4	4	4	3	3	3	3	3	2	3	3	5	2	3		60	3661 3/4



Approved *Frank R. Wolford*
 Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD

No 8 1/2 TURNOUT COMPLETE
FOR USE WITH 85 LB., 39' RAIL
16'-6" POINTS, BOLTED RIGID FROG

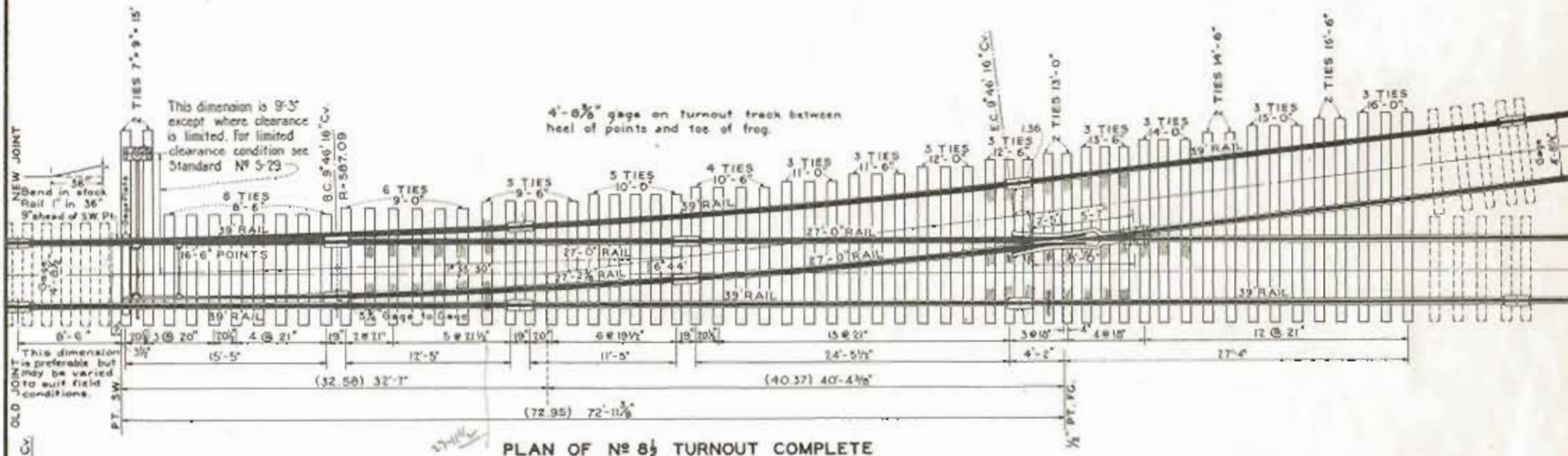
REFERENCES	
16'-6" Split Switch	S-116A
NR 8 1/2 Bolted Rigid Frog	S-150
17'-0" 85 Lb Guard Rail	S-30
Connecting Rods	S-141
Application of Switch Stands	S-29

NO SCALE

ADOPTED Nov. 1, 1944
 REVISED Jan. 17, 1956

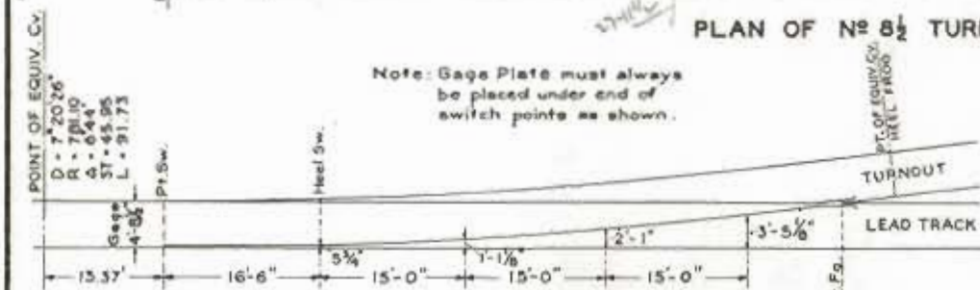
SWITCH TIE LIST										TOTAL NUMBER PIECES	TOTAL FEET F.B.M.						
PIECES 7" X 9"																	
6'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"	15'-6"	16'-0"	80	3643.5
6	6	5	5	4	3	3	3	3	2	3	3	2	3	2	3		

FROG ANGLE 8° 44'
 DEGREE OF TURNOUT CURVE 9° 46' 16"
 LEAD 72' 11 1/2"
 Note: Other lengths may be used for closure rails, but minimum length should be 15'-0".



PLAN OF No 8 1/2 TURNOUT COMPLETE

Note: Gage Plate must always be placed under end of switch points as shown.



OFFSET DIAGRAM 16'-6" POINTS

Offsets shown are at right angles to lead track

REFERENCES	
16'-6" Split Switch	S-116A
No 8 1/2 S.O. Mang Frog	S-190
Connecting Rails	S-141
Application of Switch Stands	S-29

APPROVED

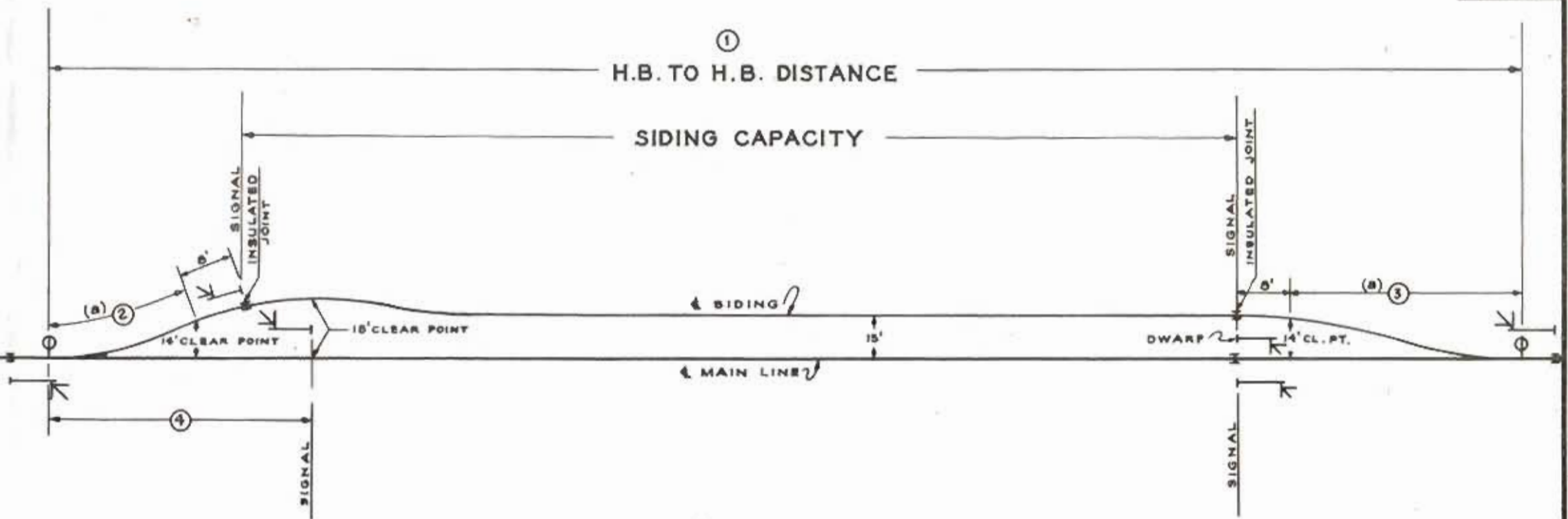
Frank R. Wood
Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
STANDARD

No 8 1/2 TURNOUT COMPLETE
 FOR USE WITH C.F. & I. SEC. 850-39' RAIL
 SELF GUARDED FROG - 16'-6" POINTS

NO SCALE

ADOPTED : January 27, 1955



H.B. TO H.B. DISTANCE ①

TURNOUT NUMBER	DISTANCE			SIDING CAPACITY *					
	(a) ②	(a) ③	(a) ④	80 CARS	90 CARS	100 CARS	110 CARS	115 CARS	125 CARS
10	173	181	254	4780	5300	5820	6340	6600	7120
14	241	252	348	4919	5439	5959	6479	6739	7259
15	250	267	374	4943	5463	5983	6503	6763	7283
20	306	376	457	5108	5628	6148	6668	6928	7448

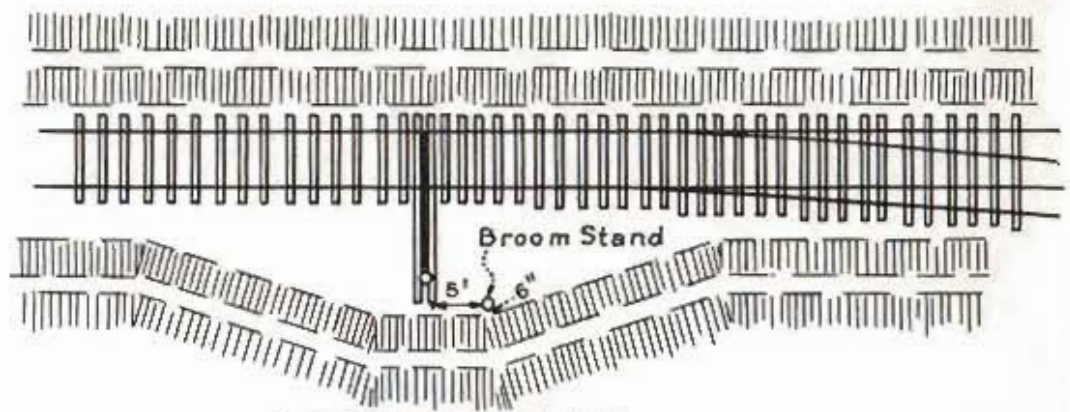
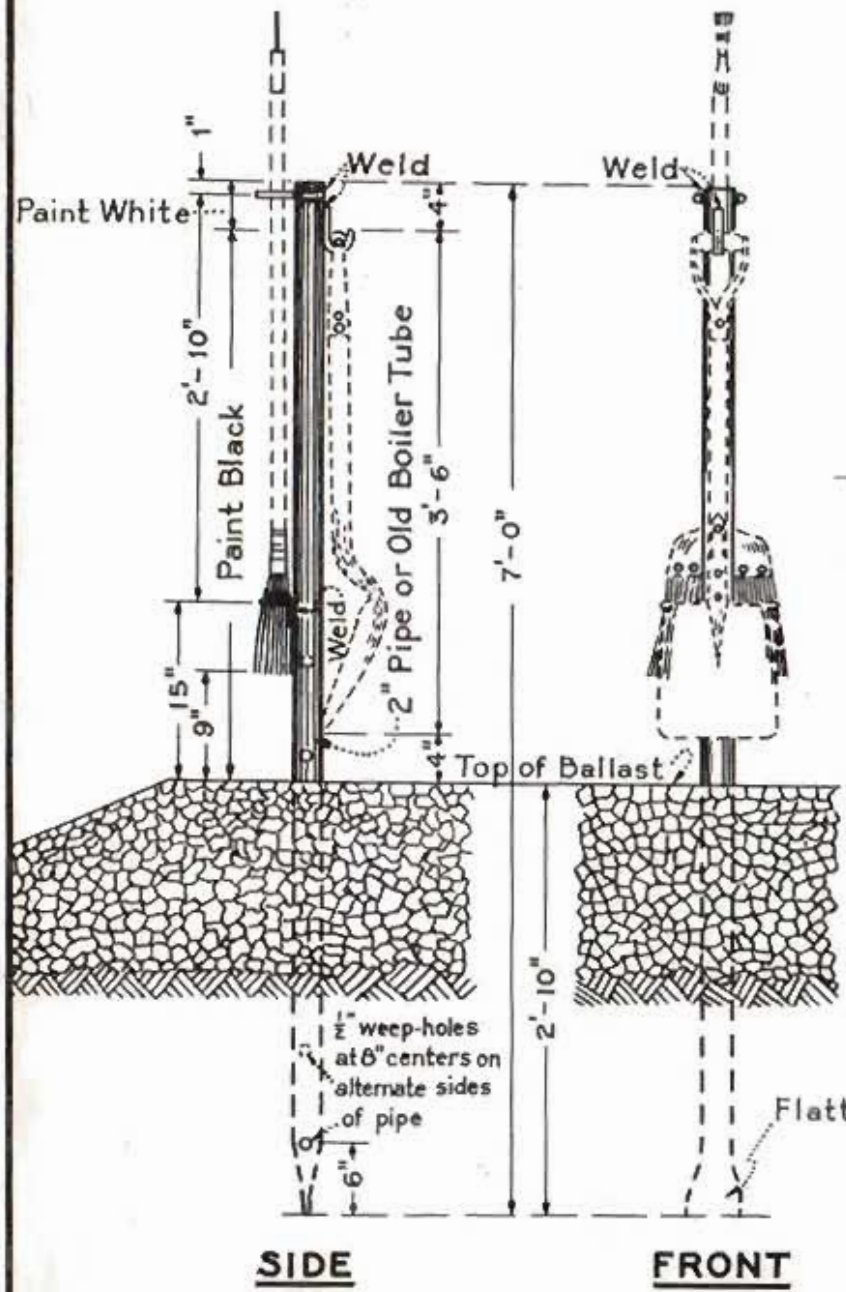
APPROVED *Frank R. Woolford*
Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
STANDARD

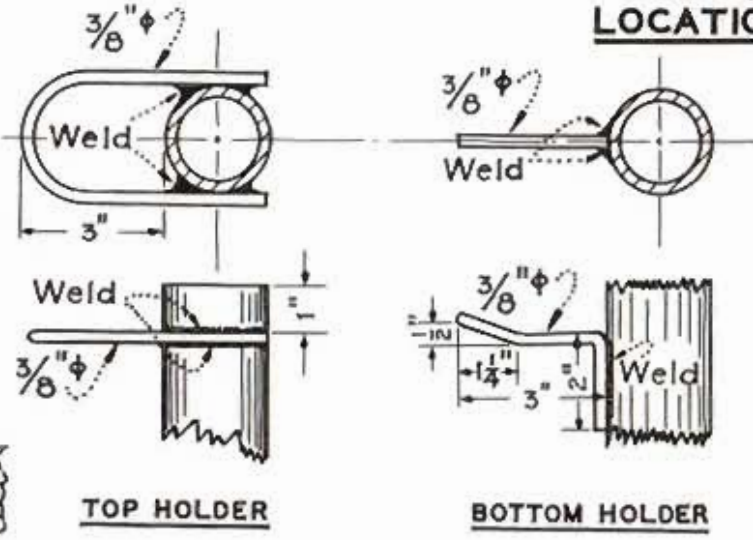
SIDING CAPACITY

(a) ②—③ Vary according to curvature.

*Capacity is based on coupler length of 52 feet, Engine & Caboose 250 ft.



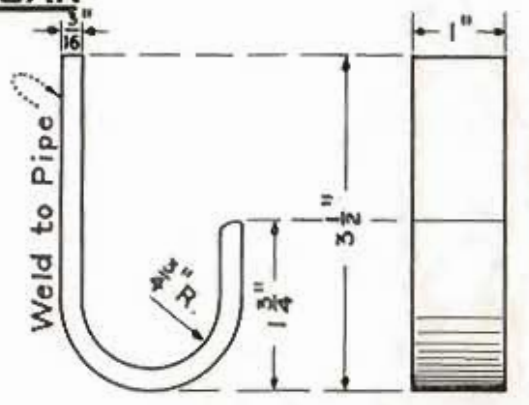
LOCATION PLAN



TOP HOLDER

BOTTOM HOLDER

DETAIL OF BROOM HOLDER



DETAIL OF HOOK

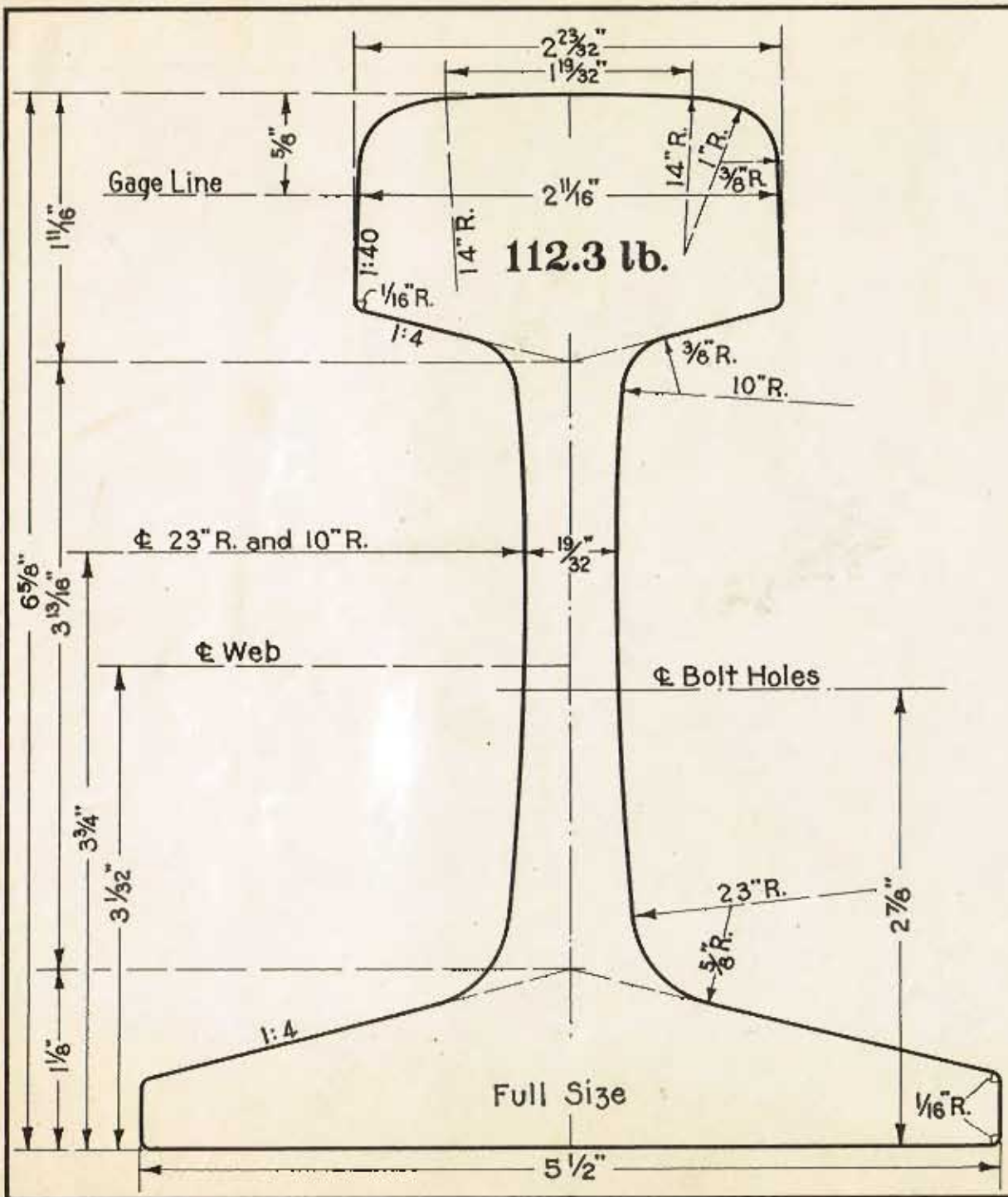
APPROVED: *Frank R. Woolford*
CHIEF ENGINEER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD

BROOM & SHOVEL HOLDER

NO SCALE

ADOPTED: May 3, 1932
REVISED: Dec. 7, 1962



SCALE: 3"=1'-0"

ELEMENTS OF RAIL SECTION

Area of Head	3.95 Sq. In.	35.88%
" " Web	2.77 " "	25.16%
" " Base	4.29 " "	38.96%
Total Area	11.01 " "	100.00%
Moment of Inertia	65.5	
Section Modulus-Head	18.1	
" " -Base	21.8	
Gross Tons per Track Mile	176.47	

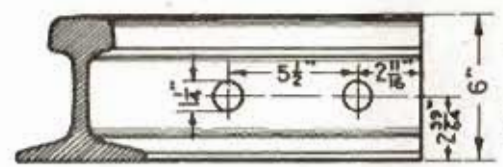
Note: Modified 112 lb R.E. Section adopted by A.R.E.A. Rail Committee Dec. 10, 1936.

APPROVED: *J. M. Williams*
CHIEF ENGINEER

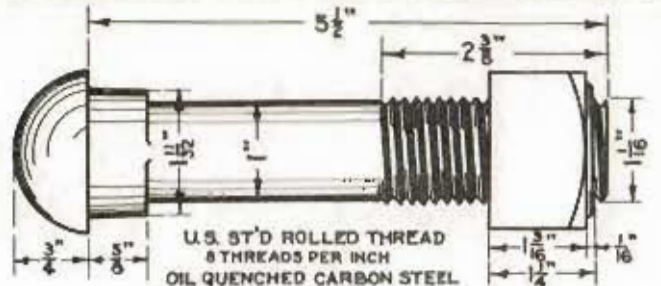
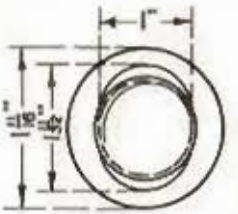
APPROVED: *E. W. Mason*
VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
MODIFIED 112 LB. R.E. RAIL

Scale as shown Adopted Jan. 2, 1937

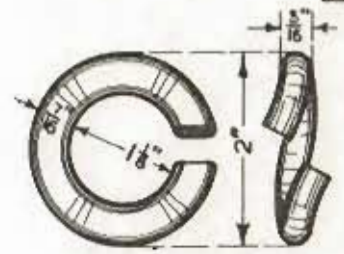
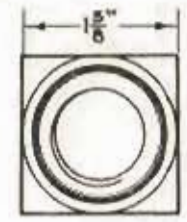


RAIL DRILLING
SCALE: 1/2" = 1'-0"

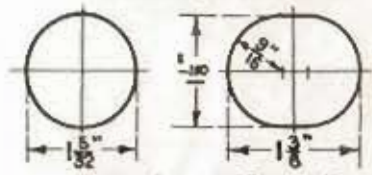


TRACK BOLT & NUT
SCALE: 1/2" = 1"

U.S. ST'D ROLLED THREAD
8 THREADS PER INCH
OIL QUENCHED CARBON STEEL



**IMP HI POWER
SPRING WASHER**

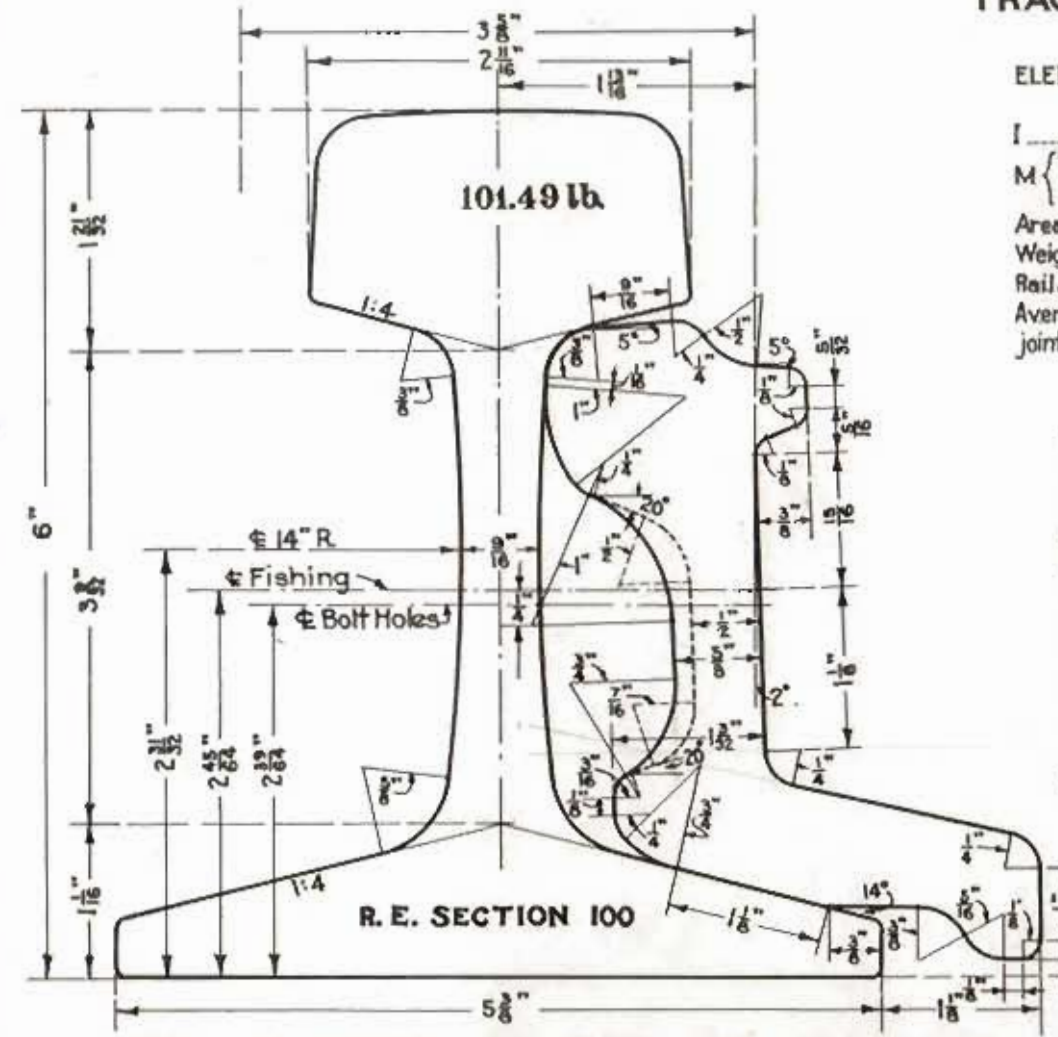


BOLT HOLES
ALTERNATE ROUND AND OVAL

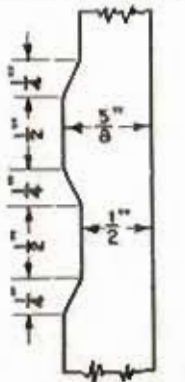
ELEMENTS OF ONE JOINT (2 BARS)

	Hor Axis	10° Axis
I	20.0	22.4
M { T	8.8	9.4
B	9.3	9.2

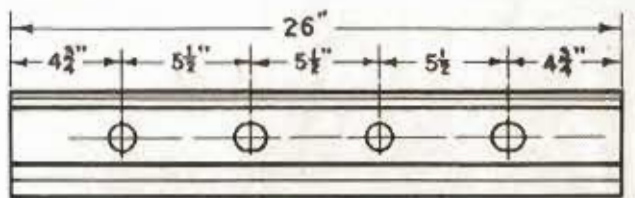
Area one bar..... Av. 5.22 sq"
Weight of Joint Bars, 76.89 lbs per pair (Gross)
Rail Joint Co. File No. 652-70, Mar. 19, 1935, Issue No. 2
Average shipping weight per joint approx. 74.6 lbs.



END ELEVATION OF RAIL AND JOINT BAR
SCALE: 3/4" = 1"



**LONGITUDINAL
SEC. OF WEB**



ELEVATION OF JOINT BAR
NO SPIKE SLOTS IN JOINT BARS
SCALE: 1/8" = 1"

APPROVED:

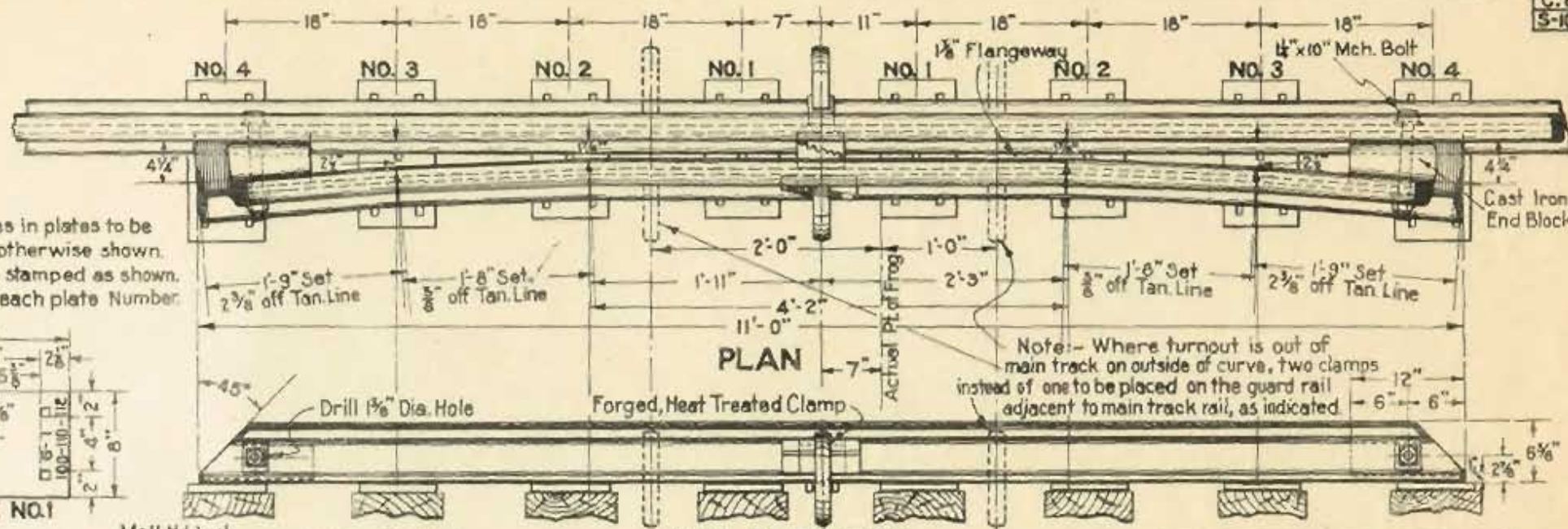
J. M. Williams
CHIEF ENGINEER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
HEADFREE 100% JOINT
FOR
100* R.E. RAIL

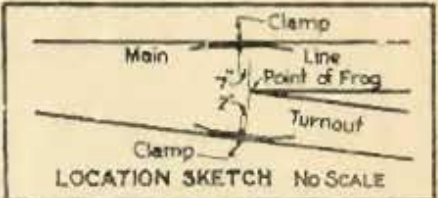
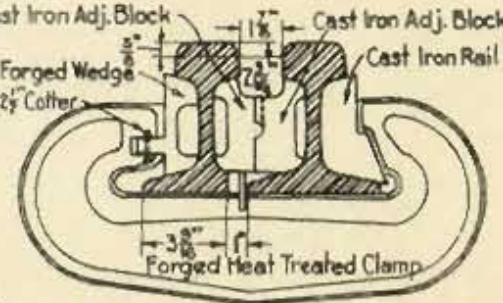
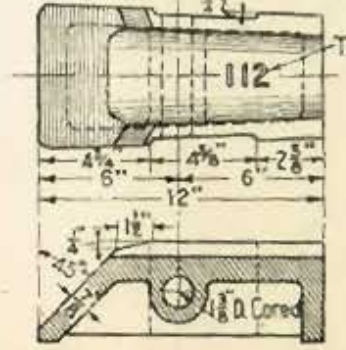
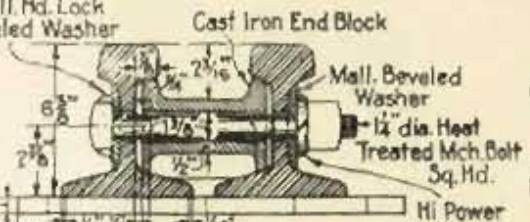
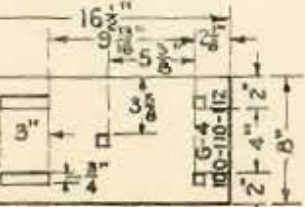
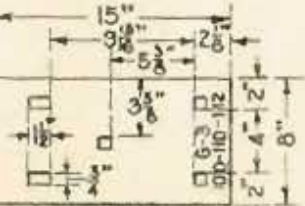
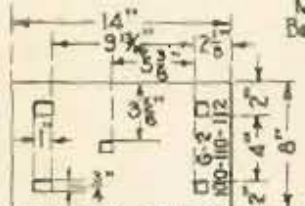
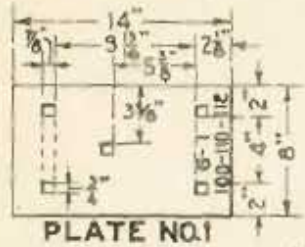
SCALES AS SHOWN

ADOPTED MAR. 1935

0116
1-1-66



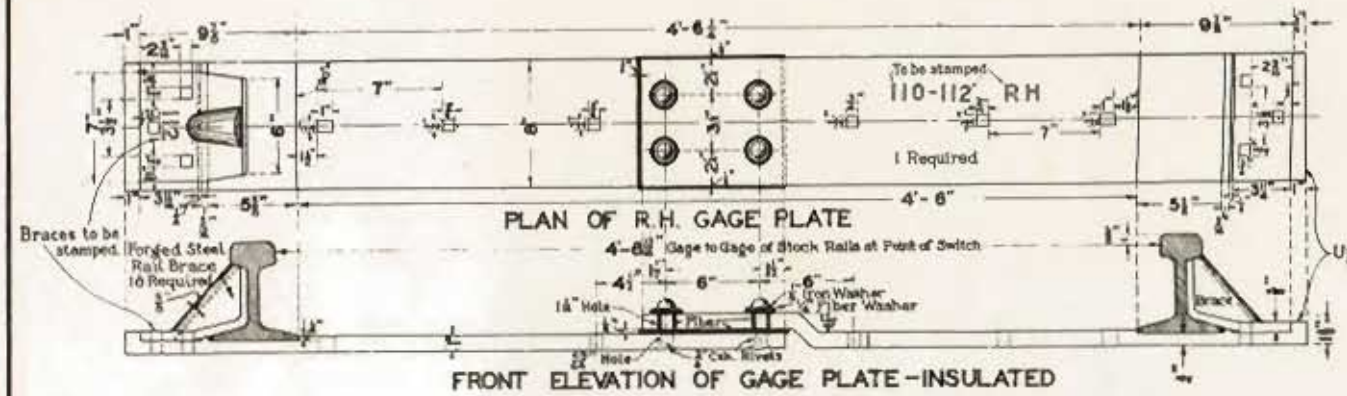
Note:
All spike holes in plates to be $\frac{1}{4} \times \frac{1}{4}$ " unless otherwise shown.
All plates to be stamped as shown.
2 Required of each plate Number.



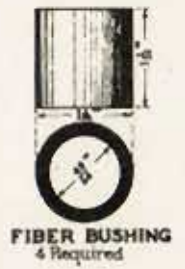
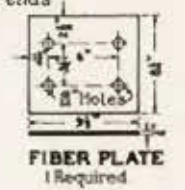
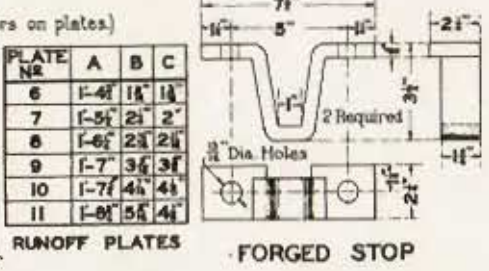
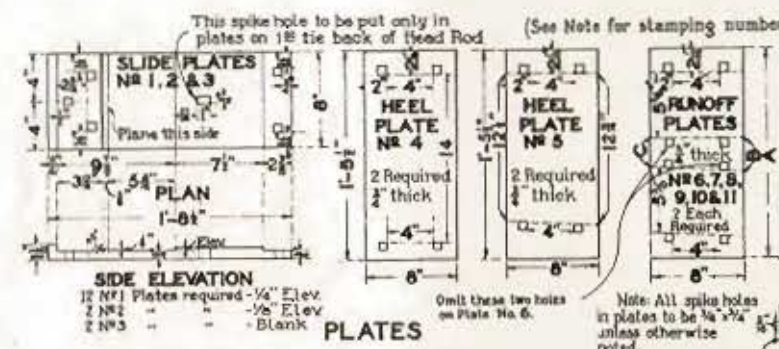
Specifications:— As per A.R.E.A. Specifications, Appendix A, adopted March, 1934.
Plan 505 for guard railsclamps, adopted Mar 1934.
NOTE:— The distance from gage line at frog point to inside face of guard rail must always be maintained at 4'-6 3/8". If gage of track is more than 4'-8 1/2", the guard rail flangeway must be more than 1 7/8" by the same amount.

APPROVED: *J. M. Williams*
CHIEF ENGINEER
APPROVED: *W. J. Mason*
VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
11 FT - 112 LB. GUARD RAIL
SCALES AS NOTED
ADOPTED MARCH, 1935
REVISED NOV. 1, 1935
MAR. 2, 1936

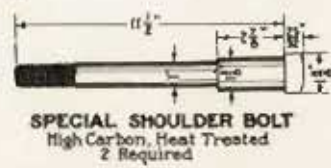
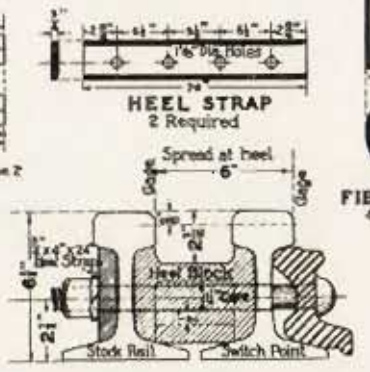
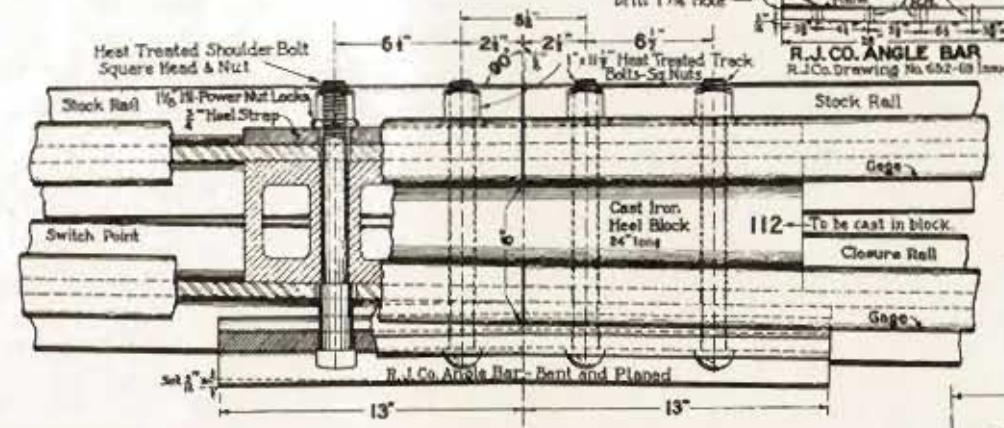


Note:-
 Annealed steel rivets, riveted cold under hydraulic pressure.
 All gage plates to be tested for insulation before shipment.
 Gage plate to be stamped 110-112 and braces stamped 112 as indicated. All other switch plates to be stamped with number of plate and weight of rail as shown on Dwg. C.E.-60-32-F-7.
 Gage plate to be stamped RH or L.H.
 All rail braces to be punched with 3 spike holes.



OBSELETE

OLD STANDARD

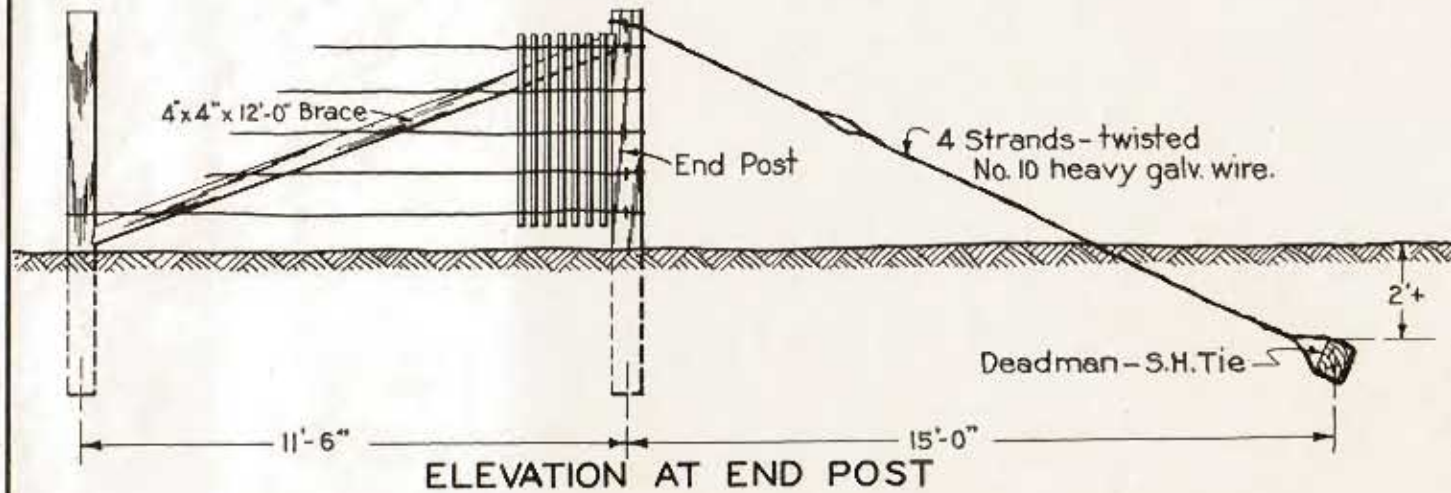
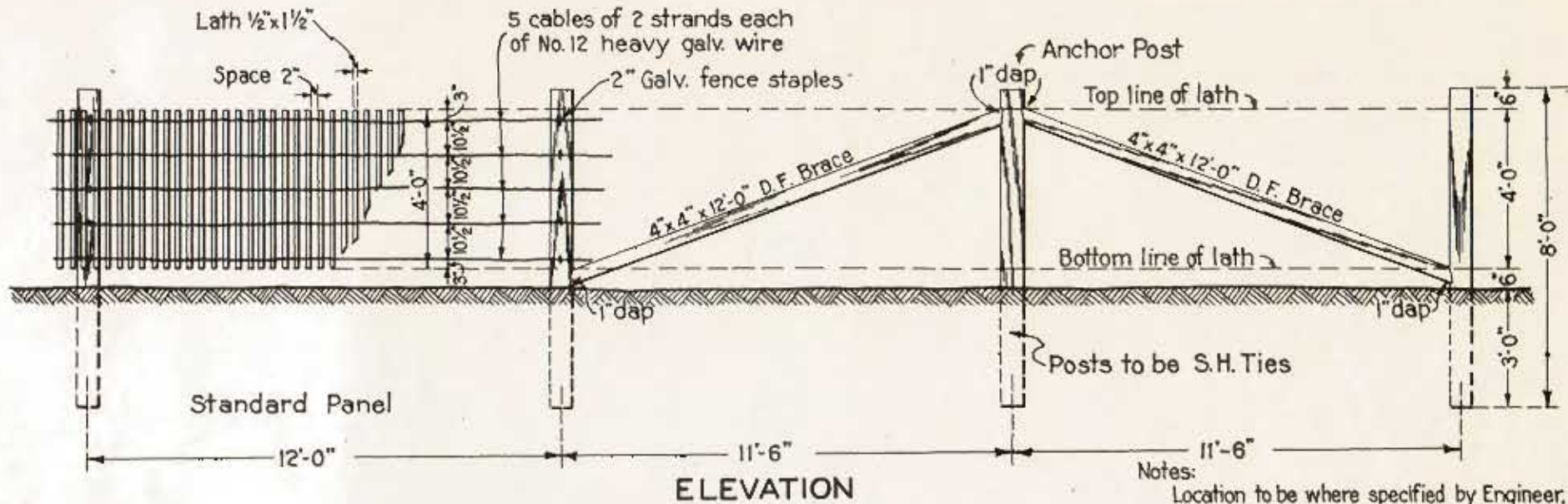


APPROVED: *J. M. ...*
 APPROVED: *E. V. ...*
 VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
 16 FOOT 6 INCH SPLIT SWITCH
 112 LB. R.E. RAIL

NO SCALE
 ADOPTED MARCH, 1935
 Revised Nov. 1, 1935, 5/7/1935

12 issue
2-1-66



Notes:

Location to be where specified by Engineer, M. of W. and S.
Posts to be second-hand ties unless standard fence posts are specified. When 7'-6" posts are used, bottom to be imbedded 3' in ground and top of post to be flush with top of lath.

Lath to be $\frac{1}{2} \times \frac{1}{2} \times 4'-0"$ Douglas Fir or Ponderosa Pine, 2" apart.
Braces to be select Douglas Fir; W.C.L.A. rules, par. 214.
Anchor Posts to be spaced approx. $\frac{1}{4}$ mile apart.
Fence Wire to be No. 12 heavy galv. and twisted between lath.
Anchor Wire to be No. 10 heavy galvanized wire.
Lath to be painted with good quality preservative paint or creosote oil.

APPROVED:

J. M. Williams
CHIEF ENGINEER

APPROVED:

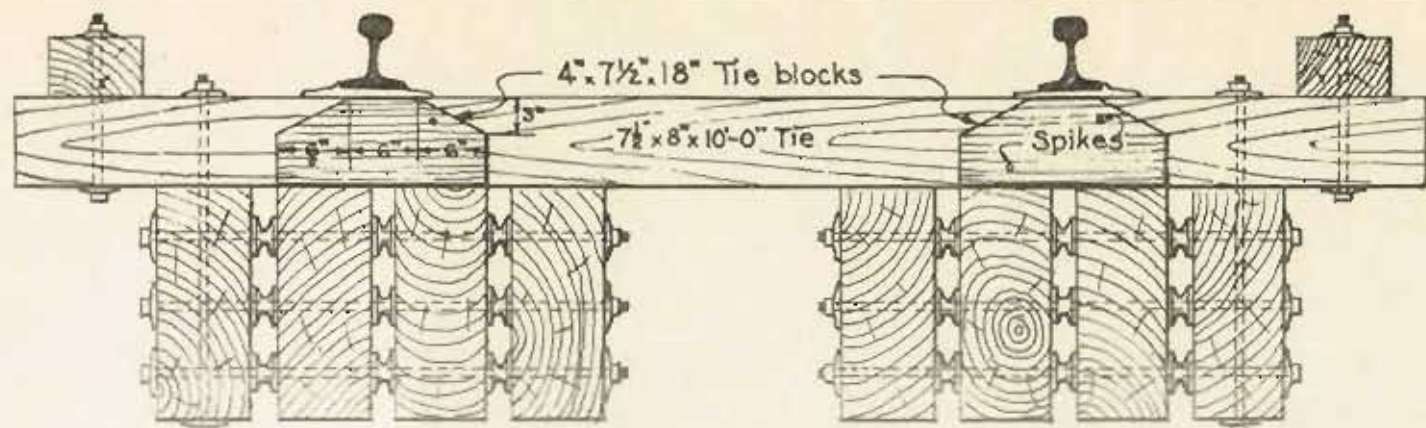
J. W. Mason
VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
WIRE AND LATH SAND FENCE

Scale: $\frac{1}{4}'' = 1'-0''$

Adopted June 1, 1937

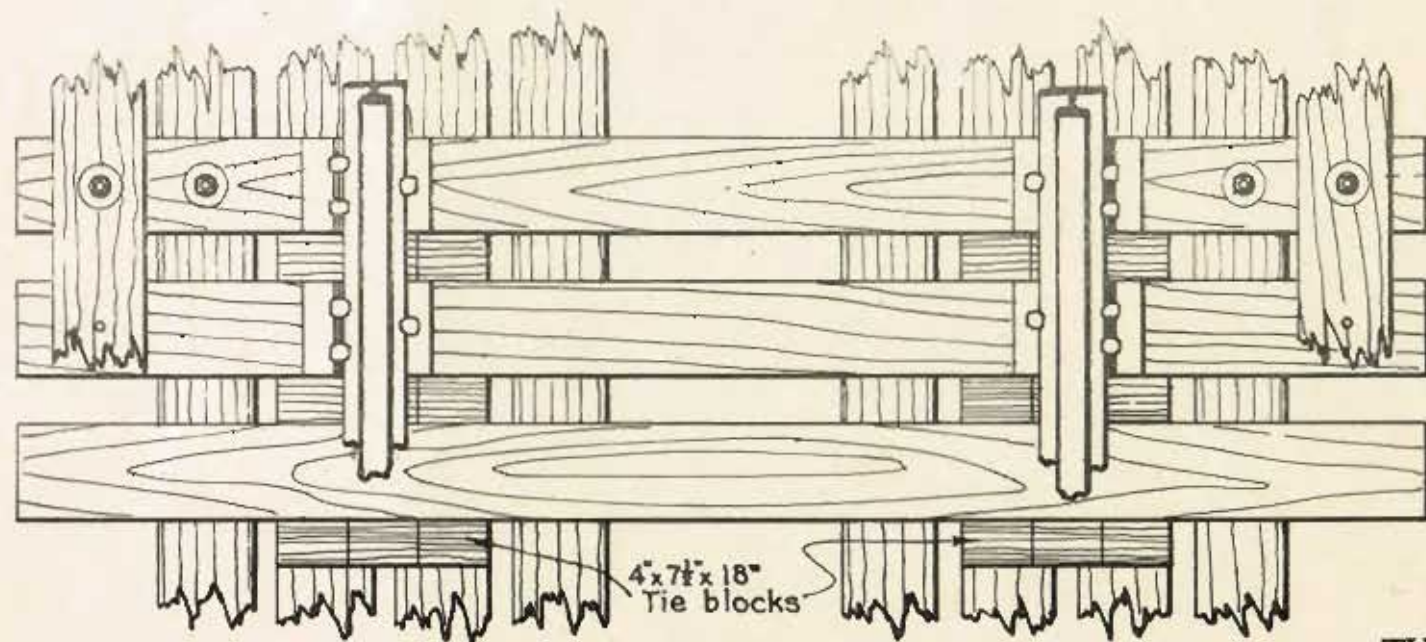
Note: Fence to be placed on outside of posts on tangents and on outside of curves; and placed on track side of posts on inside of curves.



SECTION THRU BRIDGE DECK

Note: Due to the variation of spaces between ties on steel bridge decks, special instructions will be issued with tie diagrams when bridge ties are renewed.

Tie blocks to be installed only when out of face tie renewals are made on open deck bridges. Due to variations in actual dimensions of ties and tie blocks, it will be necessary to install two or more special tie blocks in each panel to correct spacing of ties to a total of 15 per 15 ft. panel.



PLAN

APPROVED: *J. M. Williams*
CHIEF ENGINEER
APPROVED: *E. W. Mason*
VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
TIE BLOCKS
FOR OPEN DECK TRESTLES
SCALE: 3/4" = 1'-0"
ADOPTED SEPT. 16, 1940
Rev. May. 23, 1944

one
2-1-44

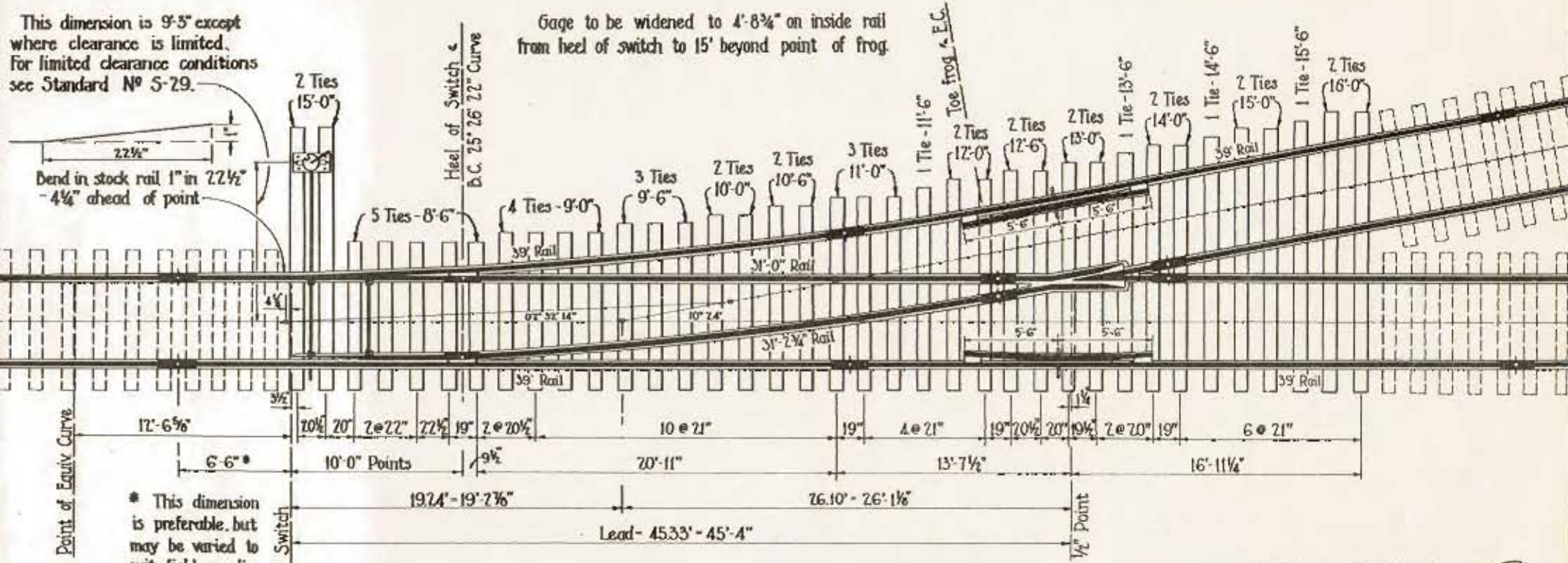
	SWITCH TIE LIST															Total Number Pieces	Total Feet B.M.		
	9x12"	Pieces 7x9"																	
	16'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"			15'-6"	16'-0"
Double Headblock	0	5	4	3	2	2	3	1	2	2	2	1	2	1	4	1	2	37	2262.8
Single Headblock	1	6	4	3	2	2	3	1	2	2	2	1	2	1	2	1	2	37	2293.9

When single headblock is used place the 9x12x16'-0" tie under end of switch points.

FROG ANGLE 10° 24'
 DEGREE OF TURNOUT CURVE 25° 26' 22"
 LEAD 45'-4"
 CLOSURE RAILS 1-31'-0" & 1-31'-2 3/4"

Note: Other lengths may be used for closure rails, but minimum length should be 15'-0".

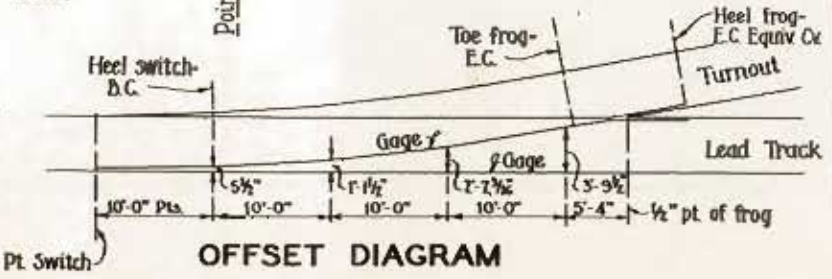
This dimension is 9'-5" except where clearance is limited. For limited clearance conditions see Standard No S-29.



Point of Equiv Curve

* This dimension is preferable, but may be varied to suit field conditions.

Equiv. Cv
 Δ - 10° 24'
 R - 349.258'
 T - 31.785'
 L - 63.395'
 D - 16° 25' 08"



OFFSET DIAGRAM

REFERENCES	
No 5 1/2 Bolted Rigid Frog	S-152A
10'-0" Split Switch	S-154A
11'-0" Guard Rail	S-30
Connecting Rods	S-141
Application of Switch Stands	S-29

Approved: *Fram R. Woolf*
 Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
NO 5 1/2 TURNOUT COMPLETE
 FOR USE WITH 85 LB. 39 FT. RAIL
 10'-0" POINTS

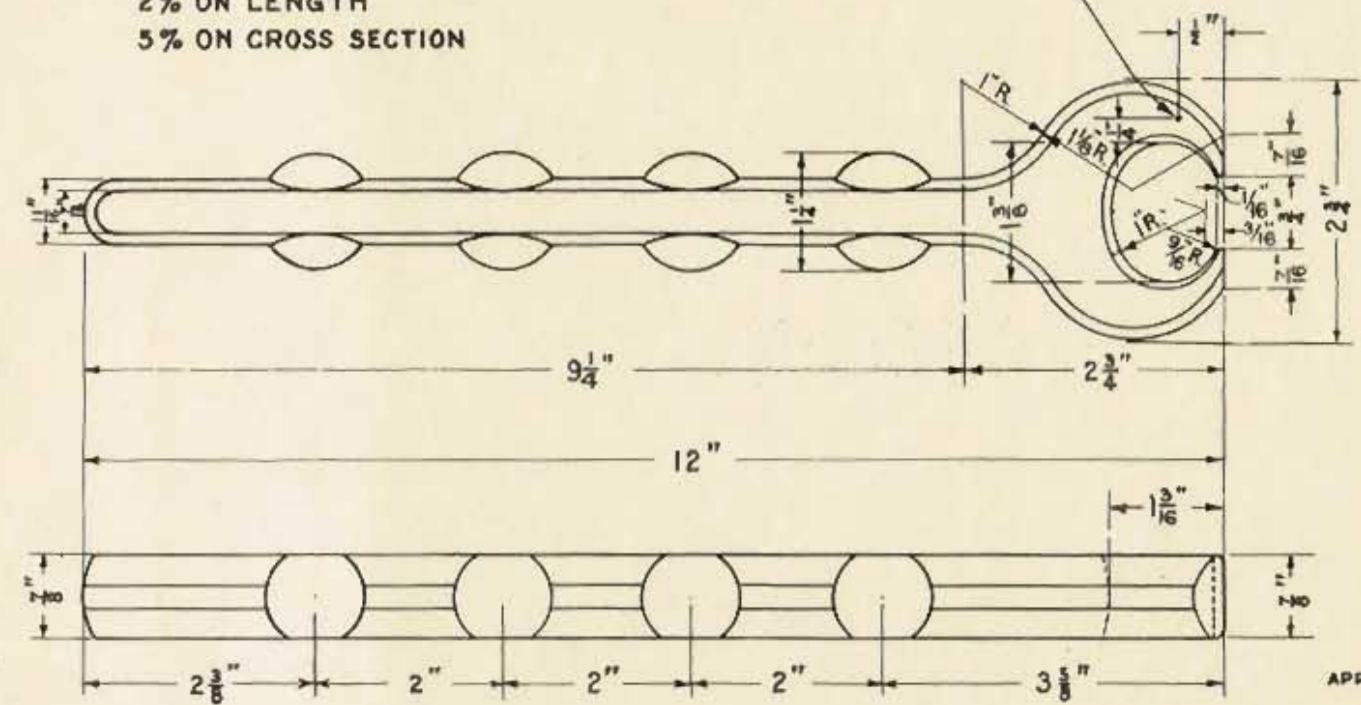
NO SCALE

ADOPTED: January 21, 1955

Tentative A.R.E.A. Specifications for
Track Tools, Plan B & C-1.

TOLERANCE -
2% ON LENGTH
5% ON CROSS SECTION

Arrow showing point where
hardness is taken
Brinell 375-450



APPROXIMATE WT. 2 1/2 LBS.

APPROVED *J. Williams*
CHIEF ENGINEER.

APPROVED *E. W. Mason*
VICE-PRES. JENT AND GENERAL MANAGER.

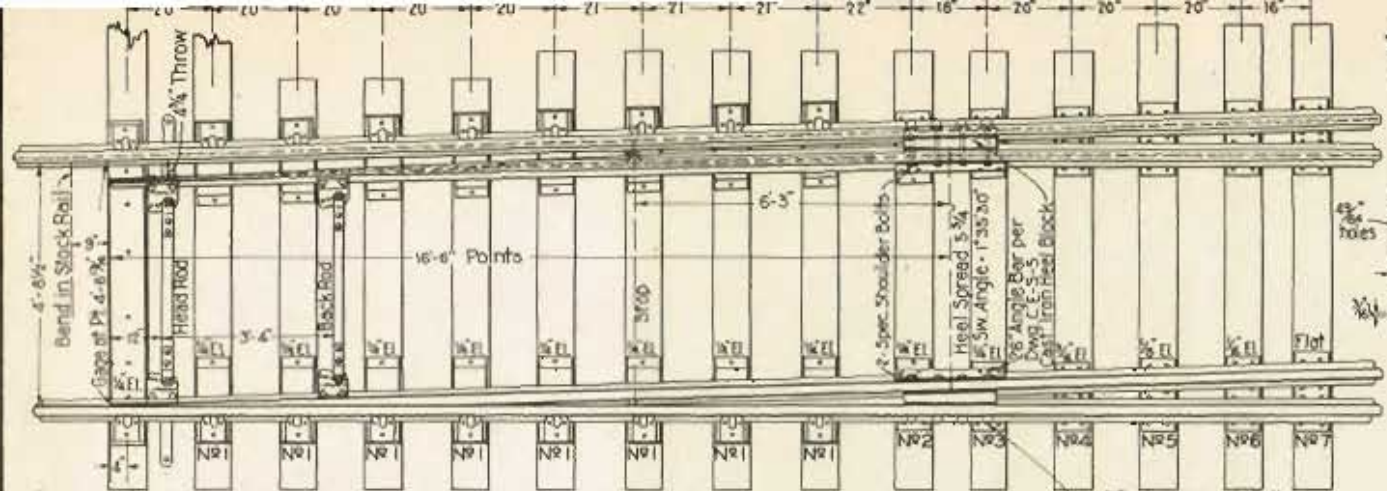
Plan is the same as A.R.E.A. Spike Puller Plan No. 9.
dated Sept. 1929 - Revised Sept. 1933, Rev. Mar. 1936.

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
SPIKE PULLER
A. R. E. A. PLAN No 9

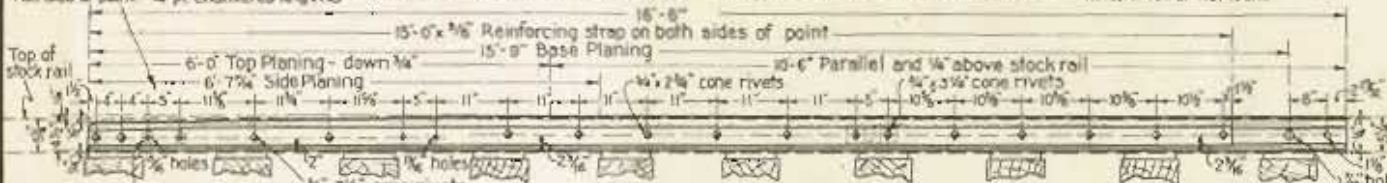
SCALE - HALF SIZE

ADOPTED JULY 1, 1934.
Rev. March 1936

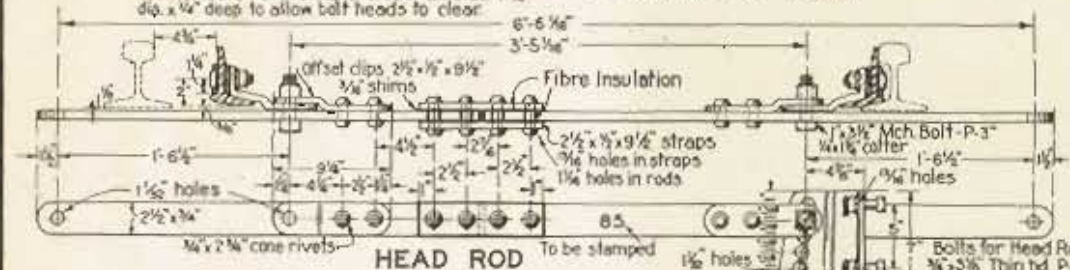
W.P.
3-1-36



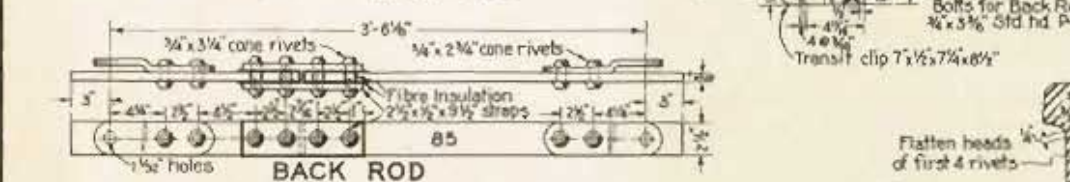
PLAN OF COMPLETE LEFT HAND SWITCH ASSEMBLED



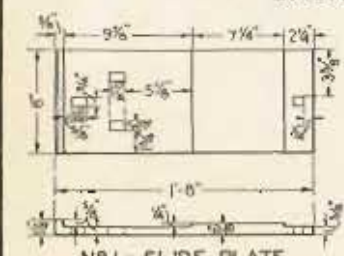
ELEVATION OF POINT



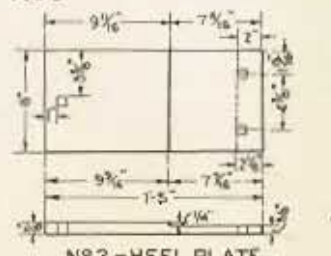
HEAD ROD



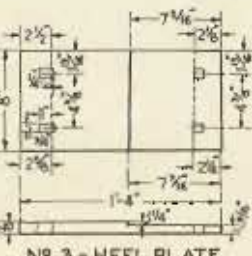
BACK ROD



No 1 - SLIDE PLATE
16 Required



No 2 - HEEL PLATE
1 R.H. & 1 L.H. Required

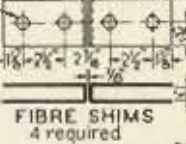


No 3 - HEEL PLATE
1 R.H. & 1 L.H. Required

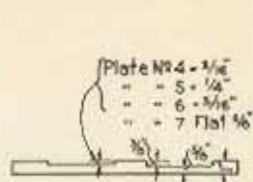
Note: All spike holes are 3/4" square unless otherwise shown.



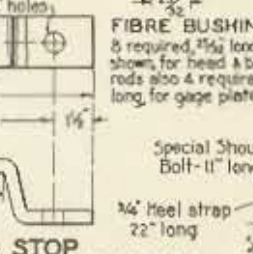
FIBRE SHIM
1 required



FIBRE SHIMS
4 required



RUNOFF PLATES
2 each - required



FORGED STOP

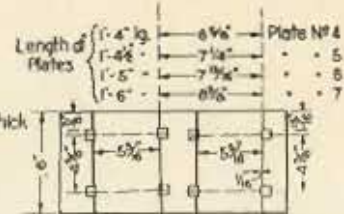
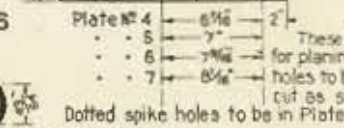
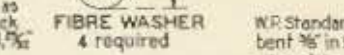


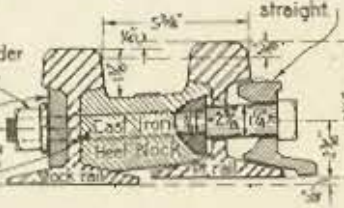
Plate No 4



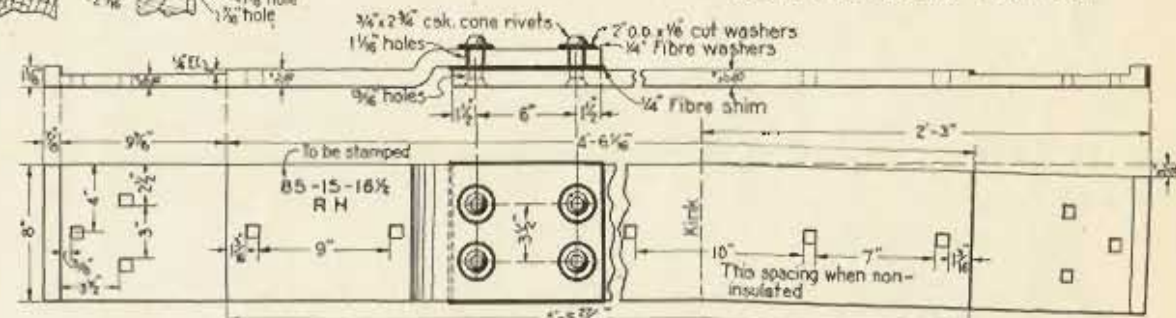
FIBRE BUSHING
8 required, 2 1/2" long as shown for head & back rods also 4 required, 2 1/2" long, for gage plate



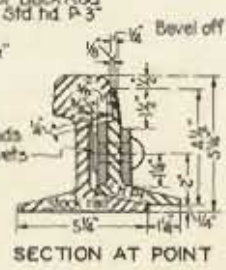
FIBRE WASHER
4 required



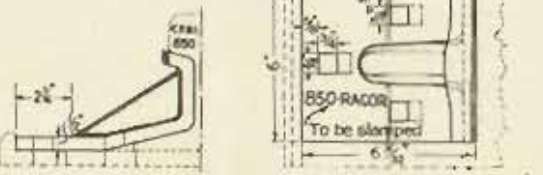
SECTION OF HEEL AT FIRST BOLT



GAGE PLATE



SECTION AT POINT



STEEL RAIL BRACE (Racor Dwg. AP-37)
18 Required

Notes:
Orders for switches should specify insulated or non-insulated. Annealed steel rivets, riveted cold under hydraulic pressure to be used on insulation.
Both rods to be stamped 85. Gage plate to be stamped 85-15-16 1/2 and R.H. or L.H. Side plates and Heel plates to be stamped with wt. of rail and no. of plate. Runoff plates to be stamped with wt. of rail, no. of plate, and no. of switch, i.e., 85-5-16 1/2
All rail braces to be punched with 3 spike holes.

All rods and gage plates to be tested for insulation before shipment.

OB SOLETE

APPROVED: *J.M. Williams*
CHIEF ENGINEER

OLD STANDARD
THE WESTERN PACIFIC RAILROAD CO.
STANDARD
16 FOOT 6 INCH SPLIT SWITCH
85 LB. RAIL

No Scale

Adopted Feb. 1, 1938
Revised Dec. 1, 1944.

Note: All parts shown here are interchangeable with corresponding parts shown on S-116 A. When requisition refers

PARTS LIST - SWITCH COMPLETE

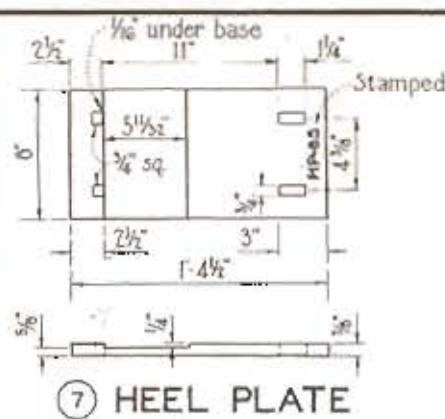
Piece Mark	Name of Part	Stamped	Req'd	Remarks
1	Switch Point - Right Hand	-	1	Includes Transit Clips bolted in place except when requisition states "Without Transit Clips"
2	Switch Point - Left Hand	-	1	
3	Gage Plate - Complete	85-16 1/2-15	1	Specify insulated or non-insulated
4	Head Rod - Complete	85	1	Specify insulated or non-insulated
5	Back Rod - Complete	85	1	includes Transit Clip Rod Bolts except when requisition states "Without Transit Clip Rod Bolts"
6	Slide Plate	SP-85	16	As per WP Dwg NP CE S-219
7	Heel Plate	HP-85	4	
8	L 23 - Hook Twin Tie Plate	L-23	6	
9	LR 23 - Hook Twin Tie Plate	LR-23	6	To be wired to Pt Mk 12 for shipment
10	Run-off Shim	-	2	
11	Rail Brace	85	18	Includes 1 Heel Block, 1 Heel Strap, 1 Bent Joint Bar, 1 Shoulder Bolt, & 3 Track Bolts each.
12	LH Heel Assembly Complete	-	1	
13	RH Heel Assembly Complete	-	1	

REPLACEMENT PARTS

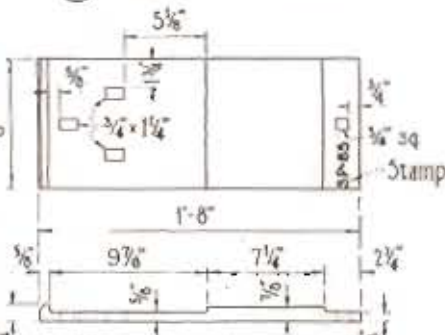
Insulated Gage Plate				
14	Gage Plate Half - R.H.	85-16 1/2-15RH	1	3/8" x 4 1/2" Sq Hd. Mach Bolt - includes 1 Hex Nut & 1 Spring lock washer each.
15	Gage Plate Half - L.H.	85-16 1/2-15LH	1	
16	Gage Plate Bolt	-	3	
17	Fibre Bushing	-	3	
18	Fibre Shim	-	2	
19	Fibre Angle	-	2	2
20	Steel Strapwasher	-	2	
Transit Clip				
21	Transit Clip - RH or LH	-	2 ea.	Bolts not included
22	Transit Clip Web Bolt	-	0	
23	Transit Clip Rod Bolt	-	4	1" x 3 1/2" drilled 3" Sq Hd. Mach Bolt - includes 1 Sq Nut & 1 1/2" Cotter Pin each.
Heel Assembly				
24	Heel Block - Right Hand	85-16 1/2-15	1	3/8" x 12 3/8" H.C. HT. - includes 2 sq nuts, 2 1/2" Spring lock washers & 1 1/4" x 1 1/2" Cotter Pin each.
25	Heel Block - Left Hand	85-16 1/2-15	1	
26	Heel Strap	-	2	
27	Bent Joint Bar	-	2	
28	Shoulder Bolt	-	2	
29	Track Bolt	-	6	3/8" x 10 1/2" Std. Track Bolt - includes 1 Sq Nut & 1 Spring lock washer ea.
Insulated Rod Assembly				
30	Head Rod Half	85	2	1/2" x 3 3/4" drilled 3 1/4" - Square Head Machine Bolt - includes 1 Sq. Nut & 1 Ht. Chrome lock washer & 1 1/4" x 1 1/4" Cotter Pin each
31	Back Rod Half	85	2	
32	Rod Insulation Bolt	-	0	
33	Fibre Shims	-	2 pr.	
34	Fibre Bushing	-	8	
35	Steel Strap	-	4	2 1/2" x 1/2" x 9 1/2"

NOTES

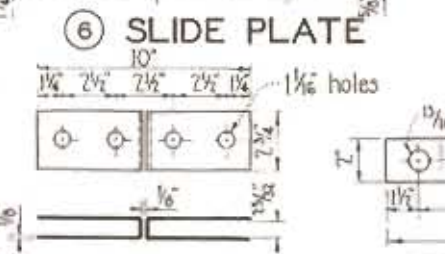
When requisition states "Switch Complete" store will furnish Piece Marks 1 through 13 listed under Switch Complete. Requisition must state whether switch is to be insulated or non-insulated.
 Piece Marks 1 through 13 include all material necessary to equip one complete switch. Piece Marks 14 through 35 are replacement parts only. Replacement Parts list to be used only when ordering individual replacement parts. When ordering, refer to Drawing Number and Piece Mark in addition to specifying name and size of part.



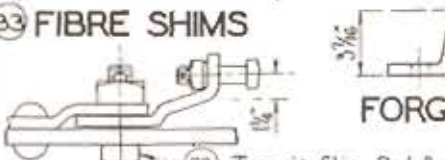
7 HEEL PLATE



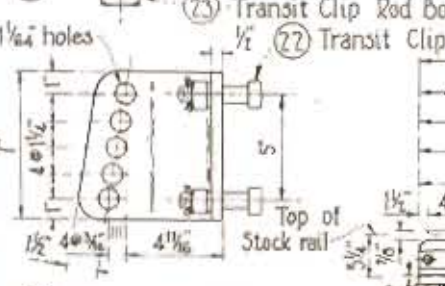
6 SLIDE PLATE



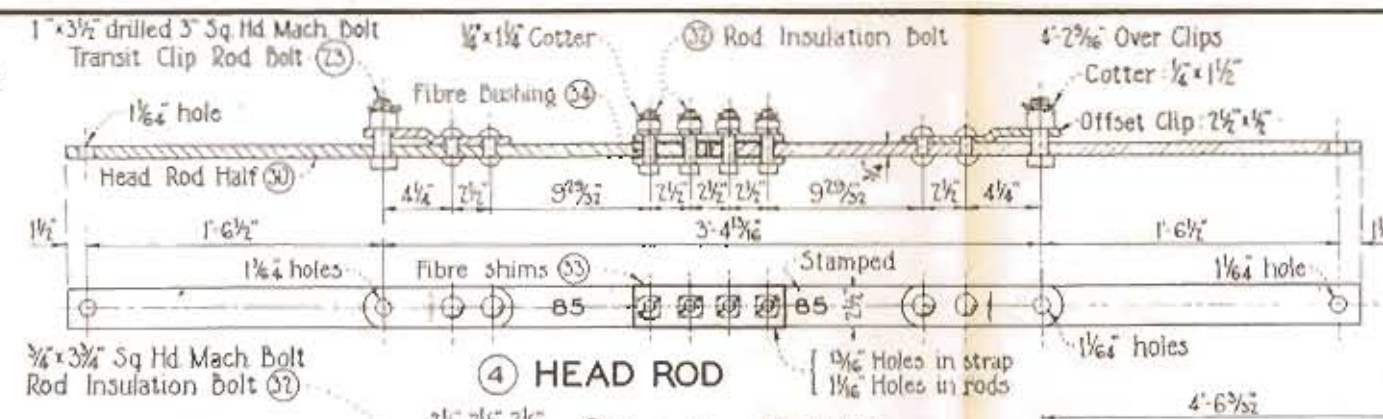
33 FIBRE SHIMS



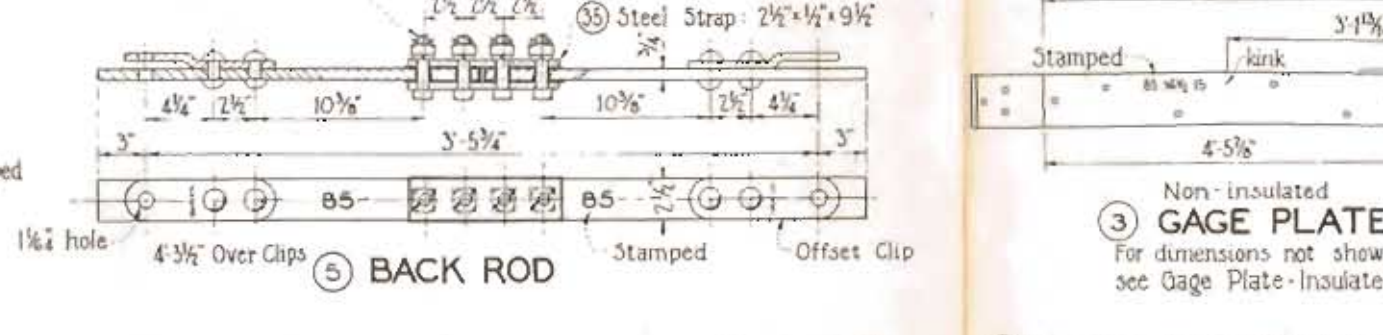
34 FIBRE BUSHING



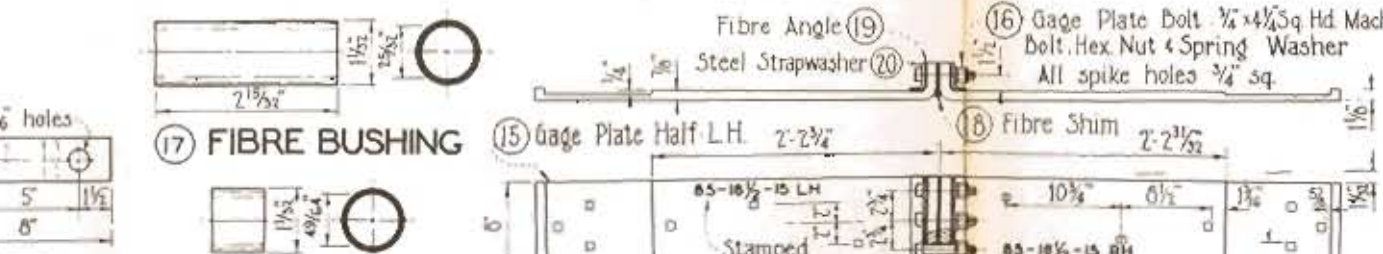
21 TRANSIT CLIP



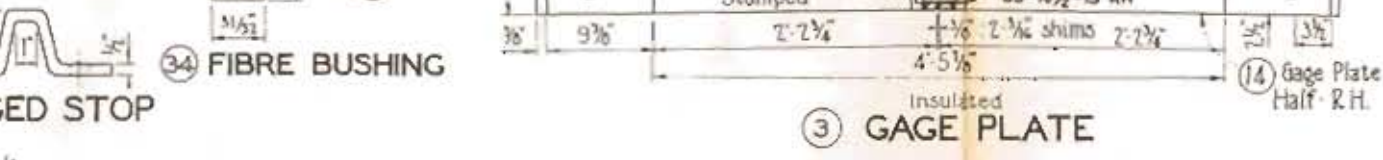
4 HEAD ROD



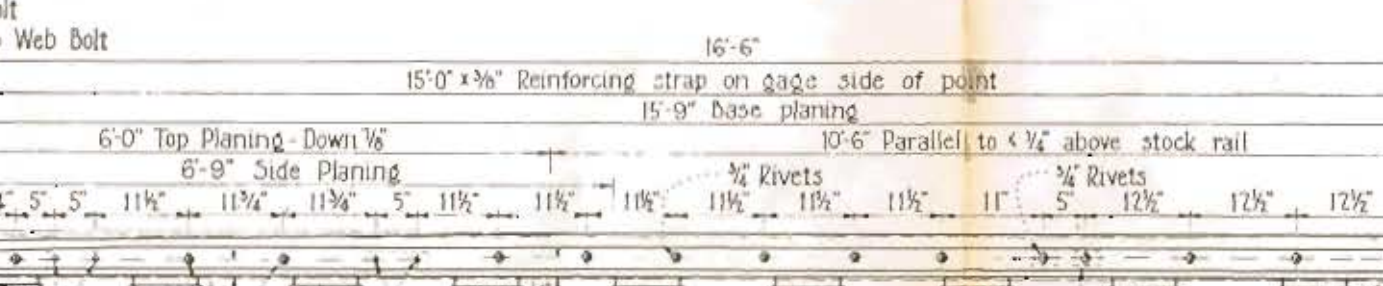
5 BACK ROD



17 FIBRE BUSHING



34 FIBRE BUSHING



3 GAGE PLATE



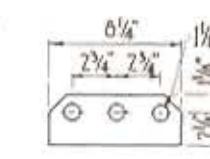
2 ELEVATION OF LEFT HAND SWITCH POINT COMPLETE

Bend in Stock 9' ahead of Switch



3 GAGE PLATE

Non-insulated
For dimensions not shown see Gage Plate - Insulated.



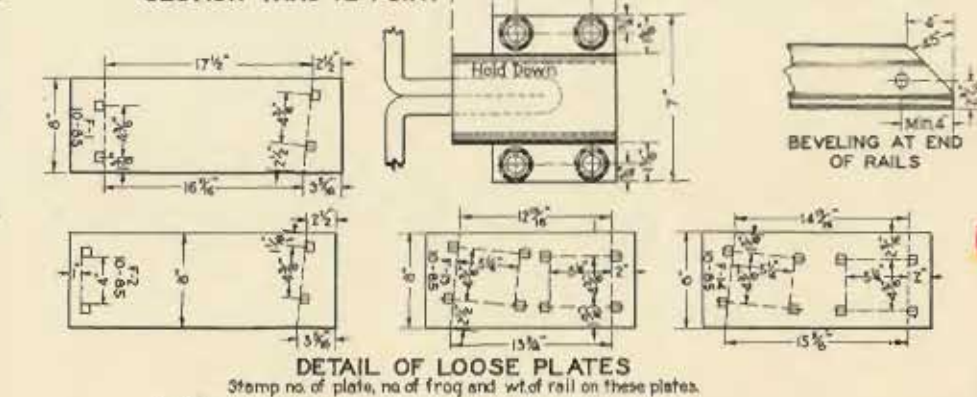
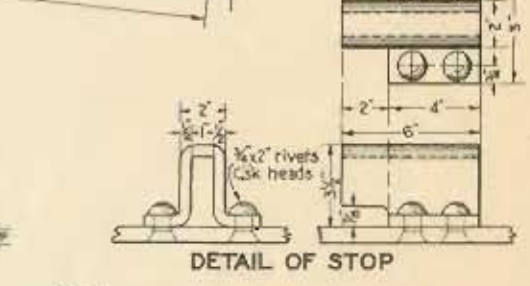
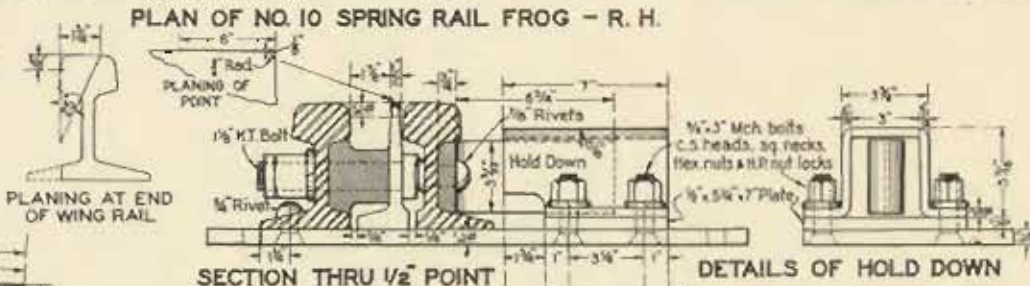
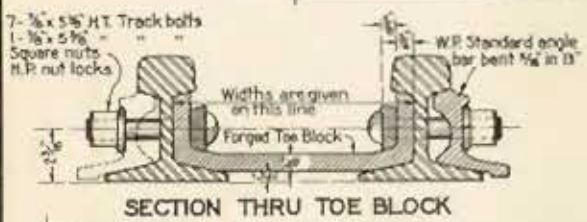
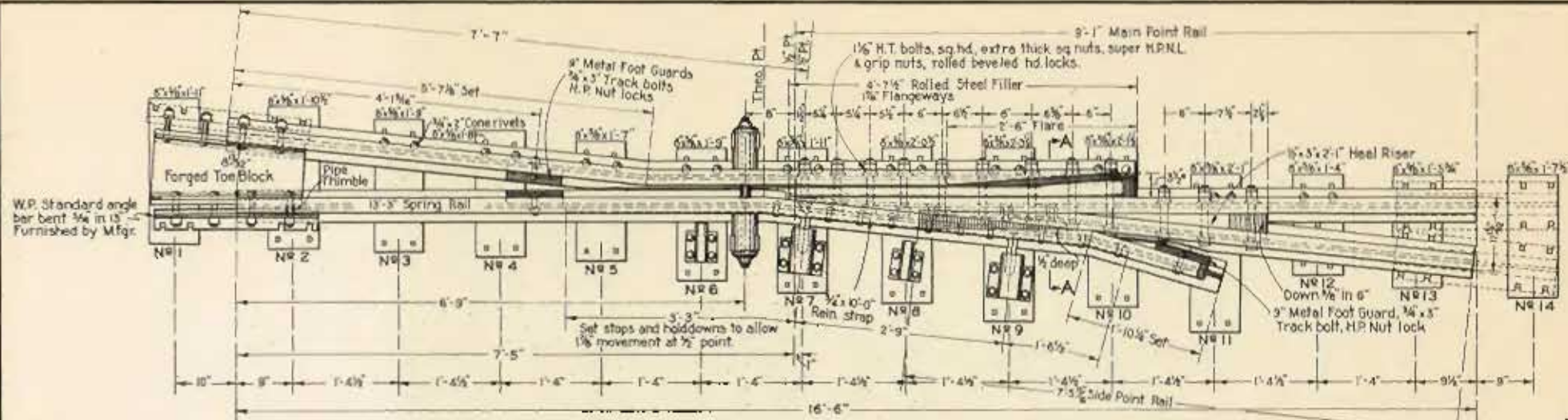
18 FIBRE SHIM

Spike holes 1/4 sq

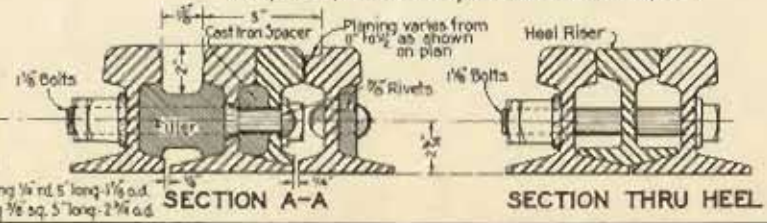
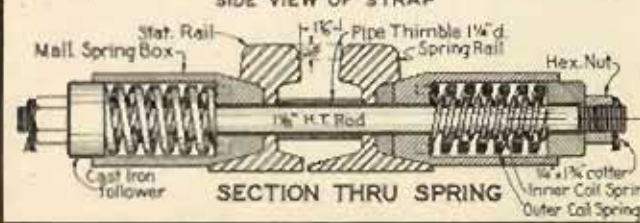


14 Gage Plate Half - R.H.

11 RAIL BRACE



Notes:
All plates to be riveted to flange of rail at 90° to main track with 2-3/4" rivets, except plates 1, 2, 13 & 14 which are loose.
All spike holes are 1/4" sq. and, except in plates 1, 2, 13, & 14 are 1/8" under flange.



OLD STANDARD
OBSCLETE

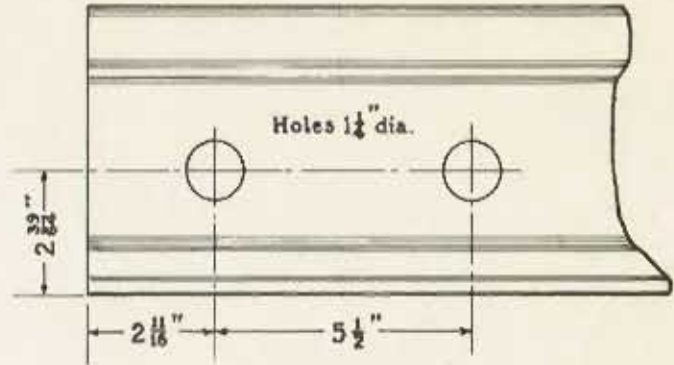
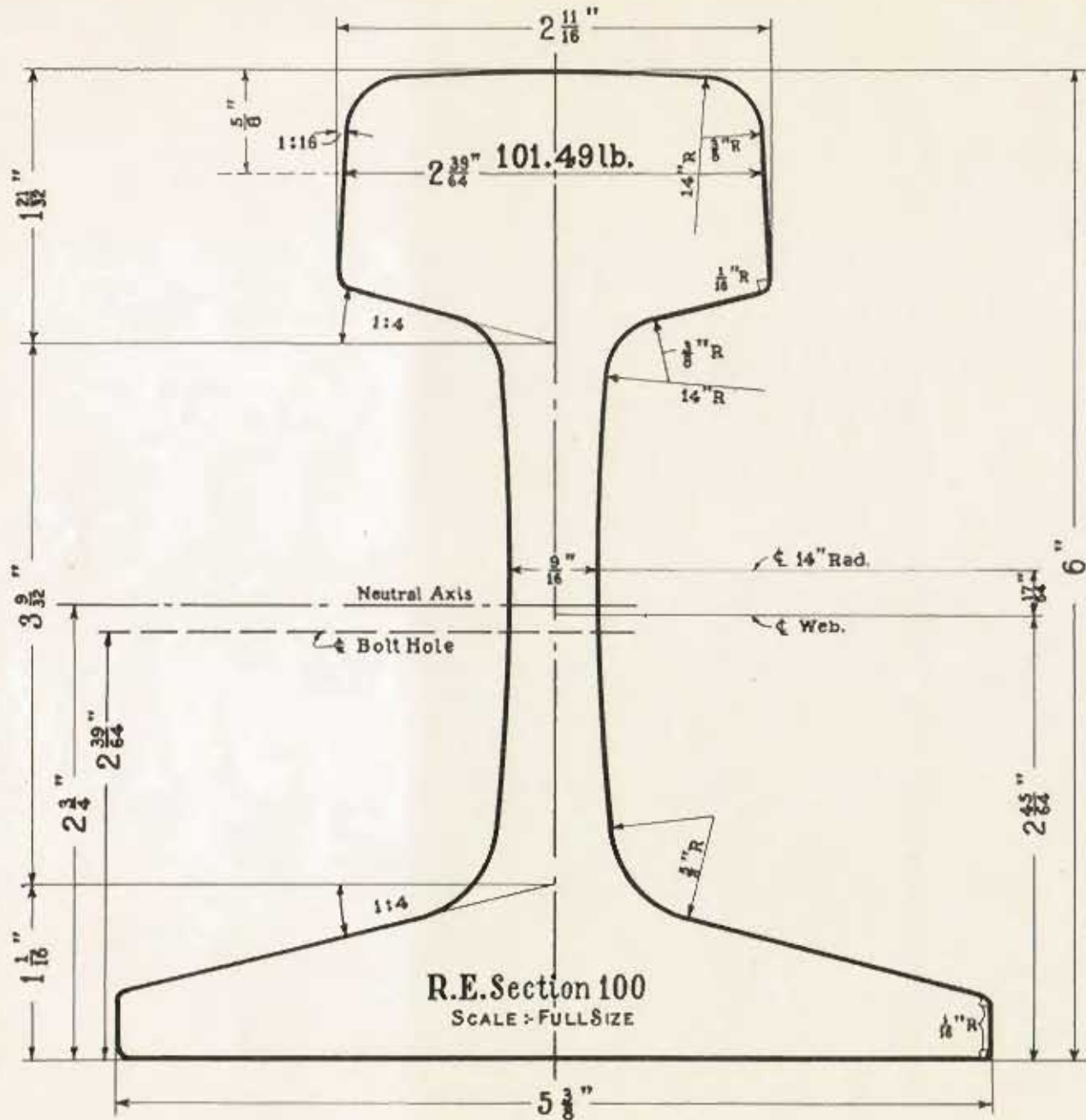
APPROVED: *J. M. Mason*
CHIEF ENGINEER

APPROVED: *E. W. Mason*
VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
NO. 10 SPRING RAIL FROG
85 LB. RAIL

No Scale Adopted Feb. 1, 1938

W.P. 2-1-66



DRILLING OF RAIL
Scale - 3"=1'-0"

ELEMENTS OF RAIL SECTION

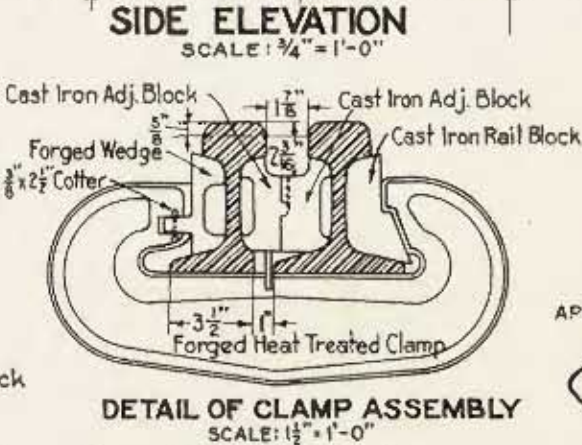
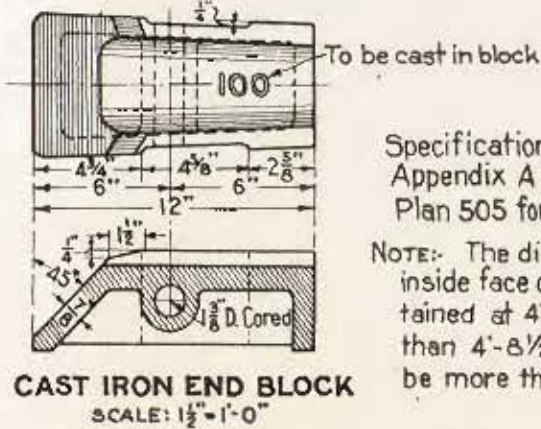
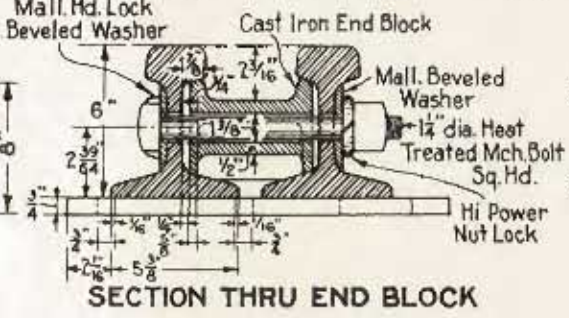
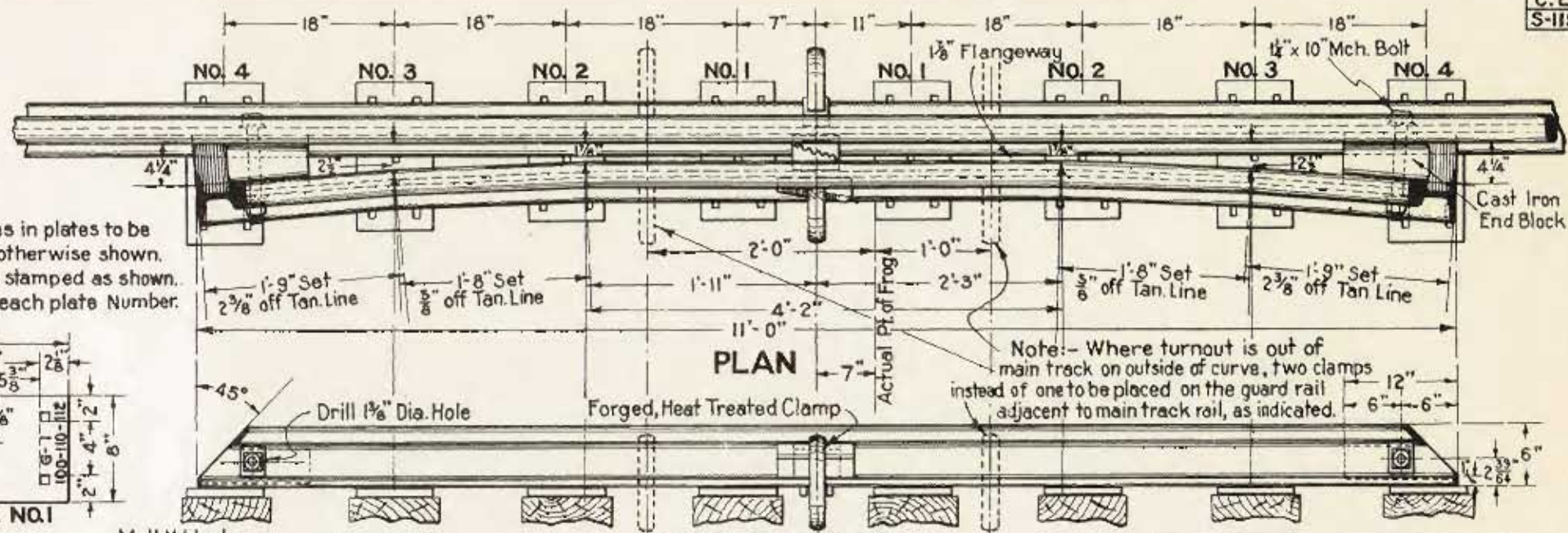
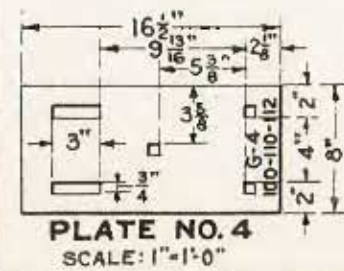
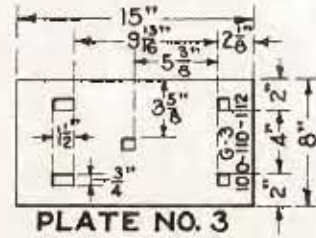
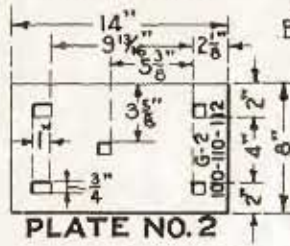
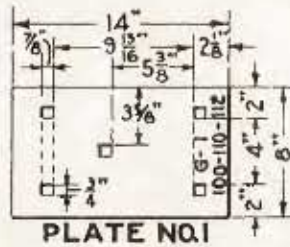
Area of Head	3.80 SqIn.	38.2 %
" " Web	2.25 " "	22.6 %
" " Base	3.90 " "	39.2 %
Total Area	9.95 " "	100.0 %
Moment of Inertia		49.0
Section Modulus - Head		15.1
" " - Base		17.8
Gross Tons per Track Mile		159.48

APPROVED

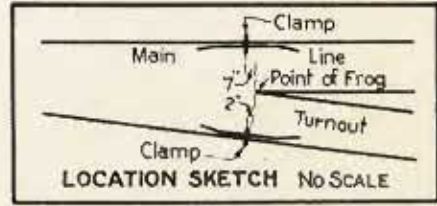
J. M. Williams
CHIEF ENGINEER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
100 LB. R. E. RAIL

Note:
All spike holes in plates to be 3/4" x 3/4" unless otherwise shown.
All plates to be stamped as shown.
2 Required of each plate Number.



Note: - Where turnout is out of main track on outside of curve, two clamps instead of one to be placed on the guard rail adjacent to main track rail, as indicated.



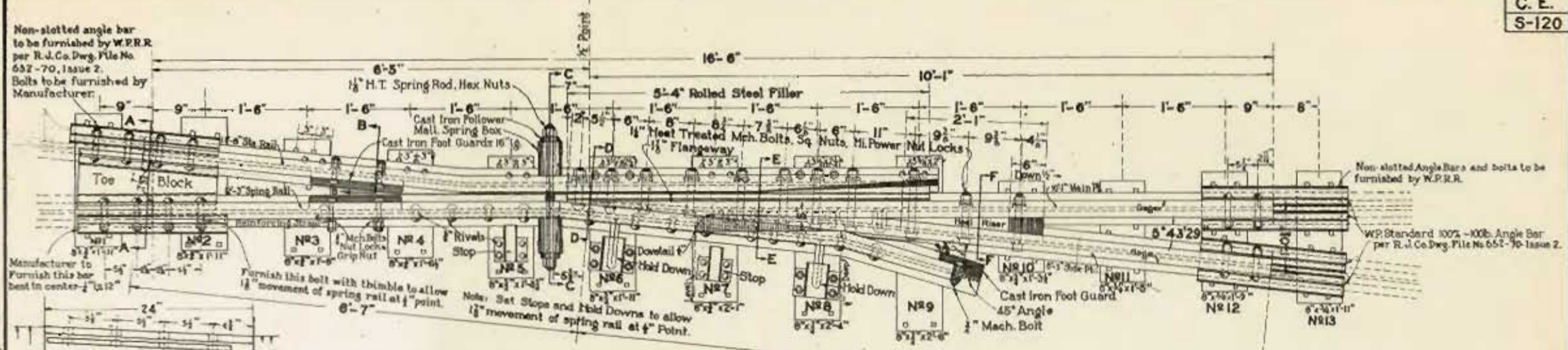
Specifications: - As per A.R.E.A. Specifications, Appendix A, adopted March, 1934.
Plan 505 for guard rail clamps, adopted Mar. 1934.
NOTE: The distance from gage line at frog point to inside face of guard rail must always be maintained at 4'-6 5/8". If gage of track is more than 4'-8 1/2", the guard rail flangeway must be more than 1 7/8" by the same amount.

APPROVED: *J. M. Williams*
CHIEF ENGINEER

OLD STANDARD
OBSOLETE
THE WESTERN PACIFIC RAILROAD CO.
STANDARD
11 FT - 100 LB. GUARD RAIL

SCALES AS NOTED
ADOPTED MARCH, 1935
REVISED NOV. 1, 1935
MAR. 2, 1936

Non-slotted angle bar to be furnished by W.P.R.R. per R.J.Co. Dwg. File No. 652-70, Issue 2. Bolts to be furnished by Manufacturer.

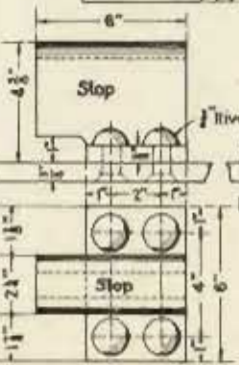
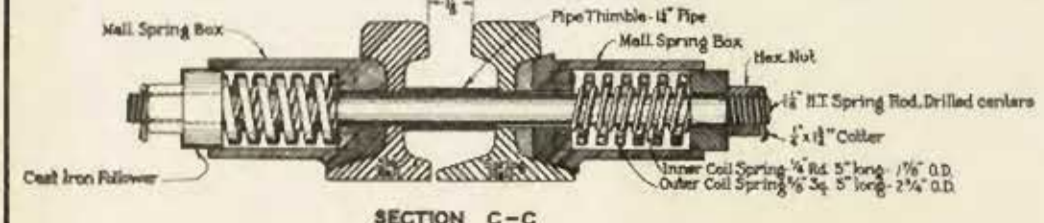
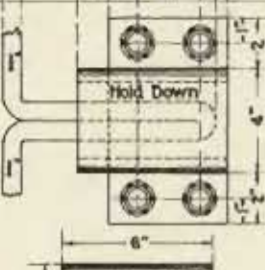
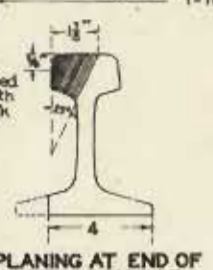
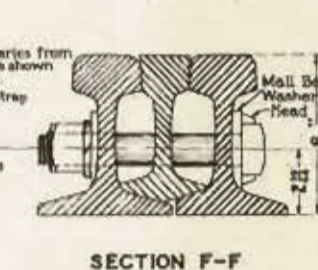
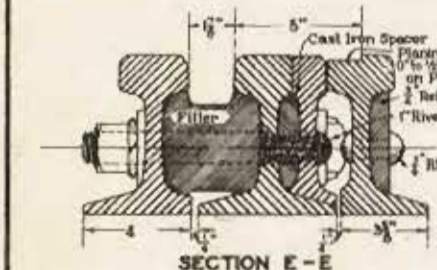
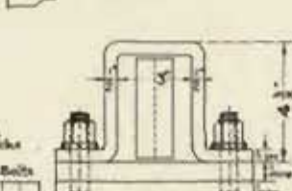
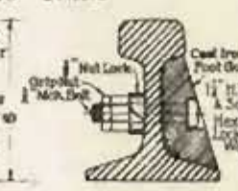
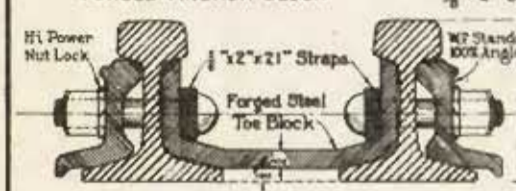
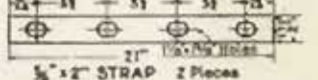
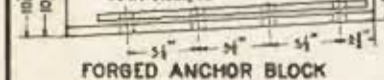


Manufacturer to furnish this bar best in center 1/2" ± 1/2"

Furnish this bolt with thimble to allow 1/8" movement of spring rail at 4" point.

Note: Set Stops and Hold Downs to allow 1/8" movement of spring rail at 4" Point.

PLAN OF NO. 10 SPRING RAIL FROG - LENGTH 16'-6" R.H.



Specifications—As per A.R.E.A. Specifications Appendix A. Adopted March 1934.

Note—Plates No. 1, 2, 10, 11, 12 and 13 to be shipped in one bundle. Plates No. 1, 2, 10, 11, 12 and 13 to be stamped with number of plate and weight of rail as shown on Dwg. C.E. 60-32-F-7, using prefix 'P' as noted. Plates No. 1, 2, 10, 11, 12 and 13 to be punched in accordance with Dwg. C.E. 60-32-F-5.

OBsolete

OLD STANDARD

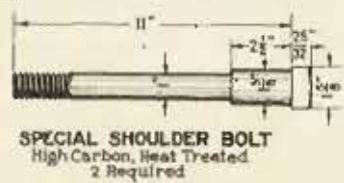
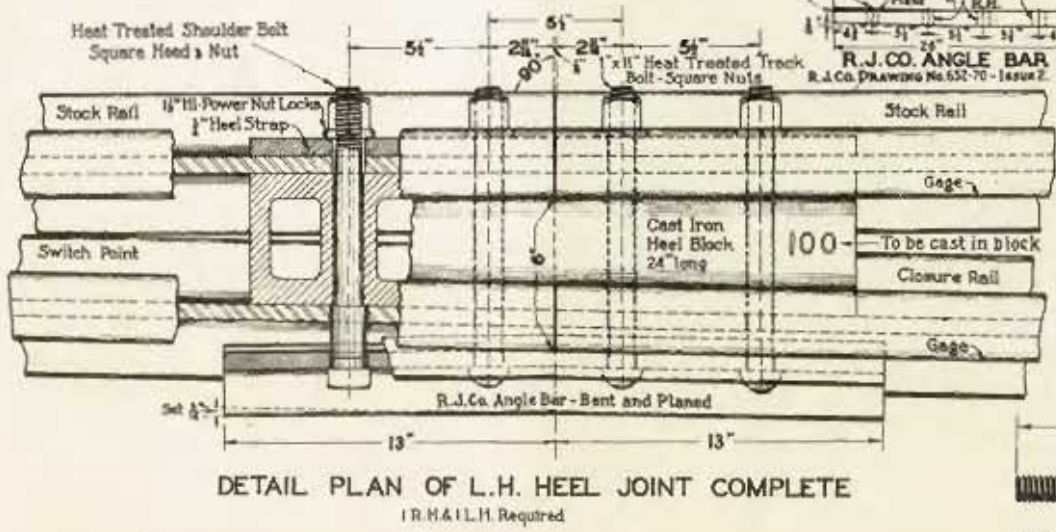
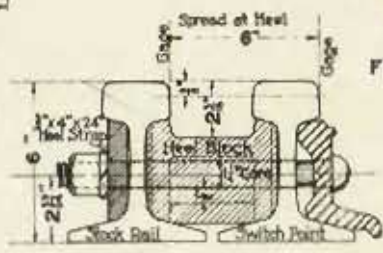
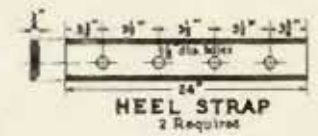
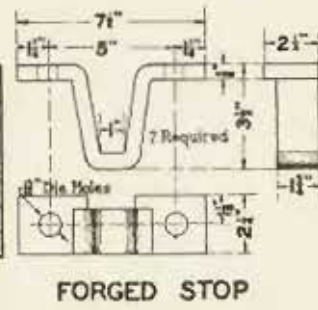
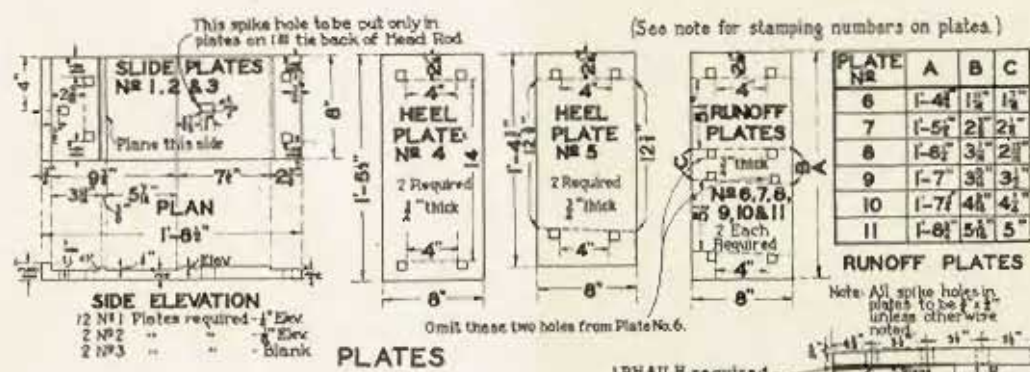
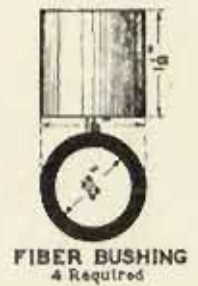
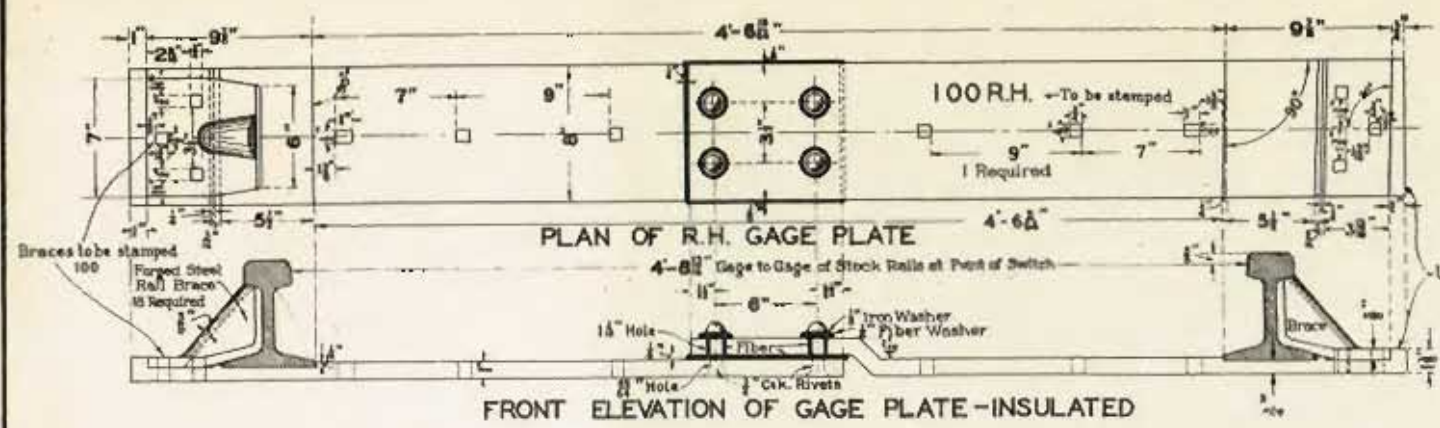
APPROVED: *J.M. Williams* CHIEF ENGINEER
APPROVED: *E.W. Mason* VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
NO. 10 SPRING RAIL FROG
100 LB. R.E. RAIL

NO SCALE
ADOPTED MARCH, 1935.
Revised Nov. 1, 1935, 3/2/1936.

Note >

Annealed steel rivets, riveted cold under hydraulic pressure.
All gage plates to be tested for insulation before shipment.
Gage plate and braces to be stamped as indicated.
All other switch plates to be stamped with number of plate and weight of rail as shown on Dwg. C.E.-60-32-P-2.



OBsolete

OLD STANDARD

APPROVED: *J.M. Wilson* CHIEF ENGINEER
APPROVED: *E. V. Mason* VICE PRESIDENT AND GENERAL MANAGER

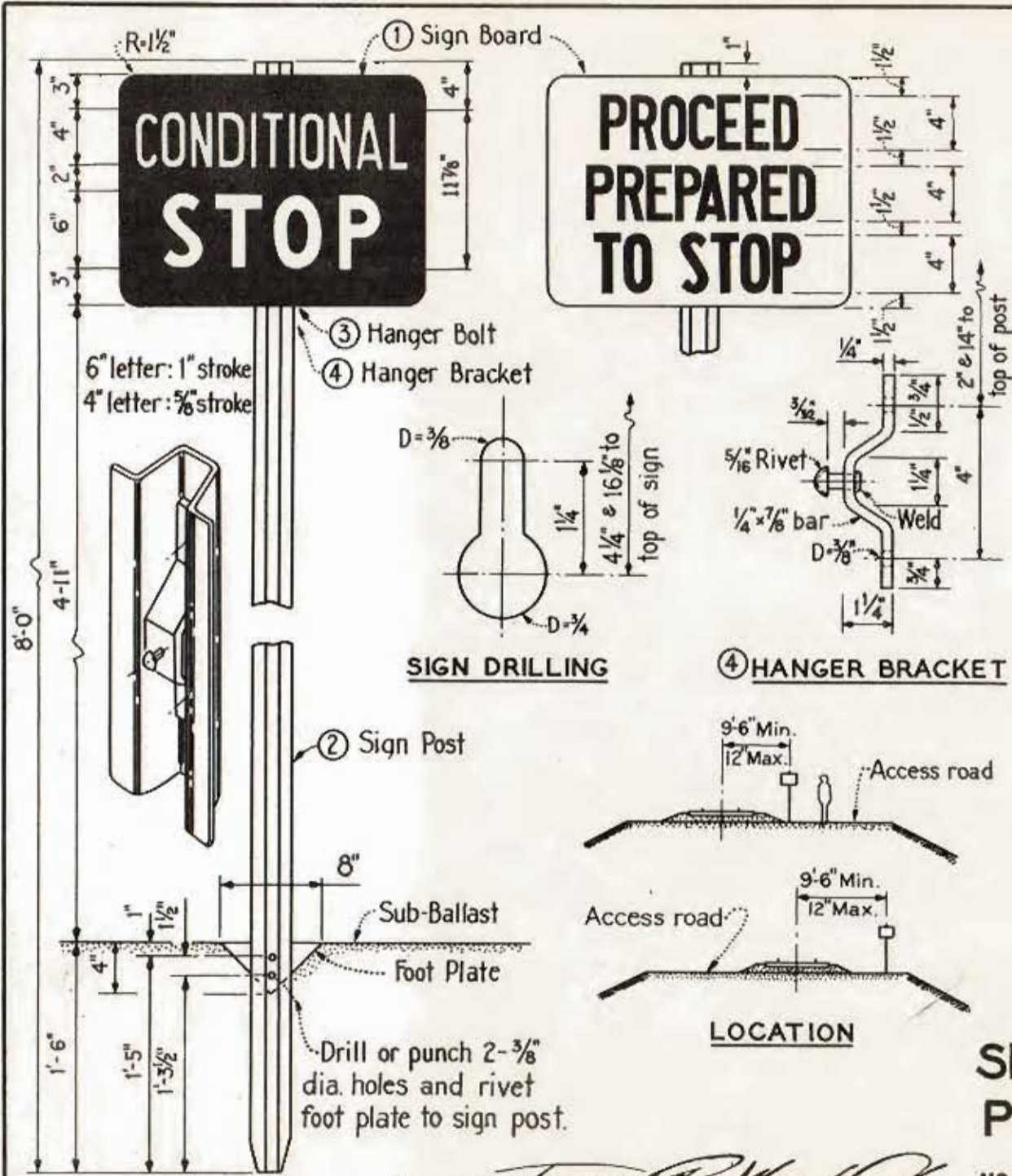
THE WESTERN PACIFIC RAILROAD CO.
STANDARD
16 FOOT 6 INCH SPLIT SWITCH
100 LB. R.E. RAIL

NO SCALE

ADOPTED MARCH, 1935.
Revised Nov. 1, 1935, 3/2/1936.

8-14-59: Change
Hanger Bracket;
drilling from 12"

C. E.
S-123



NOTE

For proper use of this sign see Maintenance of Way and Structures Rule Book, rules 10 H and 10 I.
 Proceed Prepared to Stop Sign to have black non-reflective letters on yellow reflective background, one side only. Materials to be as per current instructions.
 Conditional Stop sign to have white non-reflective letters for word "Conditional", white reflective letters for word "Stop". Background to be non-reflective red, one side only.

PARTS LIST

Pc. Mk	Name	Req'd.	Remarks
1	Sign Board	1	18" x 24"
2	Sign Post	1	Type "C" S-82 with extra holes as shown & without mounting sets.
3	Hanger Bolt	4	5/16" x 3/4" galv. stove bolt with 1 galv. nut each.
4	Hanger Bracket	2	Galvanized

When requisition states "Conditional Stop Sign Complete" or "Proceed Prepared To Stop Sign Complete" store will furnish Piece Marks 2 through 4 assembled and Piece Mark 1.
 When ordering replacement parts refer to Piece Mark, Name of Part and Drawing Number and sign legend.

THE WESTERN PACIFIC RAILROAD CO.
STANDARD

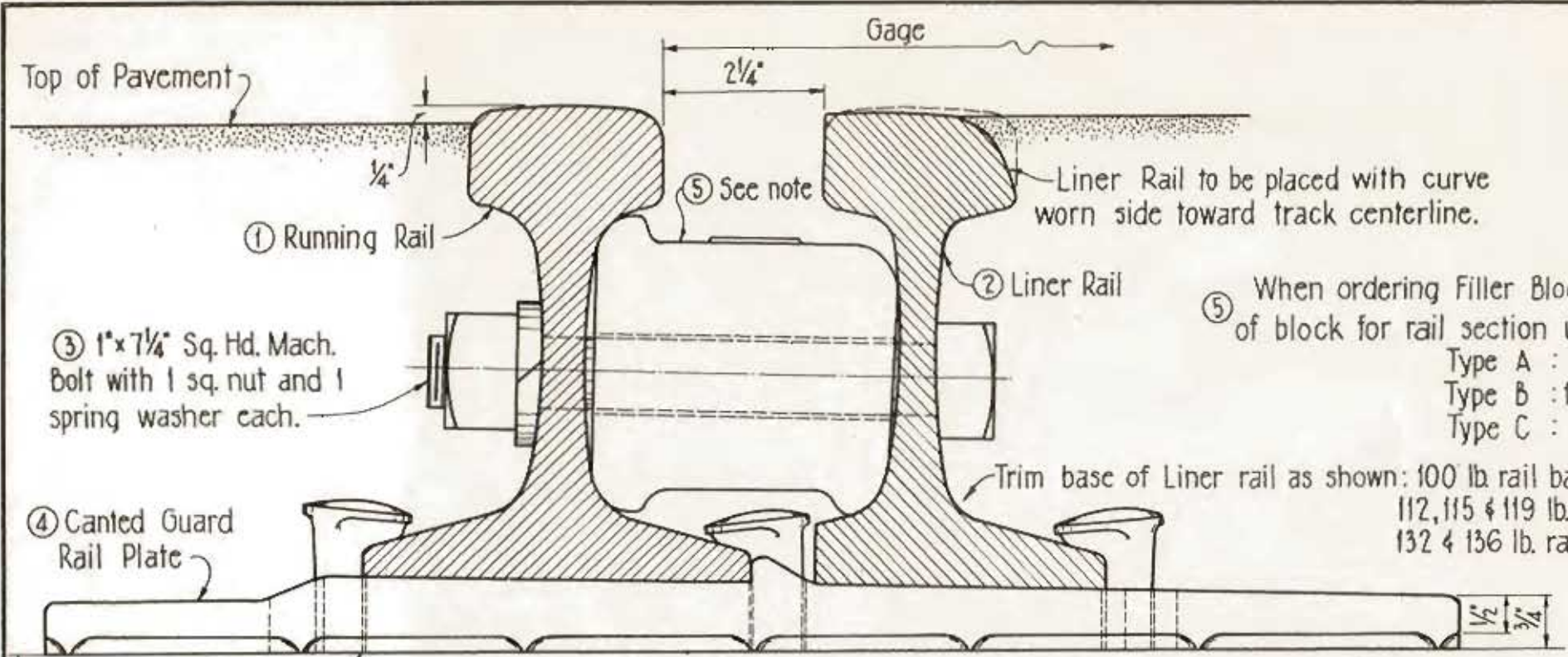
**SIGNS-CONDITIONAL STOP AND
PROCEED PREPARED TO STOP**

Approved: *Frank R. Wood*
Chief Engineer

NO SCALE Revised: 8-14-59 Adopted: May 22, 1959

7-15-59: add plate stamping
 8-14-59: block shape, base trimming

C.E.
 S-131



③ 1" x 7 1/4" Sq. Hd. Mach. Bolt with 1 sq. nut and 1 spring washer each.

⑤ When ordering Filler Blocks specify type of block for rail section used:

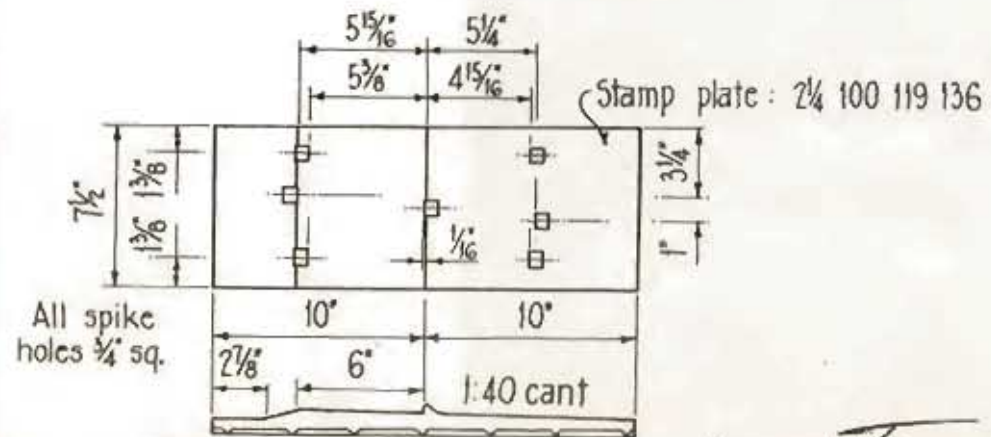
- Type A : 100 lb. rail
- Type B : 112, 115 & 119 lb. rail
- Type C : 132 & 136 lb. rail

Trim base of Liner rail as shown: 100 lb rail base to be 4 1/8", 112, 115 & 119 lb. rail base to be 4 1/16" & 132 & 136 lb. rail to be 4 7/16" base.

Top of tie or tie pad.
 Liner rail end to be beveled as shown on S-204.

NOTES

Use guard rail plate as shown on every third tie, on intermediate ties use standard tie plates under running rail only. Filler blocks to be spaced at 6'-6" centers or 6 per 39' rail. For Filler Block details see S-134. Requisition for Liner Rail should state "Scrap rail for use as Liner Rail".



④ **GUARD RAIL PLATE**

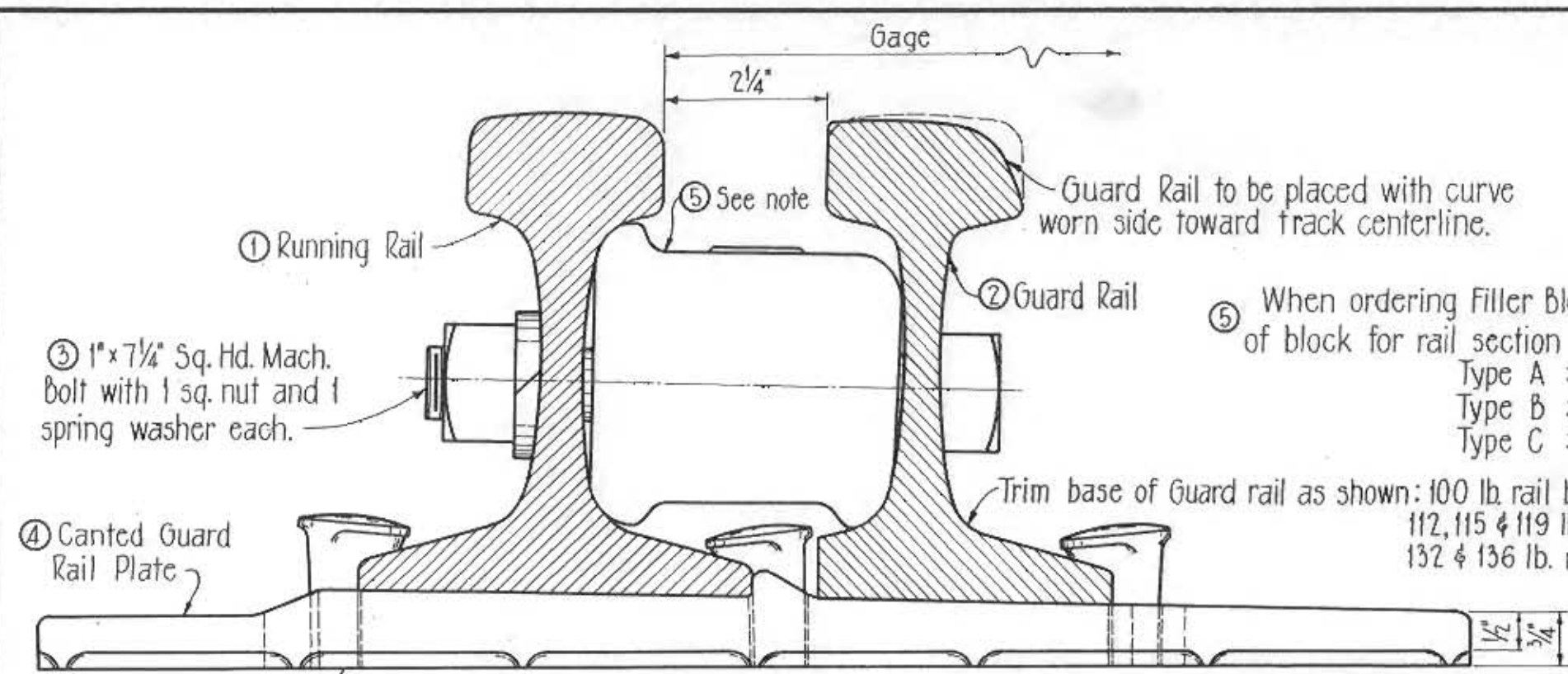
Approved: *Frank R. Woolford*
 Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD

RAIL FLANGEWAY LINER FOR PAVEMENT

RAILS 100 LBS. AND HEAVIER

No Scale Revised: 8-14-59 Adopted: June 15, 1959



① Running Rail

③ 1" x 7/4" Sq. Hd. Mach. bolt with 1 sq. nut and 1 spring washer each.

④ Canted Guard Rail Plate

Top of tie or tie pad

⑤ See note

Guard Rail to be placed with curve worn side toward track centerline.

② Guard Rail

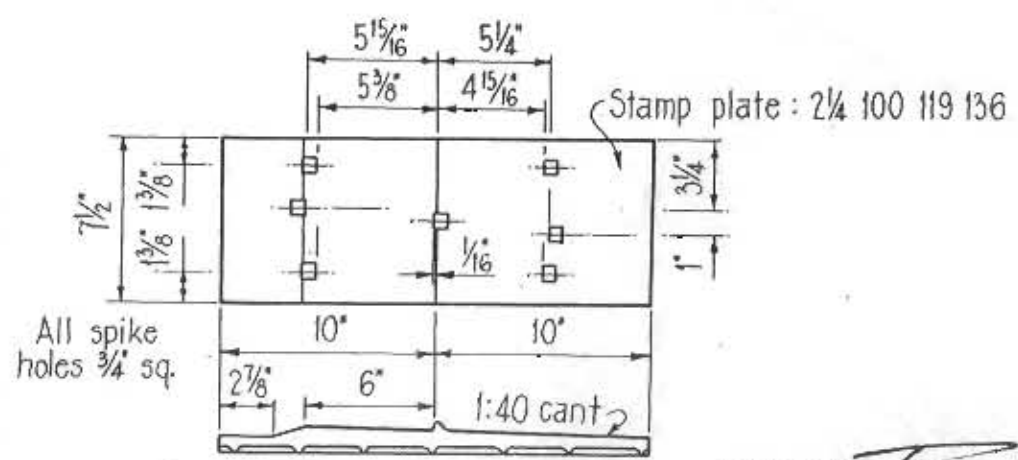
⑤ When ordering Filler Blocks specify type of block for rail section used:

- Type A : 100 lb. rail
- Type B : 112, 115 & 119 lb. rail
- Type C : 132 & 136 lb. rail

Trim base of Guard rail as shown: 100 lb. rail base to be 4 1/8", 112, 115 & 119 lb. rail base to be 4 1/16" & 132 & 136 lb. rail base to be 4 7/16".

NOTES

Use guard rail plate as shown on every third tie, on intermediate ties use standard tie plates under running rail only. Filler Blocks to be spaced at 6'-6" centers or 6 per 39' rail. For Filler Block details see S-134. Requisition for Guard Rail should state "Scrap or S.H. rail for use as Guard Rail".



All spike holes 3/4 sq.

④ GUARD RAIL PLATE

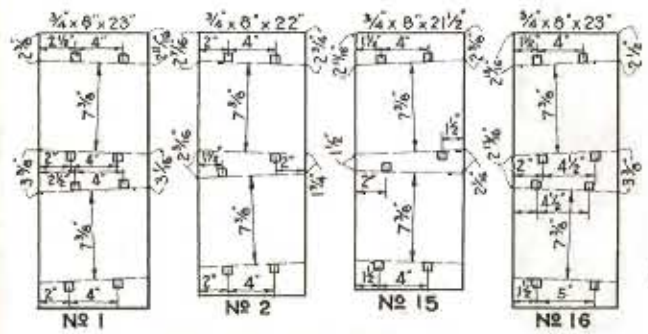
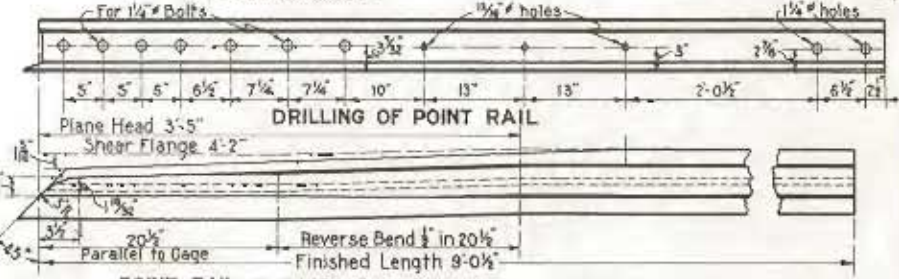
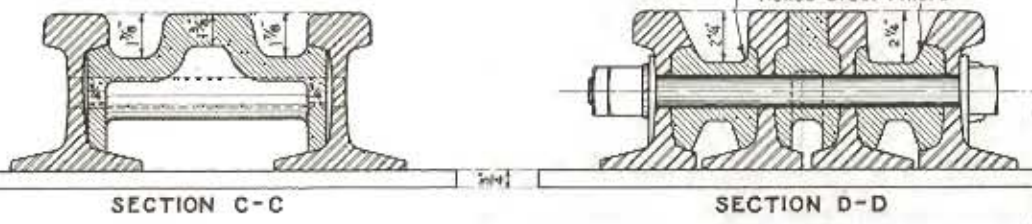
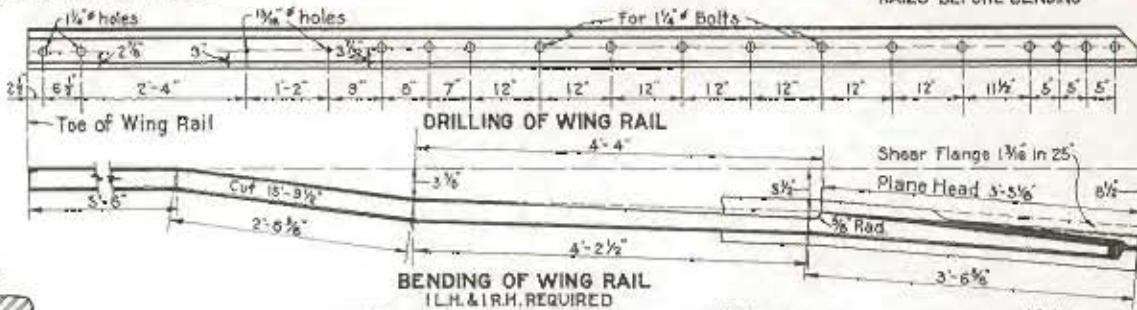
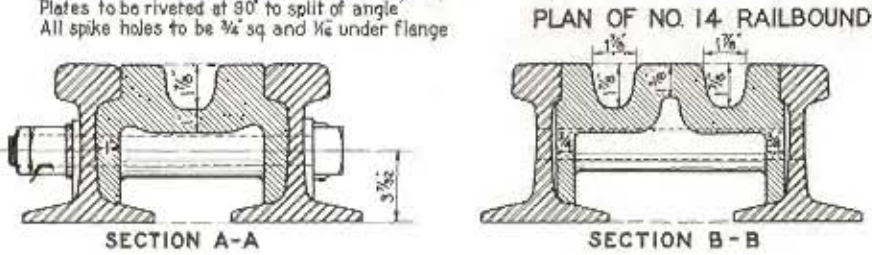
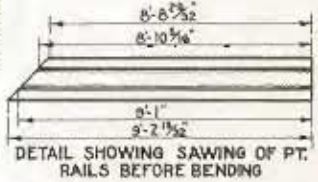
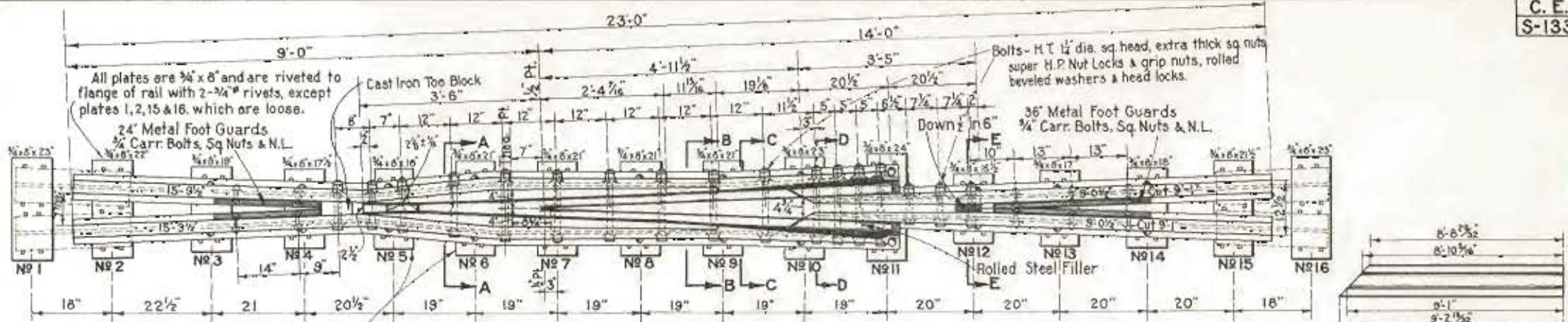
Approved: *Frank G. Wood*
Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
**INNER GUARD RAIL
FOR CURVES**

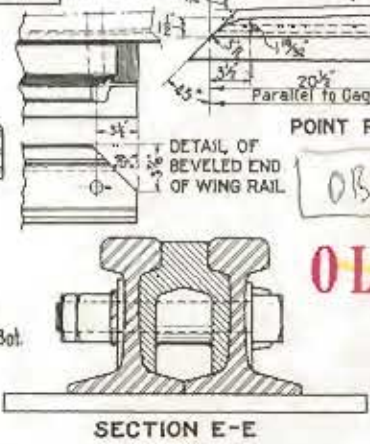
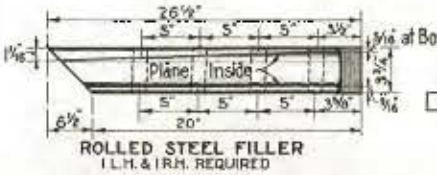
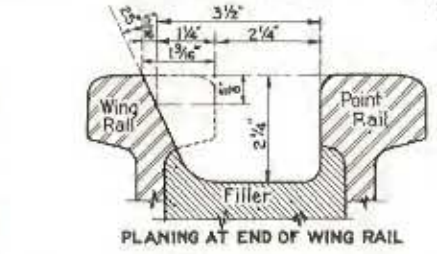
RAILS 100 LBS. AND HEAVIER

No Scale

Adopted: June 15, 1959



DETAIL OF LOOSE PLATES
Stamp weight of rail, No. of plate and No. of
Frog as per Dwg. C.E. 60-32-F.7



APPROVED: *J.M. Williams* CHIEF ENGINEER
APPROVED: *E.W. Mason* VICE-PRESIDENT AND GENERAL MANAGER
OLD STANDARD
THE WESTERN PACIFIC RAILROAD CO.
STANDARD
NO. 14 RAILBOUND MANGANESE FROG
112 LB. & 115 LB. RAIL

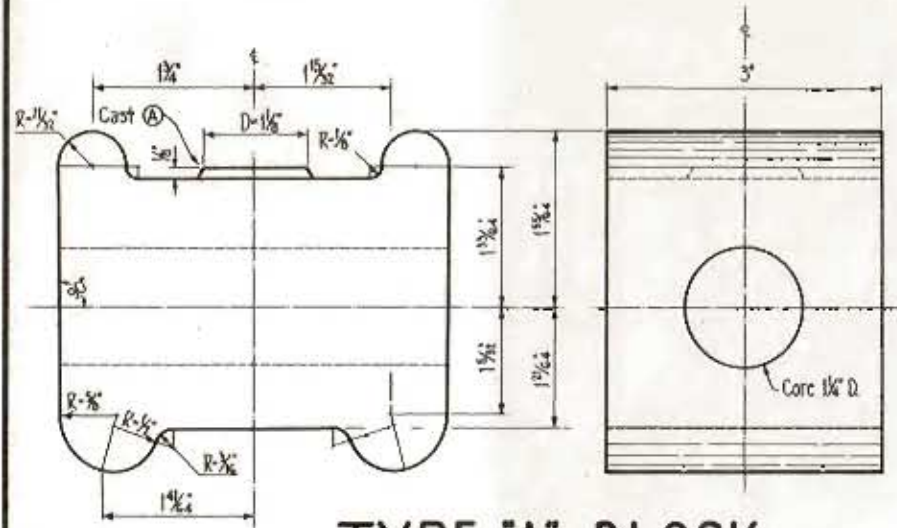
No Scale

Adopted: Sept. 1, 1936
Revised: Jan. 25, 1955

OBSCLETE

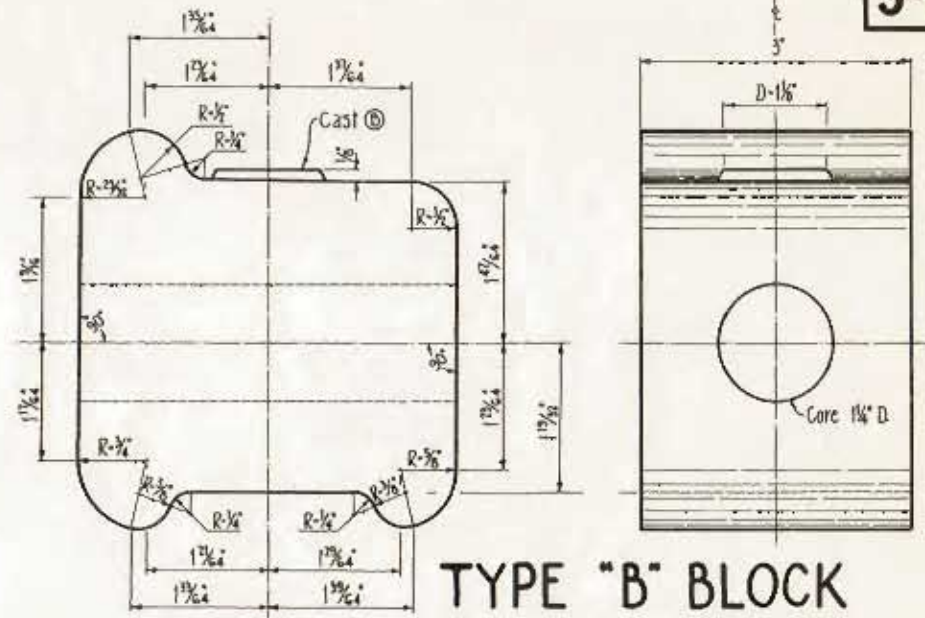
8-14-59; Redrawn,
change block ends to
vertical, change rail
fit at top, change width
from 4" to 3".

C.E.
S-134



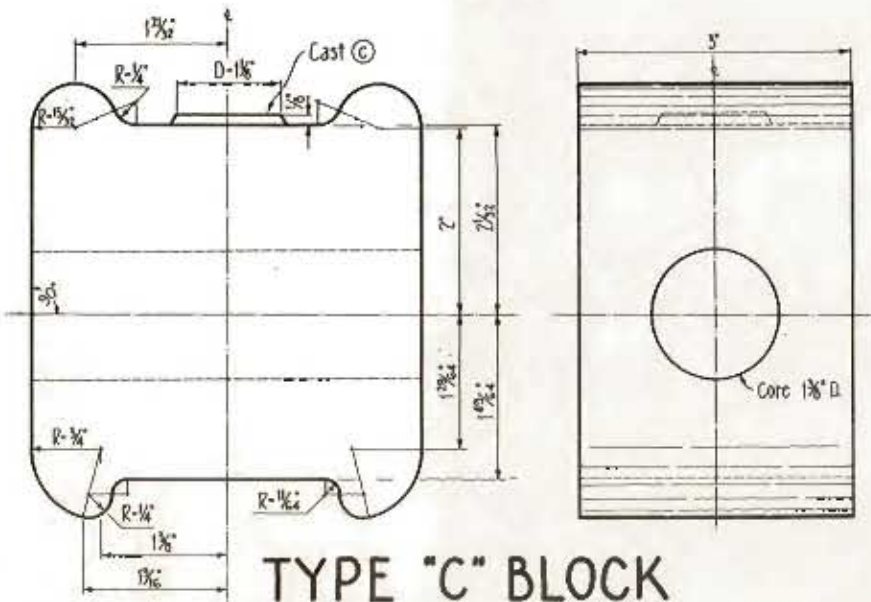
TYPE "A" BLOCK

100 lb. Rail



TYPE "B" BLOCK

112, 115 & 119 lb. Rail



TYPE "C" BLOCK

132 & 136 lb. Rail

Approved: *Frank R. Woolford*
Chief Engineer

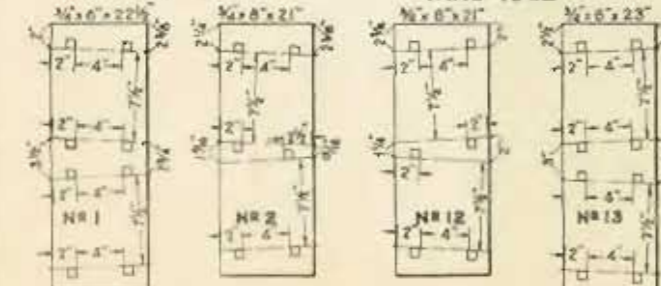
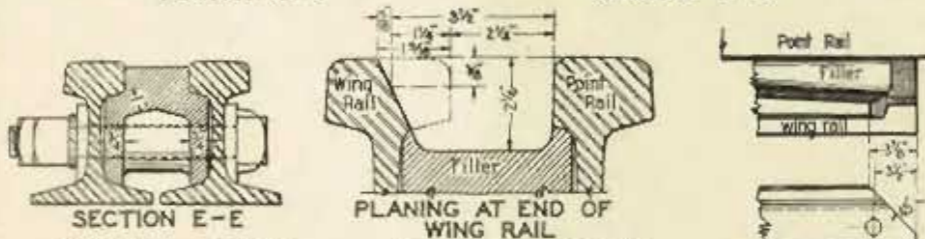
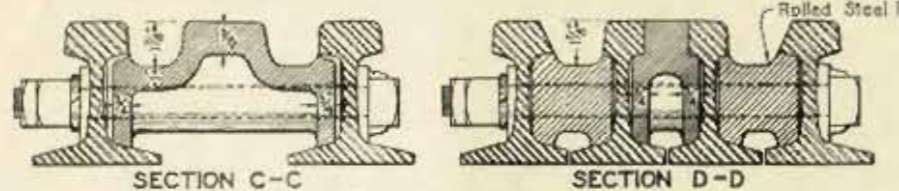
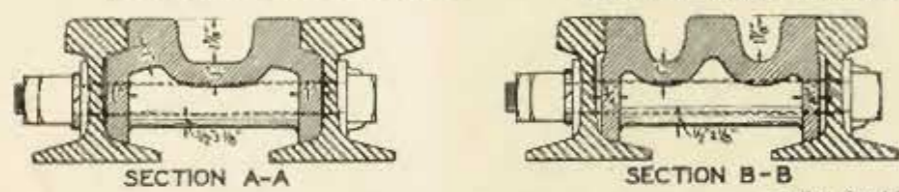
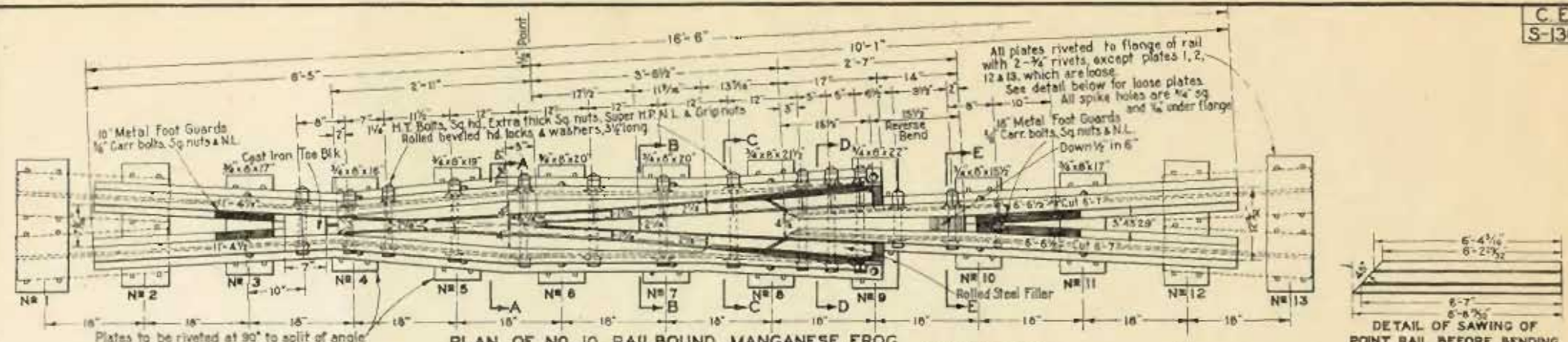
THE WESTERN PACIFIC RAILROAD COMPANY
STANDARD
FLANGEWAY FILLER BLOCKS
2 1/4" FLANGEWAY
TYPE "A", TYPE "B" & TYPE "C" BLOCKS

No Scale

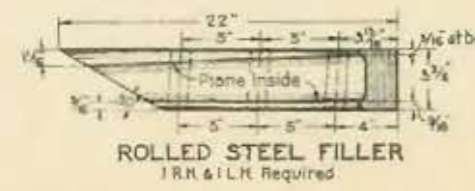
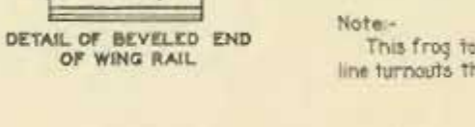
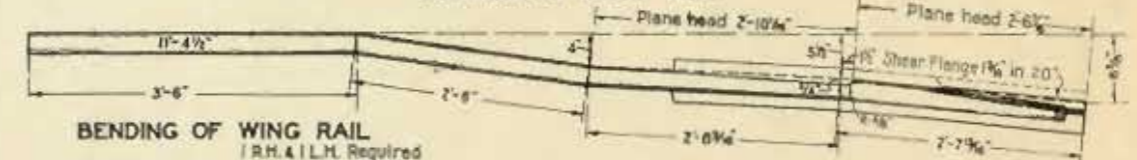
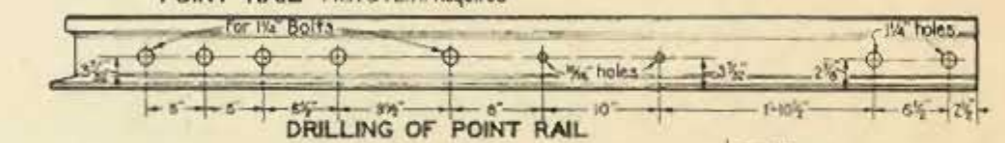
Revised: 8-14-59

Adopted: June 15, 1959

OK
2-2-66



DETAIL OF LOOSE PLATES
Stamp wt of rail, nr of plate, etc., as per Dwg. C.E.-60-32-F-7



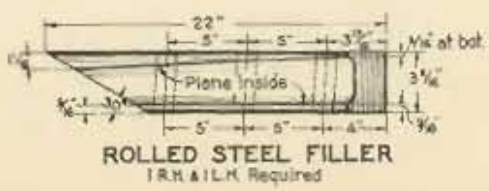
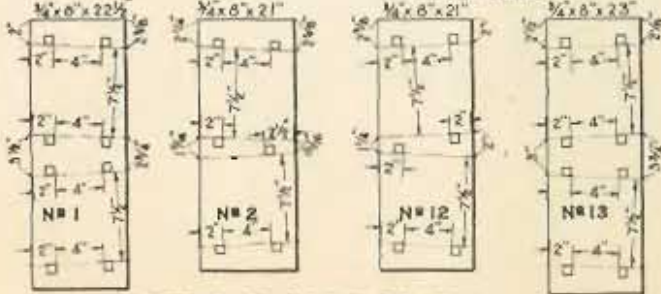
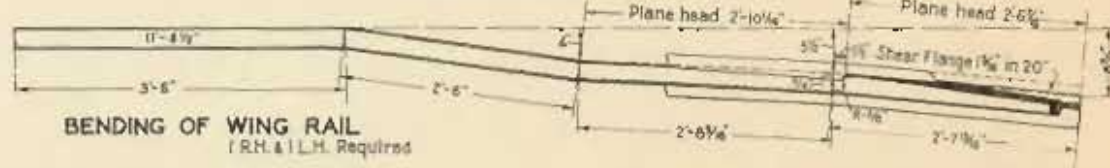
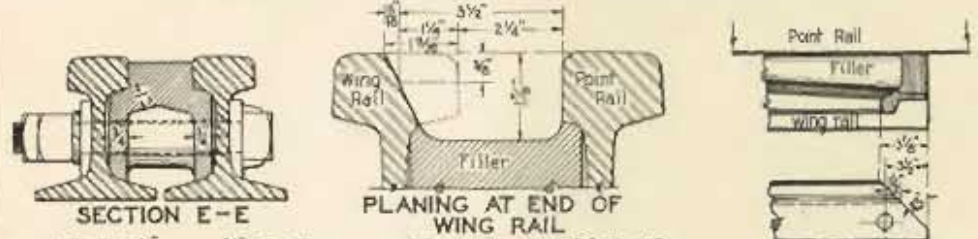
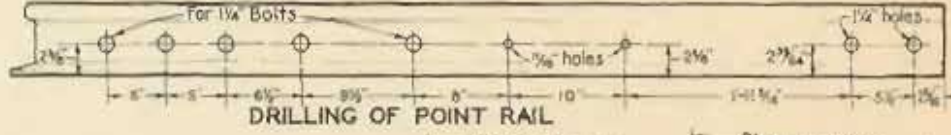
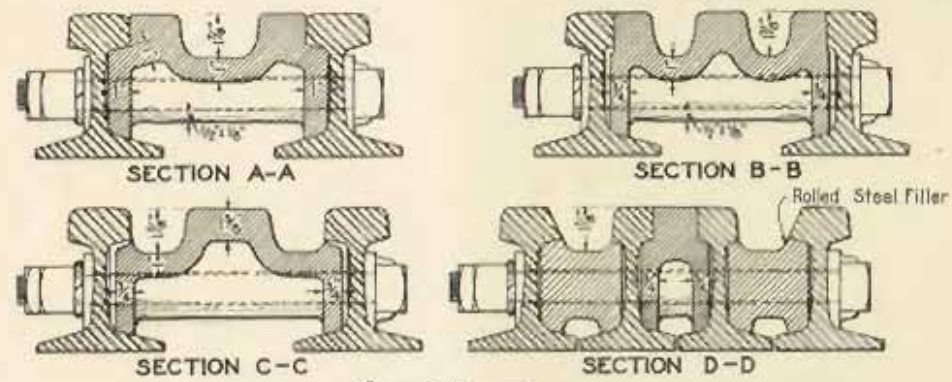
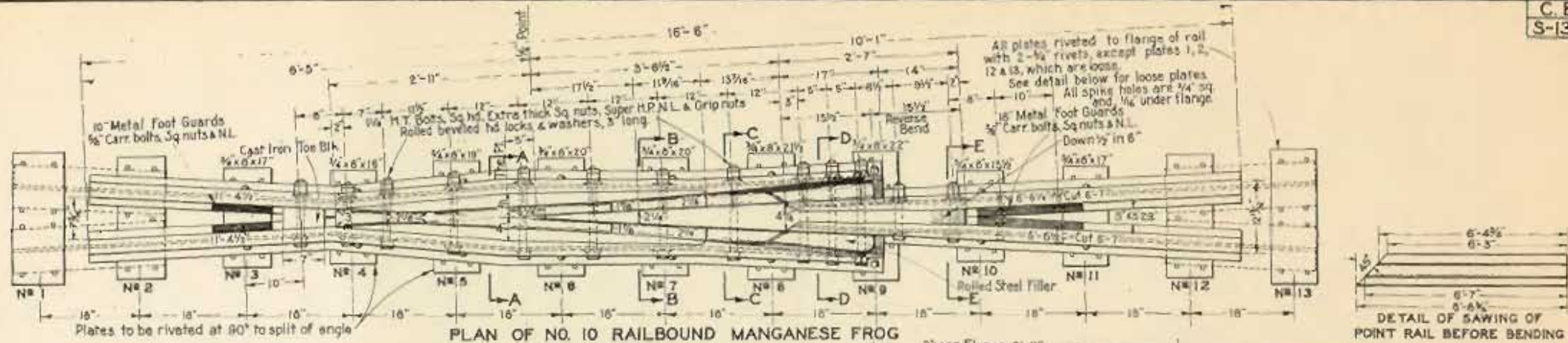
Note:-
This frog to be used in main line turnouts thru terminals.

OBsolete

APPROVED: *J.M. Williams*
CHIEF ENGINEER
APPROVED: *E.W. Mason*
VICE-PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
NO. 10 RAILBOUND MANGANESE FROG
112 LB. R. E. RAIL

No Scale Adopted Sept 1, 1936



Note:
This frog to be used in main
line turnouts thru terminals.

OBsolete

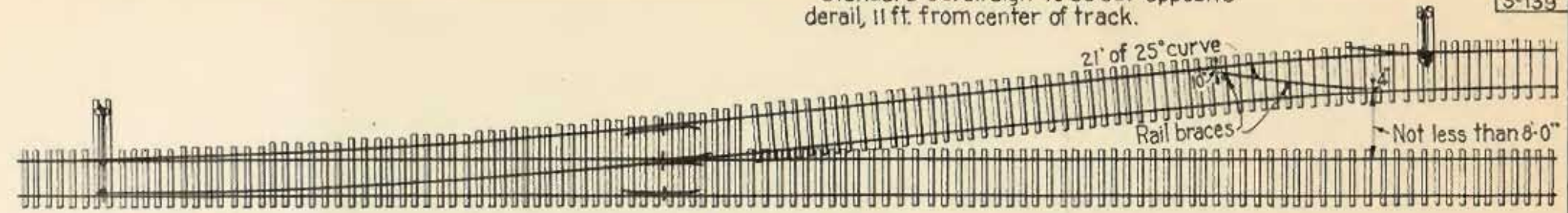
APPROVED: *J. M. Williams*
CHIEF ENGINEER
APPROVED: *E. W. Mason*
VICE-PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
NO. 10 RAILBOUND MANGANESE FROG
100 LB. R. E. RAIL

No Scale Adopted Sept 1, 1936

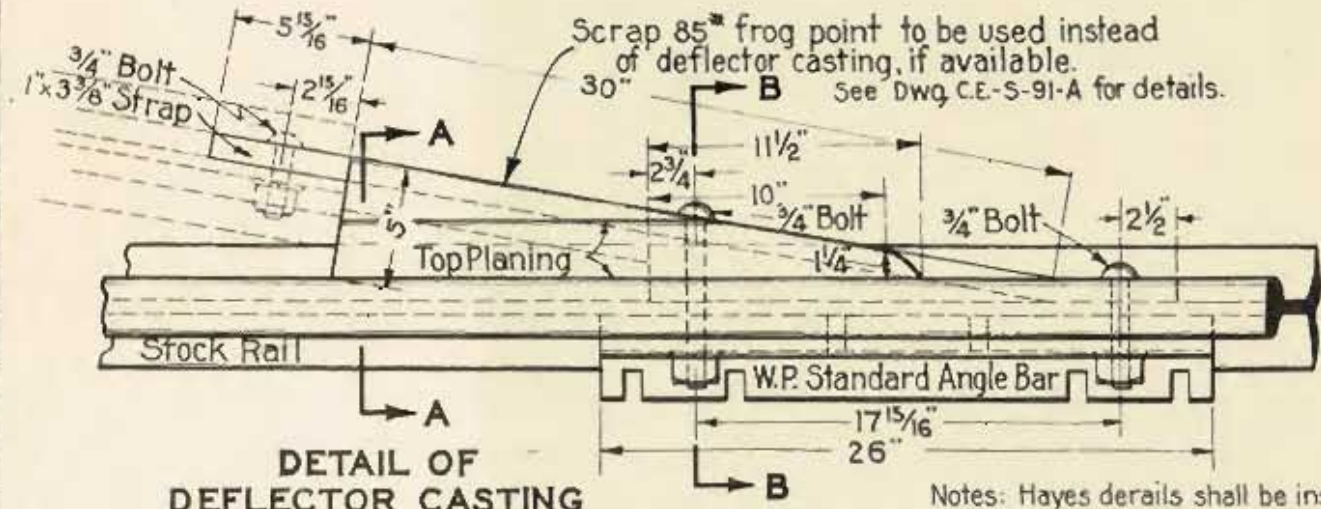
Stamp wt of rail, N^o of plate, etc., as per Dwg. C.E.-60-32-F-7

Standard Derail Sign to be set opposite
derail, 11 ft. from center of track.



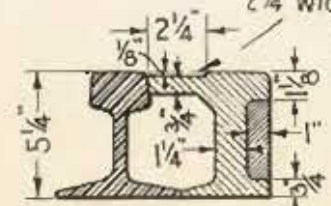
GENERAL PLAN
SCALE: 1" = 20'

Hayes Two-tie
hand operated stand.

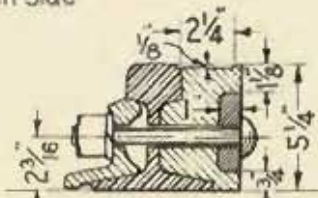


**DETAIL OF
DEFLECTOR CASTING**
SCALE: 1 1/2" = 1'-0"

Top planing to be 1/8" deep and
2 1/4" wide on stock rail side
of casting.



SECTION A-A

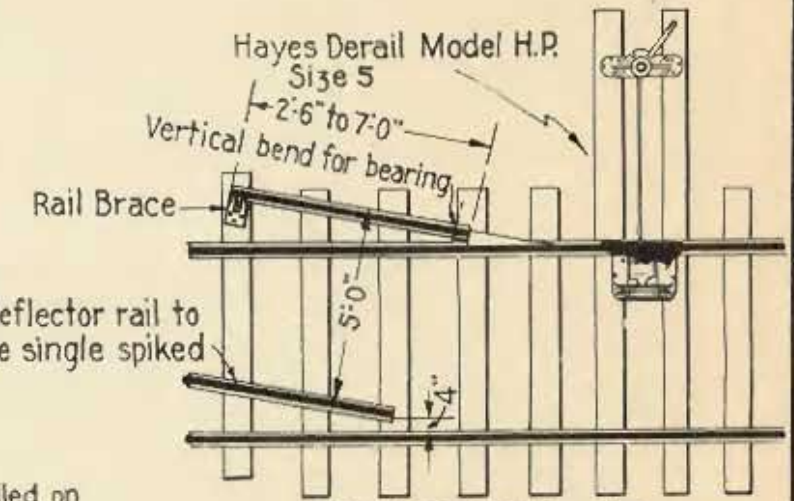


SECTION B-B

Notes: Hayes derails shall be installed on
all sidings or spurs having a grade less
than 0.8% descending toward main line
turnout, if considered necessary, and on
grades exceeding 0.8% when authorized,
where clearance is restricted.

For location of switch point derails
see Dwg. C.E.-S-91.

At locations on back tracks where
derails are necessary, the Hayes
stand, deflector casting and deflector
rails should not be installed unless
considered necessary.



**ARRANGEMENT OF
DERAIL AND DEFLECTOR RAILS**
SCALE: 1" = 5'

APPROVED: *J. M. Williams*
CHIEF ENGINEER

APPROVED: *J. W. Mason*
VICE-PRESIDENT AND GENERAL MANAGER

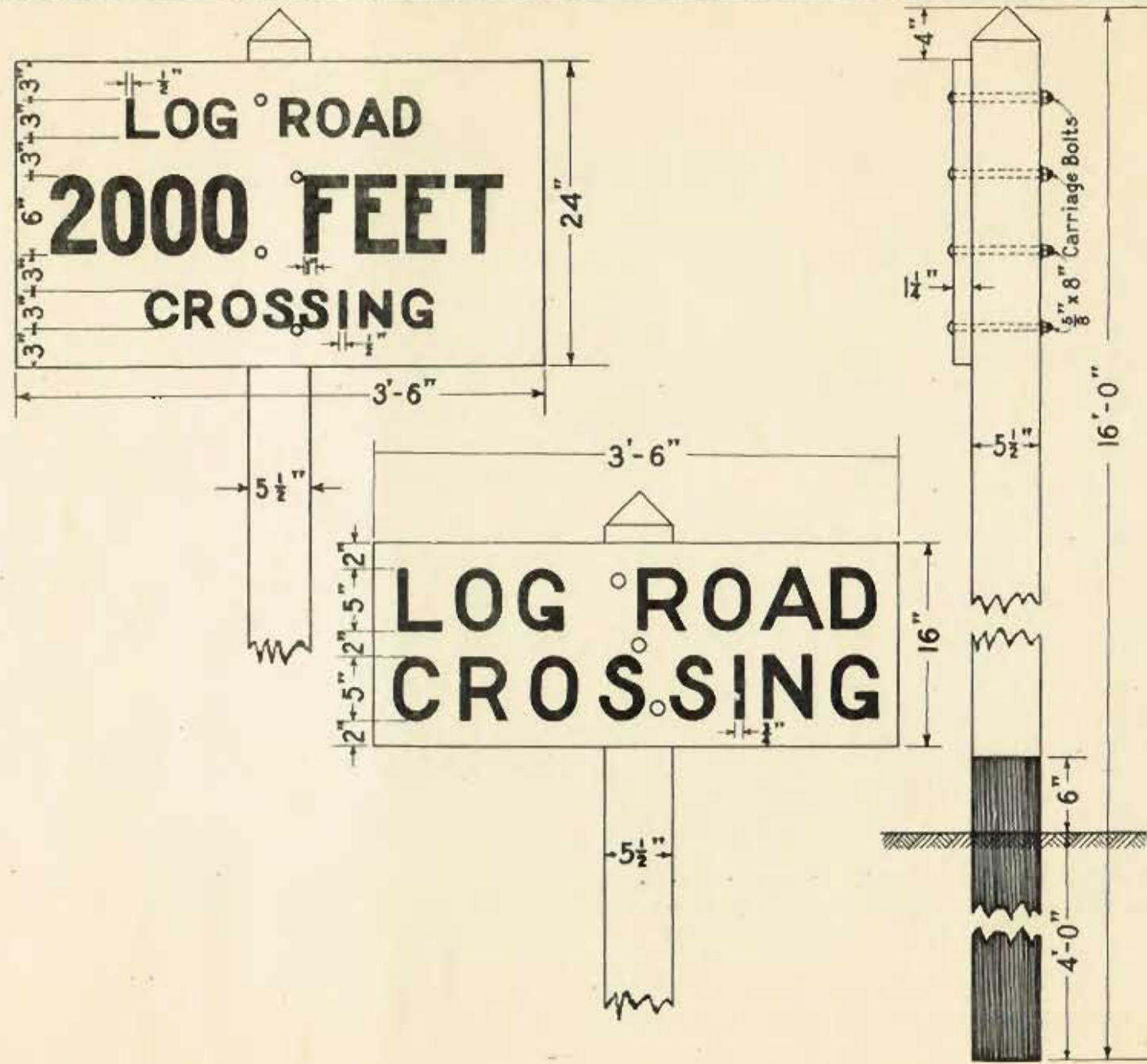
THE WESTERN PACIFIC RAILROAD CO.
STANDARD

HAYES DERAIL FOR 85 LB. RAIL

Scales as shown

Adopted Oct. 23, 1936

92
2-2-16



POST: 6" x 6" x 16'-0" S4S Redwood Extra Merch.

BOARDS: Redwood - Clear.

PAINING: Face of board to be given one priming coat of white lead and oil paint, thinned with turpentine, and two coats of white lead and oil paint. Letters black. Post to have a coat of tar applied hot to 6" above ground, balance of post and back of board painted with metallic and lamp black making a very dark brown.

STYLE OF LETTERS: Gothic, of height and weight as shown.

LOCATION: Distance signs to be placed at right angles to track on Engineer's side, 13 feet from center of track and 2000 feet in advance of the center of crossing. Crossing signs to be placed at right angles to track on Engineer's side, 13 feet from center of track and 10 feet in advance of nearest edge of road.

THE WESTERN PACIFIC RAILROAD CO.
SPECIAL

LOG ROAD CROSSING SIGNS

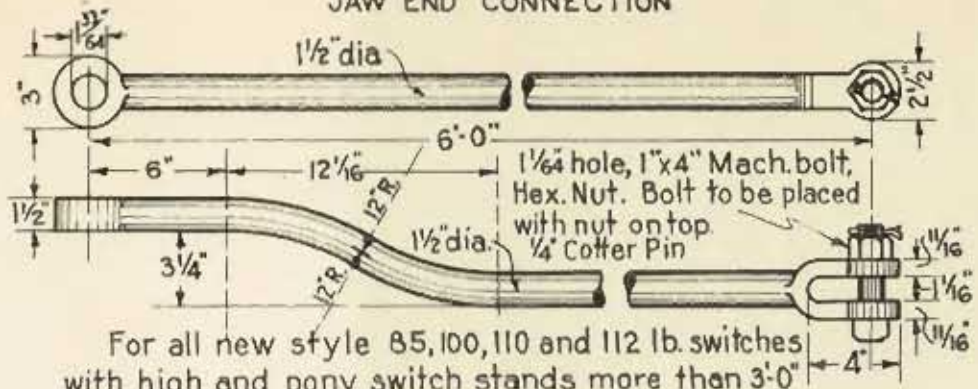
Scale: 1" = 1'-0"

May 10, 1935.
REV. JUNE 1, 1936

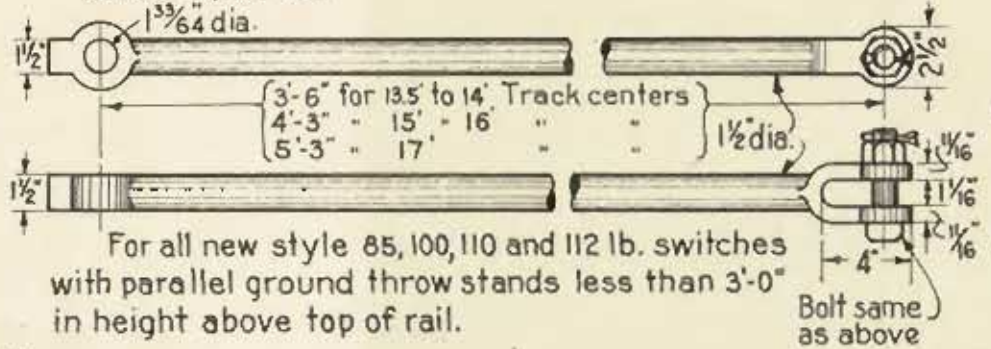
oc
2-2-66

NEW STYLE CONNECTING RODS

JAW END CONNECTION



For all new style 85, 100, 110 and 112 lb. switches with high and pony switch stands more than 3'-0" above top of rail.



For all new style 85, 100, 110 and 112 lb. switches with parallel ground throw stands less than 3'-0" in height above top of rail.

Notes:-

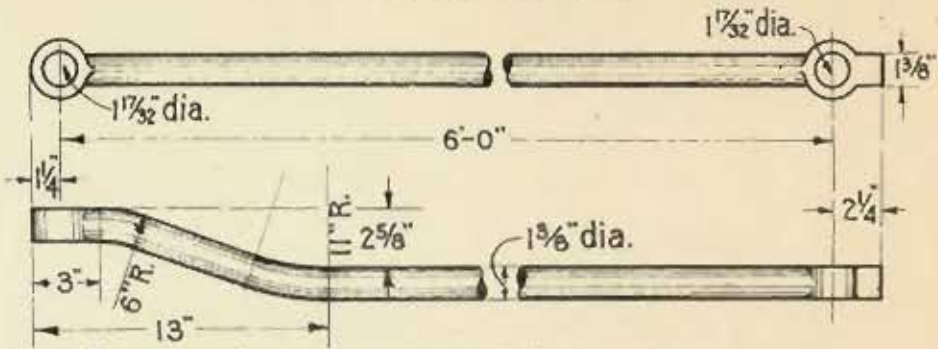
The minimum side clearance regulations in California, Nevada and Utah require 8'-6" in clear from center line of track for all switch stands except that switch stands 3'-0" or less above top of rail, and located between tracks where it is not practicable to provide 8'-6" clearance, may have side clearance reduced to a minimum of 6'-0" if actually necessary. The connecting rod lengths shown on this plan conform with the above requirements. When ordering short connecting rods, specify longest lengths permissible, where switch stands must be located between tracks.

Notes:-

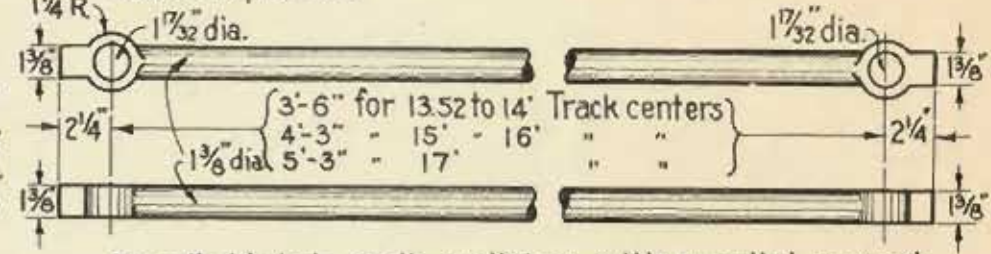
When ordering, specify length and "Jaw end connection" or "Safety end connection." For tracks 13 ft. to 13.5 ft. centers, order new style Fig. 404 G.T. Stand (Dwg. CE-S-142) with either 3'-3" "Jaw End" connecting rod or 3'-3 3/8" "Safety End" connecting rod.

OLD STYLE CONNECTING RODS

SAFETY END CONNECTION



For all old style 85 lb. switches with high and pony switch stands more than 3'-0" above top of rail.



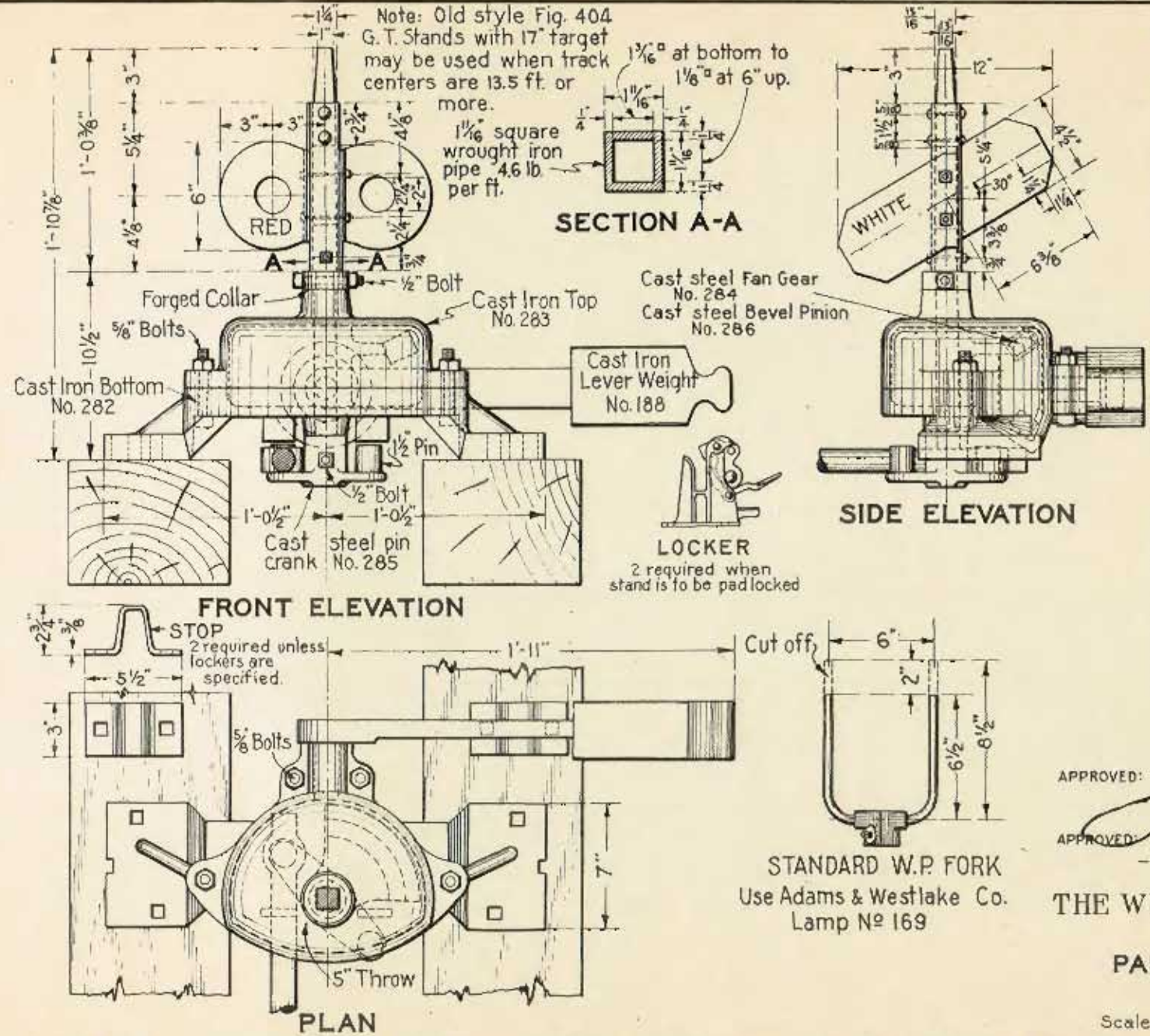
For all old style 85 lb. switches with parallel ground throw stands less than 3'-0" in height above top of rail.

APPROVED: *J. W. Williams*
CHIEF ENGINEER
APPROVED: *J. W. Mason*
VICE-PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
CONNECTING RODS FOR
SWITCH STANDS

SCALE: 1 1/2" = 1'-0"

ADOPTED NOV. 5, 1936



Notes:

All bolts and rivets in targets and shaft to be $\frac{3}{8}$ " diameter.

Vertical shaft for targets to be closed so as to fit vertical shaft of stand with a driving fit. If square tubing can not be procured use heavy gas pipe squared at the ends.

Lamp top fitting to be both riveted and welded to vertical shaft.

Targets to be No. 14 gage (B.W.G.)

Parts numbers are of the Ramapo Ajax Corp.

When ordering specify length of connecting rod - see Dwg. C.E.-S-141

This type of switch stand to be used at locations where clearances limit height to maximum of 3 ft. above top of rail, but is not to be used in Main Line turnouts unless authorized. Tips of fork must be cut off 2" as indicated to limit height to 3 ft. or less above top of rail.

APPROVED: *J. Williams*
CHIEF ENGINEER

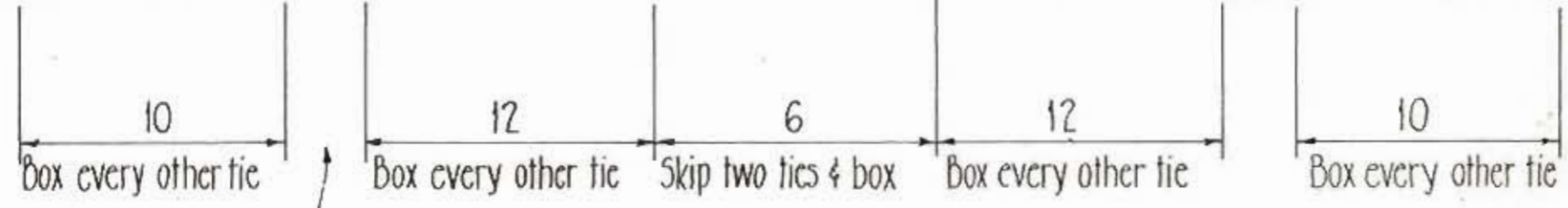
APPROVED: *E. W. Mason*
VICE-PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
PARALLEL GROUND THROW
SWITCH STAND

Scale: $1\frac{1}{2}$ " = 1'-0" Adopted Nov. 5, 1936

RAMAPO AJAX CORP. FIG. 404 AUTOMATIC PARALLEL GROUND THROW STAND

Single Track Pattern
Direction of Travel
Two Way Traffic



40 Anchors per 78' rail.

THE WESTERN PACIFIC RAILROAD COMPANY
STANDARD

RAIL ANCHOR PLACEMENT

78 FOOT RAILS - 19'-6" JOINT STAGGER
SINGLE TRACK PATTERN

Tie Spacing : 24 ties per 39' rail

Approved: *Frank R. Woolford*
Chief Engineer

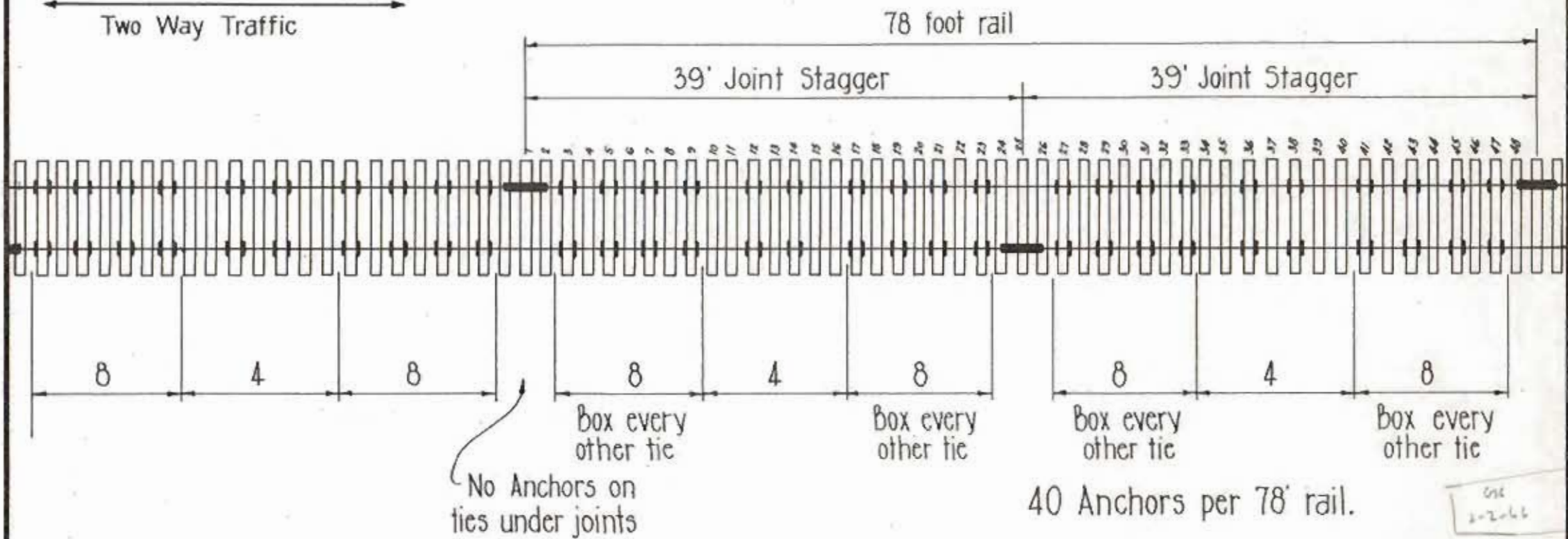
No Scale

Adopted: Nov. 19, 1959

C.E.
S-143A

Single Track Pattern
Direction of Travel

Two Way Traffic



THE WESTERN PACIFIC RAILROAD COMPANY
STANDARD

RAIL ANCHOR PLACEMENT

78 FOOT RAILS - 39 FOOT JOINT STAGGER
SINGLE TRACK PATTERN

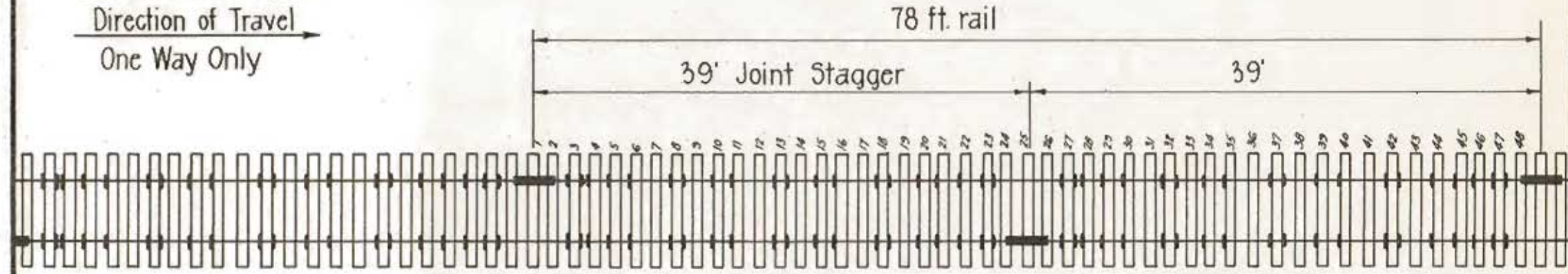
Tie Spacing: 24 ties per 39' rail

Approved: *Frank R. Woolford*
Chief Engineer

No Scale

Adopted: Nov. 19, 1959

Double Track Pattern
Direction of Travel →
One Way Only



No Anchors on ties under joints.

40 Anchors per 78' Rail

30 against tie in direction of traffic.
10 opposite by boxing ties 3,8,13,18,23,27,32,37,42 & 47.

OK
2-2-66

THE WESTERN PACIFIC RAILROAD COMPANY
STANDARD

RAIL ANCHOR PLACEMENT

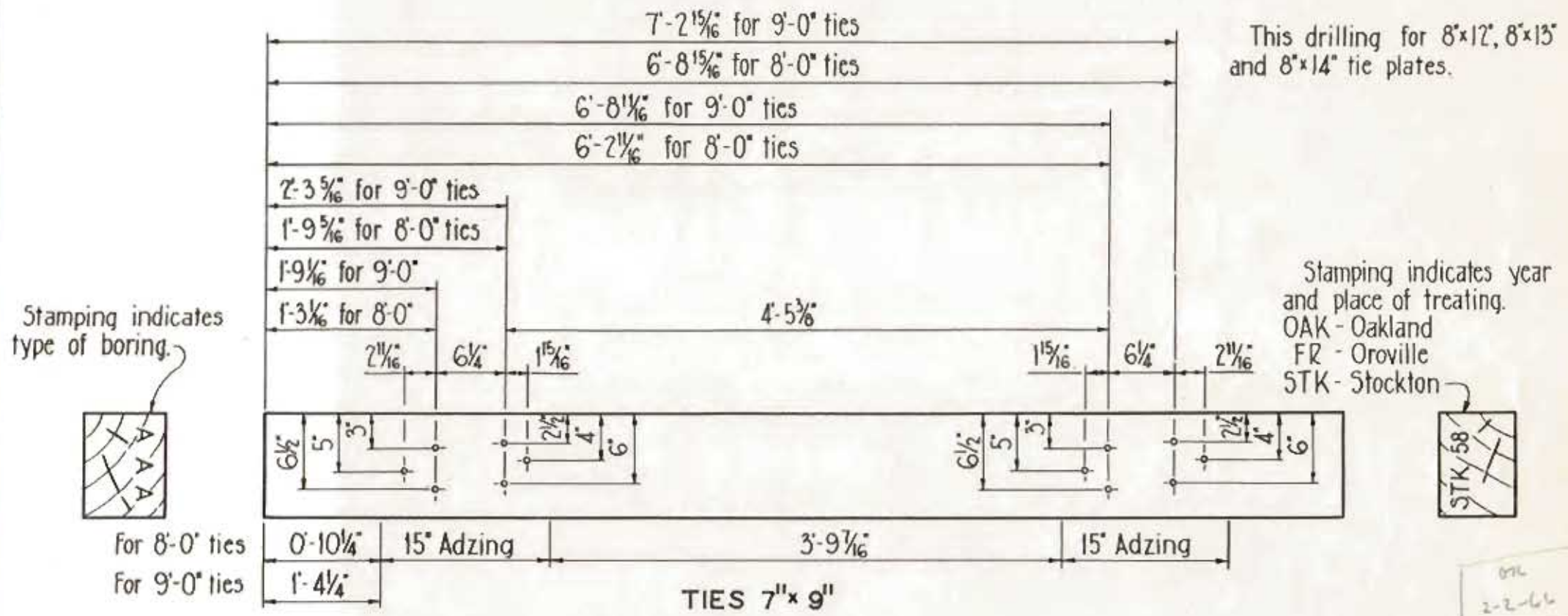
Tie Spacing: 24 ties per 39' rail

Approved: *Frank B. Moore*
Chief Engineer

78 FOOT RAILS - 39 FOOT JOINT STAGGER
DOUBLE TRACK PATTERN

No Scale

Adopted: Nov. 19, 1959



NOTE

All holes to be 1/2" diameter.
Adzing shall be done only on the sapwood face of the tie, opposite heart-wood face.
Ties shall be adzed only to the depth necessary to obtain a full bearing under the tie plate.

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
TIE BORING
MAIN LINE-RAILS
112 LBS. & HEAVIER

Approved: *Frank A. Mason*
Chief Engineer

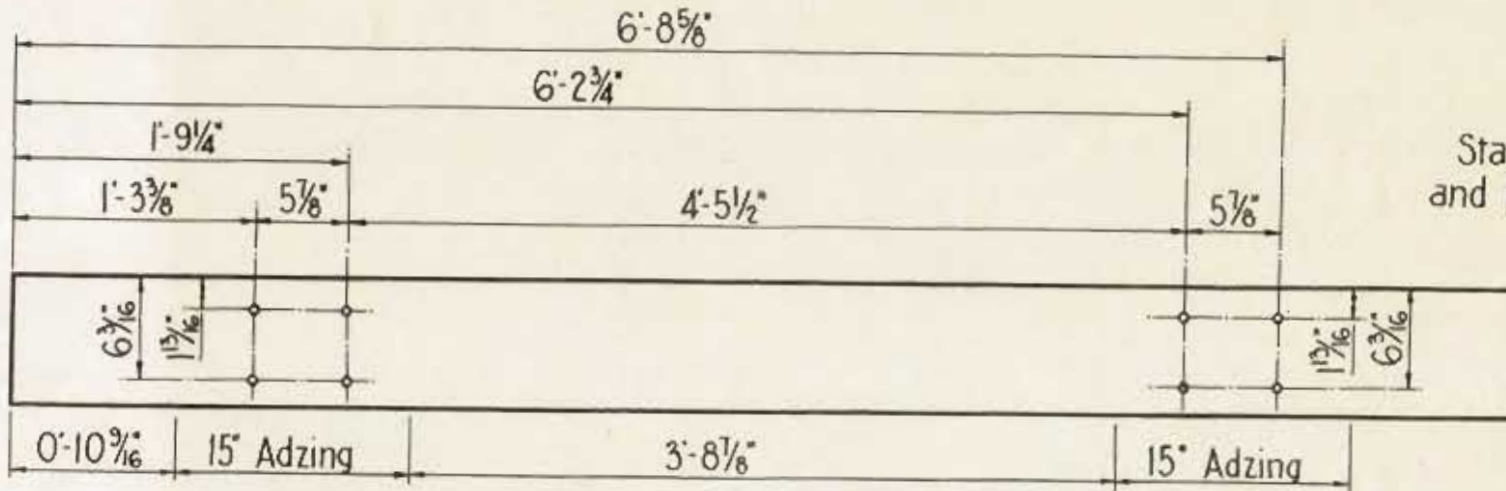
NO SCALE

ADOPTED: March 1, 1952
REVISED: April 15, 1958

076
2-2-66

This drilling for 8"x9" tie plate.

Stamping indicates type of boring.



Stamping indicates year and place of treating.



NOTE

All holes to be 1/2" diameter.
Adzing shall be done only on the sapwood face of the tie, opposite the heartwood face.
Ties shall be adzed only to the depth necessary to obtain a full bearing under the tie plate.

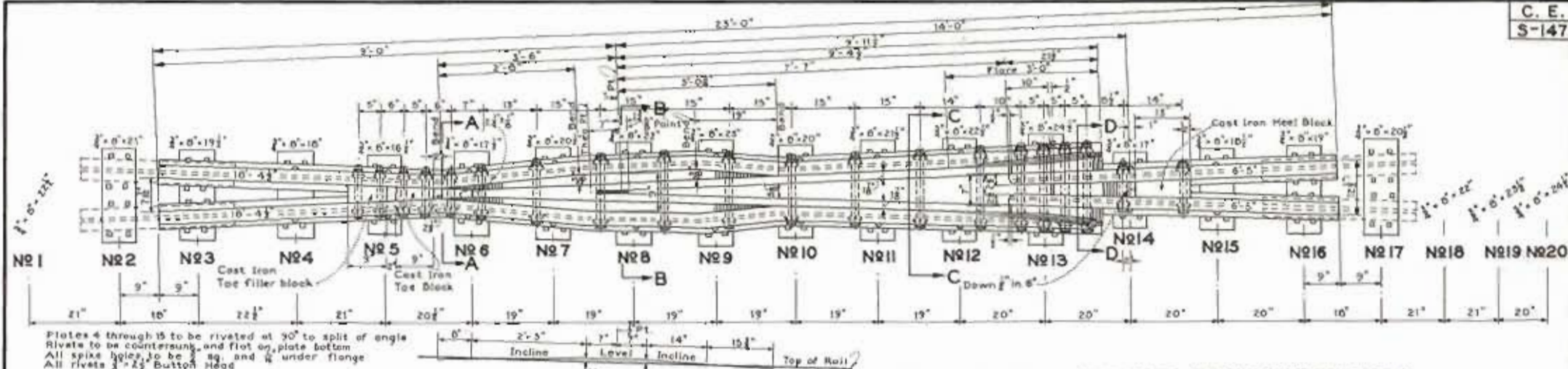
one
2-2-66

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
TIE BORING
FOR 6"x8" OR 7"x8" TIES
8'-0" LONG

Approved: *Frank R. Wood*
Chief Engineer

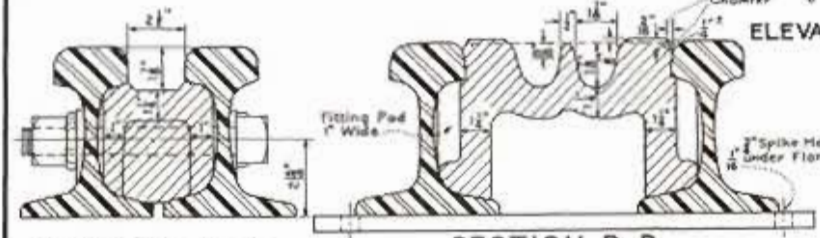
NO SCALE

ADOPTED: Dec. 1, 1936
REVISED: Jan. 17, 1956



Plates 4 through 15 to be riveted at 30° to split of angle
Rivets to be countersunk and flat on plate bottom
All spike holes to be 3/4" sq. and 1/4" under flange
All rivets 3/4" x 2 1/2" Button Head

PLAN OF NO 14 RAILBOUND MANGANESE FROG

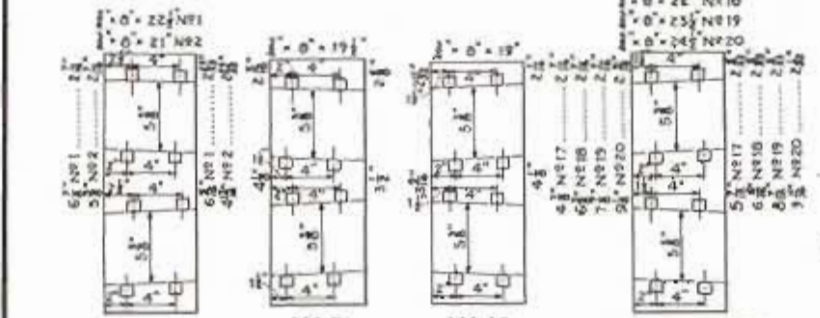


ELEVATION OF WING WHEEL RISER

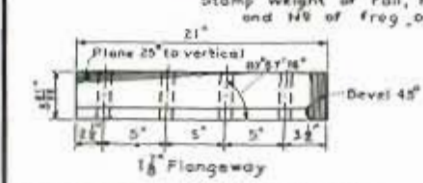
SECTION A-A SECTION B-B



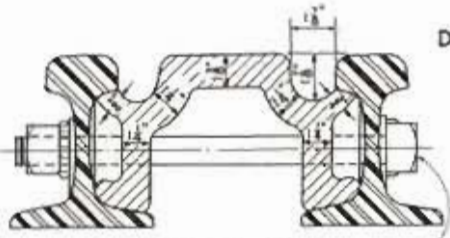
DRILLING & BENDING OF WING RAIL



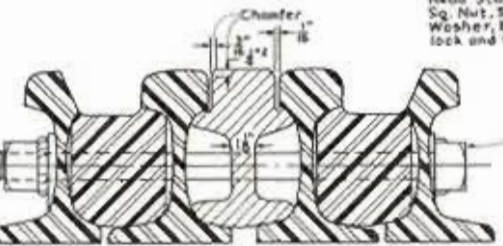
DETAIL OF LOOSE PLATES



ROLLED STEEL FILLER
L.H. & I.R.H. Required
L.H. Shown



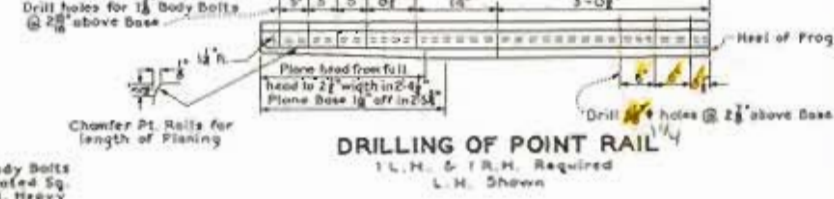
SECTION C-C



SECTION D-D

DETAIL OF BEVELED END OF WING RAIL

DRILLING OF POINT RAIL



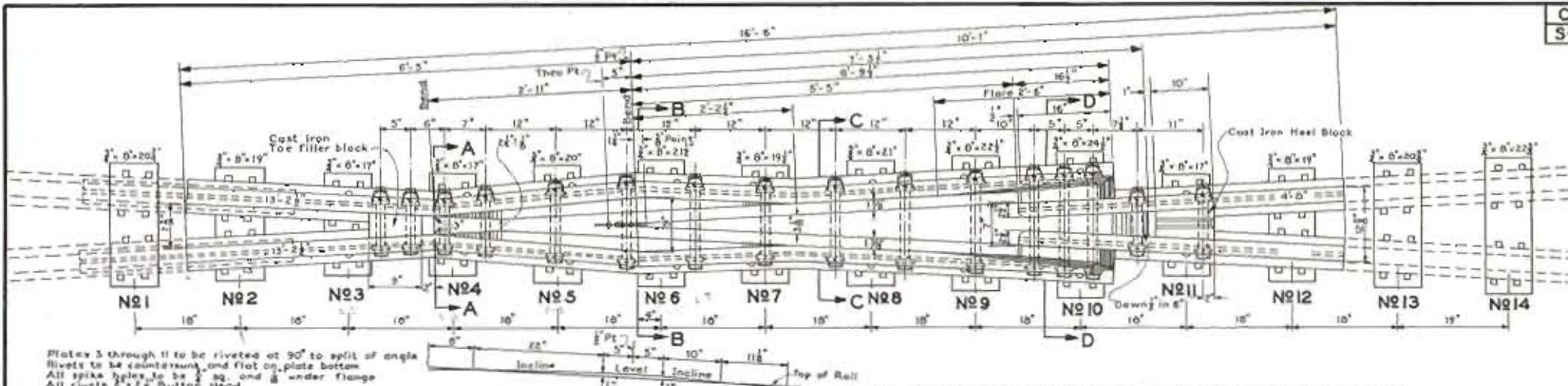
APPROVED *Frank R. Wood*
CHIEF ENGINEER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
NO 14 RAILBOUND MANGANESE FROG
119 LB. C.F. & I. RAIL

NO SCALE

ADOPTED: Nov. 1, 1963
Revised:

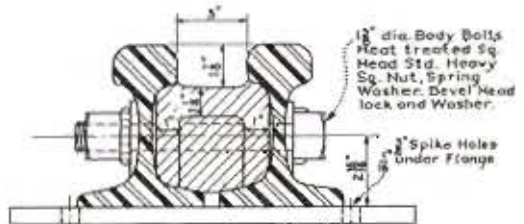
Show base plate rivets in B-B



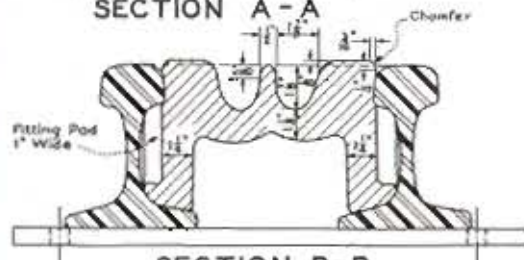
Plates 5 through 11 to be riveted at 90° to split of angle
Rivets to be countersunk and flat on plate bottom
All spike holes to be 3/4 sq. and 1/2 under flange
All rivets 1/2 x 2 1/2 Button Head

ELEVATION OF WING WHEEL RISER

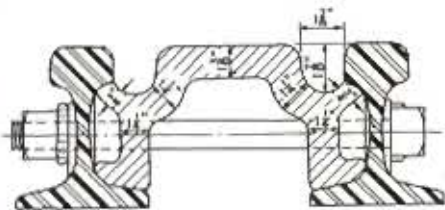
PLAN OF NO 10 RAILBOUND MANGANESE FROG



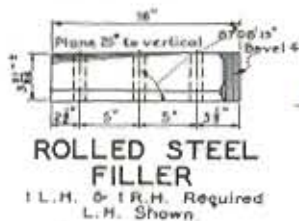
SECTION A-A



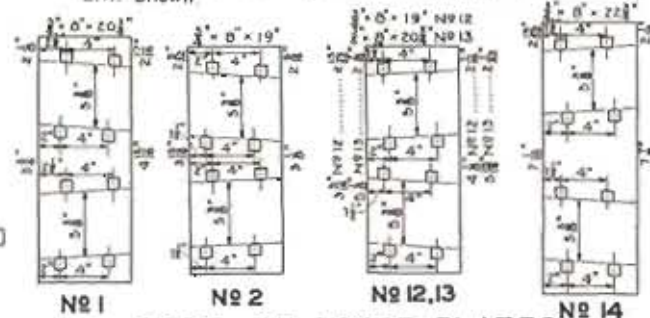
SECTION B-B



SECTION C-C

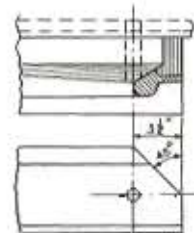


ROLLED STEEL FILLER
I.L.H. & I.R.H. Required
L.H. Shown



DETAIL OF LOOSE PLATES

Stamp weight of roll, No of plates
and No of frog on plates

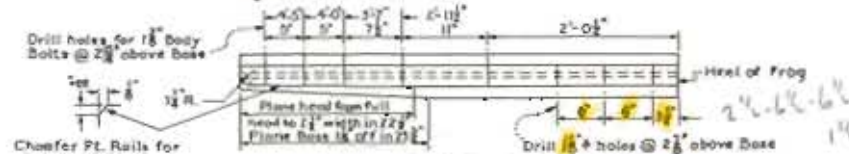


DETAIL OF BEVELED
END OF WING RAIL



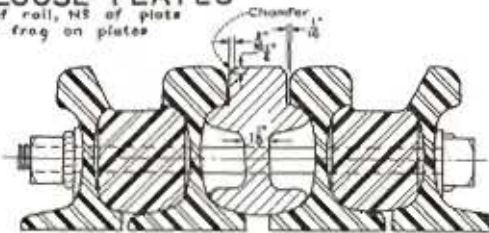
DRILLING & BENDING OF WING RAIL

I.L.H. & I.R.H. Required - R.H. Shown



DRILLING OF POINT RAIL

I.L.H. & I.R.H. Required
L.H. Shown



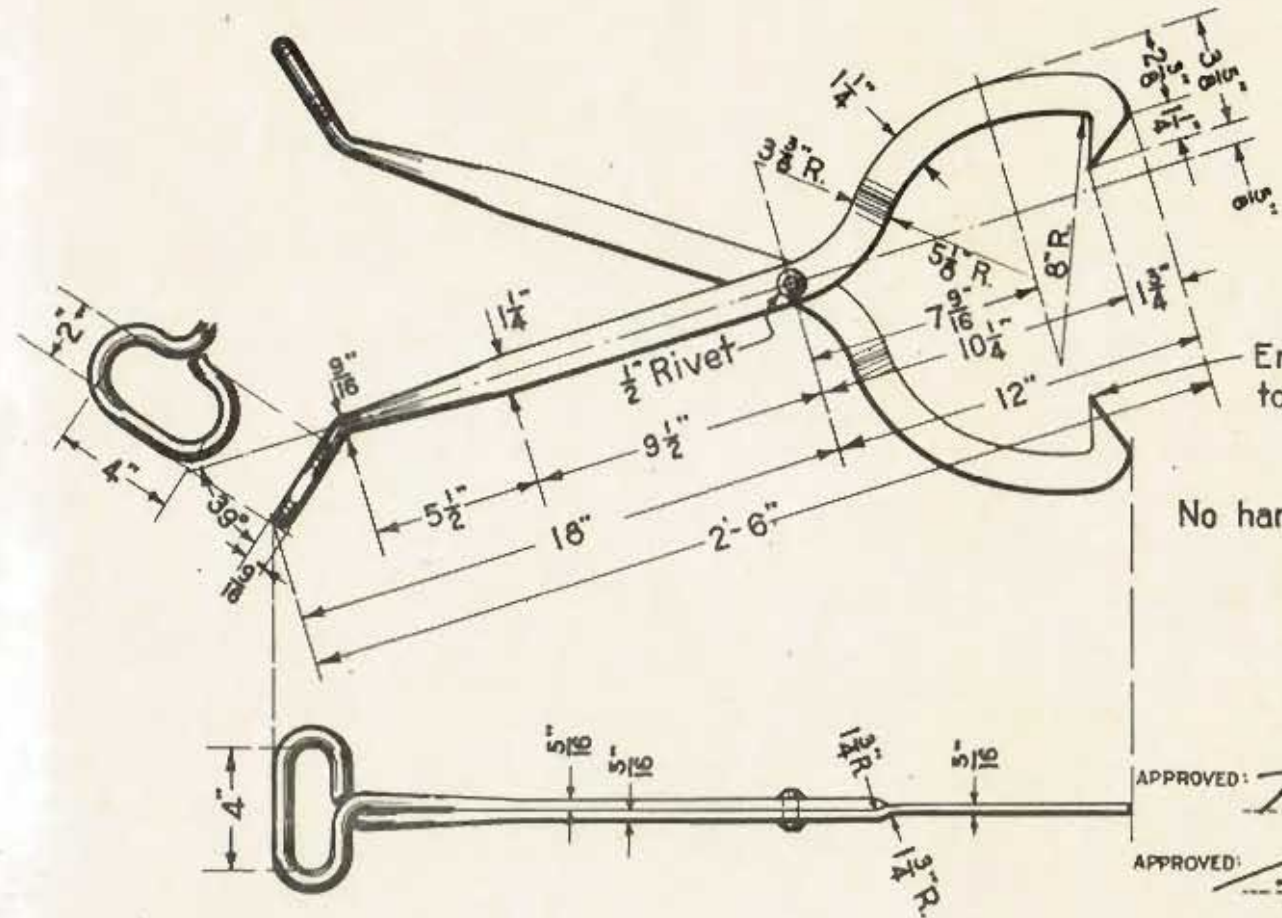
SECTION D-D

APPROVED *Frank R. Wood*
CHIEF ENGINEER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
NO 10 RAILBOUND MANGANESE FROG
119 LB. C.F. & I. RAIL

NO SCALE

ADOPTED: Nov. 3, 1965



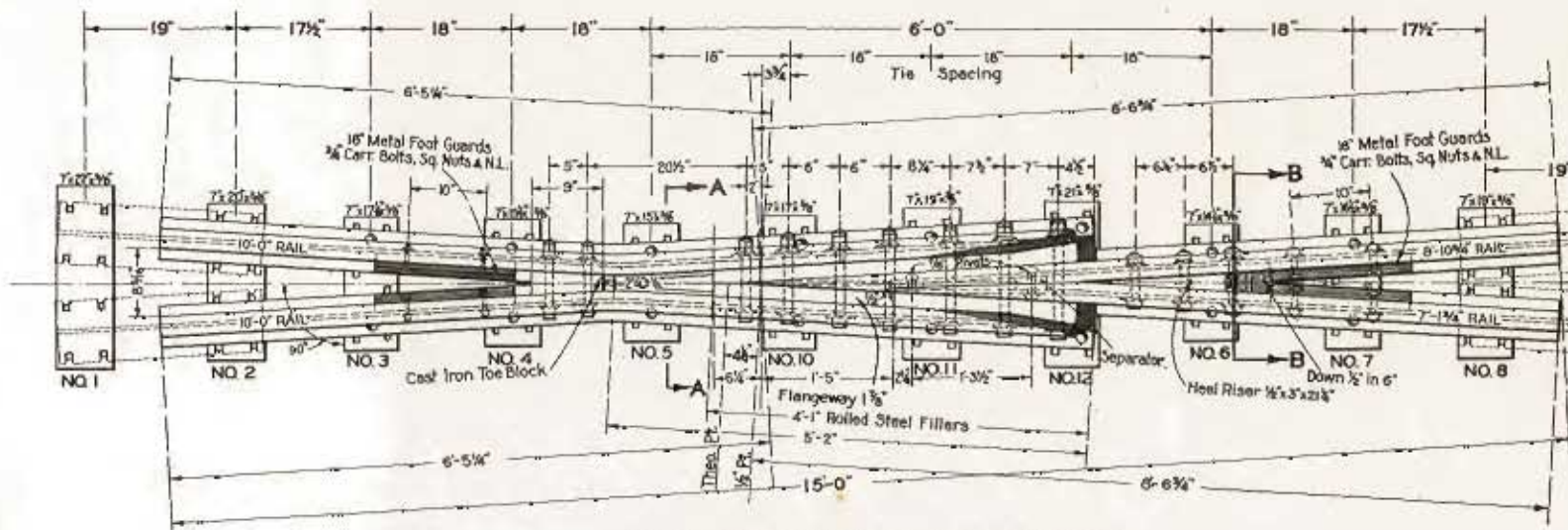
Tolerance—
 2% on length
 5% on cross section
 Approx. wt. 8lb.

APPROVED: *F. A. Woodard*
 CHIEF ENGINEER
 APPROVED: *Hellen*
 VICE-PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
 TIE TONGS

Scale: 2" = 1'-0" Adopted Aug. 1949

92
2-2-69



All plates to be riveted to flange of rail at 90° to C.Frog with 2-1/4" rivets, except plates 1, 2, 8 & 9, which are loose.
All spike holes are 1/4" square and, except in plates 1, 2, 8 & 9, are 1/16" under flange.

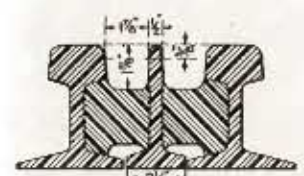
Note: Tie plates 1 to 9, may be ordered separately for use with old style No. 8 1/2 frogs now in track. When plates are shipped separately, stamp no. of plate, no. of frog, and wt. of rail on each plate, thusly,
F-6
6 1/2-85

All plates will be furnished only if on hand. If plates are not available Hook Twin Tie Plates will be furnished as per C.E. S-150 A.

PLAN OF NO. 8 1/2 BOLTED RIGID FROG
1 1/8" H.T. Bolts, sq. hd., extra thick sq. nuts, super H.P.N.L. & grip nuts, rolled beveled hd. locks and washers.



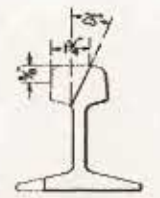
SECTION A-A



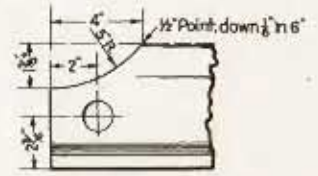
SECTION AT 1/2 PT.



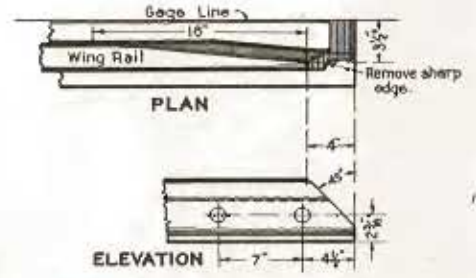
SECTION B-B



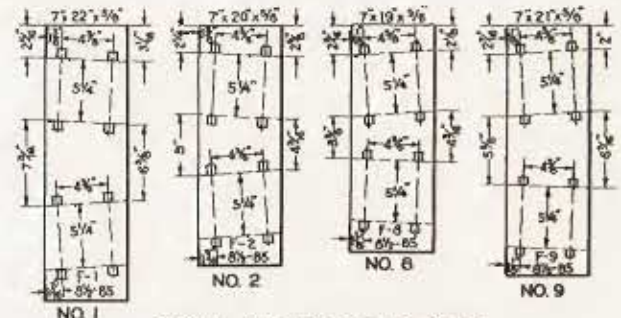
PLANING AT END OF WING RAIL



ELEVATION OF POINT
OBSOLETE



DETAIL OF BEVELED END OF WING RAIL



DETAIL OF LOOSE PLATES
Stamp no. of plate, no. of frog and wt. of rail on these plates.

OLD STANDARD

APPROVED: *J.M. Williams*
CHIEF ENGINEER

APPROVED: *E.W. Mason*
VICE PRESIDENT AND GENERAL MANAGER

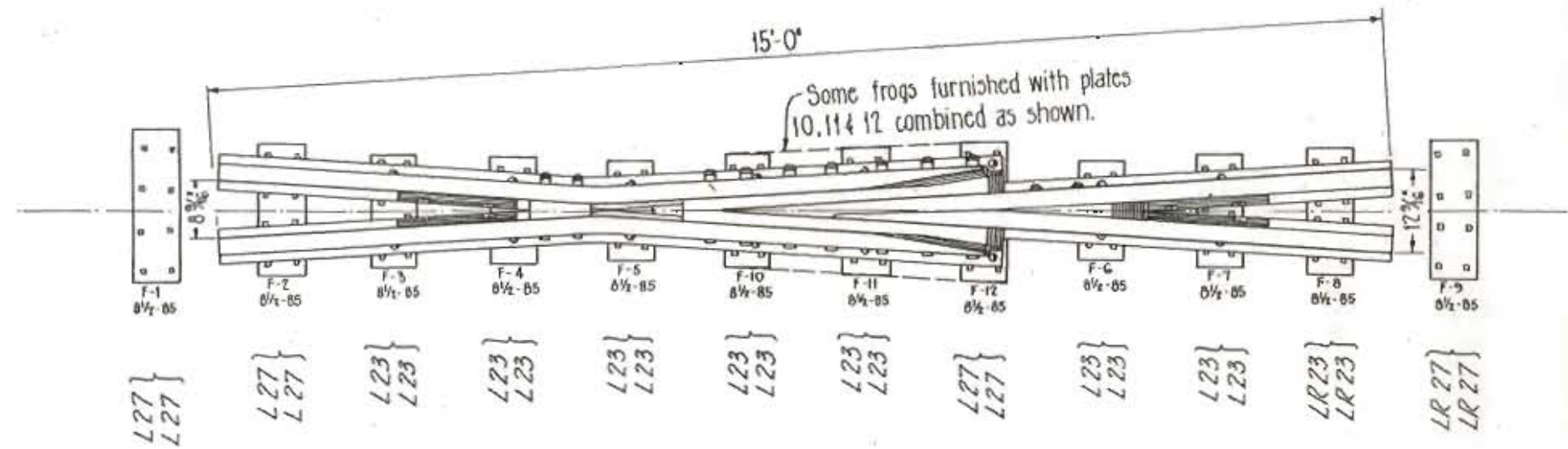
THE WESTERN PACIFIC RAILROAD CO.
STANDARD

NO. 8 1/2 BOLTED RIGID FROG
85 LB. RAIL

No Scale

Adopted July 1, 1940
Revised April 1, 1947.
Dec. 21, 1954

*Wm
2-2-42*



NOTES

When original "F" plates are not available store will furnish Hook Twin Tie Plates as shown.

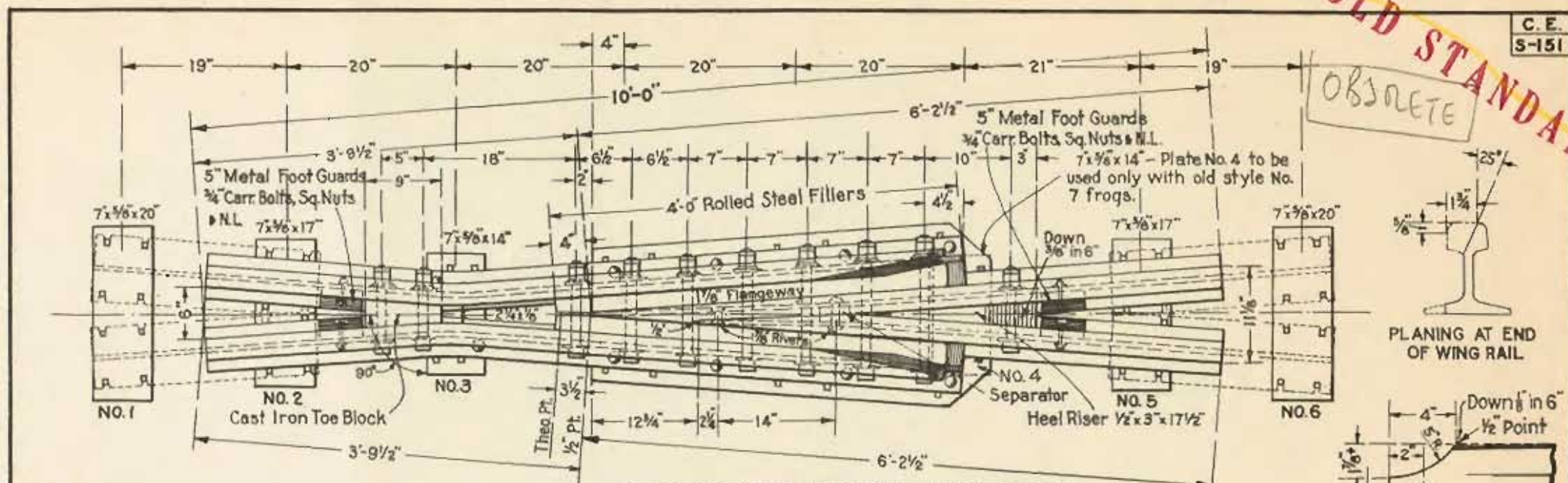
Approved: *Frank A. Woolf*
Chief Engineer

THE WESTERN PACIFIC RAILROAD COMPANY
STANDARD
No 8 1/2 BOLTED RIGID FROG
PLATE REPLACEMENT
85 LB. RAIL

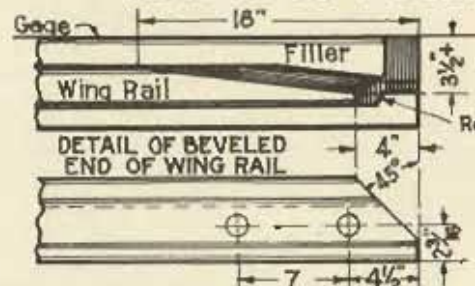
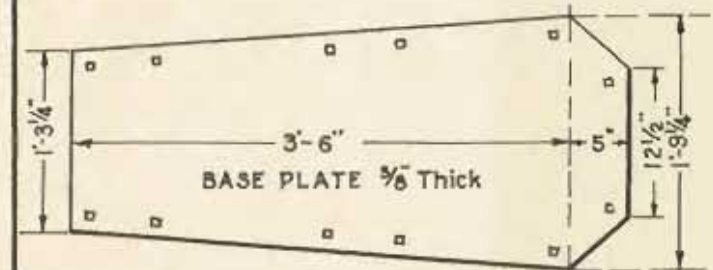
No Scale

Adopted: Nov. 15, 1959

OLD STANDARD
OBSOLETE



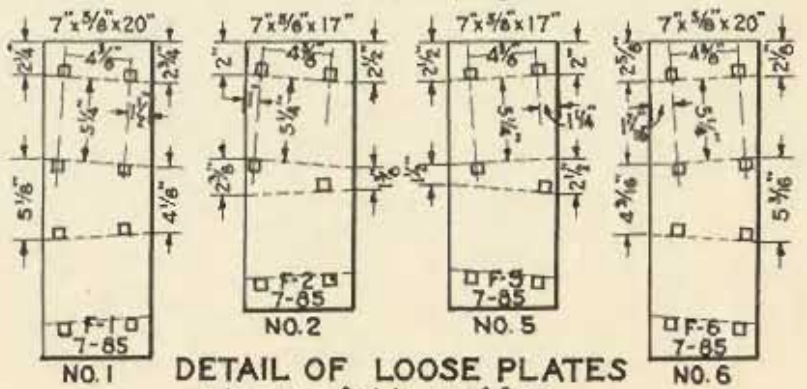
PLAN OF NO. 7 BOLTED RIGID FROG



1/8" H.T. Bolts, sq. hd, extra thick sq. nuts, super H.P.N.L. & Grip nuts, rolled beveled head locks and washers.

Base plate and plate No. 3 to be riveted to flange of rail at 90° to ϕ Frog with 3/4" rivets.
All spike holes are 3/4" square and, except in plates 1, 2, 5 & 6, are 1/16" under flange.
For typical sections thru frog see Dwg. C.E.-S-150

Note:
All tie plates, including special plate No. 4 (but not base plate), may be ordered separately for use with old style No. 7 frogs now in track. When plates are shipped separately, stamp no. of plate, no. of frog and wt. of rail on each plate, thusly, F-4 7-85



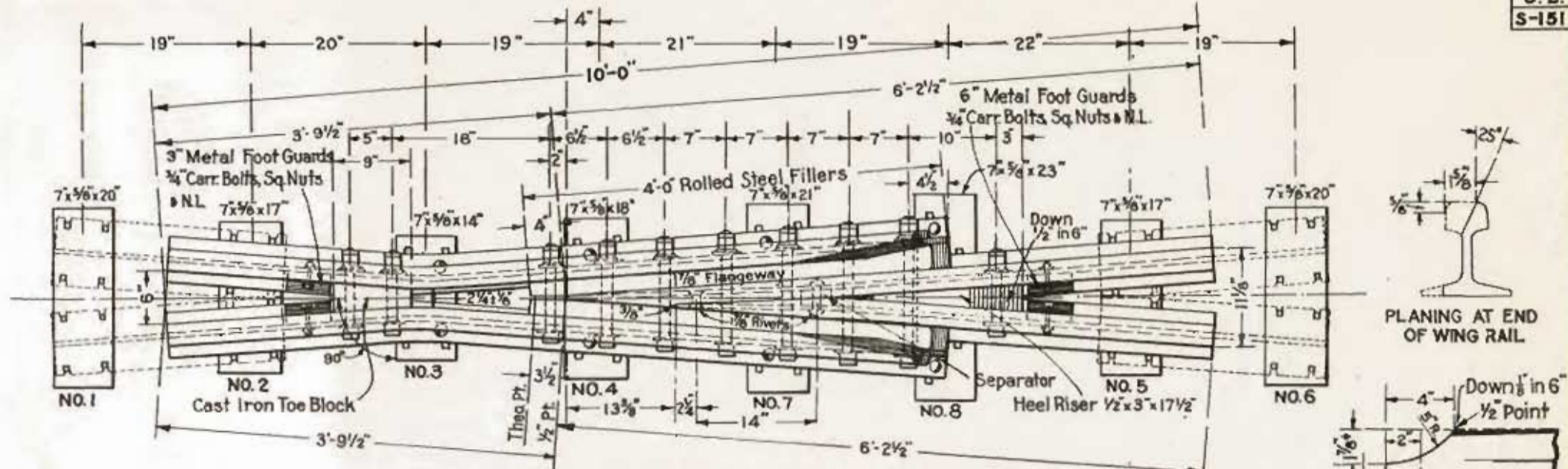
DETAIL OF LOOSE PLATES

APPROVED: *J. M. Williams*
CHIEF ENGINEER

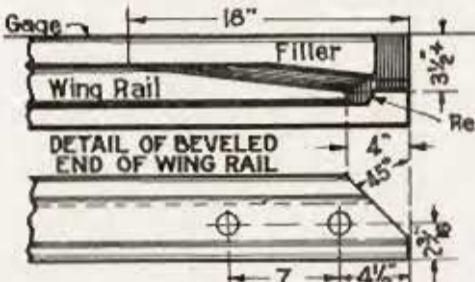
APPROVED: *E. W. Mason*
VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
NO. 7 BOLTED RIGID FROG
85 LB. RAIL

No Scale Adopted July 1, 1940



PLAN OF NO. 7 BOLTED RIGID FROG



1 1/8" H.T. Bolts, sq hd, extra thick sq nuts, super H.P.N.L. & Grip nuts, rolled beveled head locks and washers.

OLD STANDARD

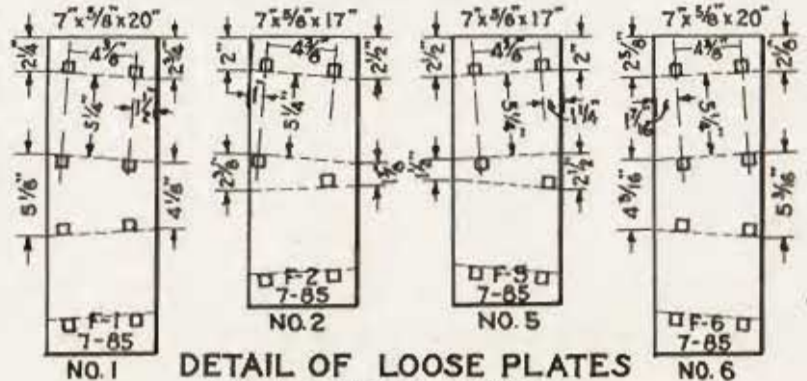
OBsolete

Plates 3, 4, 7 & 8 to be riveted to flange of rail at 90° to Frog with 3/4" rivets.
All spike holes are 1/4" square and, except in plates 1, 2, 5 & 6, are 1/16" under flange.
For typical sections thru frog see Dwg. C.E.-S-150

Note:

Tie plates 1, 2, 5 & 6 may be ordered separately for use with old style No. 7 frogs now in track. When plates are shipped separately, stamp no. of plate, no. of frog and wt. of rail on each plate, thusly, F-4 7-85

Plates 1, 2, 5 & 6 will be furnished only if on hand. If plates are not available Hook Twin Tie Plates will be furnished as per C.E. S-151A.



DETAIL OF LOOSE PLATES

Stamp no. of plate, no. of frog and wt. of rail on these plates.

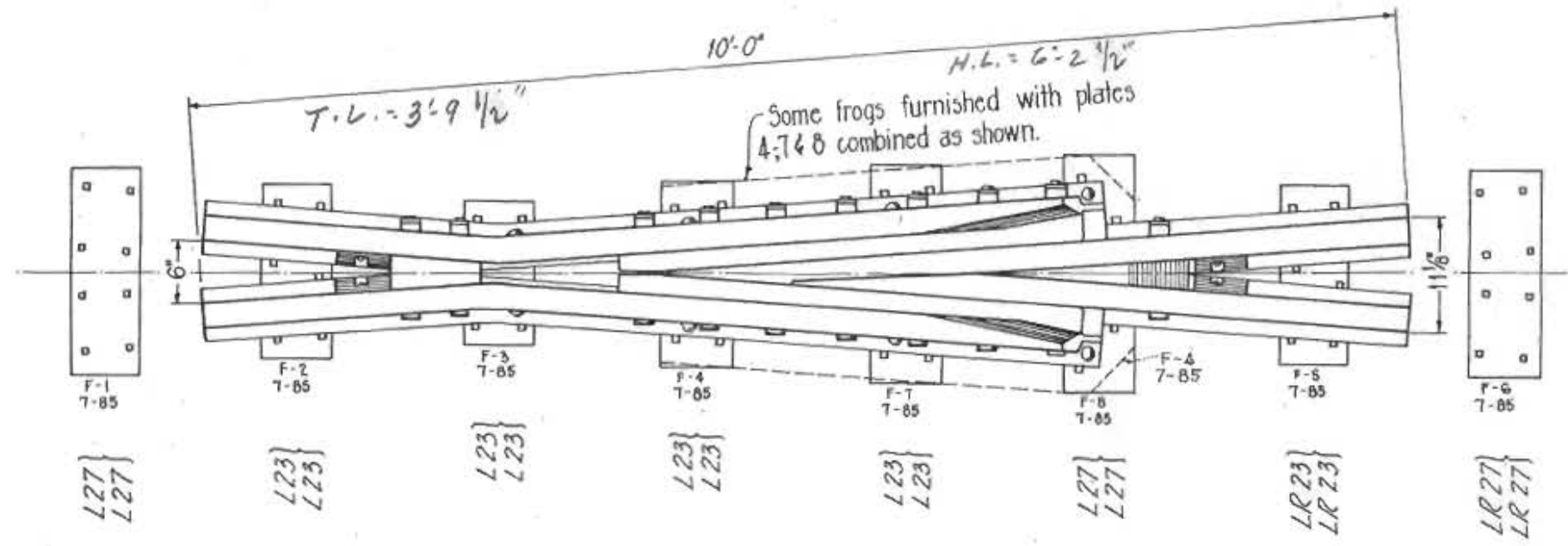
APPROVED: *J. M. Williams*
CHIEF ENGINEER

APPROVED: *E. W. Mason*
VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
NO. 7 BOLTED RIGID FROG
85 LB. RAIL

No Scale

Adopted July 1, 1940
Revised April 1, 1947
Dec. 21, 1954



NOTES

When original 'F' plates are not available store will furnish Hook Twin Tie Plates as shown.

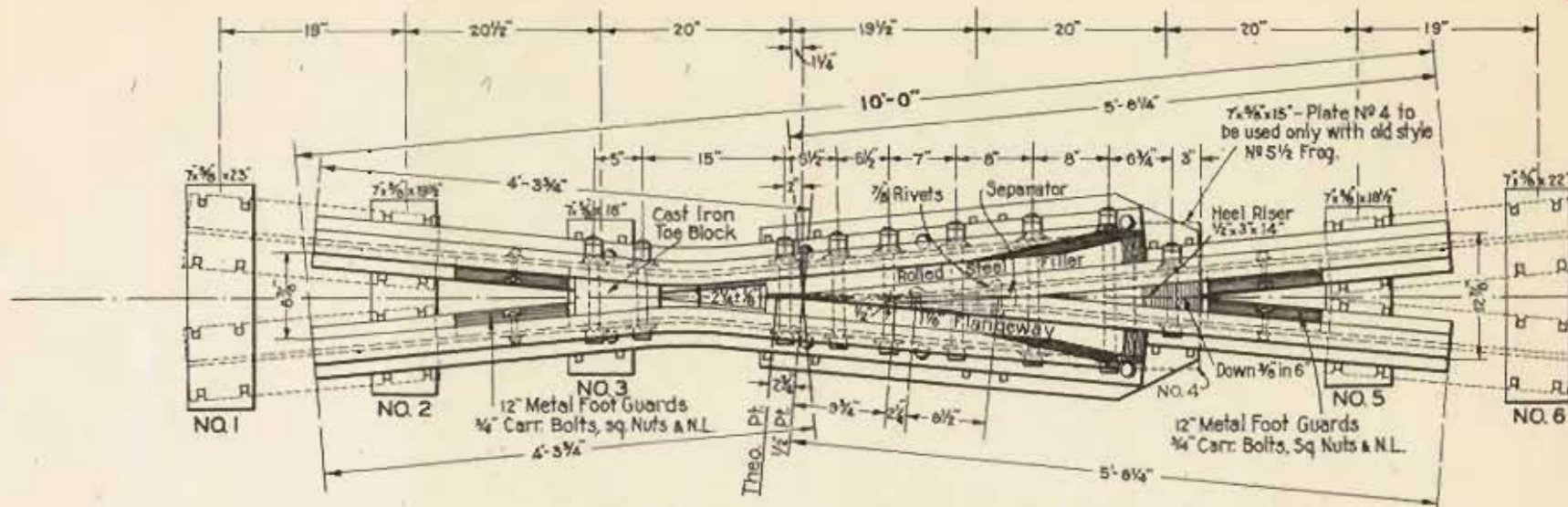
Approved: *Francis R. Woolford*
Chief Engineer

THE WESTERN PACIFIC RAILROAD COMPANY
STANDARD
No 7 BOLTED RIGID FROG
PLATE REPLACEMENT
85 LB. RAIL

No Scale

Adopted: Nov. 15, 1959

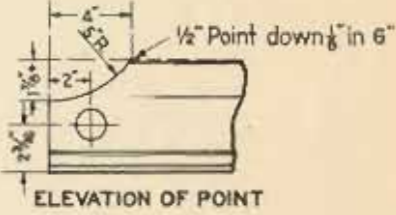
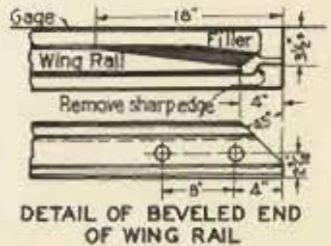
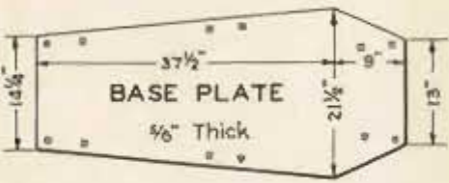
OLD STANDARD
OBSOLETE



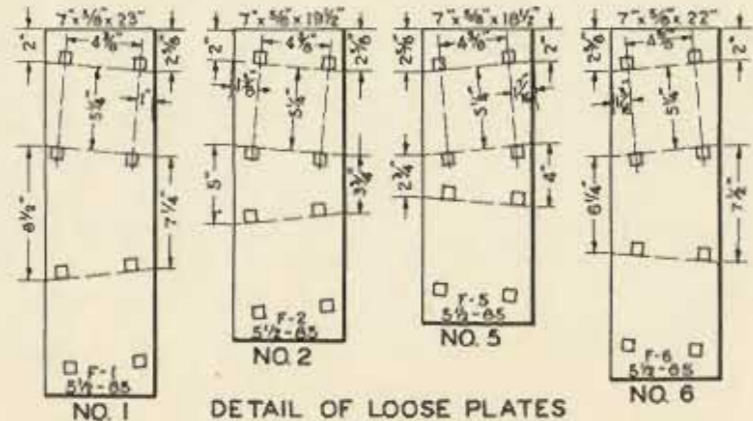
PLAN OF NO. 5 1/2 BOLTED RIGID FROG

1 1/8" H.T. Bolts, sq. hd., extra thick sq. nuts, super H.R.N.L. & grip nuts, rolled beveled hd. locks & washers.

Note: Base plate and plate No. 3 to be riveted to flange of rail at 90° to ϕ of frog with 3/4" rivets. All spike holes are 3/4" square and, except in plates 1, 2, 5 & 6, are 1/8" under flange. For typical sections thru frog see Dwg. C.E.-S-150



Note: All tie plates, including special plate No. 4 (but not base plate) may be ordered separately for use with old style No. 5 1/2 frogs now in track. When plates are shipped separately, stamp no. of plate, no. of frog and wt. of rail on each plate, thusly, F-4 5 1/2-85



DETAIL OF LOOSE PLATES
Stamp no. of plate, no. of frog and wt. of rail on these plates

APPROVED:

J. M. Williams
CHIEF ENGINEER

APPROVED:

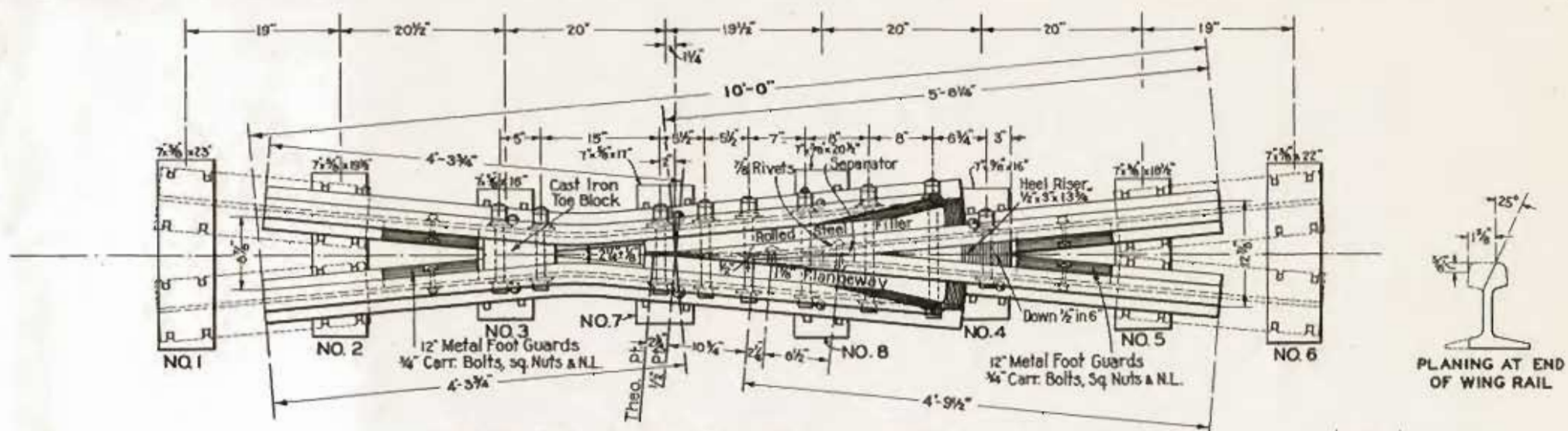
E. W. Marrow
VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
NO. 5 1/2 BOLTED RIGID FROG
85 LB. RAIL

No Scale

Adopted July 1, 1940

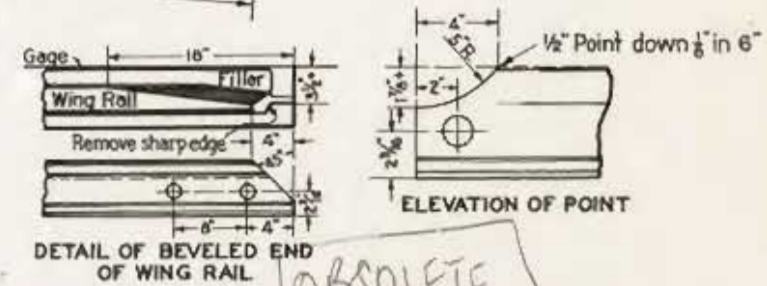
1/24
2-2-66



PLAN OF NO. 5 1/2 BOLTED RIGID FROG

1/8" H.T. Bolts, sq. hd, extra thick sq. nuts, super H.P.N.L. & grip nuts, rolled beveled hd. locks & washers.

Note: Plates No. 3, 4, 7 & 8 to be riveted to flange of rail at 90° to ϕ of frog with 3/4" rivets. All spike holes are 3/4" square and, except in plates 1, 2, 5 & 6, are 1/16" under flange. For typical sections thru frog see Dwg. C.E.-S-150

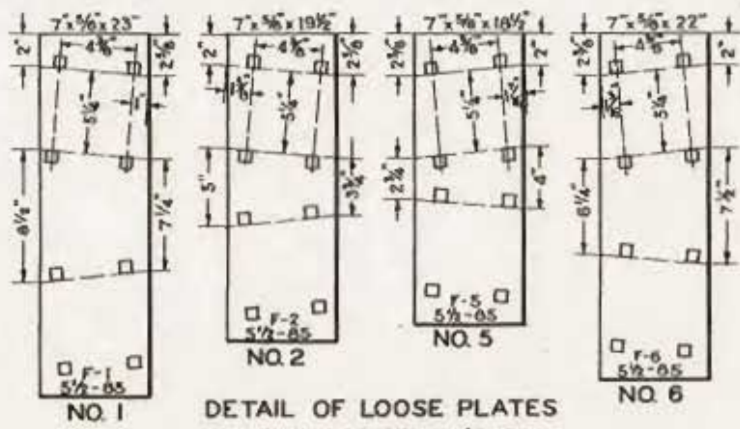


OBsolete

OLD STANDARD

Note: All tie plates, except plates No. 7 & No. 8, may be ordered separately for use with old style No. 5 1/2 frogs now in track. When plates are shipped separately, stamp no of plate, no of frog and wt of rail on each plate, thusly, F-4 5 1/2-85

All tie plates, except plates 7 & 8, will be furnished only if on hand. If plates are not available Hook Twin Tie Plates will be furnished as per C.E. S-152 A.

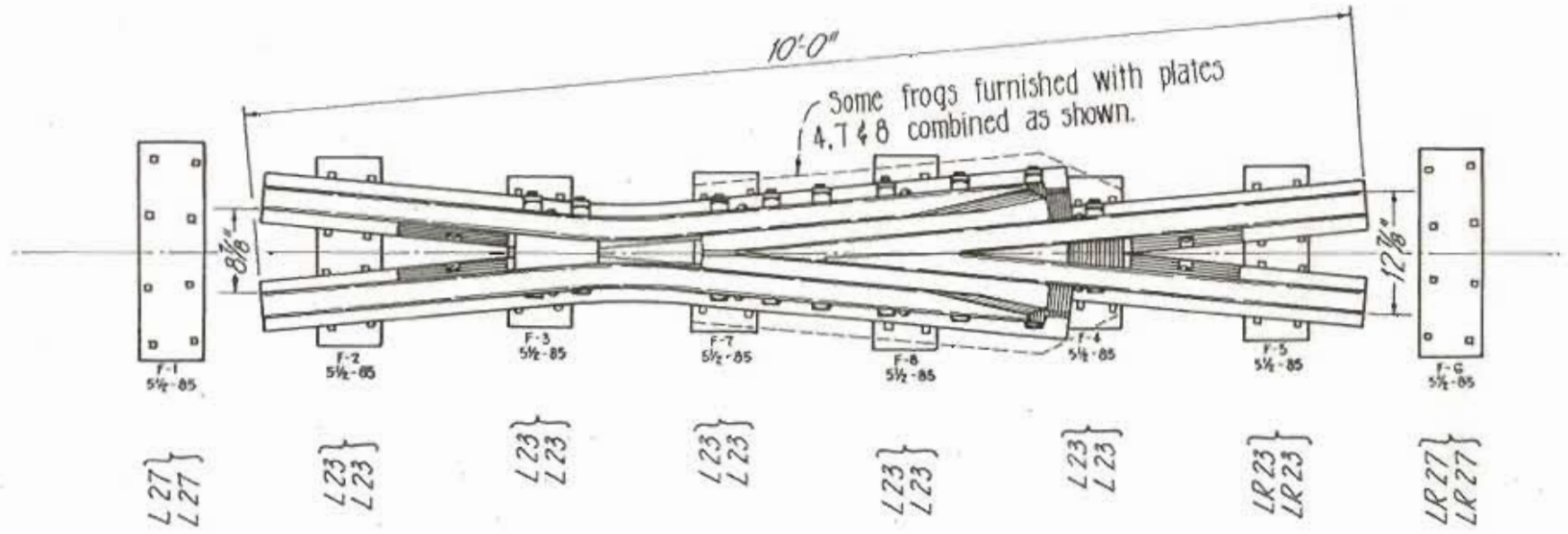


APPROVED: *J.M. Williams* CHIEF ENGINEER
APPROVED: *E.W. Mason* VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
NO. 5 1/2 BOLTED RIGID FROG
85 LB. RAIL

No Scale

Adopted July 1, 1940.
Revised April 1, 1947.
Dec. 21, 1954



NOTES

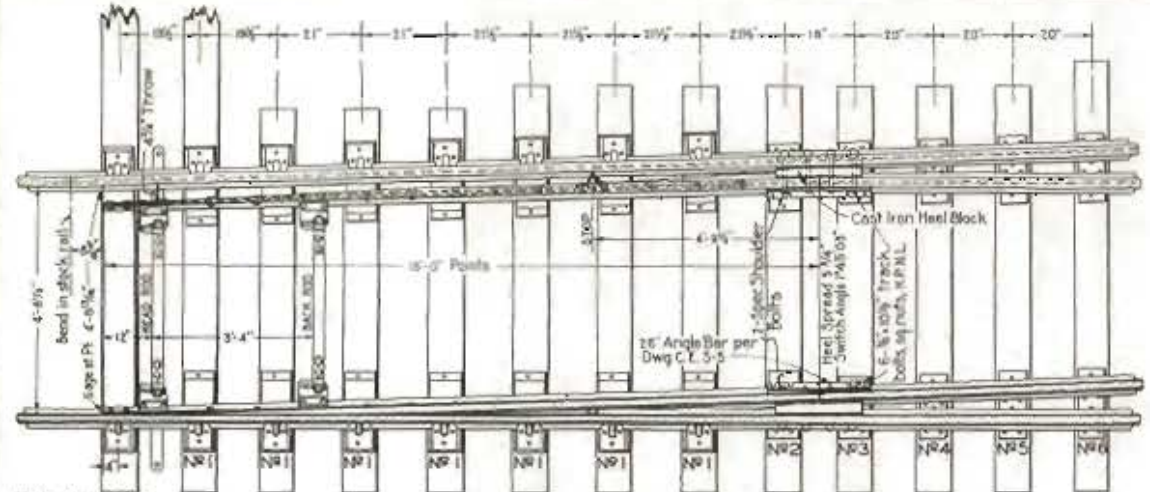
When original "F" plates are not available store will furnish Hook Twin Tie Plates as shown.

Approved: *Frank R. Woolf*
Chief Engineer

THE WESTERN PACIFIC RAILROAD COMPANY
STANDARD
No 5 1/2 BOLTED RIGID FROG
PLATE REPLACEMENT
85 LB. RAIL

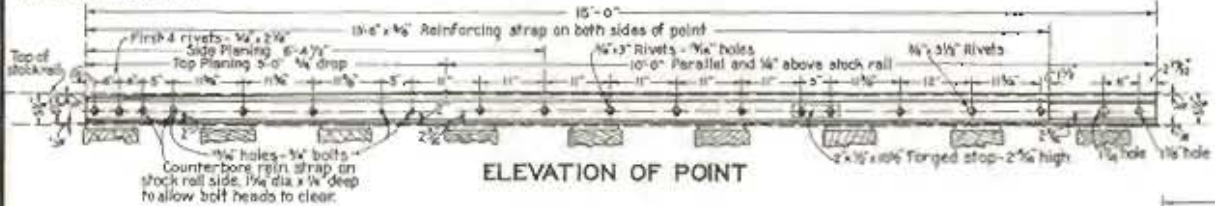
No Scale

Adopted: Nov. 15, 1959

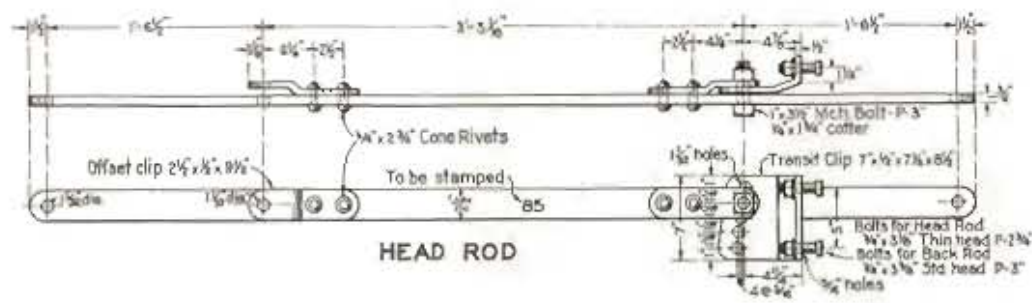


PLAN OF COMPLETE LEFT HAND SWITCH ASSEMBLED

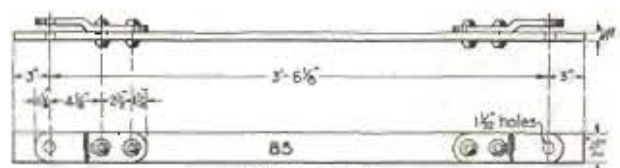
Flatten heads of first 4 rivets on stock rail side of point.
1/4" Point chamfered to 1/8" in 16"



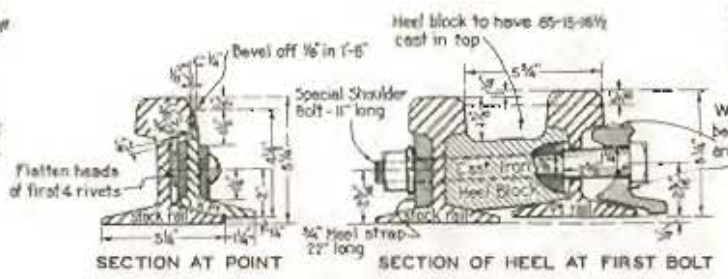
ELEVATION OF POINT



HEAD ROD

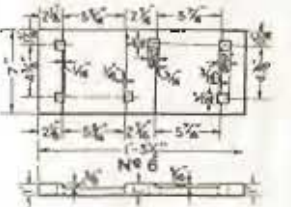
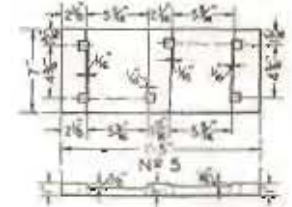
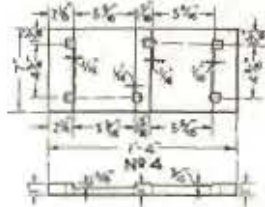
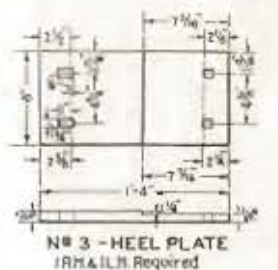
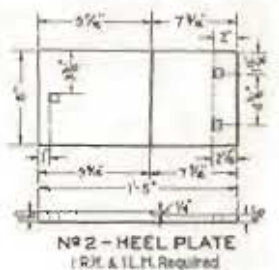
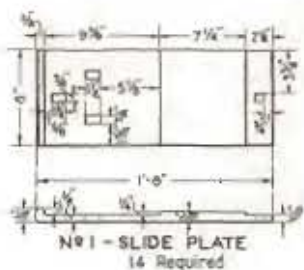


BACK ROD



SECTION AT POINT

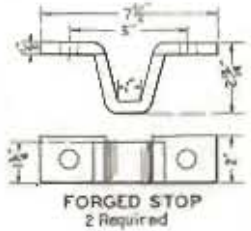
SECTION OF HEEL AT FIRST BOLT



Nº 4, 5 & 6 - RUNOFF PLATES
R.H. & L.H. each Required



GAGE PLATE



FORGED STOP
2 Required

Notes:

Orders for switches should specify insulated or non-insulated. Insulation on gage plate, head rod and back rod should be the same as shown on Dwg. C.E. S-116.
Both rods to be stamped 85. Gage plate to be stamped 85-15-18 1/2 and R.H. or L.H. Slide plates and Heel plates to be stamped with wt. of rail and no. of plate. Runoff plates to be stamped with wt. of rail, no. of plate and no. of switch, i.e. 85-3-15.

Rail braces to be pressed steel as shown on Dwg. C.E. S-116, and stamped with wt. of rail. 16 rail braces required. All rail braces to be punched with 3 spike holes 1/4" square.

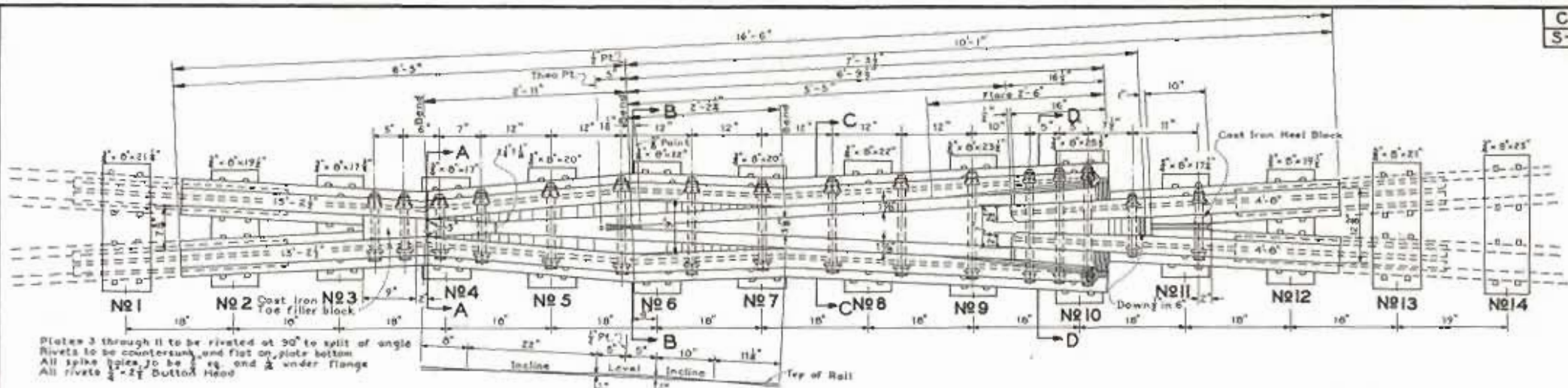
APPROVED: *J.M. Williams*
CHIEF ENGINEER
OBSCLETE
OLD STANDARD

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
15 FOOT SPLIT SWITCH
85 LB. RAIL

No Scale

Adopted July 1, 1940

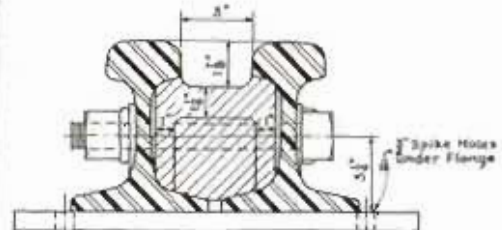
Note: All parts shown here are interchangeable with corresponding parts shown on S-153 A. When requisition refers to S-153, store will furnish 'Old Standard' parts if available, otherwise will furnish parts in accordance with S-153 A.



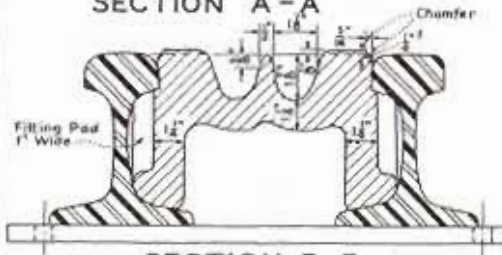
Plates 3 through 11 to be riveted at 30° to split of angle
Rivets to be countersunk and flat on plate bottom
All spike holes to be 3/4" sq. and 1/2" under flange
All rivets 3/4"-27 Button Head

ELEVATION OF WING WHEEL RISER

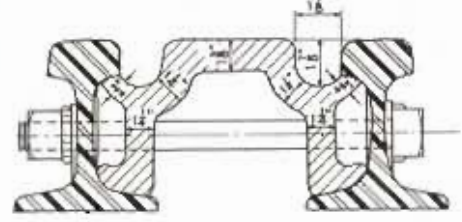
PLAN OF No 10 RAILBOUND MANGANESE FROG



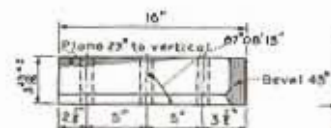
SECTION A-A



SECTION B-B

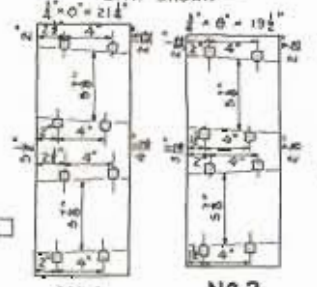


SECTION C-C



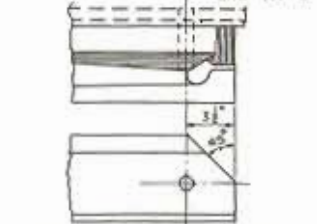
ROLLED STEEL FILLER

I.L.H. & I.R.H. Required
L.H. Shown

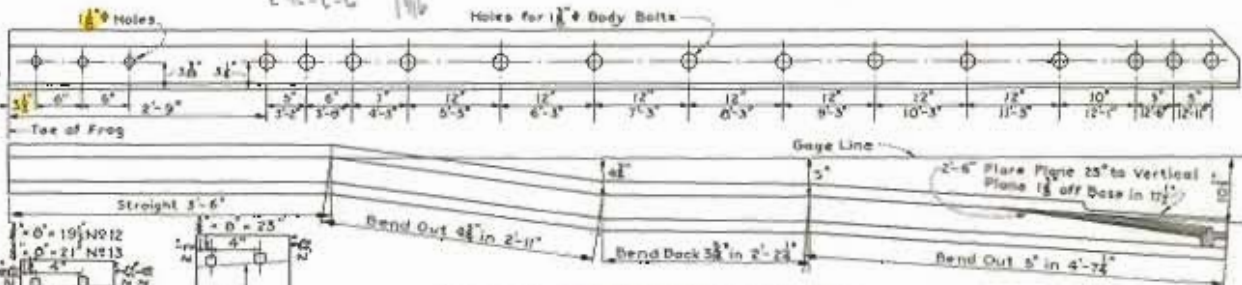


DETAIL OF LOOSE PLATES

Stamp weight of rail, No of plate, and No of frog on plates



DETAIL OF BEVELED END OF WING RAIL



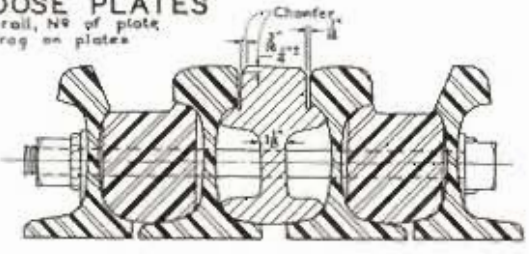
DRILLING & BENDING OF WING RAIL

I.L.H. & I.R.H. Required - R.H. Shown



DRILLING OF POINT RAIL

I.L.H. & I.R.H. Required
L.H. Shown



SECTION D-D

APPROVED *Frank R. Woodford*
CHIEF ENGINEER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD

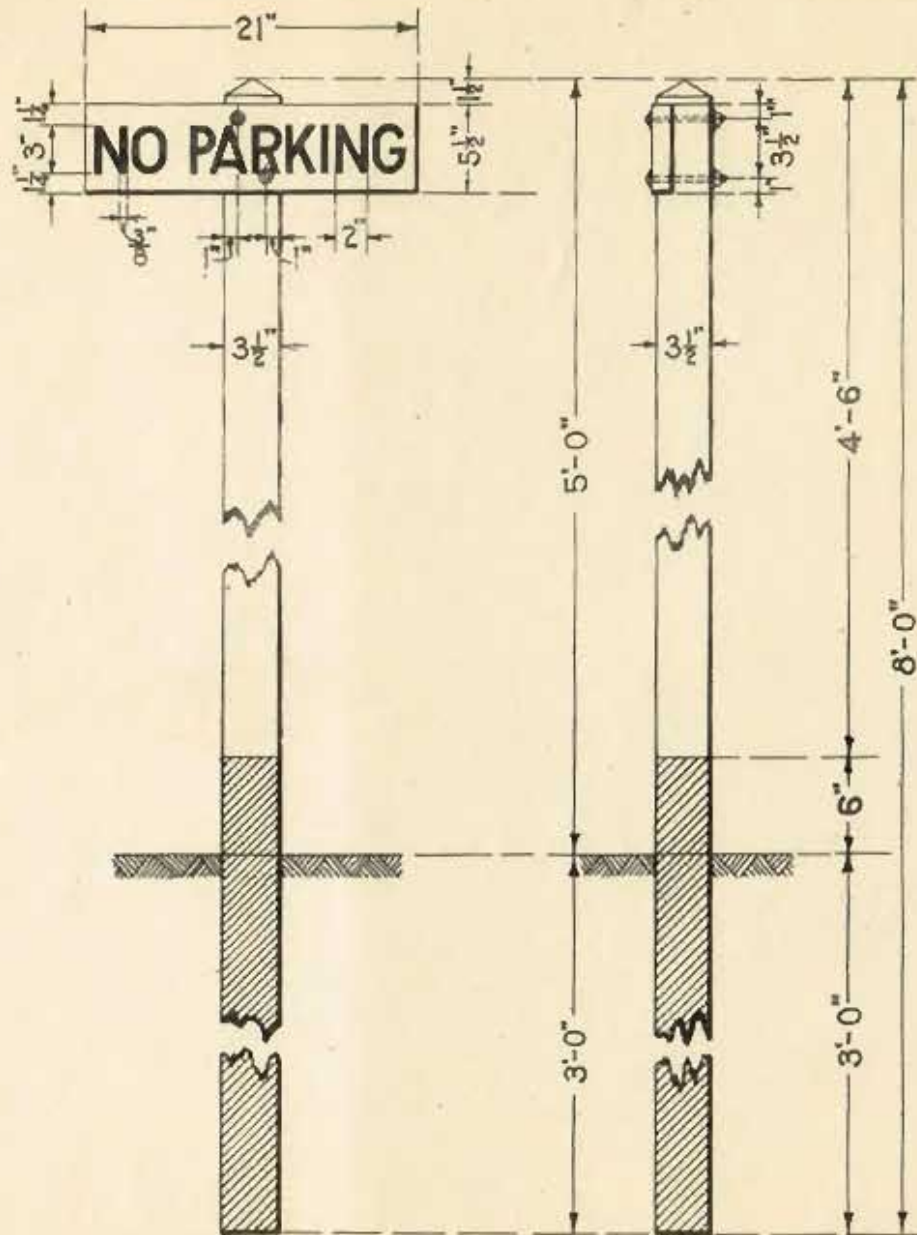
No 10 RAILBOUND MANGANESE FROG

136 LB. C.F. & I. RAIL

NO SCALE

ADOPTED: Nov. 1, 1903





POST: 4"x4"x8'-0" S-4-S Redwood Extra Merch.

BOARD: Redwood, Clear.

BOLTS: $\frac{3}{8}$ " x 5" Carriage bolts with washers.

PAINTING: Face and back of board and upper 4'-6" of post to be given one primary coat of white lead and oil paint thinned with turpentine and two coats of white lead and oil paint. Letters black. Post to have a coat of tar applied hot to 6" above ground.

STYLE OF LETTERS: Egyptian, 3" high with $\frac{3}{8}$ " stroke.

LOCATION: To be placed at location designated but not less than 13'-0" from center line of any track.

APPROVED:

J. M. Williams
CHIEF ENGINEER

APPROVED:

E. W. Mason

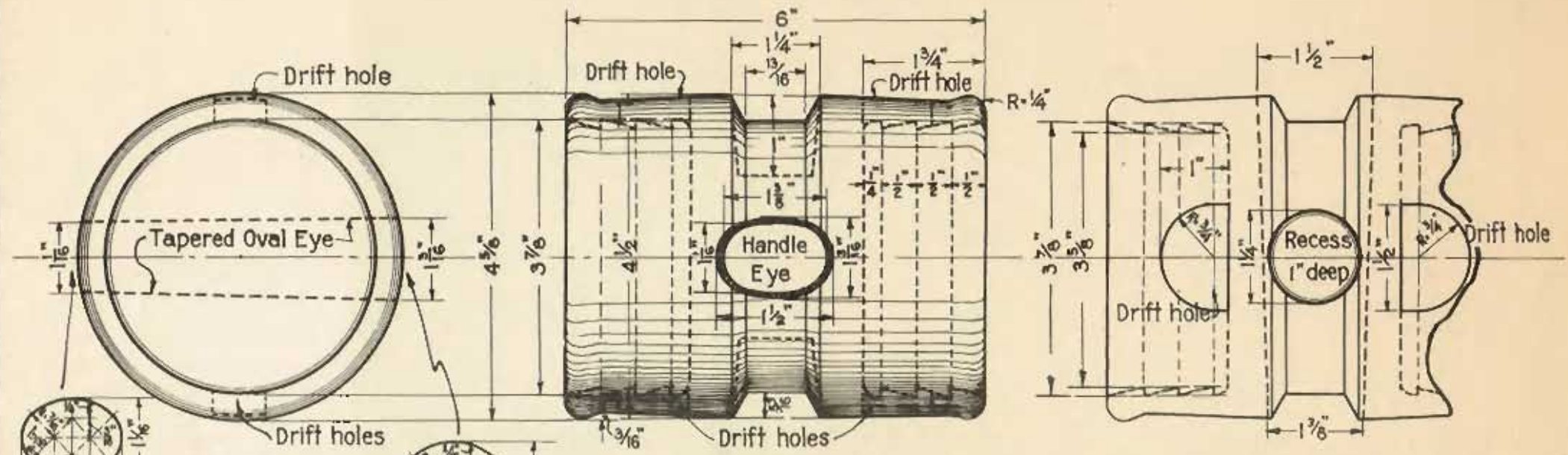
VICE-PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
NO PARKING SIGN

SCALE: 1"=1'-0"

ADOPTED JAN. 3, 1938

nc
2-2-66

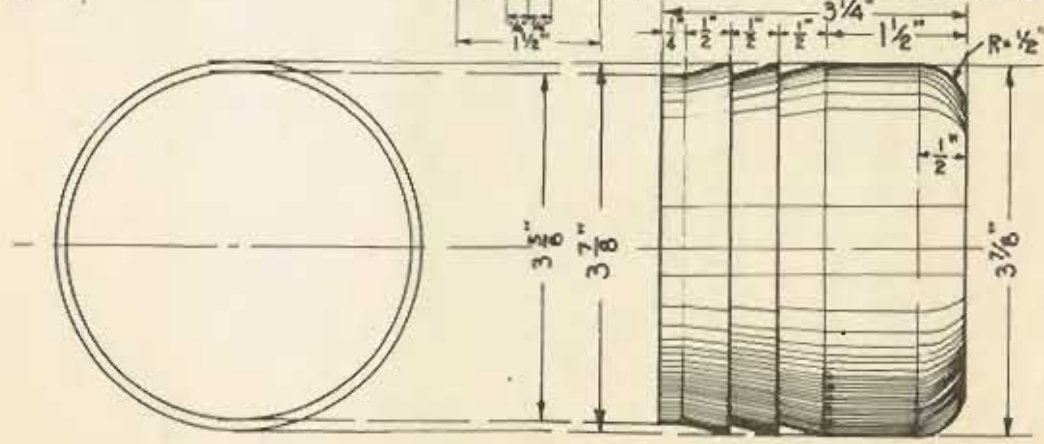


END VIEW

TOP VIEW SHOWING HANDLE EYE

SIDE VIEW SHOWING RECESS AND DRIFT HOLES

MALLEABLE STEEL CASTING



END VIEW

SIDE VIEW

FILLER BLOCK

To be molded of Live Hard Rubber

APPROVED *J. M. Williams*
CHIEF ENGINEER

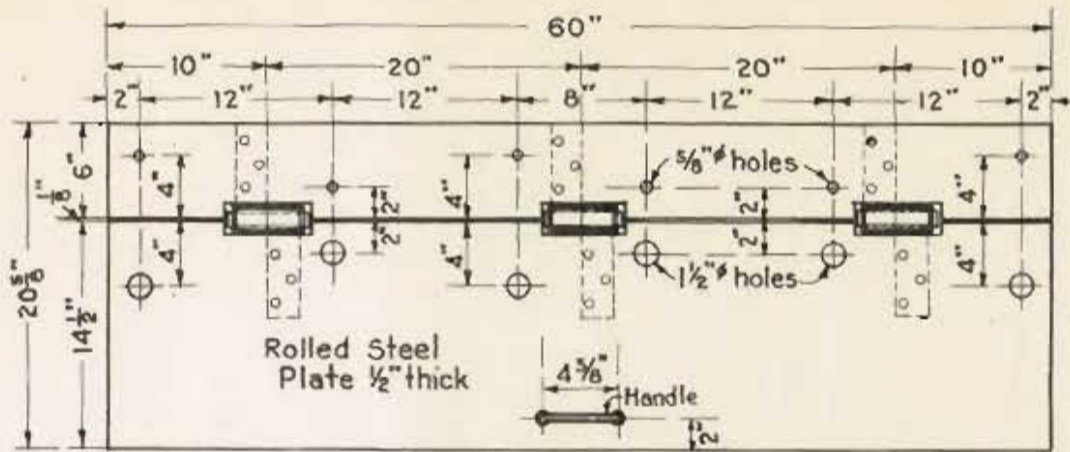
APPROVED *E. W. Mason*
VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD

TIE COMMANDER

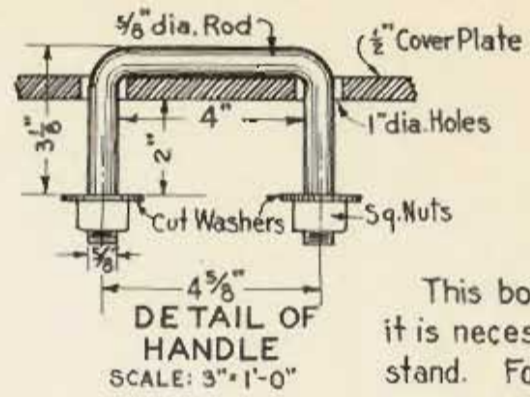
NO SCALE

ADOPTED AUG. 25, 1938
REV. MAR. 27, 1940
JULY 15, 1940



PLAN OF COVER
SCALE: 1" = 1'-0"

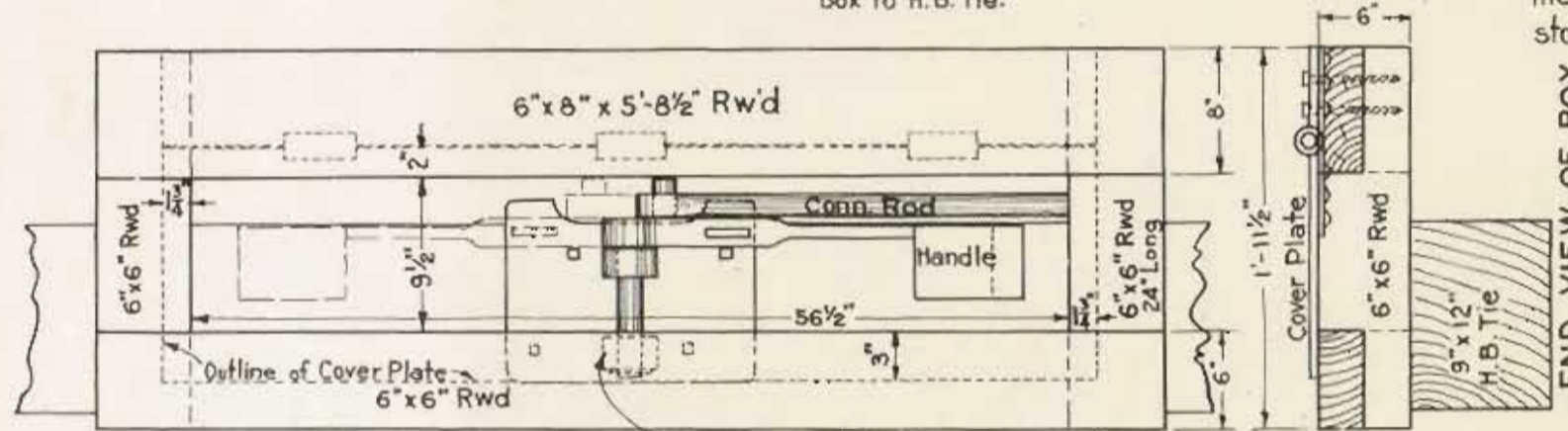
6 - 1/2" x 6" Lag Screws required for cover plate.
10 - 1/2" x 12" Galv. Boat Spikes required to spike
Box to H.B. Tie.



DETAIL OF
HANDLE
SCALE: 3" = 1'-0"

This box and cover to be used when it is necessary to install a jack-knife stand. For details of jack-knife stand see Drawing No C.E.-S-167.

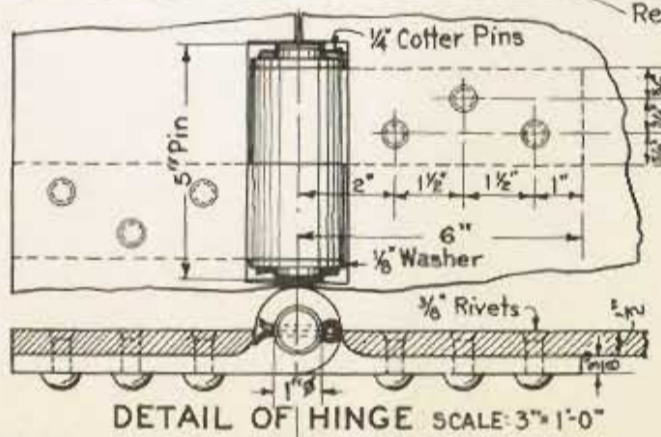
When stand is placed in sidewalk area and is not subject to heavy traffic, the cover plate may be made of 3/8" thick stock.



PLAN OF BOX
SCALE: 1" = 1'-0"

Recess 6"x6" to fit over mounting.

BILL OF MATERIAL FOR ONE BOX	
NO.	ITEM
1 PC.	6" x 8" x 5'-8 1/2" Redwood
1 PC.	6" x 6" x 5'-8 1/2" Redwood
2 PC.	6" x 8" x 1'-11 1/2" Redwood
12	60d Spikes



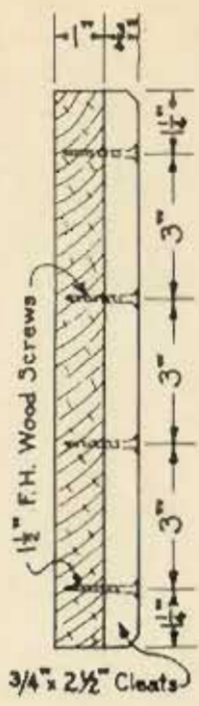
DETAIL OF HINGE SCALE: 3" = 1'-0"

APPROVED: *J. Phillips*
CHIEF ENGINEER

APPROVED: *E. W. Mason*
VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
BOX & COVER FOR JACK-KNIFE STAND
IN PAVED STREETS

SCALE AS NOTED ADOPTED FEB. 1941



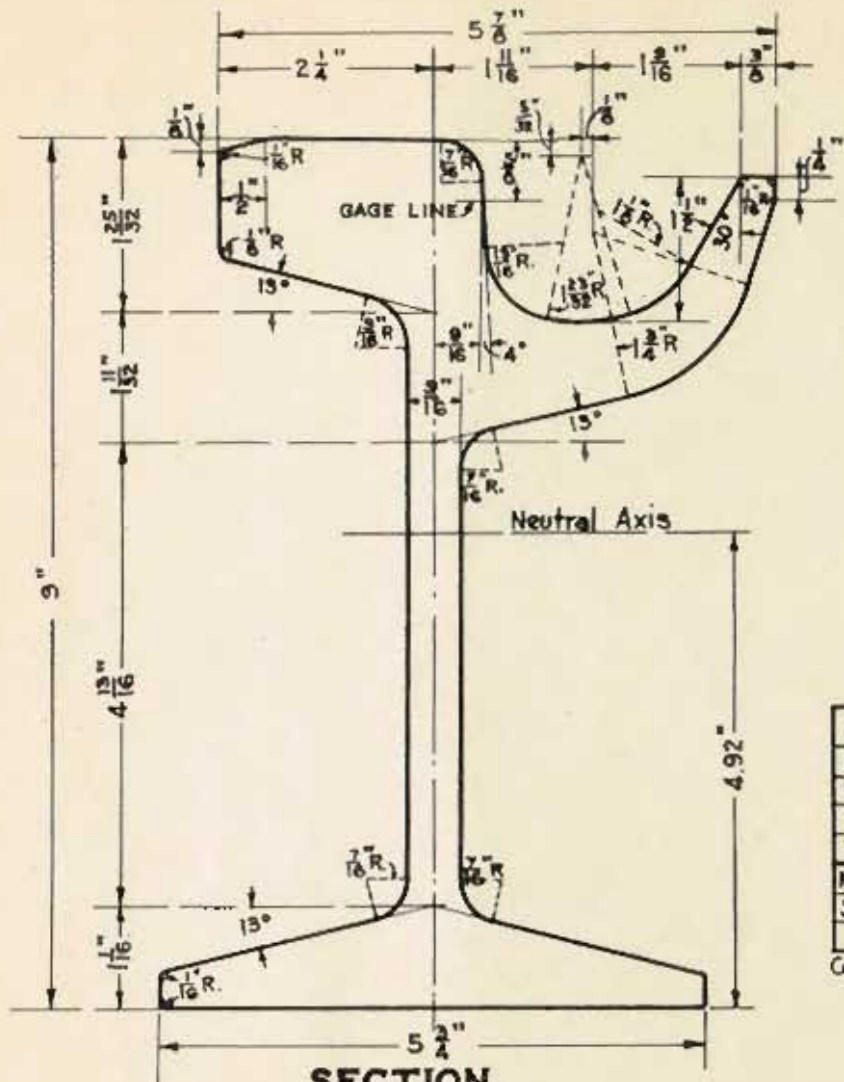
BOARDS: Redwood, clear.
 PAINTING: Face of board white, Letters red. Face of board to be given one priming coat of white lead and oil paint thinned with turpentine and two coats of white lead and oil paint. Back of board painted with metallic and lamp black making a very dark brown.
 LETTERS: Gothic, 3" high with 3/8" stroke as indicated.
 LOCATION: To be placed on buildings or structures where specified and approved by General Manager.

APPROVED: *A. Phillips*
 CHIEF ENGINEER

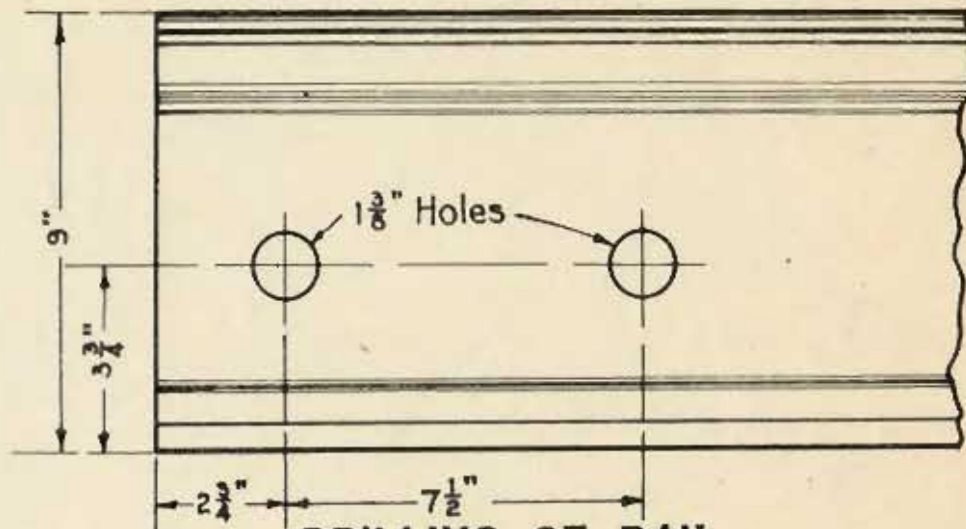
APPROVED: *E. W. Mason*
 VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
 FIRE WARNING SIGN

Scale: 3"-1' ADOPTED Jan. 2, 1943



SECTION
SCALE HALF SIZE
L.S. Co. Sec. 159-517



DRILLING OF RAIL

SCALE: 3" = 1'-0"

AREA	Square inches	Per Cent
Head	8.61	55.09
Web	2.77	17.72
Base	4.25	27.19
Total	15.63	100.00
Mom. of Inertia	164.10	
Sec. Mod. Head	40.20	
" " Base	33.40	

Comp. Wt. = 159.43 lb. per Yd.

APPROVED:

J. Phillips
CHIEF ENGINEER

APPROVED:

E. W. Mason
VICE PRESIDENT AND GENERAL MANAGER

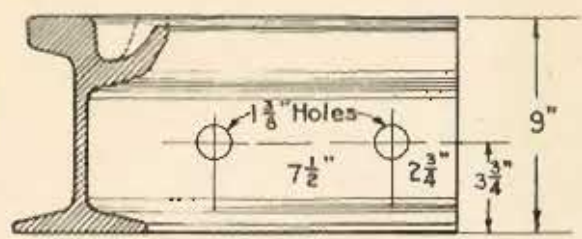
THE WESTERN PACIFIC RAILROAD CO.
STANDARD

159 LB. GIRDER RAIL

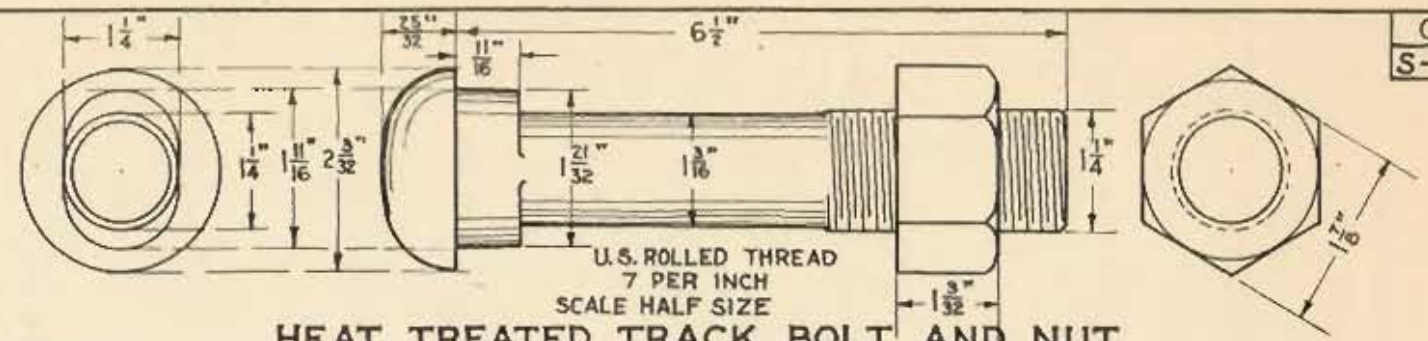
A.R.E.A. NO. 159 LB. -RE-9A

SCALE AS SHOWN

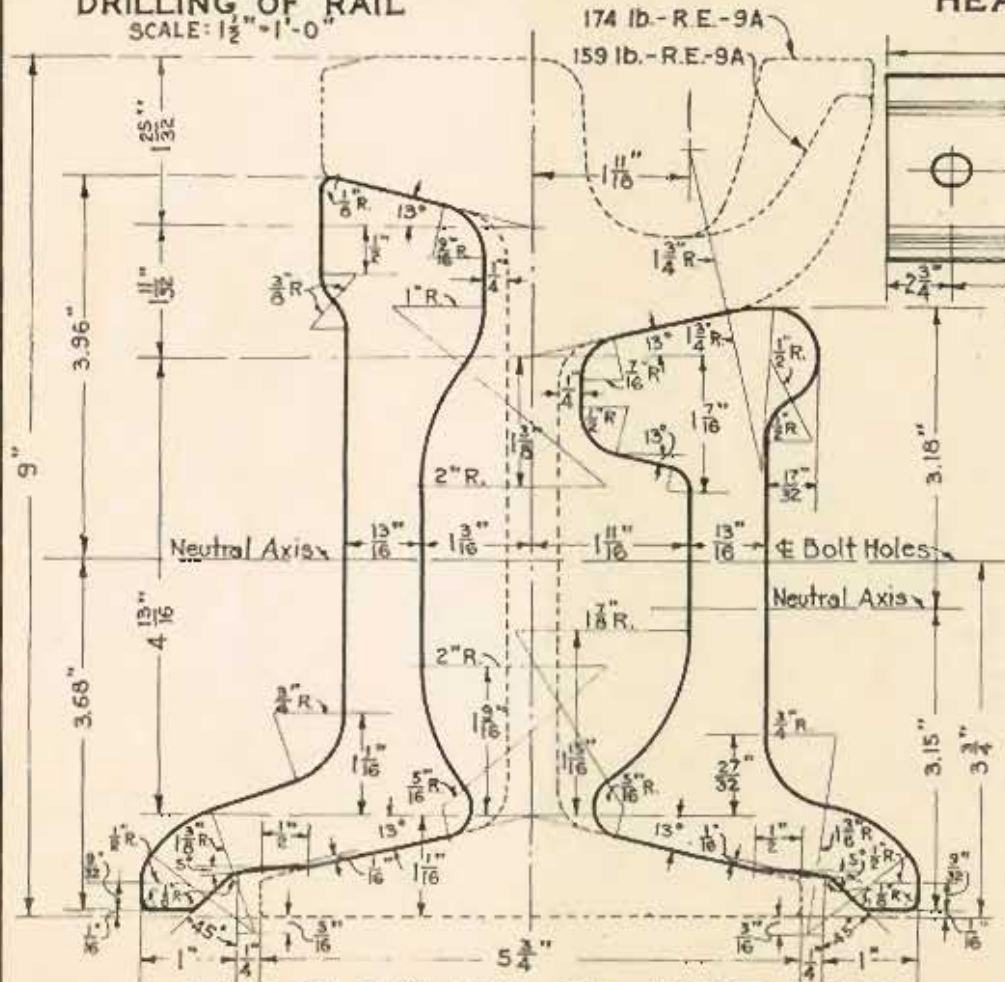
ADOPTED AUG. 15, 1942



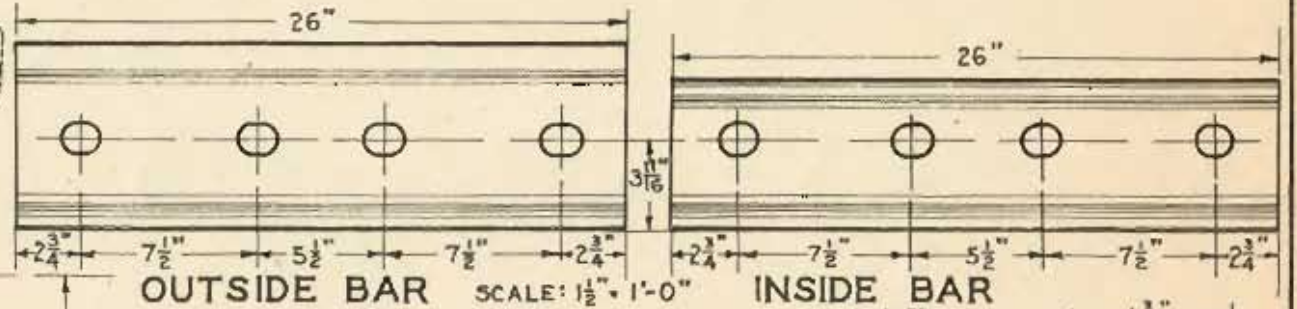
DRILLING OF RAIL
SCALE: 1/2" = 1'-0"



HEAT TREATED TRACK BOLT AND NUT
U.S. ROLLED THREAD
7 PER INCH
SCALE HALF SIZE

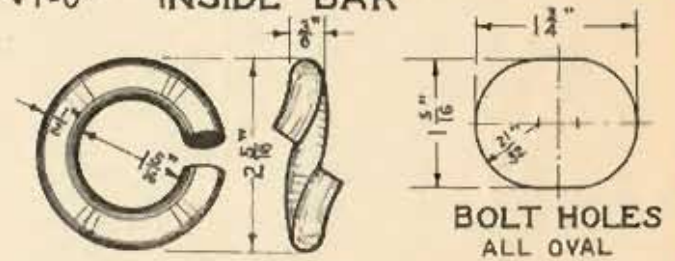


END ELEVATION OF JOINT BARS
SCALE HALF SIZE



OUTSIDE BAR SCALE: 1/2" = 1'-0" INSIDE BAR

AREA	Square Inches Outside Bar	Square Inches Inside Bar
Total	9.39	9.00
Mom. of Inertia	53.70	36.30
Sec. Mod above N.A.	13.60	11.40
Sec. Mod below N.A.	14.60	11.50
Weight per inch	2.66	2.55
Joint Stiffness	159 lb. 54.8%	174 lb. 49.9%
Total Wt. of both bars = 131.92 lbs.		



IMP. HI POWER
SPRING WASHER

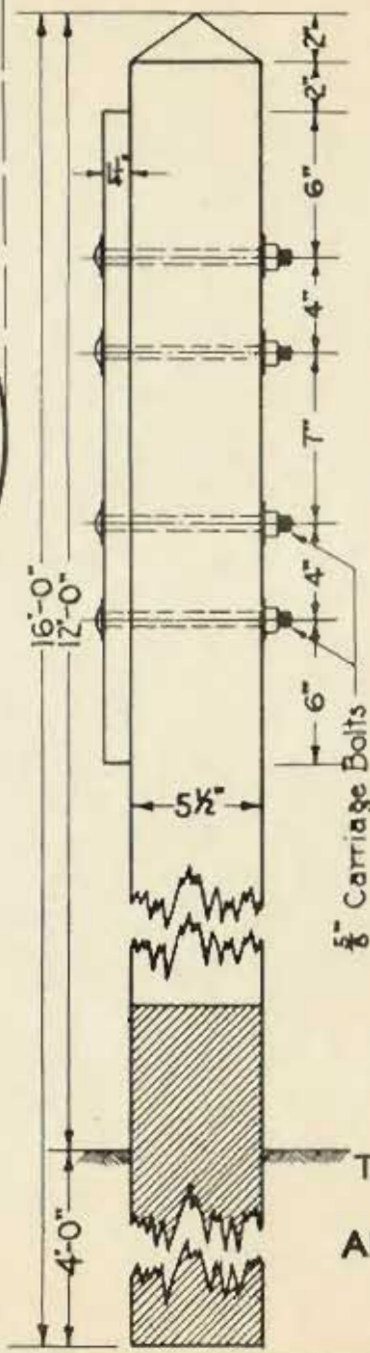
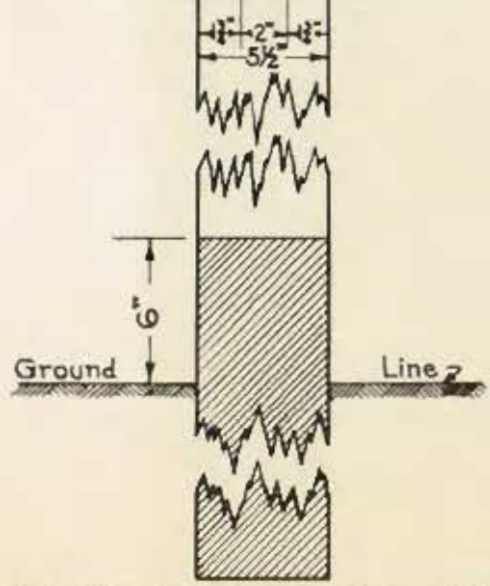
BOLT HOLES
ALL OVAL

APPROVED: *J. Phillip*
CHIEF ENGINEER

APPROVED: *E.W. Mason*
VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
RAIL JOINT TO FIT 159 LB. AND
174 LB. GIRDER RAILS

SCALE AS SHOWN
ADOPTED AUG. 15, 1942
Rev. Mar. 13, 1944 Rev. Jan. 25, 1943



POST: 6"x6", 16'-0" S4S Redwood.
 BOARD: Redwood clear.
 BOLTS: 5/8" Diameter with cut washers.
 PAINTING: Face of board to be given one priming coat of white lead and oil paint thinned with turpentine and two coats of white lead and oil paint. Letters black. Post to have a coat of tar applied hot, to 6" above ground, balance of post and back of board painted with metallic and lamp black making a very dark brown.
 STYLE OF LETTERS: Gothic, 6" high with 3/4" stroke and 3" high with 3/8" stroke, as indicated.
 LOCATION: Place at right angles to track on Engineers side 13 feet from center of track, 2000 feet in advance of Tunnel Occupied Sign.

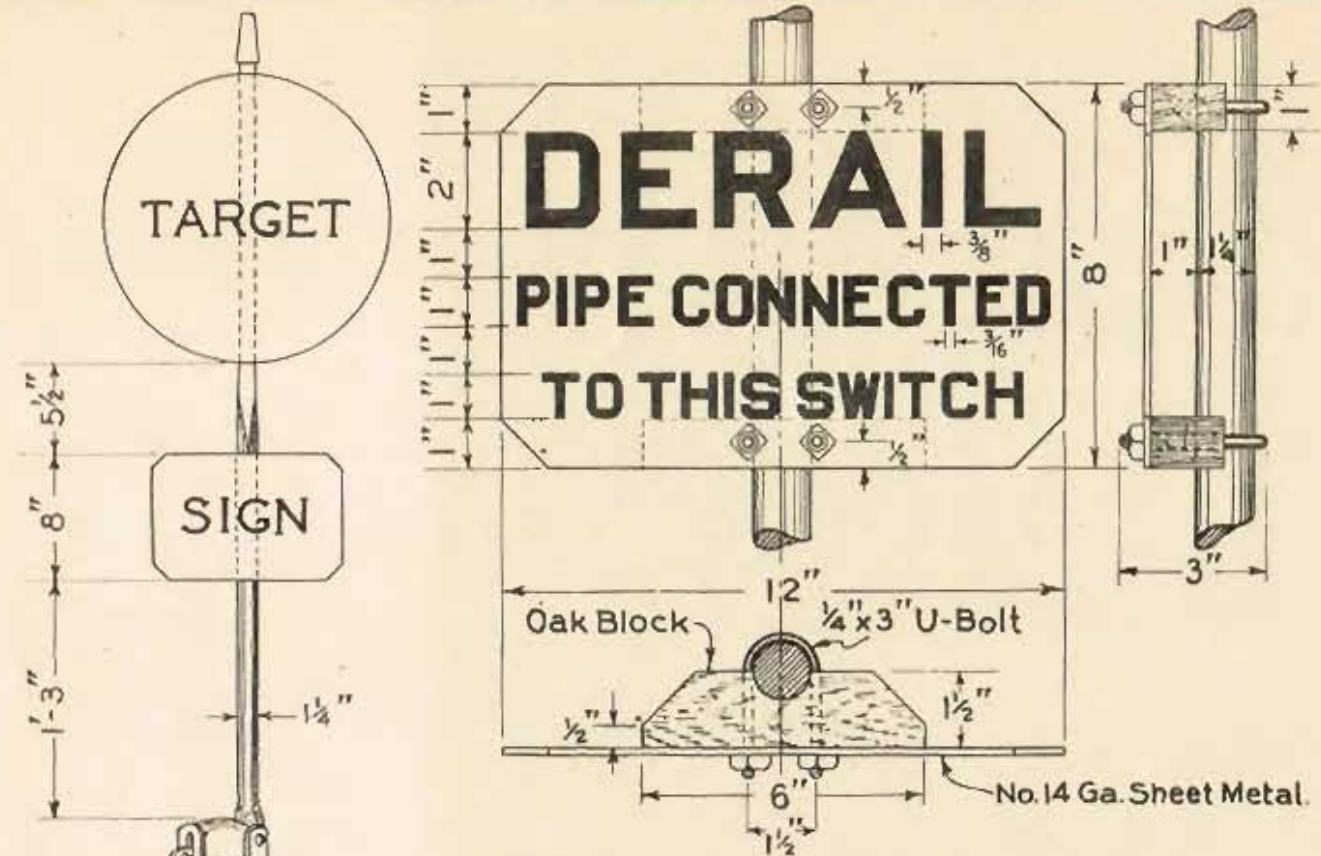
APPROVED: *A. Phillips*
 CHIEF ENGINEER

APPROVED: *E. W. Mason*
 VICE-PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
 ADVANCE TUNNEL OCCUPIED SIGN

SCALE: 1 1/2" = 1'-0"

DEC. 16, 1942



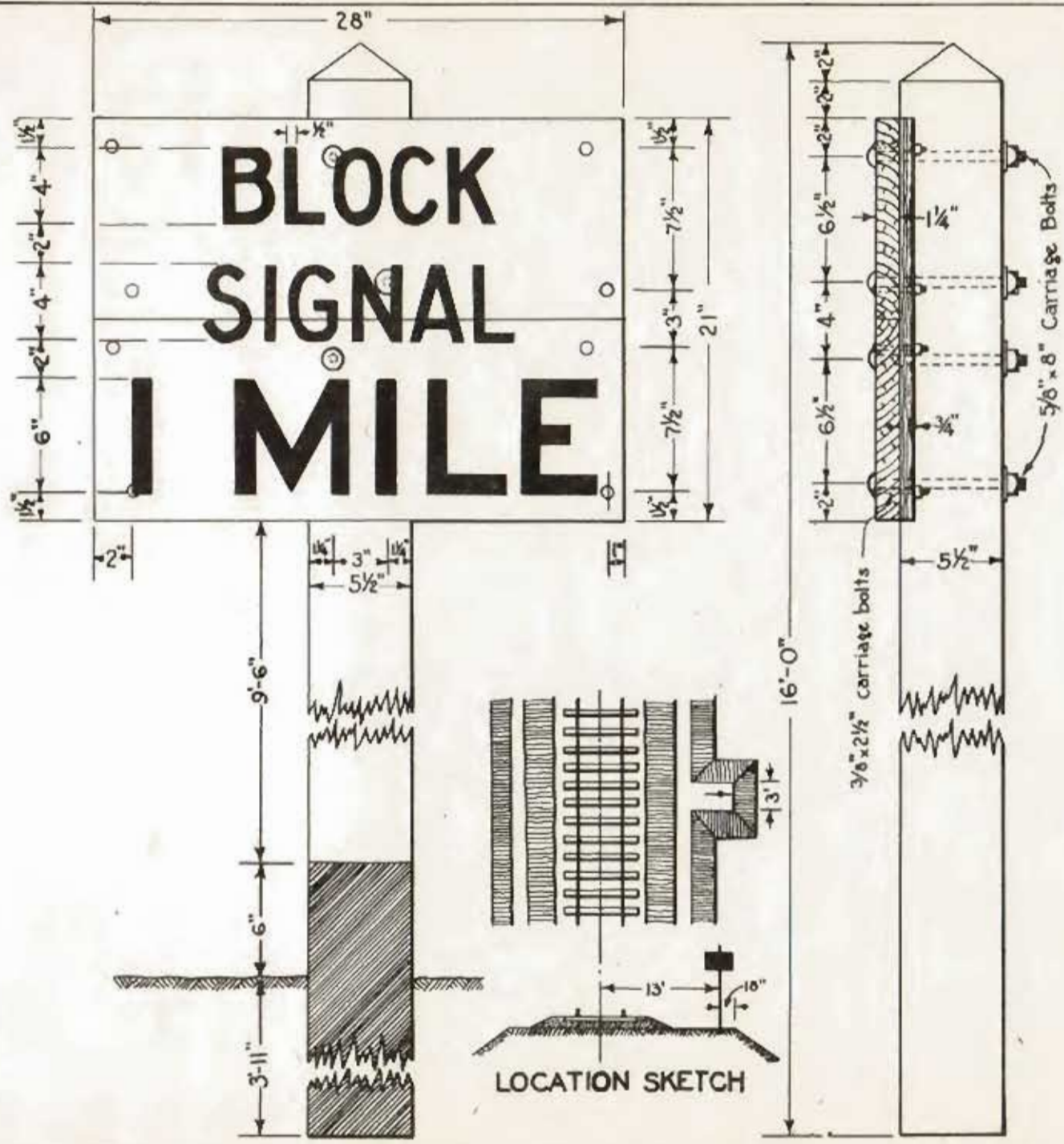
DETAIL OF SIGN AND FASTENING
SCALE: 3" = 1'-0"

SCALE: 1" = 1'-0"
LOCATION OF SIGN ON SW. STAND

SIGN- No. 14 Ga. Sheet Metal or other available scrap sheet metal to 1/8" in thickness.
 PAINTING-Face of sign shall be sand-blasted and a metal primer coat applied. Background to be White- 2 coats of white lead & oil.
 LETTERS- Black-Egyptian style
 LOCATION- Signs to be attached to switch stand staff on approach side at all locations where derail is pipe connected to switch.

APPROVED *J. Phillips*
 CHIEF ENGINEER.
 APPROVED *E. W. Mason*
 VICE PRESIDENT AND GENERAL MANAGER.

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
 DERAIL SIGN
 FOR PIPE CONNECTED DERAIL
 SCALE AS SHOWN ADOPTED Aug 3, 1944.



POSTS: 6" x 6", 16'-0" S4S Redwood Extra Merch
 BOARDS: Redwood Clear.
 BOLTS: 5/8" x 8" & 3/8" x 2 1/2" Carriage Bolts with cut washers.
 PAINTING: Face of board white, letters black. Posts to have a coat of coal tar applied hot, to 6" above ground, balance of post and back of board painted with metallic and lamp black making a very dark brown. Face of board to be given one priming coat of white lead and oil paint thinned with turpentine and two coats of white lead and oil paint.
 LETTERING: Gothic of size and weight shown.
 LOCATION: Place at right angles to track on engineer's side 13'-0" from center line of track. Sign to be placed one mile in advance of the first block signal of a block signal system.

APPROVED: *J. Phillips*
 CHIEF ENGINEER

APPROVED: *J. A. [Signature]*
 VICE-PRESIDENT AND GENERAL MANAGER.

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
 BLOCK SIGNAL ADVANCE SIGN

Scale: 1/2" = 1'-0" ADOPTED, SEPT. 1, 1946.

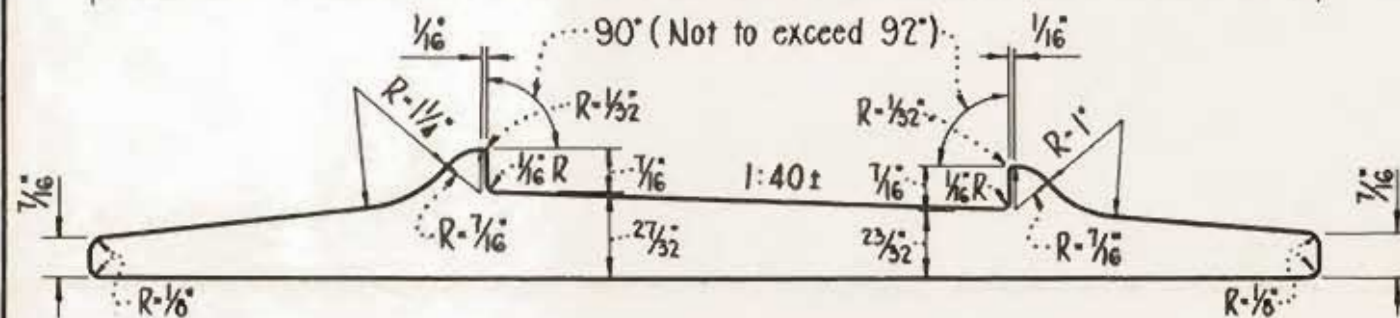
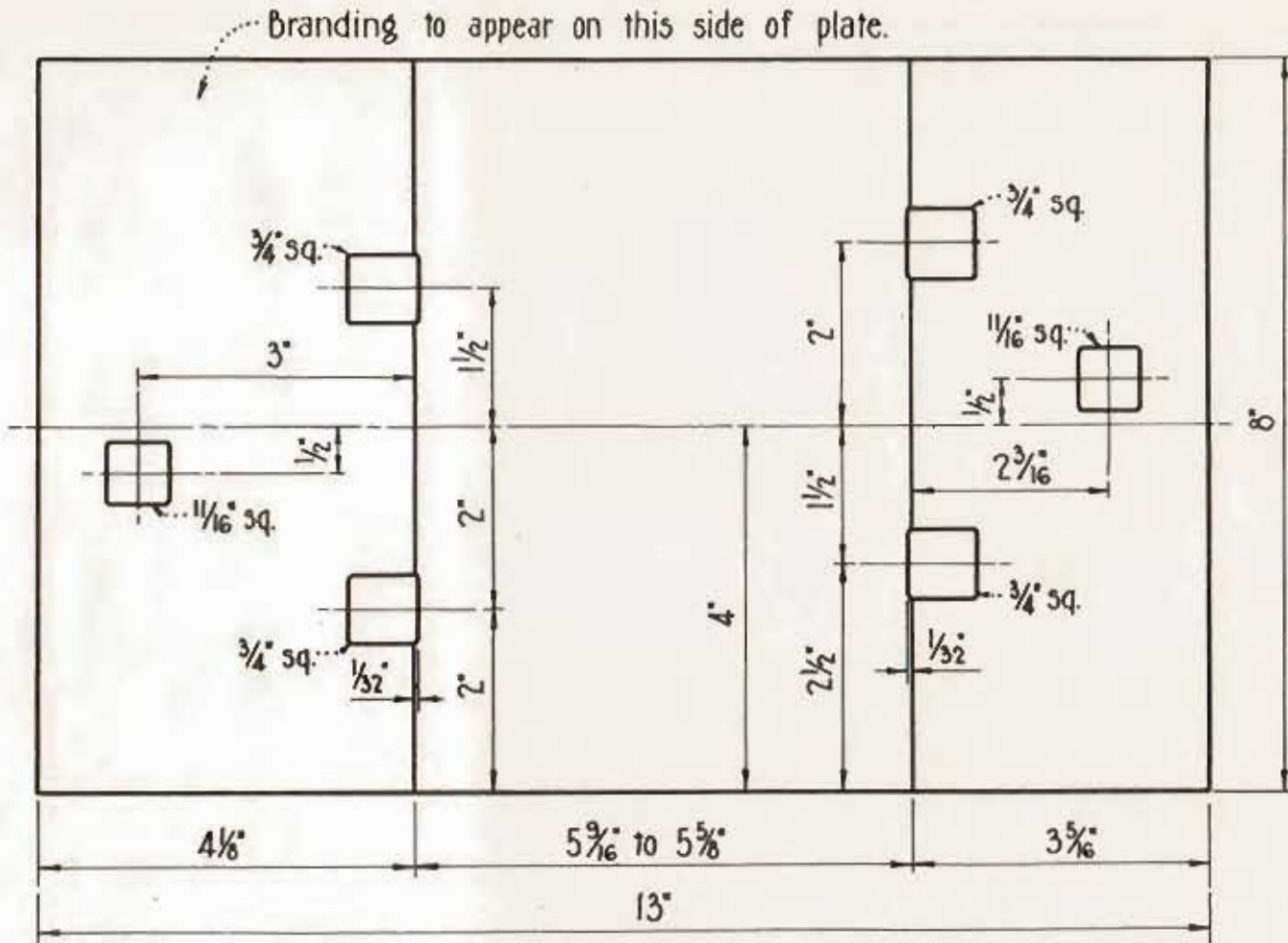
NOTES

All holes to have $\frac{1}{16}$ " fillets in corners.
Tie plates to be manufactured in accordance with A.R.E.A. specifications No ~~5-14.1~~ or No 5-1.

5-1-14.1

PROPERTIES OF SECTION

Area of Section	9.37 Sq. In.
Net wt. per plate	20.45 Lbs.
Gross wt. per in.	2.655 Lbs.
Gross wt. per ft.	31.86 Lbs.



Approved: *Frank A. Mansel*
Chief Engineer

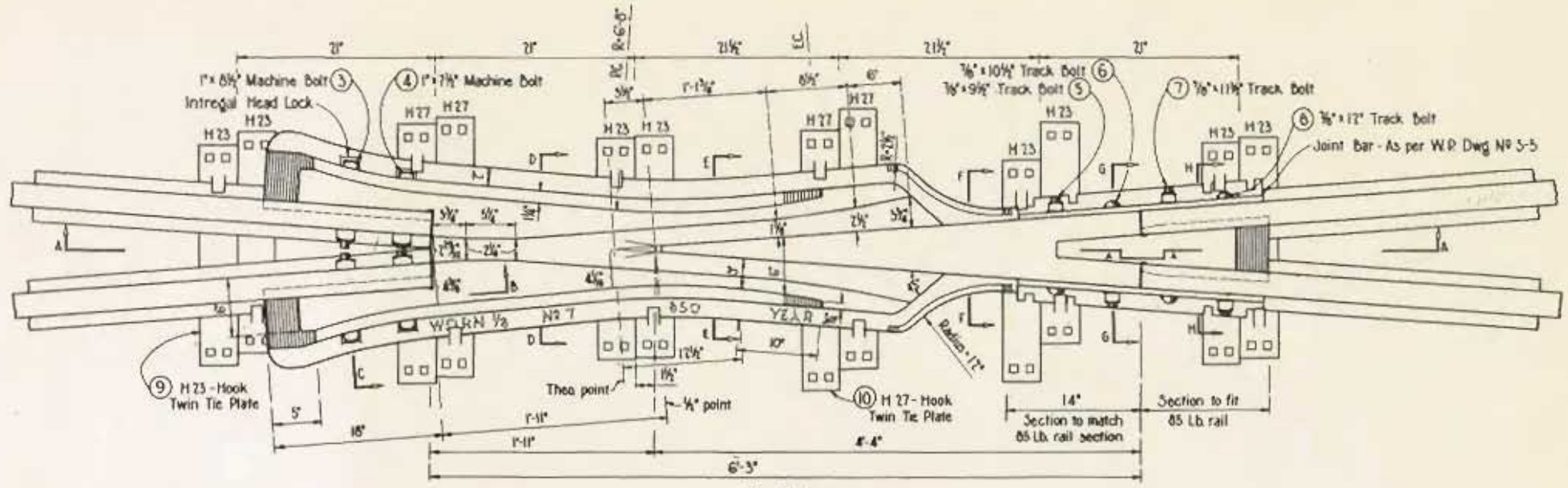
THE WESTERN PACIFIC RAILROAD CO.
STANDARD

8" x 13" TIE PLATE

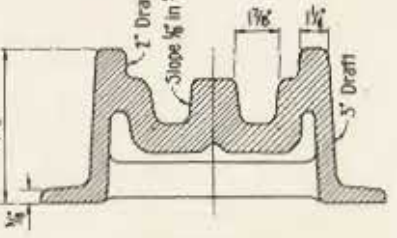
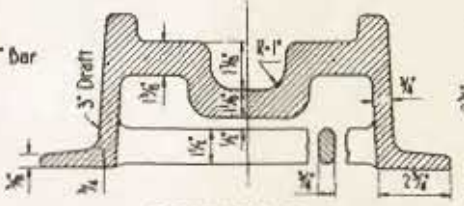
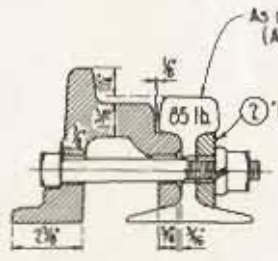
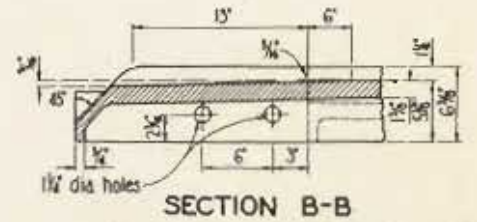
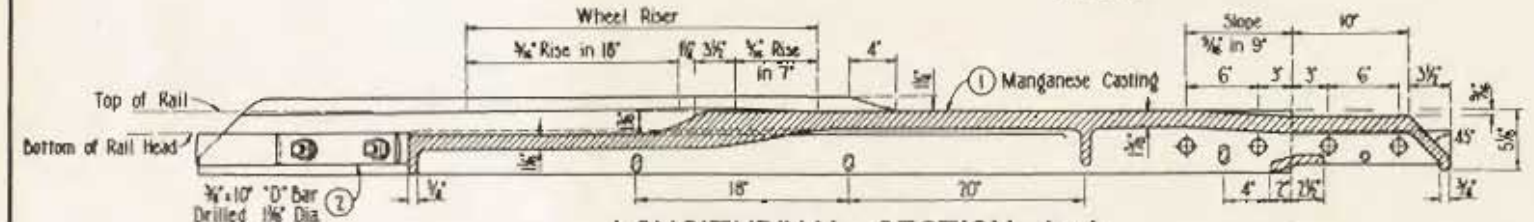
FOR USE WITH 112, 115 & 119 LB. RAIL

SCALE : HALF SIZE

ADOPTED : Jan. 25, 1955

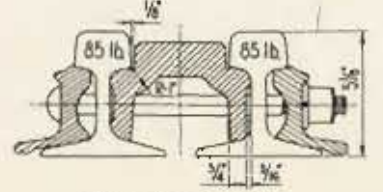
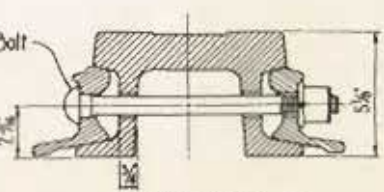
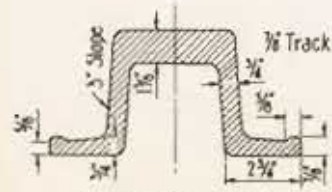


OK
2-2-66



NOTES

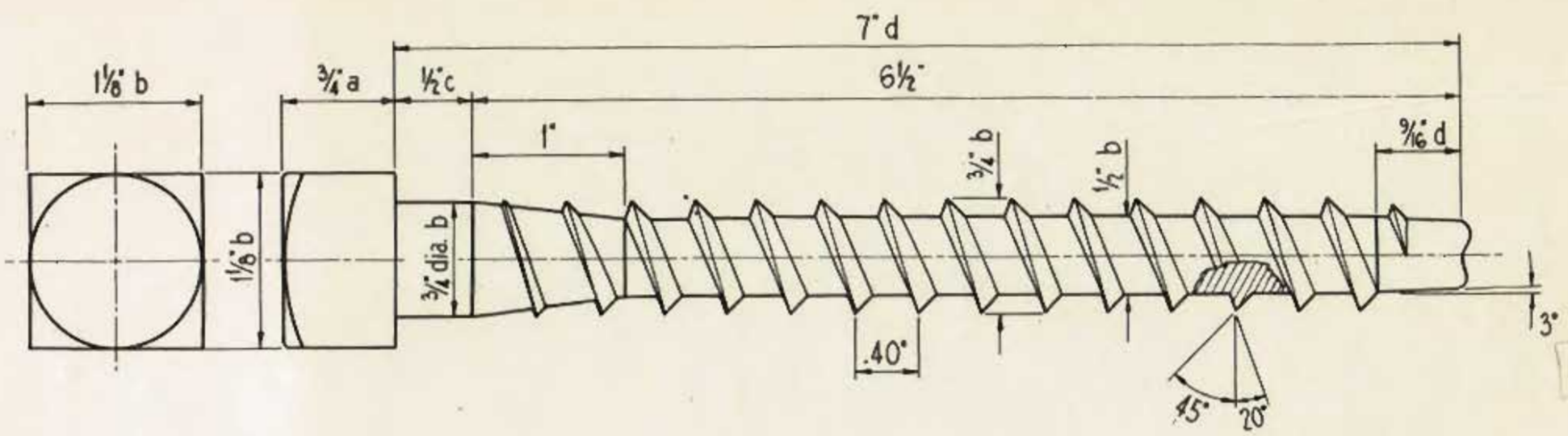
When ordering replacement parts refer to Piece Mark and Drawing Number in addition to specifying name and size of part.
Store will furnish all parts listed in Parts List when requisition states "Frog Complete."



PARTS LIST			
Pc Mk	Name of Part	Reqd.	Remarks
①	Body Casting	1	Solid Manganese
②	3/4" x 10" "D" Bar Drilled 1 1/8" Dia	2	
③	1" x 8 1/2" Machine Bolt	2	
④	1" x 7 1/2" Machine Bolt	2	High Carbon, H.T.
⑤	7/8" x 9 1/2" Track Bolt	1	Includes 1 Sq Nut
⑥	7/8" x 10 1/2" Track Bolt	1	& 1 Hi-Chrome Lock Washer each.
⑦	7/8" x 11 1/2" Track Bolt	1	
⑧	7/8" x 12" Track Bolt	1	
⑨	H23-Hook Twin Tie Plate	8	As per W.P. Dwg No C.E.-3-219
⑩	H27-Hook Twin Tie Plate	4	

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
No 7 SELF GUARDED FROG
FOR 85 LB. RAIL

Signed: *Frank A. McElroy*
Chief Engineer



NOTES

Screw spikes to conform to A.S.T.M. specifications A-66-33 except as shown.
 Weight: Approximately 88 spikes per 100 pounds.
 When ordering specify name of item and standard number as well as number required.

TOLERANCES		
a	+ 0"	- 1/16"
b	+ 1/32"	- 1/32"
c	+ 1/8"	- 1/16"
d	+ 3/16"	- 3/16"

Approved: *Frank R. MacFarland*
 Chief Engineer

Reference: Oliver Iron and Steel Corp.
 Drawing No 20-A-233-B.

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
3/4" LAG SCREW SPIKE

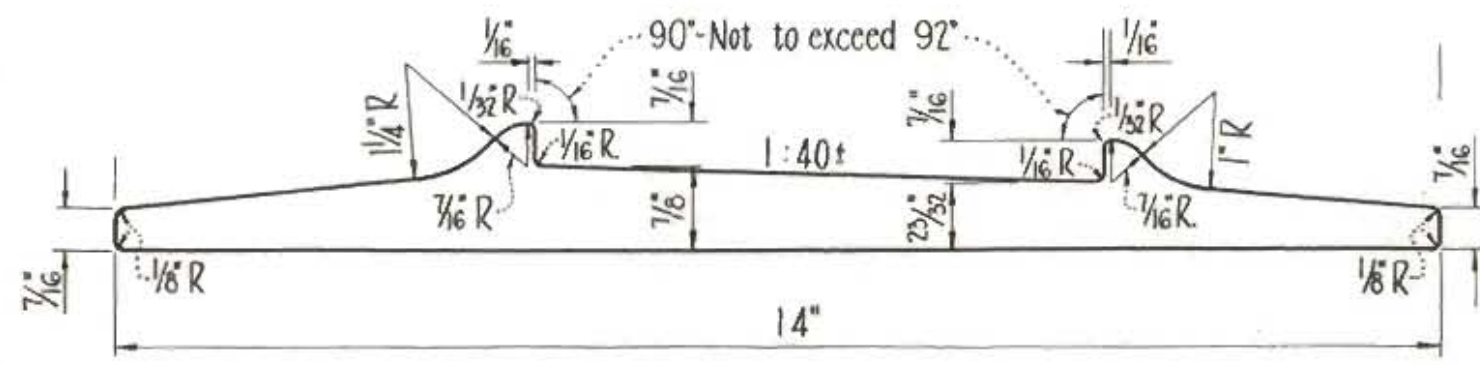
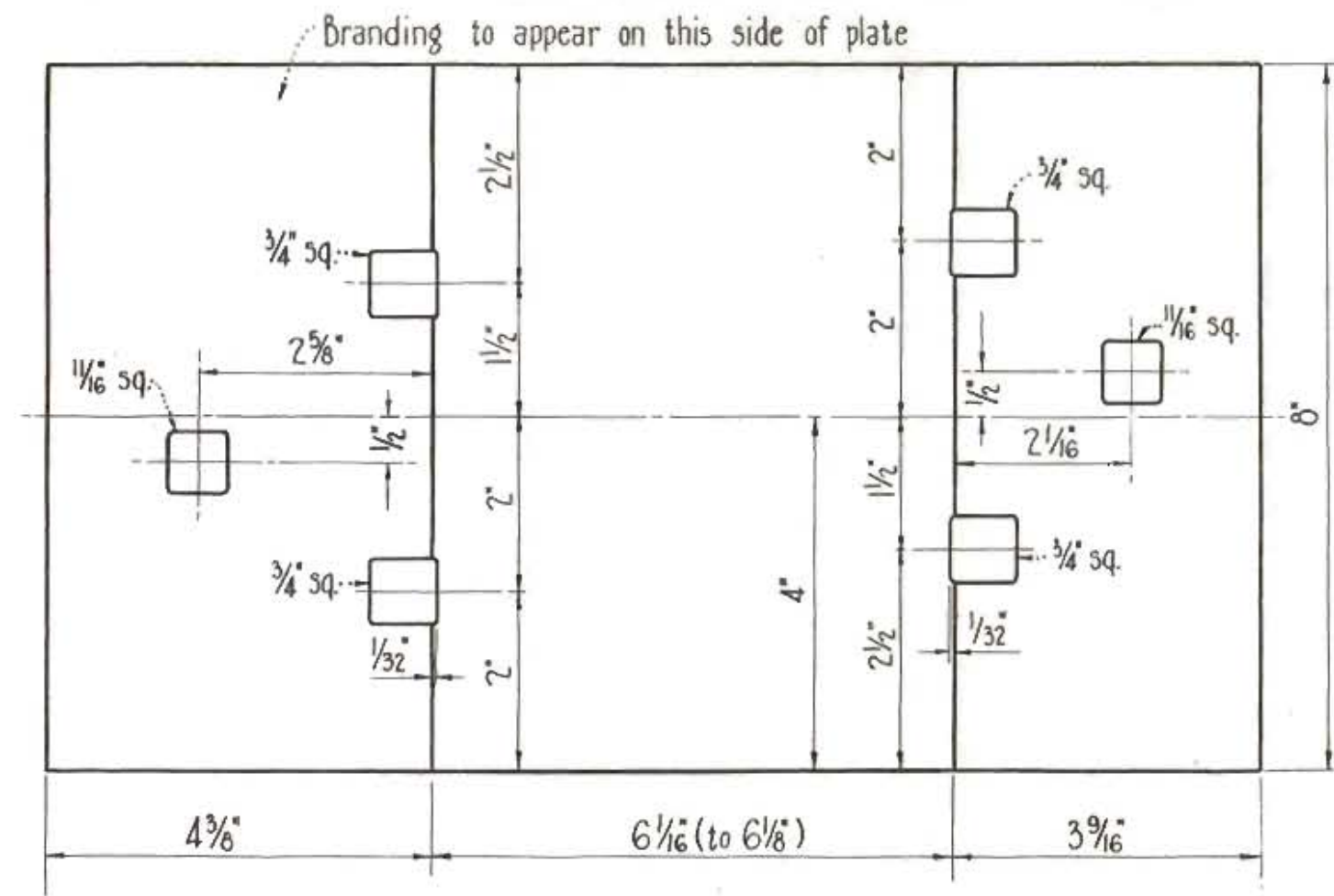
NO SCALE

ADOPTED: June, 1949
 Revised: Jan. 17, 1956

NOTES

All holes to have $\frac{1}{16}$ " fillets in corners.
Tie plates to be manufactured in accordance with A.R.E.A. specifications N^o 5-14.1 or N^o 5-1.

PROPERTIES OF SECTION	
Area of Section	10.22 Sq. In.
Net wt. per plate	22.35 Lbs.
Gross wt. per in.	2.896 Lbs.
Gross wt. per ft.	34.75 Lbs.



Approved: *Frank R. McLaughlin*
Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
8" x 14" TIE PLATE
FOR USE WITH 132, & 136 LB. RAIL

SCALE : HALF SIZE

ADOPTED : April 16, 1954
REVISED : Jan. 25, 1955

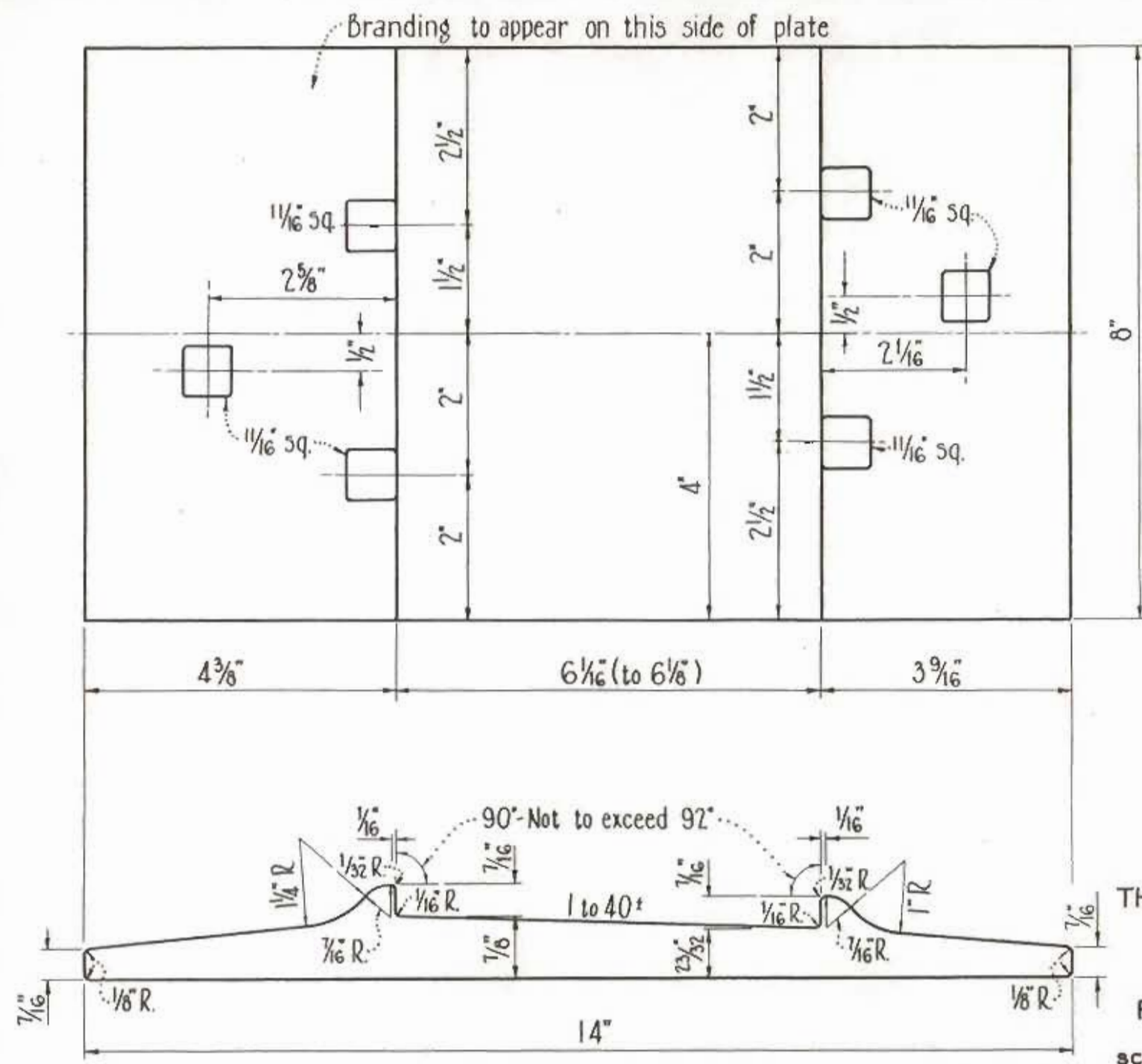
NOTES

All holes to have $\frac{1}{16}$ " fillets in corners.
 Tie plates to be manufactured in accordance with A.R.E.A. specifications N^o 5-14.1 or N^o 5-1.
 Inside of shoulder spike holes to be in line with shoulders at the bottom of the plate.

PROPERTIES OF SECTION

Area of Section	10.22 Sq. In.
Net wt. per plate	22.44 Lbs.
Gross wt. per in.	2.896 Lbs.
Gross wt. per ft.	34.75 Lbs.

2-2-54

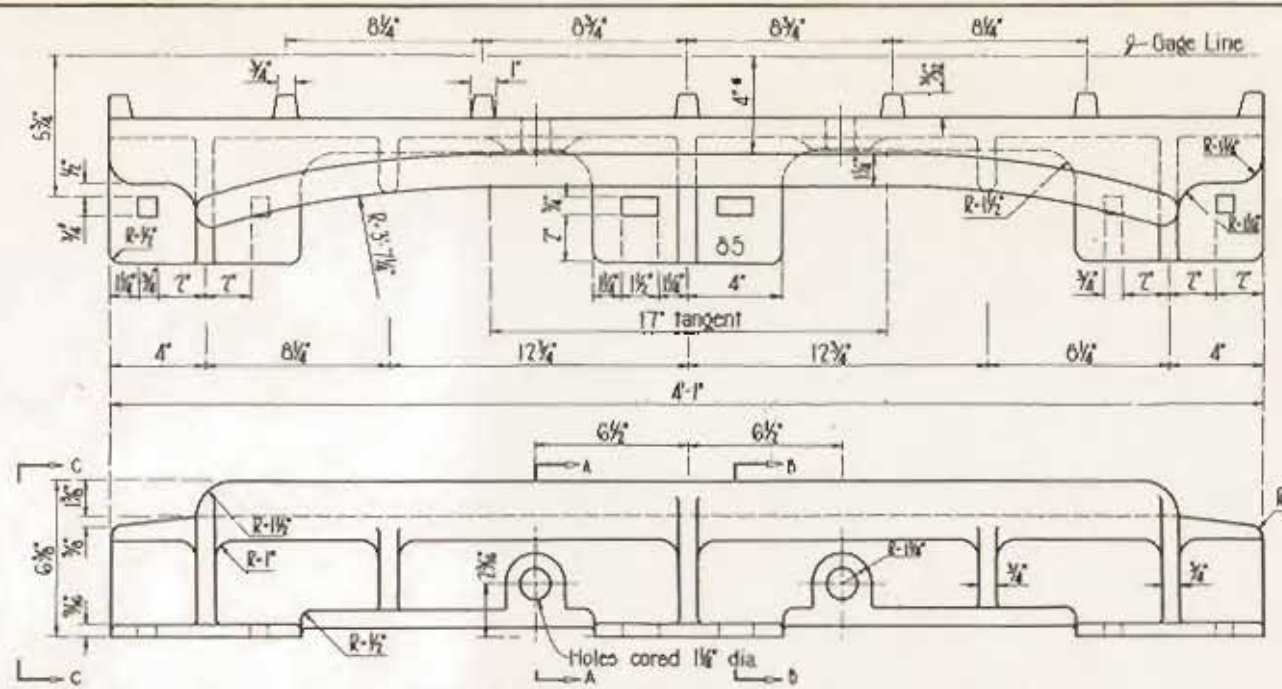


Approved: *Frank R. M... [Signature]*
 Chief Engineer

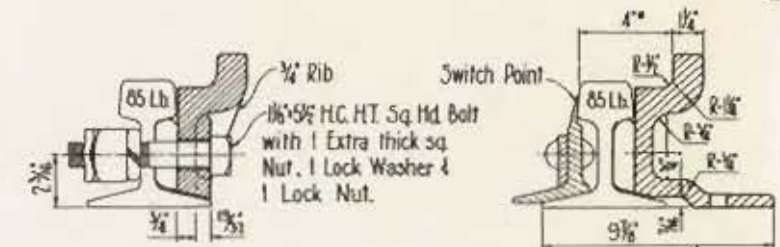
THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
8" x 14" TIE PLATE
 FOR USE WITH 132 & 136 LB. RAIL

SCALE: HALF SIZE

ADOPTED: June 1, 1954
 REVISED: Jan. 25, 1955

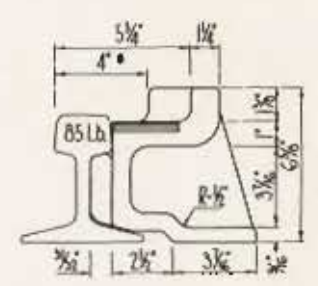


MANGANESE SWITCH POINT GUARD

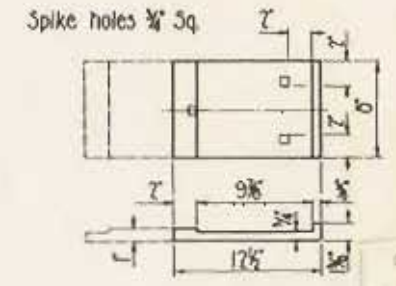


SECTION A-A

SECTION B-B

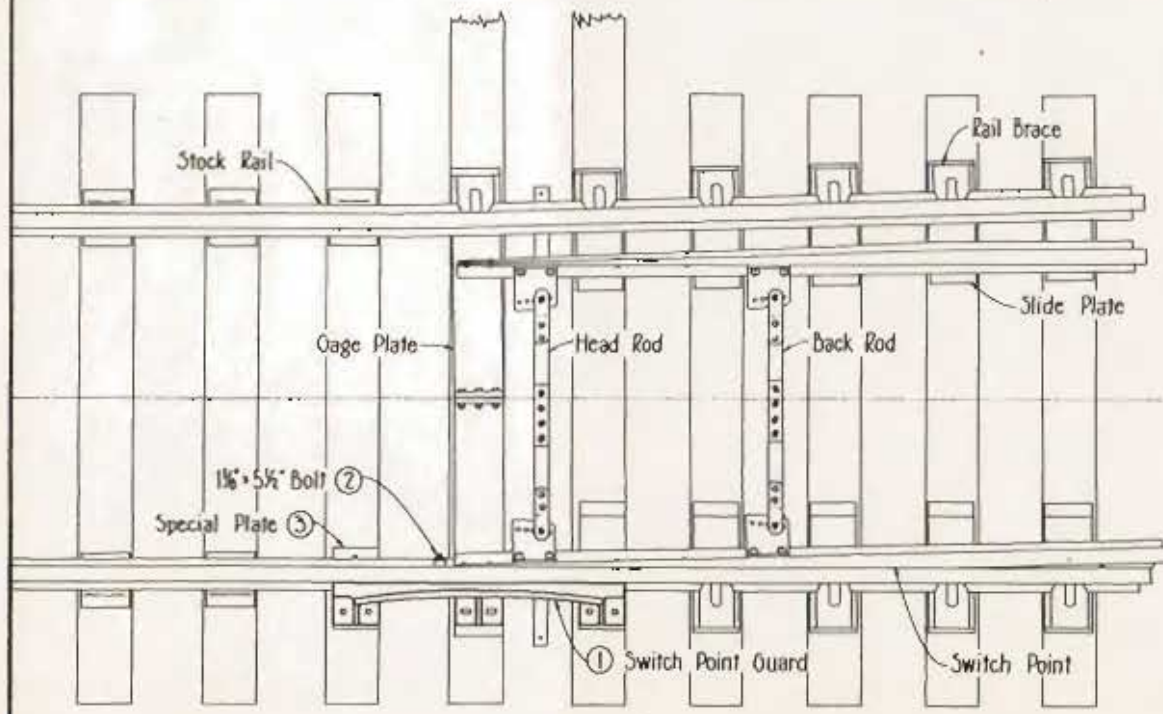


ELEVATION C-C



SPECIAL PLATE

(May be made from Standard Rolled Slide Plate Section.)



NOTES

When ordering replacement parts refer to Piece Mark and Drawing Number in addition to specifying name and size of part.
 Store will furnish all parts listed in Parts List when requisition states "Switch Point Guard Complete".
 • When distance from gage line of rail to rubbing surface of Point Guard reaches 4 1/2" guard must be built up by welding or replaced.
 Point Guard to be installed on straight stock rail side to protect Turnout point.

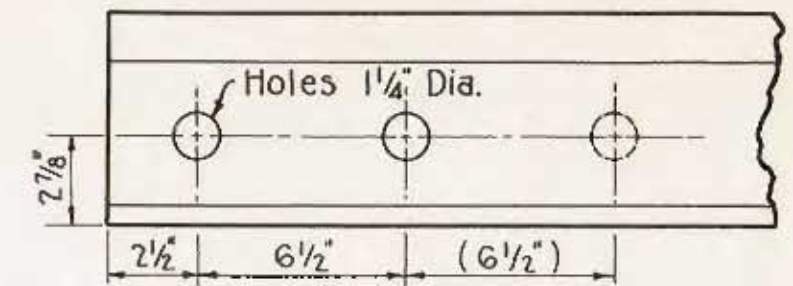
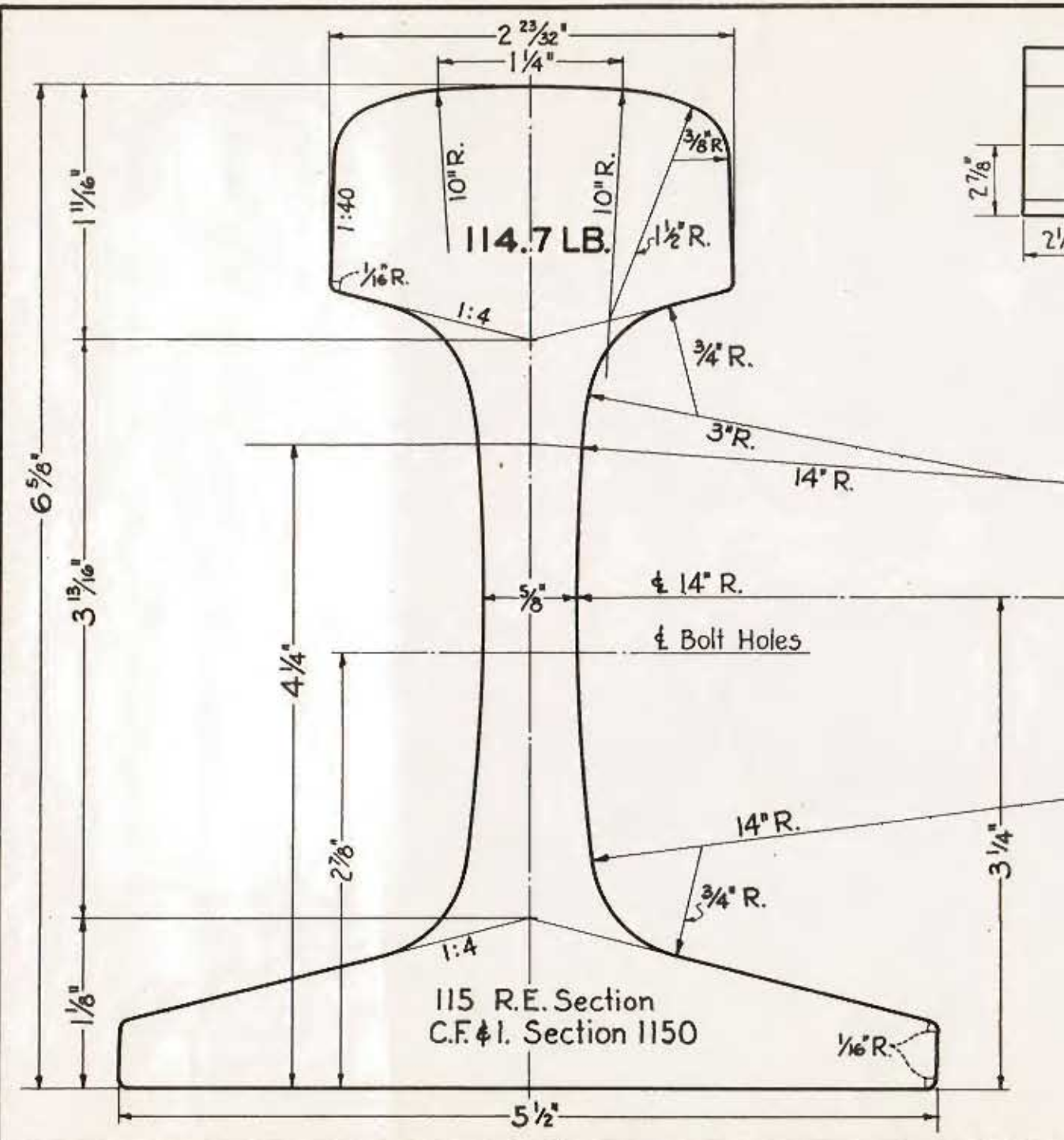
Use only one bolt on Point Guard as shown in plan view at left.

PARTS LIST

Pc.Mk	Name of Part	Reqd	Remarks
①	Switch Point Guard	1	Solid Manganese
②	1 1/8" x 5 1/2" Machine Bolt	1	H.C. HT - Includes 1 Extra thick sq nut, 1 Lock Washer & 1 Lock Nut.
③	Special Plate	1	Std. Slide Plate may be used.

Approved: *Frank R. Woodford*
Chief Engineer

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
SWITCH POINT GUARD
FOR USE WITH 85 LB. RAIL



DRILLING OF RAIL

ELEMENTS OF RAIL SECTION

Area of Head	3.91 Sq. In.	34.76%
" " Web	3.05 " "	27.11%
" " Base	4.29 " "	38.13%
Total Area	11.25 " "	100.00%
Moment of Inertia	65.6	
Section Modulus - Head	18.0	
" " - Base	22.0	
Gross Tons per Track Mile	180.24	
Net Tons per Track Mile	201.87	

2266

APPROVED: *Frank R. Wood*
CHIEF ENGINEER

APPROVED: *H. O. Wood*
VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD

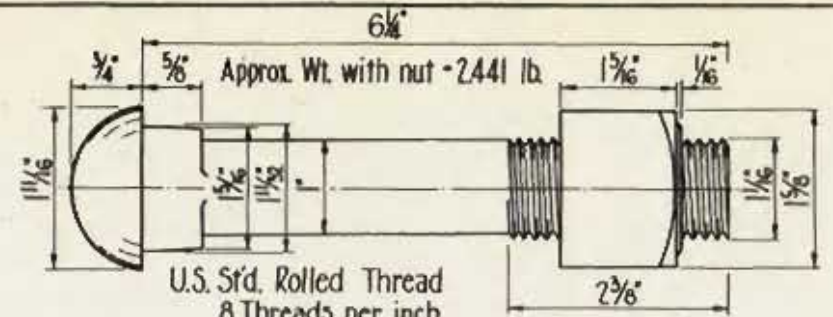
115 LB. R. E. RAIL

NO SCALE

Adopted: Oct. 26, 1946
Revised: Feb. 1, 1954

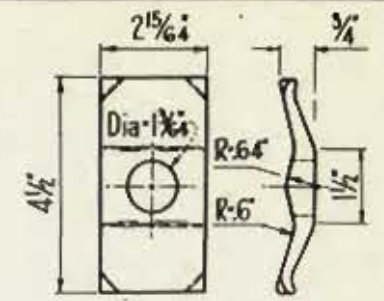


RAIL DRILLING

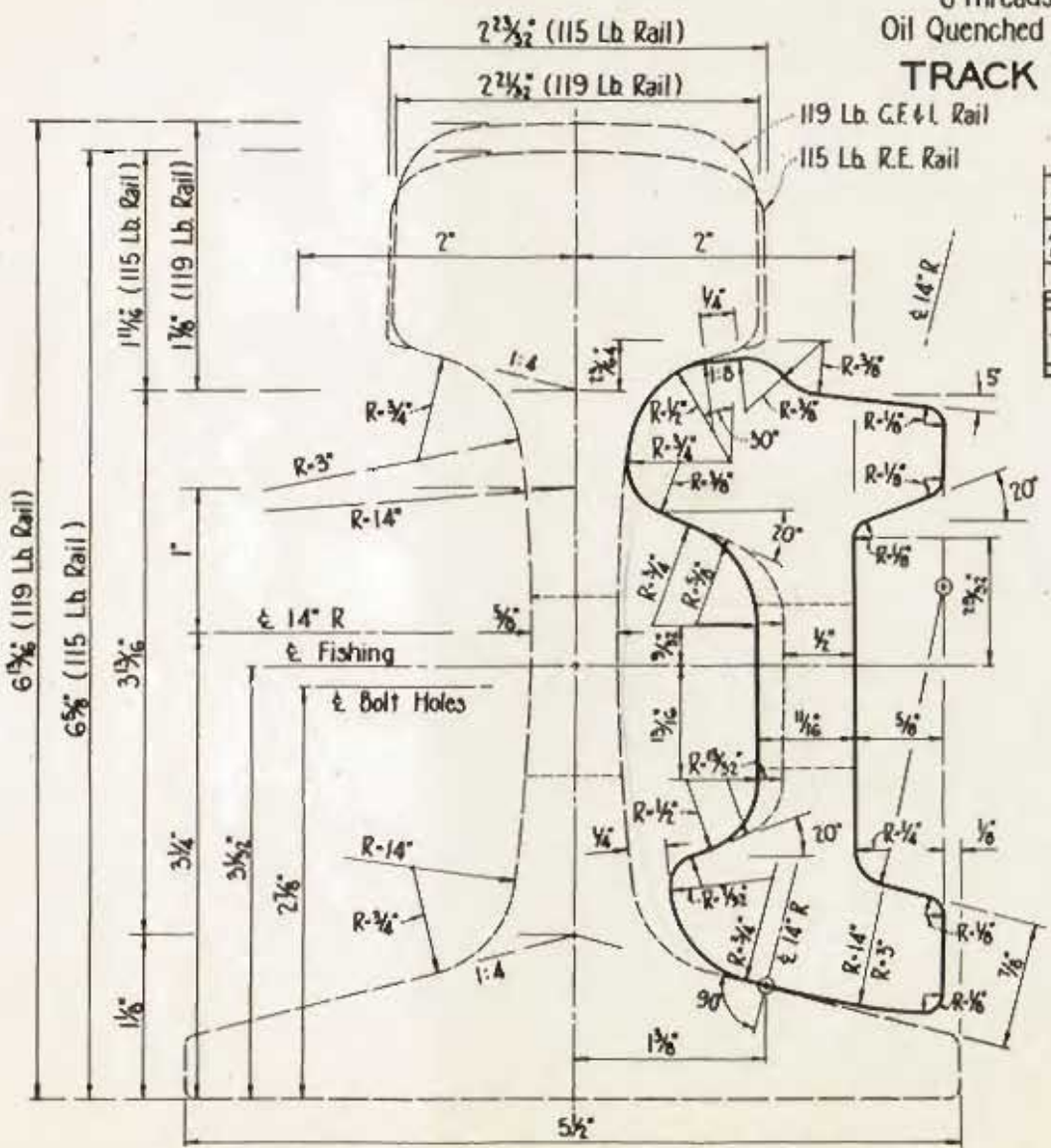


U.S. Std. Rolled Thread
8 Threads per inch
Oil Quenched Carbon Steel

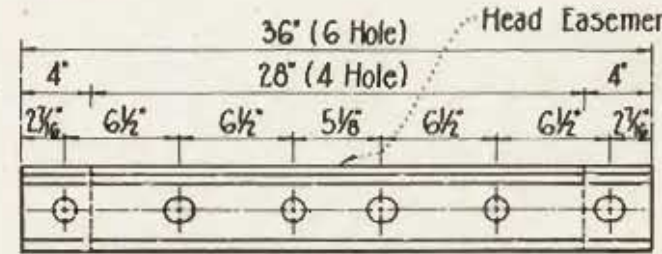
TRACK BOLT AND NUT



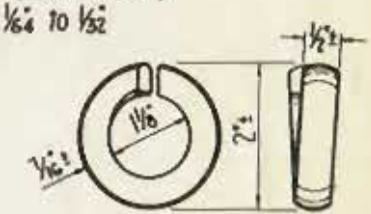
PATENT WASHER
(Alternate)



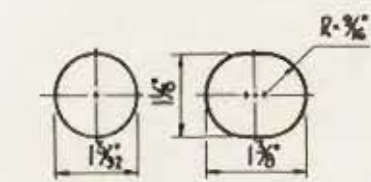
END ELEVATION OF RAIL AND JOINT BAR



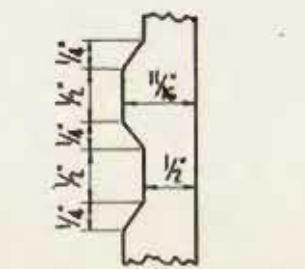
ELEVATION OF JOINT BAR



SPRING WASHER
(Alternate)



BOLT HOLES
Alternate Round and Oval



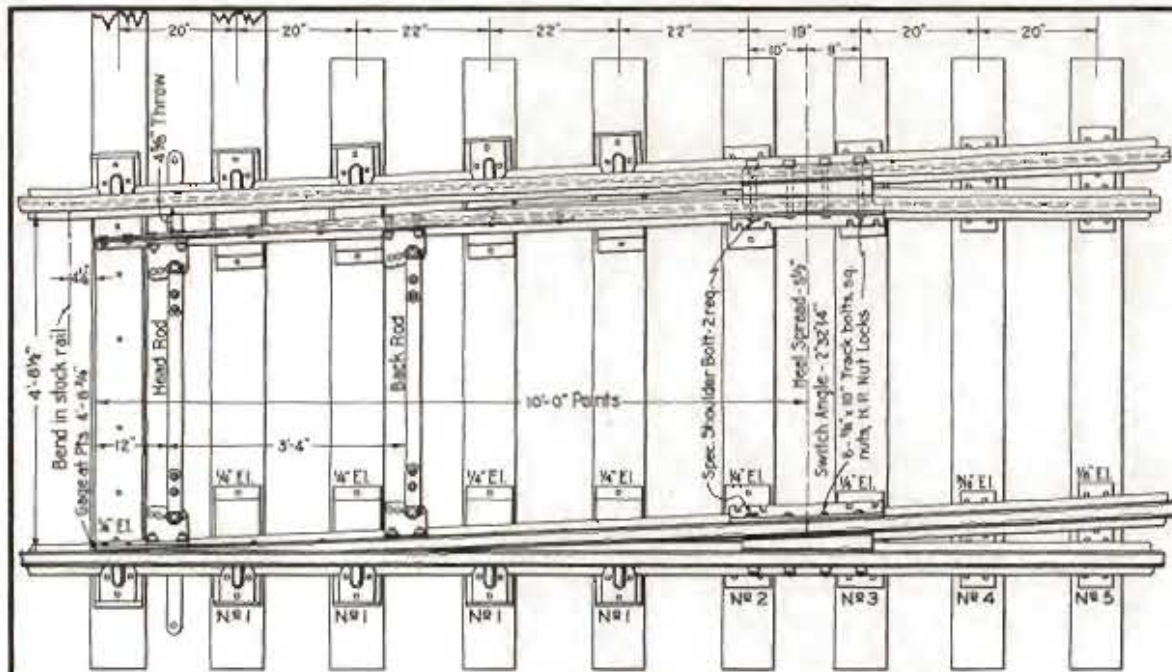
LONGITUDINAL
SEC. OF WEB

ELEMENTS OF ONE JOINT (2 BARS)

Moment of Inertia	23.0
Section Modulus: Head	10.5
Section Modulus: Base	9.6
Area of Bar (Sq. In) Average	5.26
Wt of Bar per ft - Gross	17.88 Lbs.
Wt of 4 Hole Bars per pr-Net	81.65 Lbs.
Wt of 6 Hole Bars per pr-Net	92.67 Lbs.

OLD STANDARD
Approved: *Frank A. Wood*
Chief Engineer
WESTERN PACIFIC RAILROAD CO.
STANDARD
HEADFREE 100% JOINT
FOR
115 LB. AND 119 LB. RAIL
NO SCALE
ADOPTED: NOV. 1, 1946
REVISED: DEC. 15, 1954

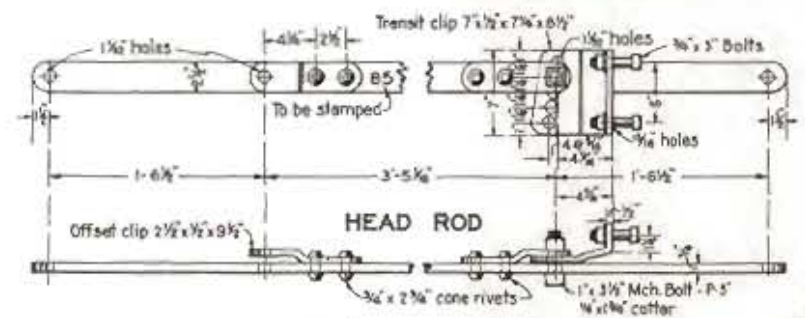
C.E.
S-154



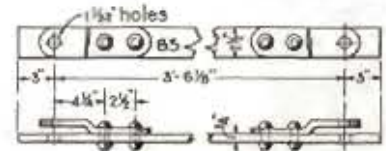
PLAN OF COMPLETE LEFT HAND SWITCH ASSEMBLED



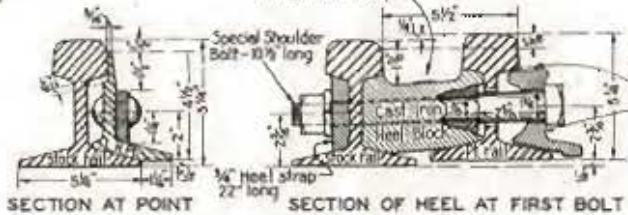
ELEVATION OF POINT



HEAD ROD

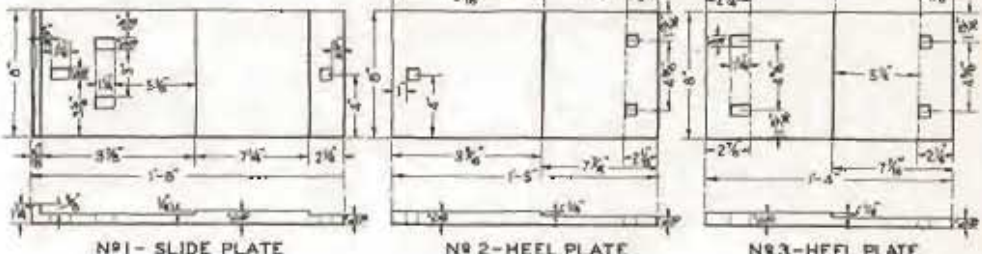


BACK ROD



SECTION AT POINT

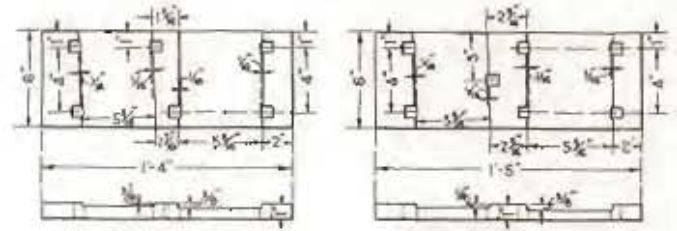
SECTION OF HEEL AT FIRST BOLT



NR1-SLIDE PLATE

NR2-HEEL PLATE

NR3-HEEL PLATE



NR4-RUNOFF PLATE

NR5-RUNOFF PLATE



GAGE PLATE

Notes:
Gage plate to be stamped 85-10 and R.H. or L.H. Head rod and back rod to be stamped 85. Slide plates and heel plates to be stamped with wt. of rail and no. of plate. Runoff plates to be stamped with wt. of rail, no. of plate and no. of switch, i.e., 85-4-10.
All spike holes to be 3/4" square unless otherwise shown.
Rail braces to be pressed steel as shown on Dwg. C.E. 3-116, and stamped with wt. of rail, 10 required. All rail braces to be punched with 3 spike holes 3/4" square.
Orders for switches should specify insulated or non-insulated. Insulation on gage plate, head rod and back rod should be the same as shown on Dwg. C.E. 3-118.

Heel block to have 85-10 cast in top

OBSCLETE
OLD STANDARD

APPROVED
J. M. Williams
CHIEF ENGINEER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
10 FOOT SPLIT SWITCH
85 LB. RAIL

No Scale Adopted July 1, 1940

Note: All parts shown here are interchangeable with corresponding parts shown on S-154 A. When requisition refers to S-154, store will furnish "Old Standard" parts if available otherwise will furnish parts in accordance with S-154 A.

URONE
2-2-66

PARTS LIST - SWITCH COMPLETE

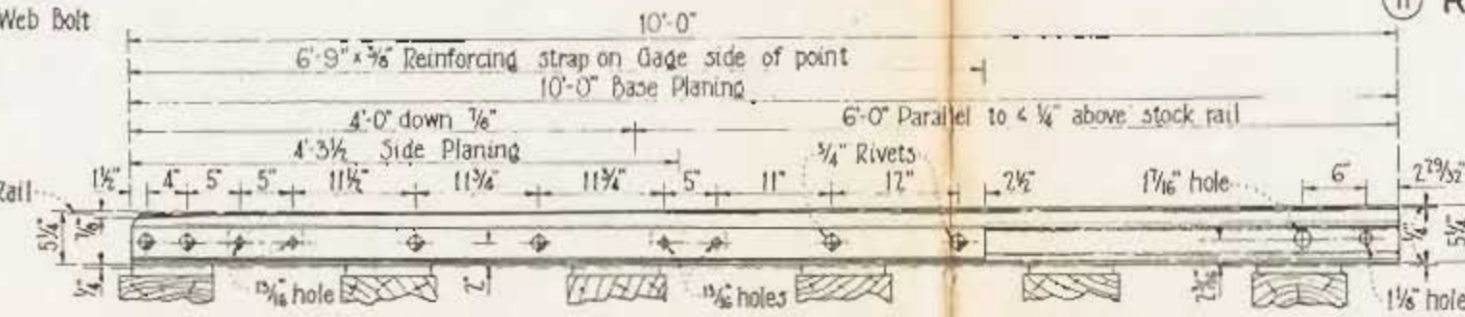
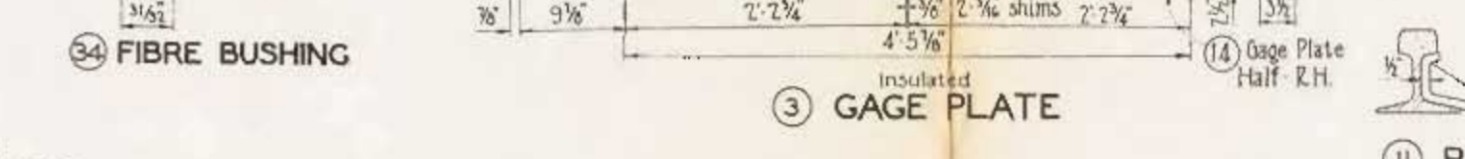
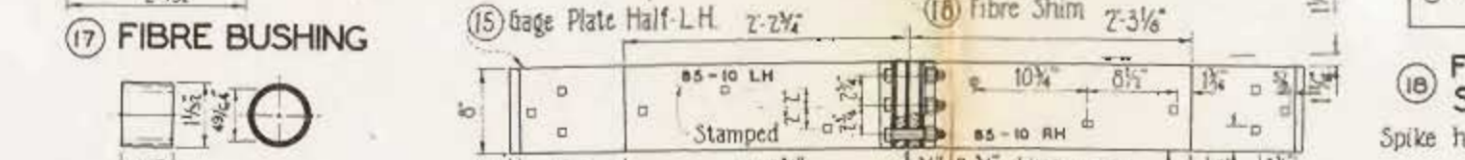
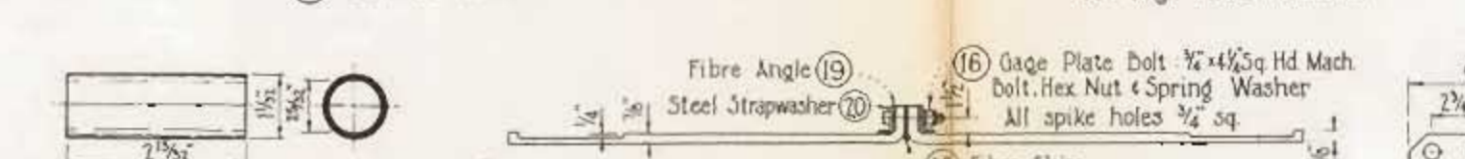
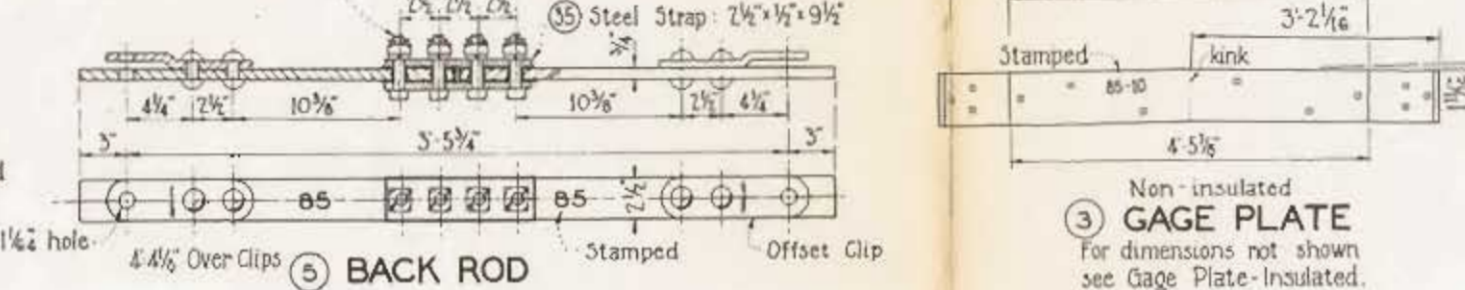
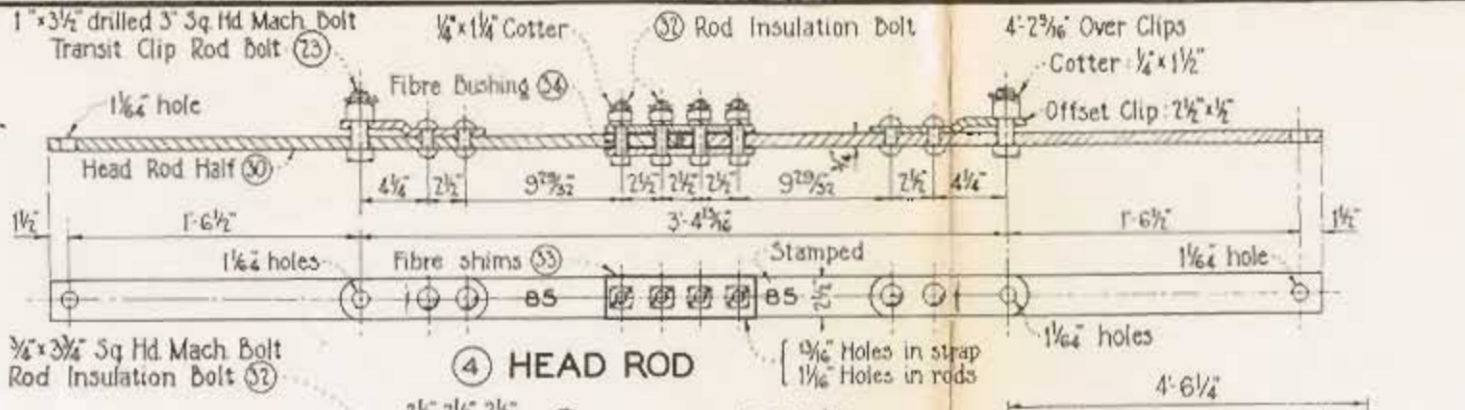
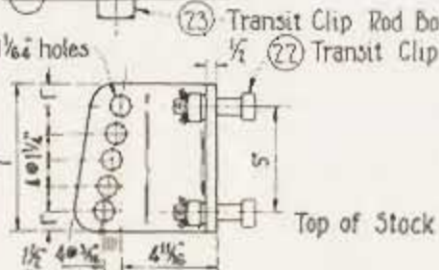
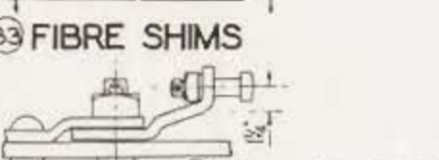
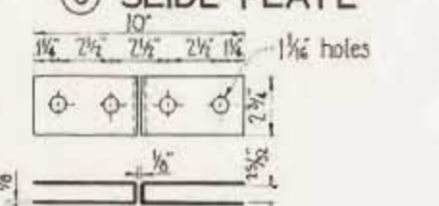
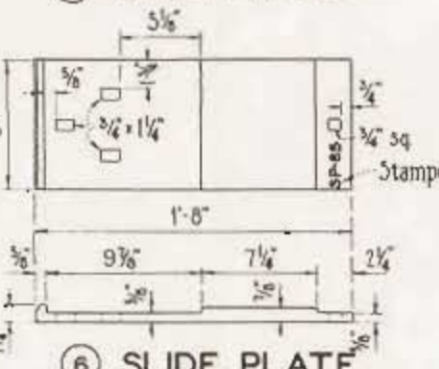
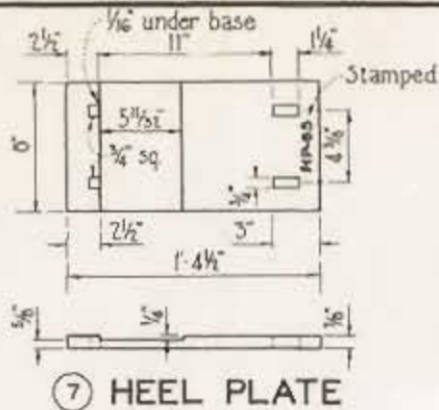
Piece Mark	Name of Part	Stamped	Req'd	Remarks
1	Switch Point - Right Hand	-	1	Includes Transit Clips bolted in place except when requisition states "Without Transit Clips". Specify insulated or non-insulated. Specify insulated or non-insulated; includes Transit Clip Rod Bolts except when requisition states "Without Transit Clip Rod Bolts".
2	Switch Point - Left Hand	-	1	
3	Gage Plate - Complete	85-10	1	
4	Head Rod - Complete	85	1	
5	Back Rod - Complete	85	1	
6	Slide Plate	SP-85	8	As per WP Dwg. No. CE 5-219 To be wired to Pc Mkt 12 for shipment.
7	Heel Plate	HP-85	4	
8	L 23 - Hook Twin Tie Plate	L 23	6	
9	LR 23 - Hook Twin Tie Plate	LR-23	6	
10	Run-off Shim	-	2	
11	Rail Brace	85	10	
12	LH Heel Assembly Complete	-	1	
13	RH Heel Assembly Complete	-	1	

REPLACEMENT PARTS

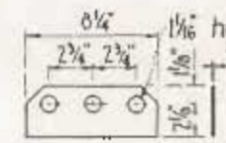
Insulated Gage Plate					
14	Gage Plate Half - R.H.	85-10 RH	1	1/2" x 4 1/2" Sq. Hd. Mach. Bolt - includes 1 Hex Nut & 1 Spring lock washer each.	
15	Gage Plate Half - L.H.	85-10 LH	1		
16	Gage Plate Bolt	-	3		
17	Fibre Bushing	-	2		
18	Fibre Shim	-	2		
19	Fibre Angle	-	2		
20	Steel Strapwasher	-	2	Bolts not included 1/2" x 3/4" drilled 3/8" Sq. Hd. Mach. Bolt - includes 1 Hex Nut, 1 Spring lock washer & 1 1/4" Cotter pin each. 1" x 3/4" drilled 3/8" Sq. Hd. Mach. Bolt - includes 1 Sq. Nut & 1 1/2" Cotter Pin each.	
Transit Clip					
21	Transit Clip - RH or LH	-	2 ea.		
22	Transit Clip Web Bolt	-	8		
23	Transit Clip Rod Bolt	-	4		
Heel Assembly					
24	Heel Block - Right Hand	85-10	1	3/8" x 12 3/8" H.C. HT - includes 2 sq nuts, 2 1/8" Spring lock washers & 1 1/4" x 1/4" Cotter Pin each. 3/8" x 10 1/2" Std. Track Bolt - includes 1 Sq. Nut & 1 Spring lock washer ea.	
25	Heel Block - Left Hand	85-10	1		
26	Heel Strap	-	2		
27	Bent Joint Bar	-	2		
28	Shoulder Bolt	-	2		
29	Track Bolt	-	6		
Insulated Rod Assembly					
30	Head Rod Half	85	2	1/2" x 3 3/4" drilled 3/8" - Square Head Machine Bolt - includes 1 Sq. Nut & 1 Hi. Chrome lock washer & 1 1/4" x 1/4" Cotter Pin each. 2 1/2" x 1/2" x 9 1/2"	
31	Back Rod Half	85	2		
32	Rod Insulation Bolt	-	8		
33	Fibre Shims	-	2 pt.		
34	Fibre Bushing	-	8		
35	Steel Strap	-	4		

NOTES

When requisition states "Switch Complete" store will furnish Piece Marks 1 through 13 listed under Switch Complete. Requisition must state whether switch is to be insulated or non-insulated.
Piece Marks 1 through 13 include all material necessary to equip one complete switch. Piece Marks 14 through 35 are replacement parts only. Replacement Parts list to be used only when ordering individual replacement parts. When ordering, refer to Drawing Number and Piece Mark in addition to specifying name and size of part.



Den...
5 1/2 ah

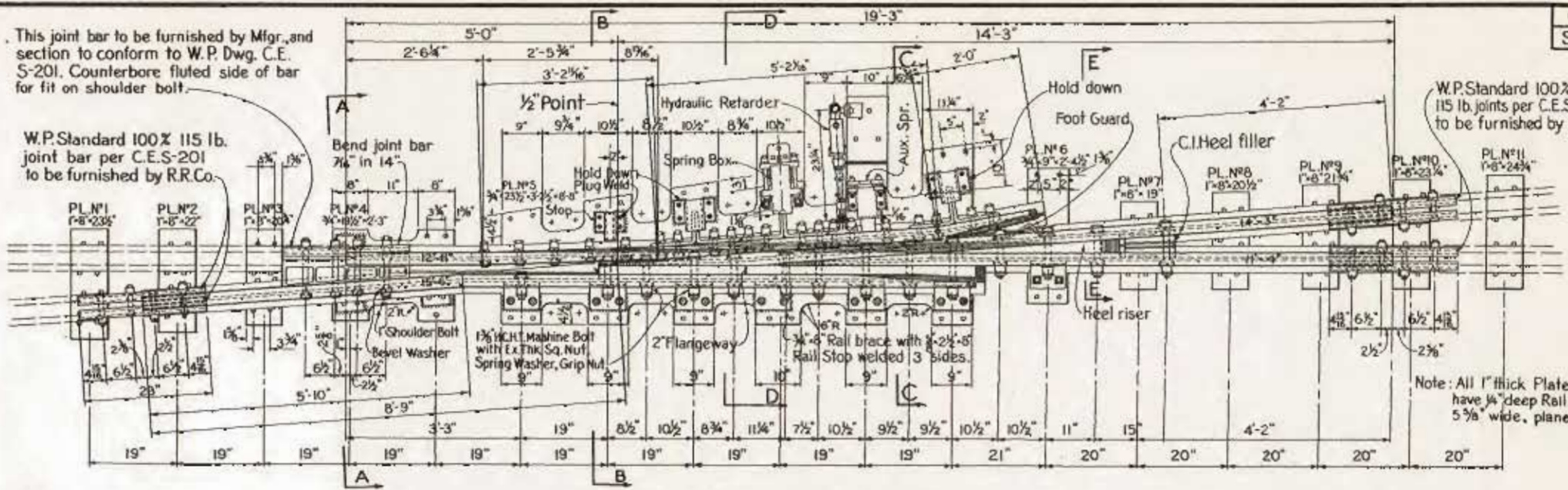


3 GAGE PLATE
For dimensions not shown see Gage Plate-Insulated.

This joint bar to be furnished by Mfr., and section to conform to W.P. Dwg. C.E. S-201. Counterbore fluted side of bar for fit on shoulder bolt.

W.P. Standard 100X 115 lb. joint bar per C.E.S-201 to be furnished by R.R.Co.

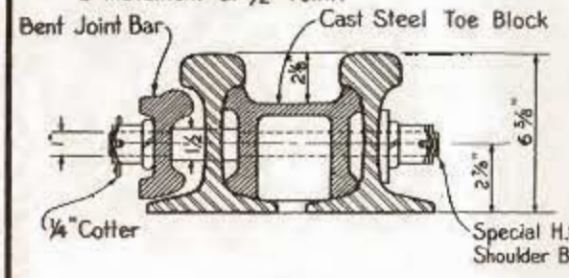
W.P. Standard 100X 115 lb. joints per C.E.S-201 to be furnished by R.R.Co.



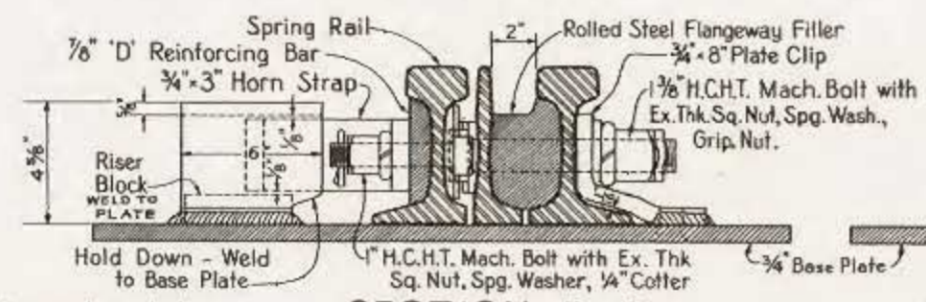
Note: All 1" thick Plates to have 1/4" deep Rail Seats, 5 3/8" wide, planed.

Note: Set Stop and Hold-Downs to allow 2" movement at 1/2" Point.

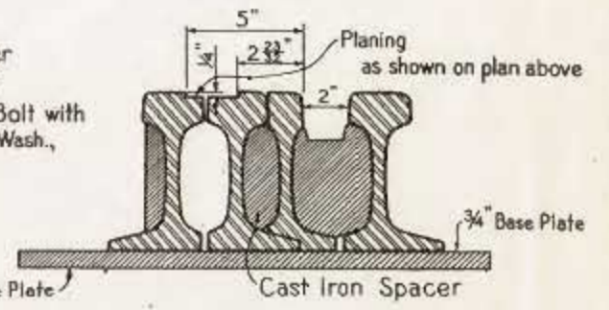
PLAN OF L.H. FROG



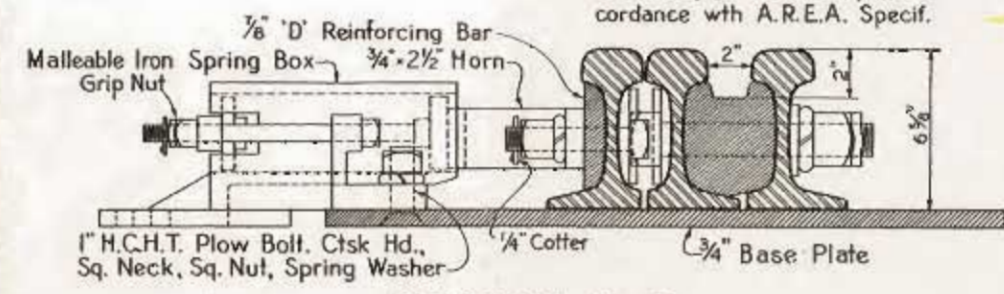
SECTION A-A



SECTION B-B

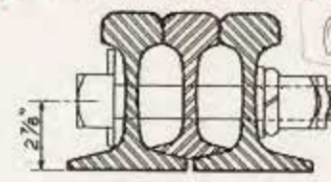


SECTION C-C



SECTION D-D

OLD STANDARD



SECTION E-E

OBSOLETE

Approved *Chicago*
CHIEF ENGINEER

Approved *J. A. ...*
VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD

No 14 SPRING RAIL FROG
115 LB. RE RAIL

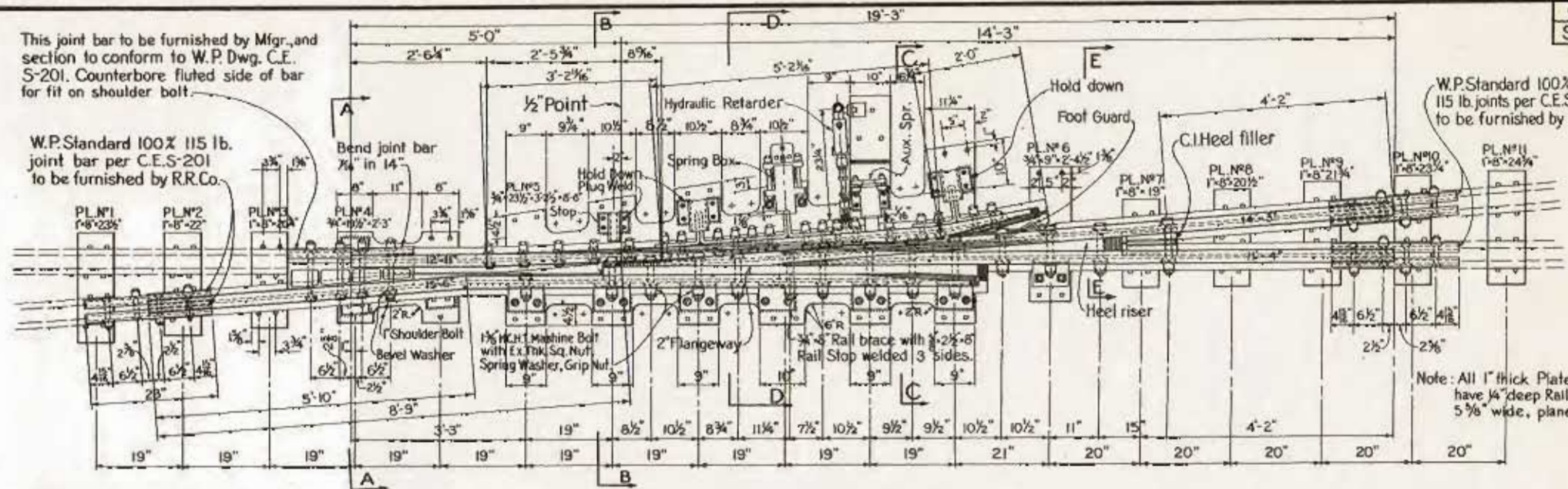
No Scale

Adopted Sept. 1, 1948.

Revised Mar. 25, 1952

This joint bar to be furnished by Mfr., and section to conform to W.P. Dwg. C.E. S-201. Counterbore fluted side of bar for fit on shoulder bolt

W.P. Standard 100% 115 lb. joint bar per C.E.S-201 to be furnished by R.R.Co.

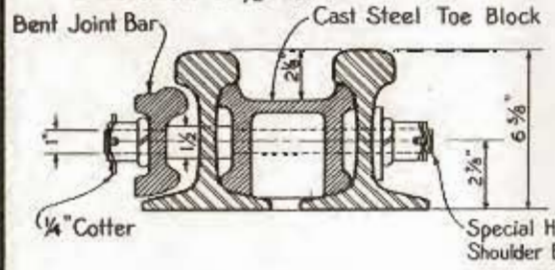


W.P. Standard 100% 115 lb. joints per C.E.S-201 to be furnished by R.R.Co.

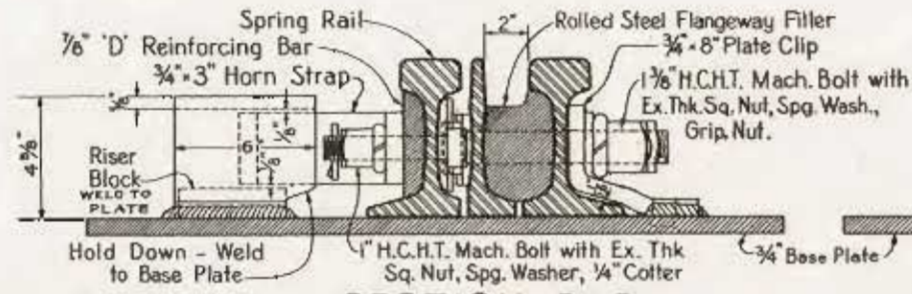
Note: All 1" thick Plates to have 1/4" deep Rail Seats, 5 1/8" wide, planed.

Note: Set Stop and Hold-Downs to allow 2" movement at 1/2" Point.

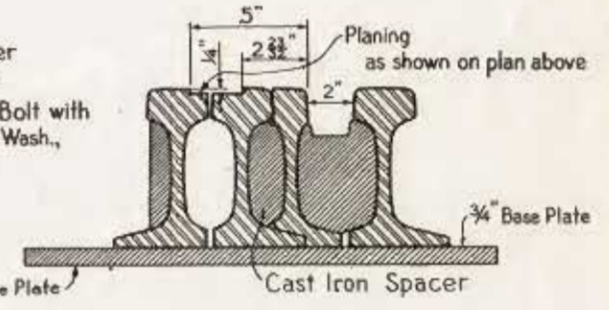
PLAN OF L.H. FROG



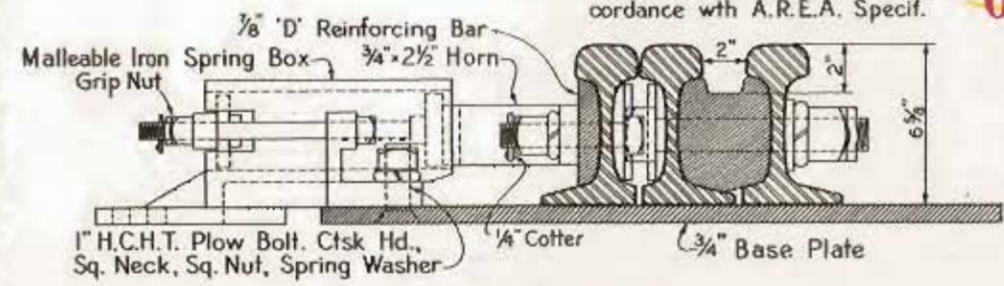
SECTION A-A



SECTION B-B

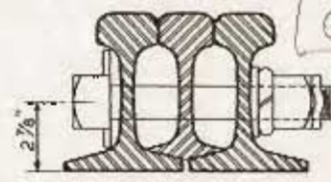


SECTION C-C



SECTION D-D

OLD STANDARD



SECTION E-E

Approved *W. Hillis*
CHIEF ENGINEER

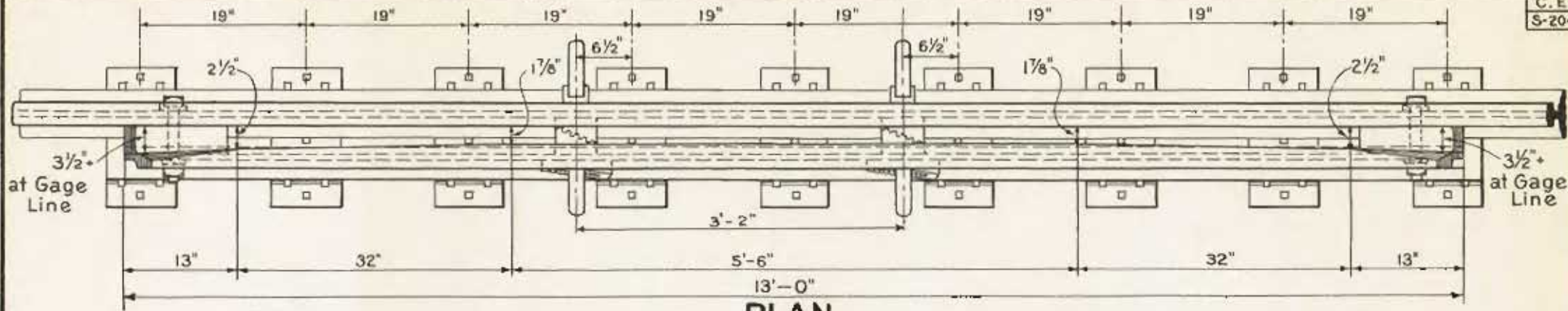
Approved *R. A. ...*
VICE PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
No 14 SPRING RAIL FROG
115 LB. RE RAIL

No Scale

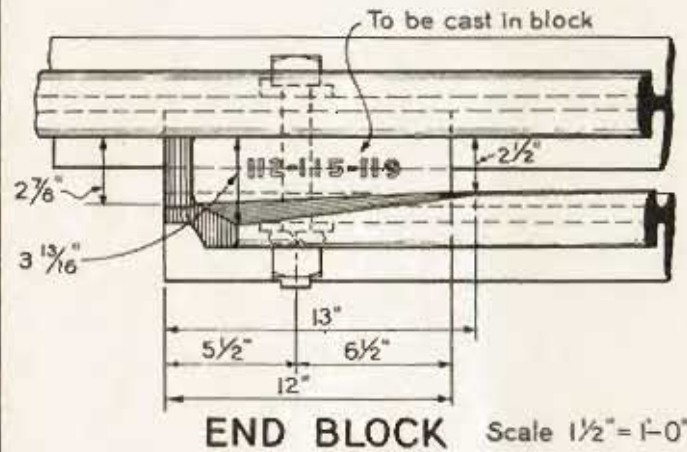
Adopted Sept. 1, 1948.
Revised Mar. 26, 1952

2266



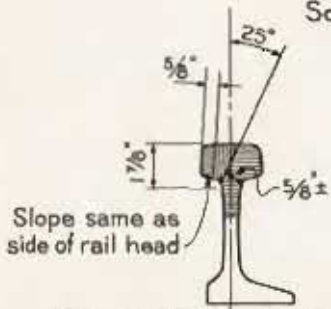
PLAN

Scale $\frac{3}{4}'' = 1'-0''$



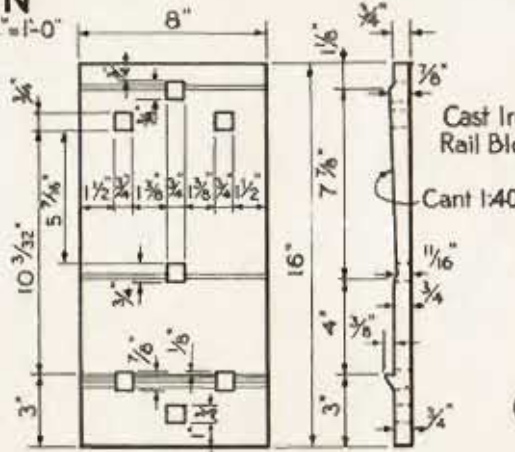
END BLOCK

Scale $\frac{1}{2}'' = 1'-0''$



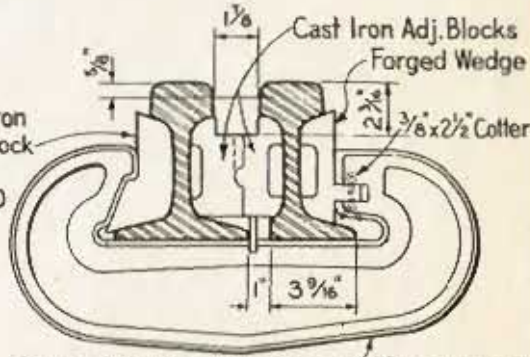
PLANING DETAIL

End view of guard rail showing detail of double planing of flare
Scale $\frac{1}{2}'' = 1'-0''$



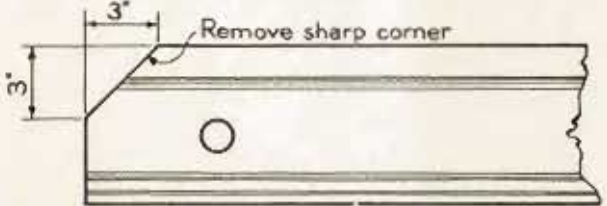
TIE PLATE

Scale $\frac{1}{2}'' = 1'-0''$



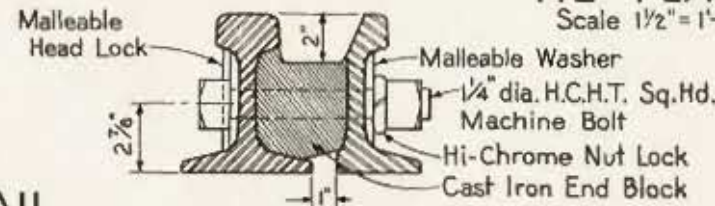
CLAMP ASSEMBLY

Scale $\frac{1}{2}'' = 1'-0''$



BEVELED END OF GUARD RAIL

Scale $\frac{1}{2}'' = 1'-0''$



SECTION THRU END BLOCK

Scale $\frac{1}{2}'' = 1'-0''$

SPECIFICATIONS: As per A.R.E.A. Specifications, Appendix A, adopted 1942
Plan 505 for guard rail clamps, adopted March 1940.

APPROVED: *J. Phillips*
CHIEF ENGINEER

THE WESTERN PACIFIC RAILROAD CO. STANDARD

13 FOOT GUARD RAIL
112, 115, 119 LB. RAIL

Scale: As shown

Adopted: Sept. 1, 1948
Revised: Jan. 23, 1957

NOTE: The distance from gage line at frog point to inside face of guard rail must always be maintained at 4'-6 3/8". If gage of track is more than 4'-8 1/2", the guard rail flangeway must be more than 1 7/8" by the same amount.

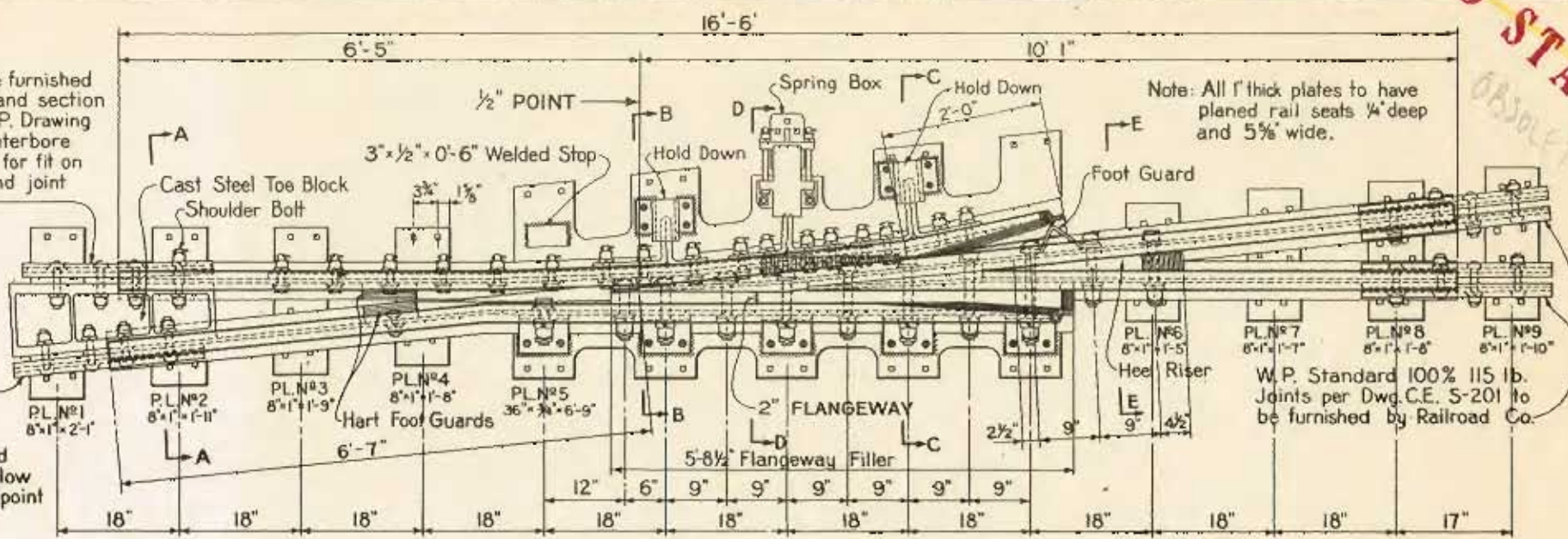
OLD STANDARD
OBSOLETE

This joint bar to be furnished by manufacturer and section to conform to W.P. Drawing C.E. S-201. Counterbore fluted side of bar for fit on shoulder bolt. Bend joint bar $\frac{7}{16}$ " in 14"

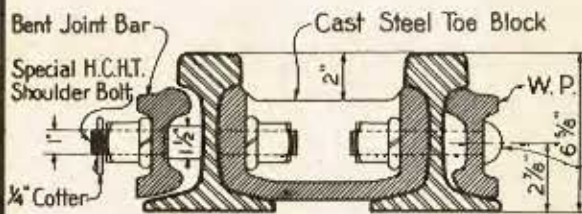
W.P. Standard 100% 115 lb. Joint Bar to be furnished by Railroad Co.

Note: Set stop and hold downs to allow 2" movement at $\frac{1}{2}$ " point

Note: All 1" thick plates to have planed rail seats $\frac{1}{4}$ " deep and $5\frac{1}{2}$ " wide.

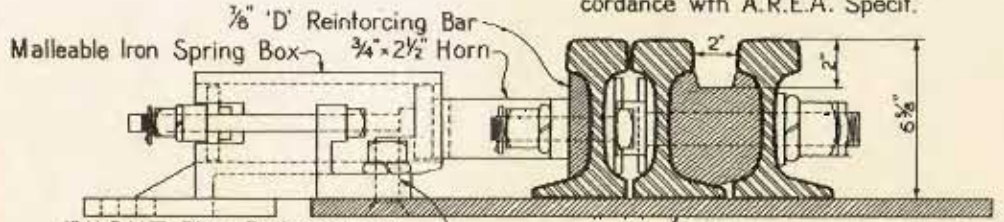


PLAN OF L.H. FROG

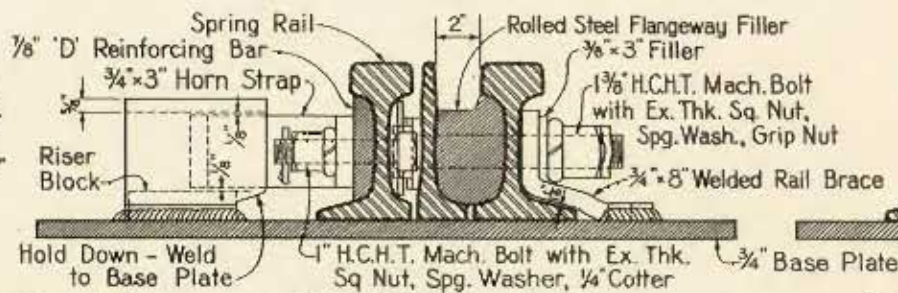


SECTION A-A

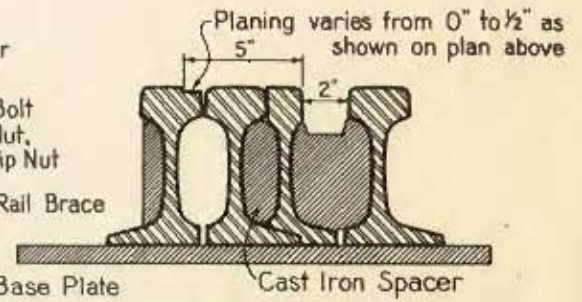
Note: All spring washers to be "Hi-Chrome", "National Collar-Grooved", or "Hubbard", in accordance with A.R.E.A. Specif.



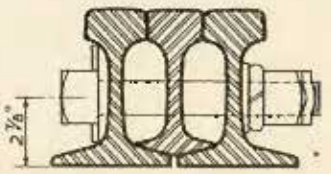
SECTION D-D



SECTION B-B



SECTION C-C



SECTION E-E

Approved: *[Signature]*
CHIEF ENGINEER

Approved: *[Signature]*
VICE PRESIDENT AND GENERAL MANAGER

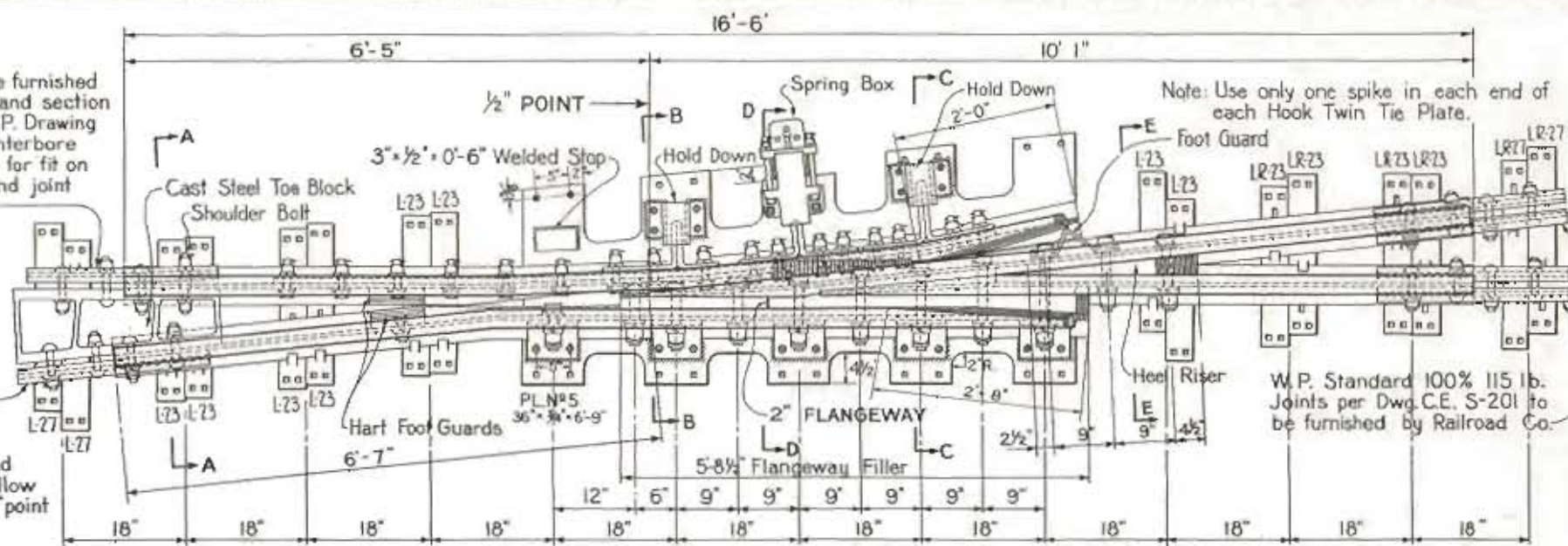
THE WESTERN PACIFIC RAILROAD CO.
STANDARD
No 10 SPRING RAIL FROG
115 LB. RE RAIL

Scale As Noted Adopted March 20, 1948.

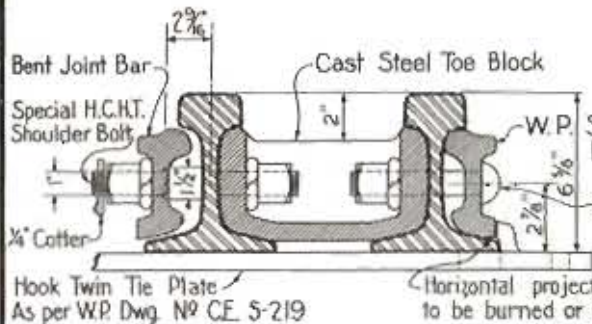
This joint bar to be furnished by manufacturer and section to conform to W.P. Drawing C.E. S-201. Counterbore fluted side of bar for fit on shoulder bolt. Bend joint bar $\frac{1}{8}$ " in 14"

W.P. Standard 100% 115 lb. Joint Bar to be furnished by Railroad Co.

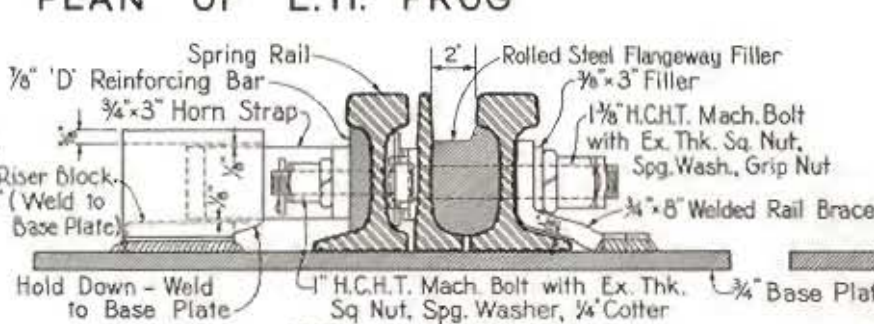
Note: Set stop and hold downs to allow 2" movement at $\frac{1}{2}$ " point



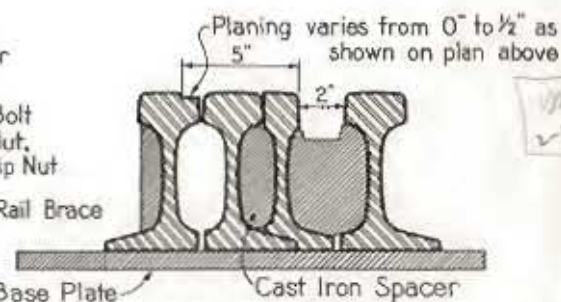
PLAN OF L.H. FROG



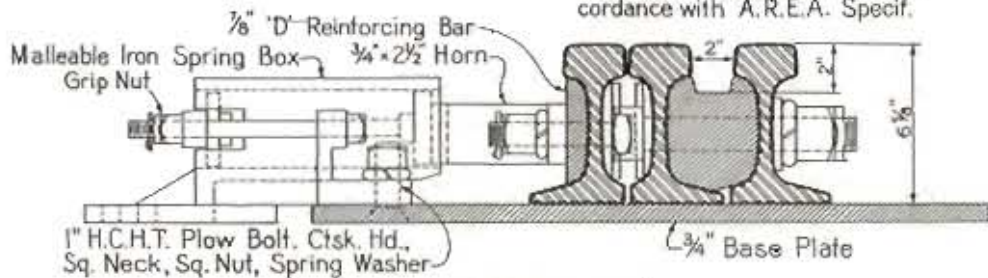
SECTION A-A



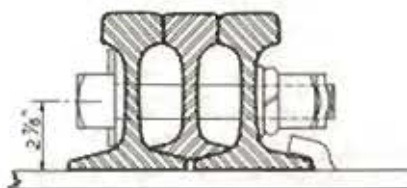
SECTION B-B



SECTION C-C



SECTION D-D



SECTION E-E

Approved: _____

J. Miller
 CHIEF ENGINEER

OBsolete

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
 No 10 SPRING RAIL FROG
 115 LB. AND 119 LB. RAIL

No Scale

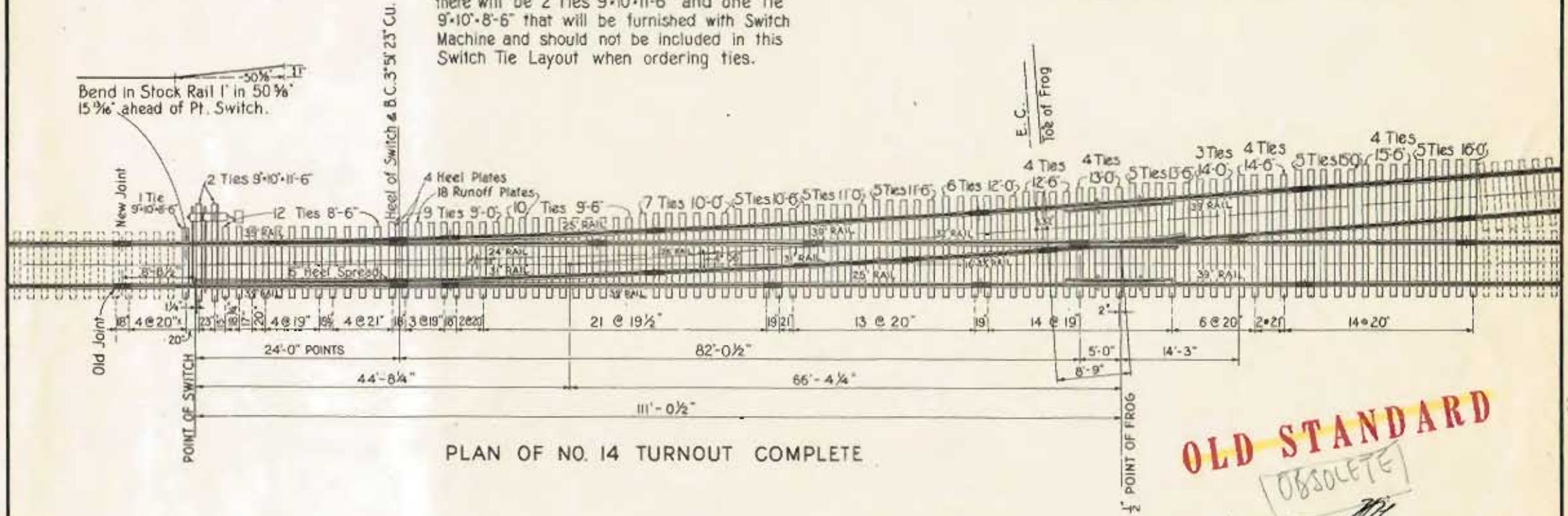
Adopted: March 20, 1948.
 Revised: November 10, 1959.

PIECES 7x8'															TOTAL	TOTAL	
8-6"	9-0"	9-6"	10-0"	10-6"	11-0"	11-6"	12-0"	12-6"	13-0"	13-6"	14-0"	14-6"	15-0"	15-6"	16-0"	NUMBER	BM
12	9	10	7	5	5	5	6	4	4	5	3	4	5	4	5	PIECES	FEET
																93	5623.4

FROG ANGLE 4° 06'
 DEGREE OF TURNOUT CURVE 3° 51' 23"
 LEAD 111'-0 1/2"
 CLOSURE RAILS 1-24', 1-26', 2-31', 1-32' & 1-16'-4 1/2"
 Note: Closure Rails may be of various lengths, but minimum should be 15ft.

Note: In addition to the above List of Ties there will be 2 Ties 9'-10"-11'-6" and one Tie 9'-10"-8'-6" that will be furnished with Switch Machine and should not be included in this Switch Tie Layout when ordering ties.

Bend in Stock Rail 1' in 50 1/2' ahead of Pt. Switch.



PLAN OF NO. 14 TURNOUT COMPLETE

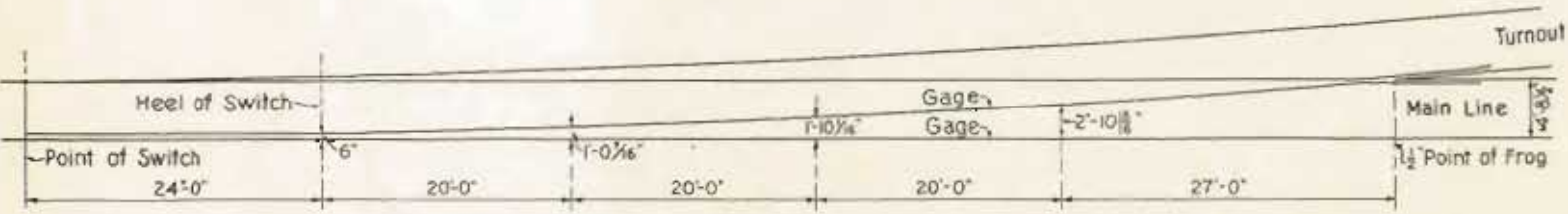
OLD STANDARD
 OBSOLETE

Approved: *[Signature]*
 CHIEF ENGINEER

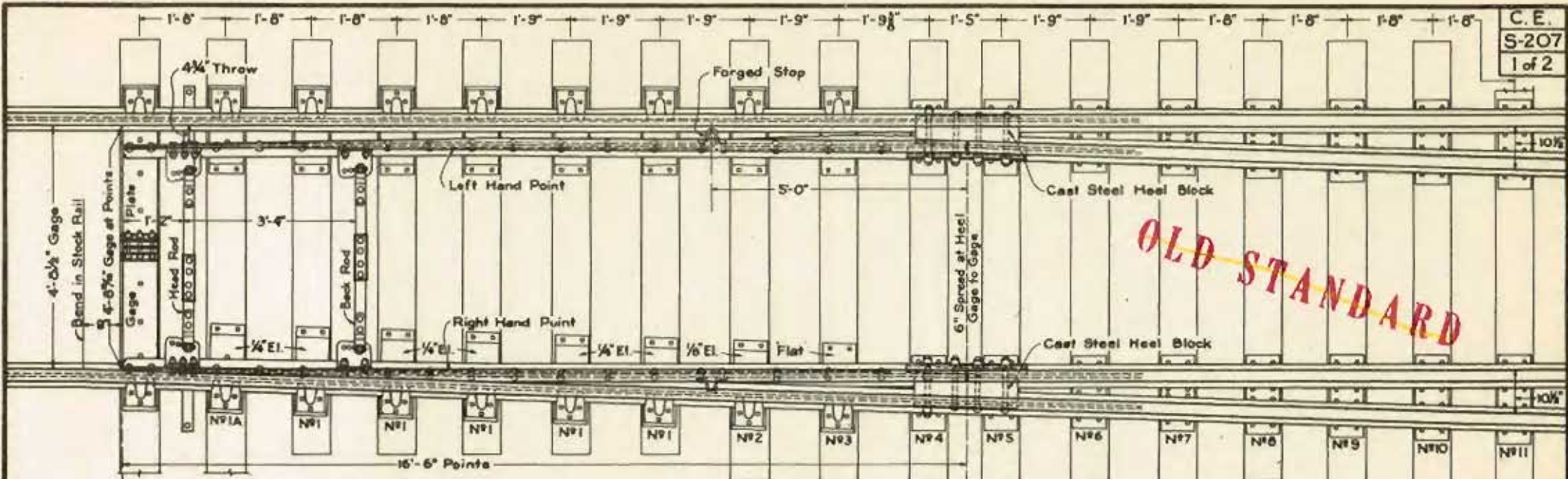
Approved: *[Signature]*
 VICE-PRESIDENT AND GENERAL MANAGER

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
 NO. 14 TURNOUT COMPLETE
 FOR USE WITH 115 LB. R. E. RAIL

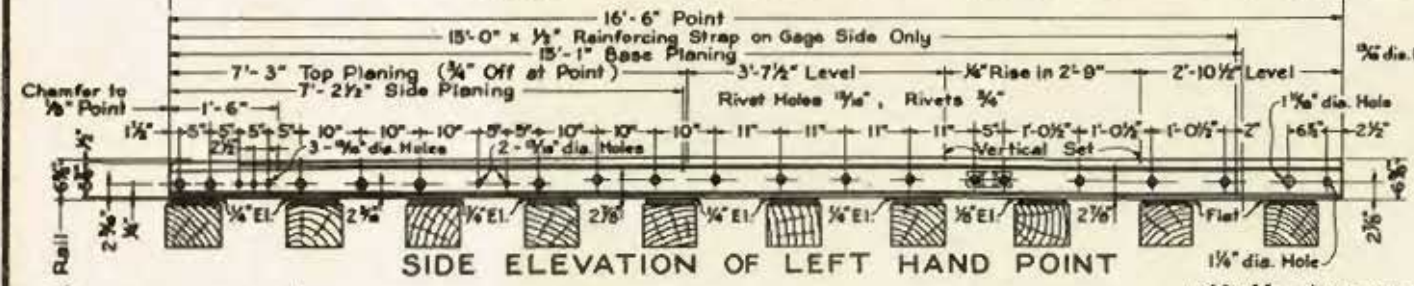
No Scale Adopted Sept. 1, 1948
 Revised Apr. 7, 1949



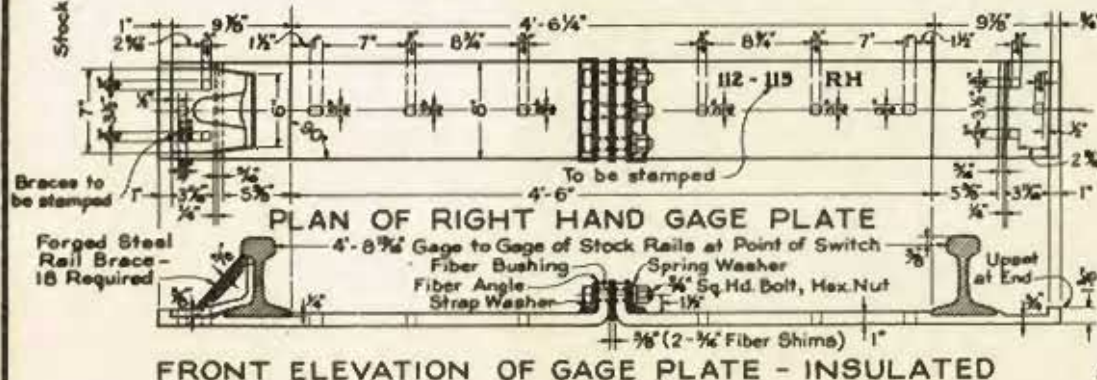
OFFSET DIAGRAM



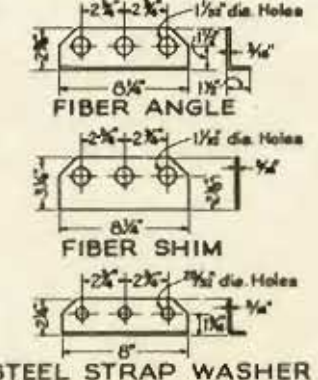
PLAN OF COMPLETE RIGHT HAND SWITCH ASSEMBLED



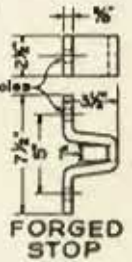
SIDE ELEVATION OF LEFT HAND POINT



FRONT ELEVATION OF GAGE PLATE - INSULATED



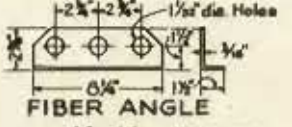
STEEL STRAP WASHER



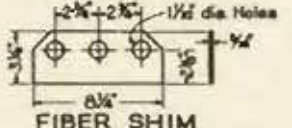
FORGED STOP



FIBER BUSHING



FIBER ANGLE



FIBER SHIM

SPECIFICATIONS:
As per A.R.E.A. Specifications Appendix A-42

NOTES:
All rivets to be annealed steel, riveted cold under hydraulic pressure.
Gage plate, head rod, and back rod to be tested for insulation before shipment.
Gage plate to be stamped 112-115, RH or LH.
Rail braces to be stamped 115.
Switch plates to be stamped 112-115 and with number of plate as shown on Dwg. C.E. 60-32-F-7
All lock washers to be 'Ni-Chrome'.
All 1" Nuts to be extra thick (1 1/2").

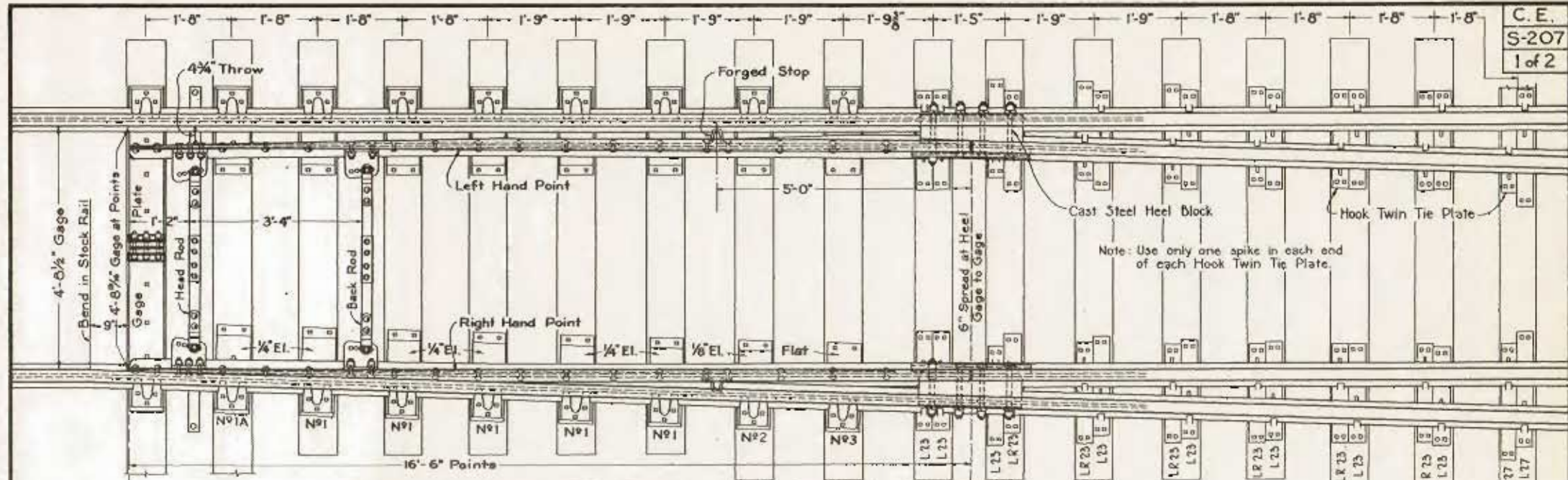
OBsolete
Approved: *M. Miller*
Chief Engineer

Approved: *H. Holloman*
Vice President - General Manager

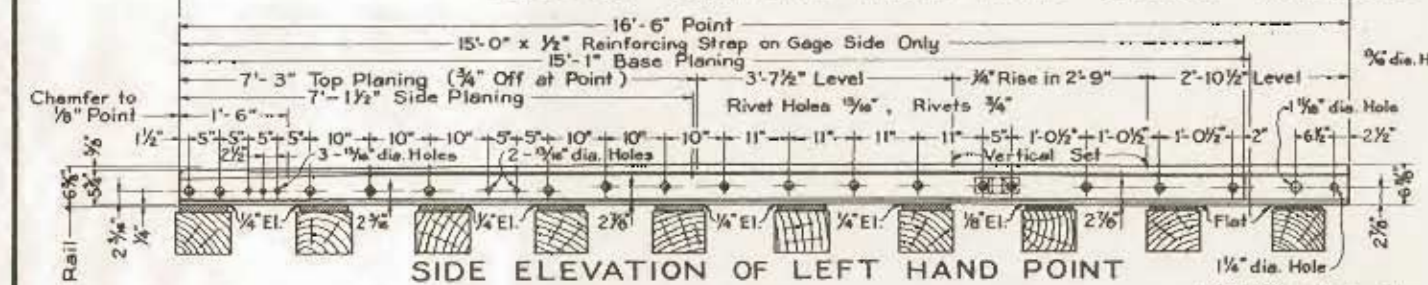
THE WESTERN PACIFIC RAILROAD CO.
STANDARD
16 FOOT 6 INCH SPLIT SWITCH
115 LB. R.E. RAIL

No Scale

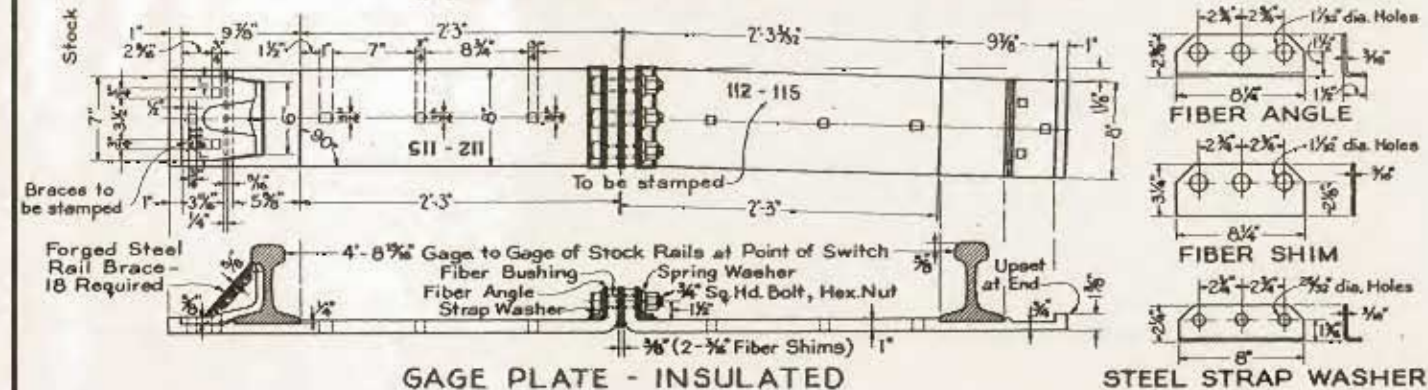
Adopted Jan. 4, 1949



PLAN OF COMPLETE RIGHT HAND SWITCH ASSEMBLED

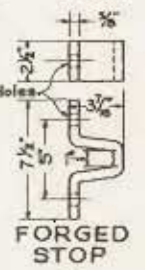


SIDE ELEVATION OF LEFT HAND POINT

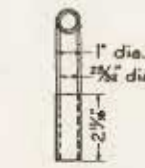


GAGE PLATE - INSULATED

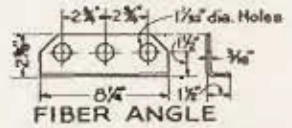
STEEL STRAP WASHER



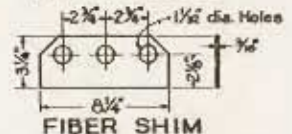
FORGED STOP



FIBER BUSHING



FIBER ANGLE



FIBER SHIM

SPECIFICATIONS:
As per A.R.E.A. Specifications Appendix A-42

NOTES:
All rivets to be annealed steel, pressed hot under hydraulic pressure.
Gage plate, head rod, and back rod to be tested for insulation before shipment.

Rail braces to be stamped 115.
Switch plates to be stamped 112-115 and with number of plate as shown on Dwg. C.E. 60-32-F-7
All lock washers to be "Hi-Chrome".
All 1" Nuts to be extra thick (1 3/8").

Approved: *M. Hillier*
CHIEF ENGINEER

Approved: *H. Harrison*
VICE PRESIDENT AND GENERAL MANAGER

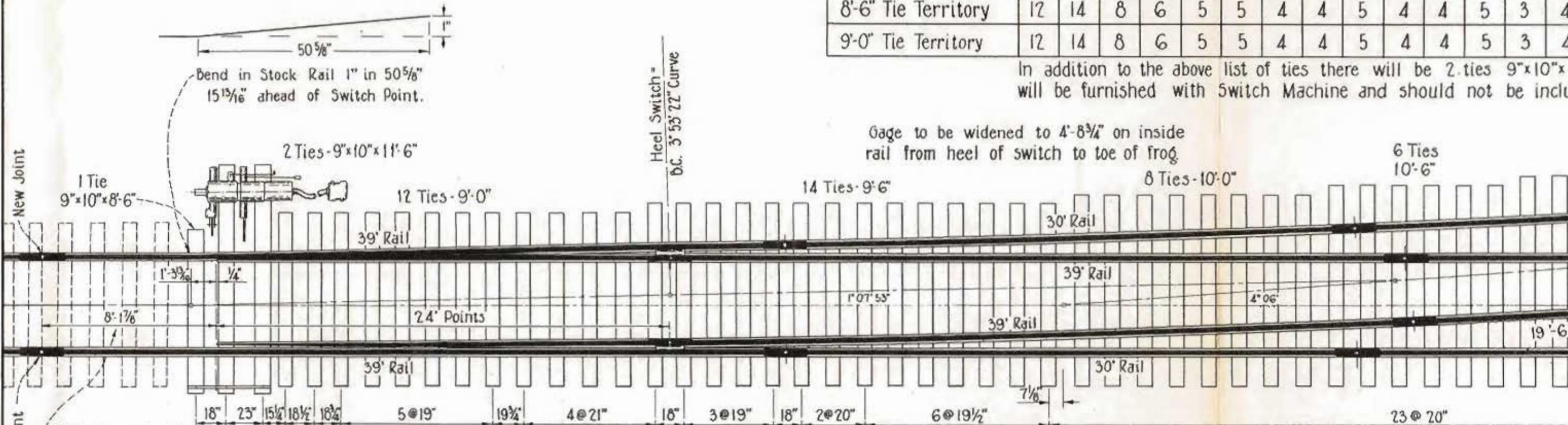
THE WESTERN PACIFIC RAILROAD CO.
STANDARD
16 FOOT 6 INCH SPLIT SWITCH
115 LB. R.E. RAIL

No Scale
Adopted Jan. 4, 1949
Revised March, 1952
Revised July, 1954

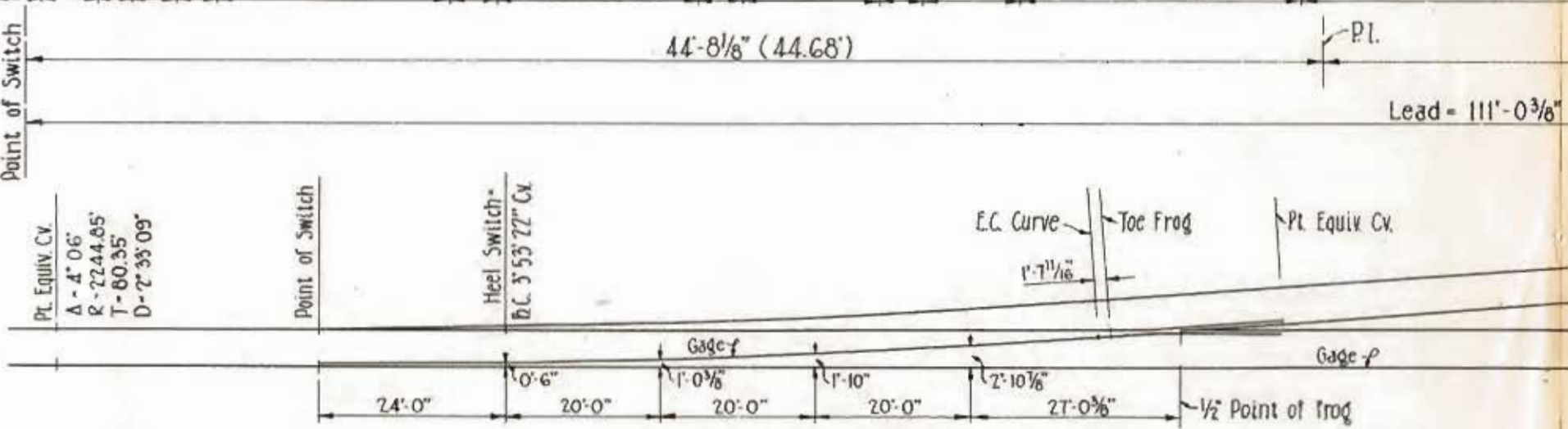
5-56: Add welded rail note.
 7-56: Change Sw. Pt. Loc. 4 ties, correct rail lengths, ref's.
 1-57: Change dates, title, equiv. Cv., remove above. Film. Lead note added.

	7"x9"													
	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"	15'-6"
8'-6" Tie Territory	12	14	8	6	5	5	4	4	5	4	4	5	3	4
9'-0" Tie Territory	12	14	8	6	5	5	4	4	5	4	4	5	3	4

In addition to the above list of ties there will be 2 ties 9"x10"x1" will be furnished with Switch Machine and should not be included.



This dimension is preferable but may be varied from 6'-4" minimum to 10'-2" maximum to suit existing field conditions.

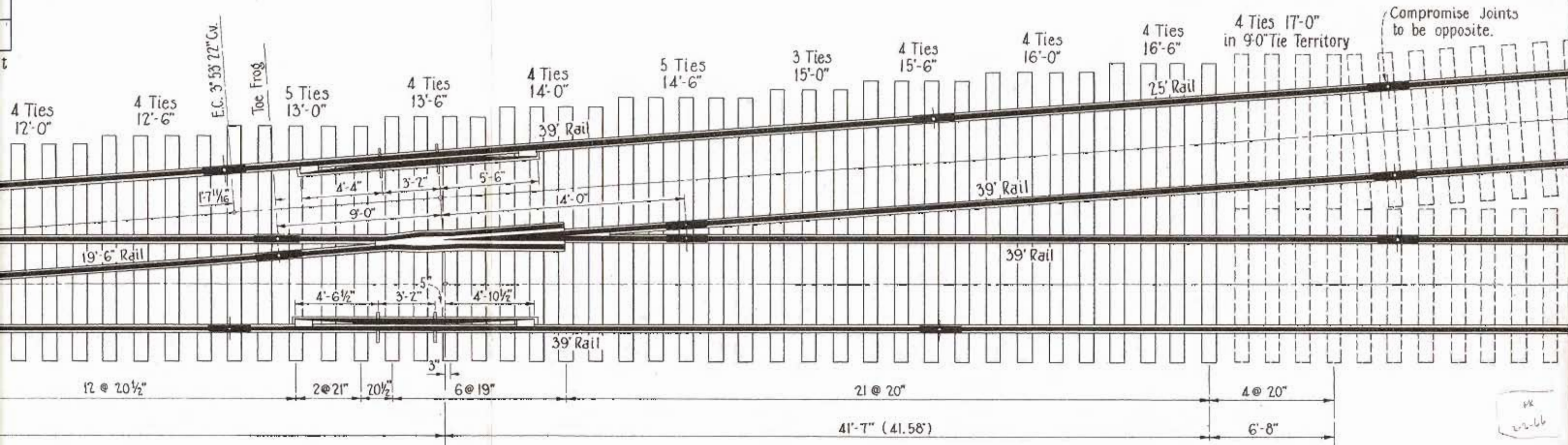


REFERENCES	
24'-0" Split Switch	S-203
Nº 14 Railbound Mang. Frog	S-133
13'-0" Guard Rail	S-204

OFFSET DIAGRAM

Frog Angle 4° 06'
 Degree of Turnout Curve 3° 53' 22"
 Lead 111'-0³/₈"

C.E.
 S-208



NOTE
 Closure rails should be two 39'
 curved closure rails may vary from
 39' if necessary, but the minimum length
 is 35'.

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
No 14 TURNOUT COMPLETE
 FOR USE WITH RAILBOUND MANGANESE FROG
 AND 39 FOOT RAILS

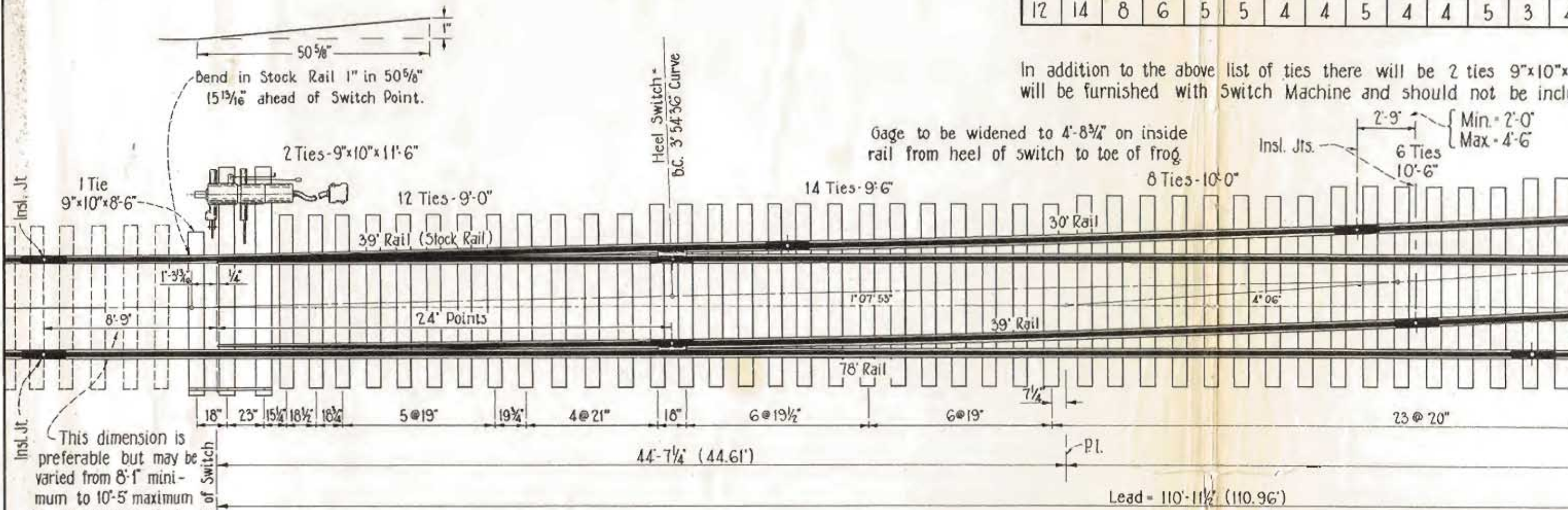
Approved: *Frank A. Mayfield*
 Chief Engineer

NO SCALE

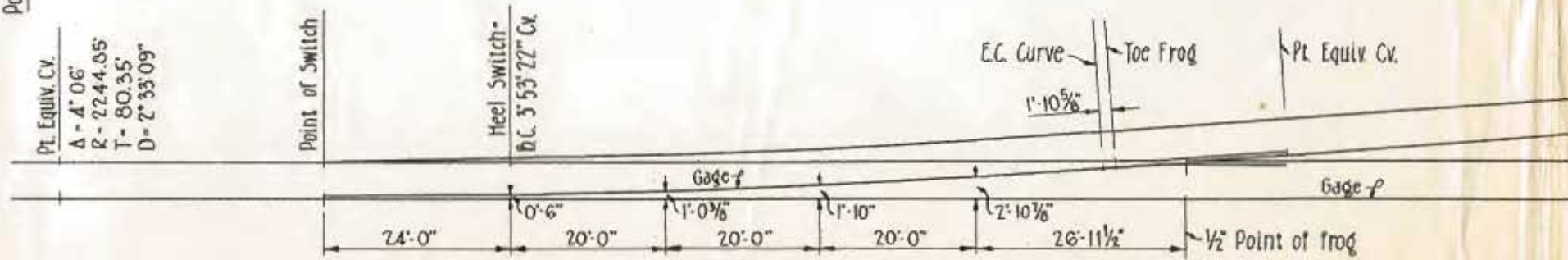
Adopted : Jan. 26, 1955
 Revised : Jan. 18, 1957

7"x9"													
9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"	15'-6"
12	14	8	6	5	5	4	4	5	4	4	5	3	4

In addition to the above list of ties there will be 2 ties 9"x10"x11'-6" will be furnished with Switch Machine and should not be included.



This dimension is preferable but may be varied from 8'-1" minimum to 10'-5" maximum to suit existing field conditions.



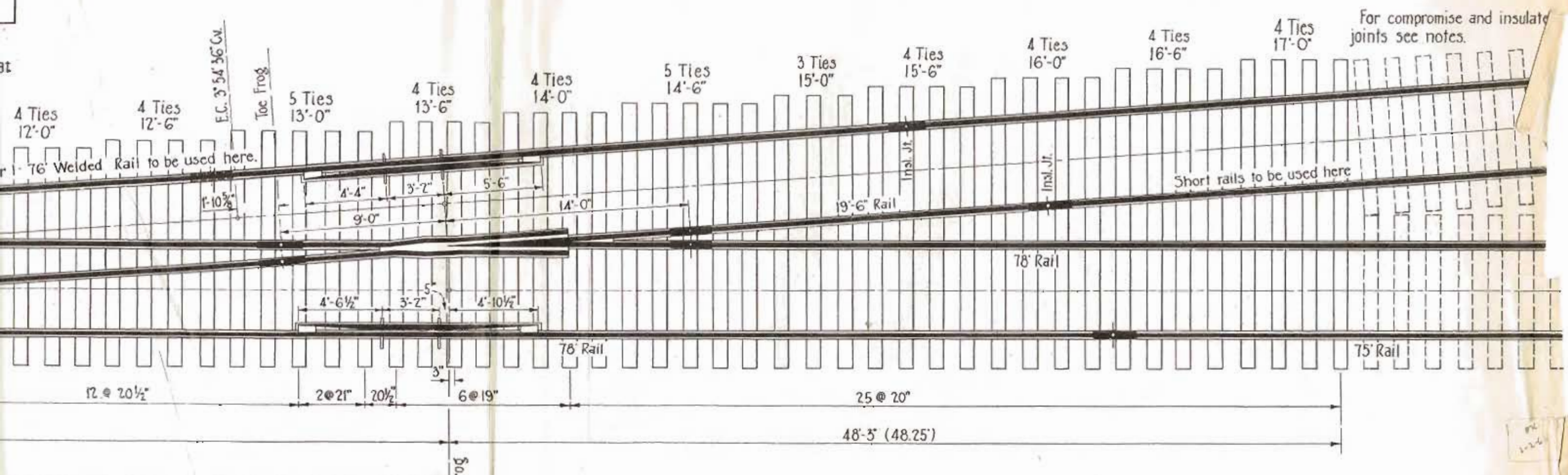
OFFSET DIAGRAM

REFERENCES

24'-0" Split Switch	S-203
Nº 14 Railbound Mang. Frog	S-133
13'-0" Guard Rail	S-204

Frog Angle 4° 06'
 Degree of Turnout Curve 3° 54' 36"
 Lead 110'-11½"

C.E.
 S-208A



For compromise and insulated joints see notes.

Short rails to be used here

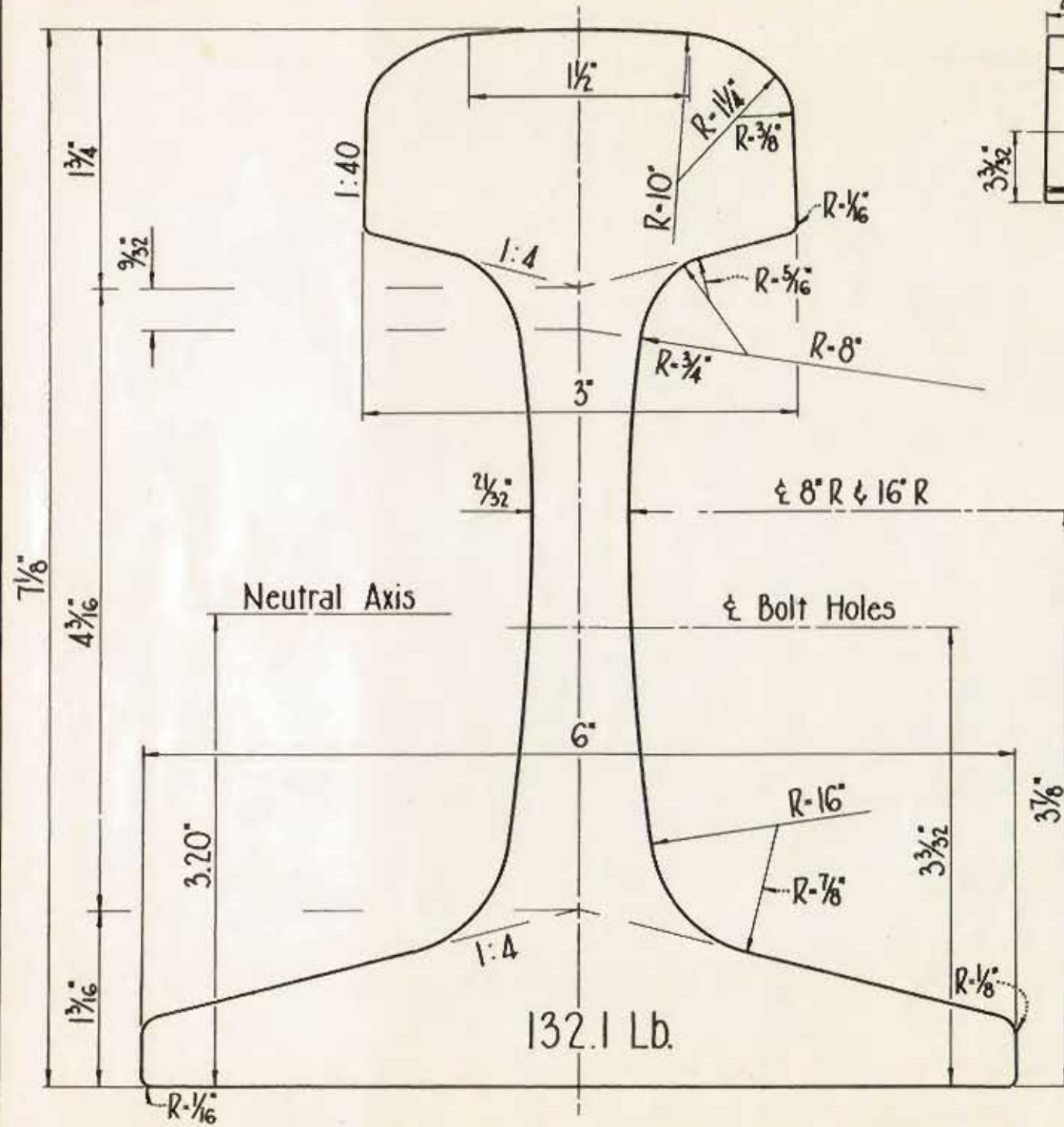
NOTE
 hind frog on both turnout rails to be
 For further location of insulated joints
 2B or 8-2C.
 joints need not be opposite on the
 ts.

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
No 14 TURNOUT COMPLETE
 FOR USE WITH RAILBOUND MANGANESE FROG
 AND 78 FOOT RAILS

Approved: *Franz A. Mueller*
 Chief Engineer

NO SCALE

Adopted : Jan. 25, 1957



DRILLING OF RAIL

ELEMENTS OF RAIL SECTION	
Area of Head (Sq. In.)	4.42 - 34.1%
Area of Web (Sq. In.)	3.66 - 28.3%
Area of Base (Sq. In.)	4.87 - 37.6%
Total Area (Sq. In.)	12.95 - 100.0%
Moment of Inertia	88.2
Section Modulus : Head	22.5
Section Modulus : Base	27.6
Gross Tons per Track Mile	207.58
Net Tons per Track Mile	232.50

Approved: *Frank R. Meador*
Chief Engineer

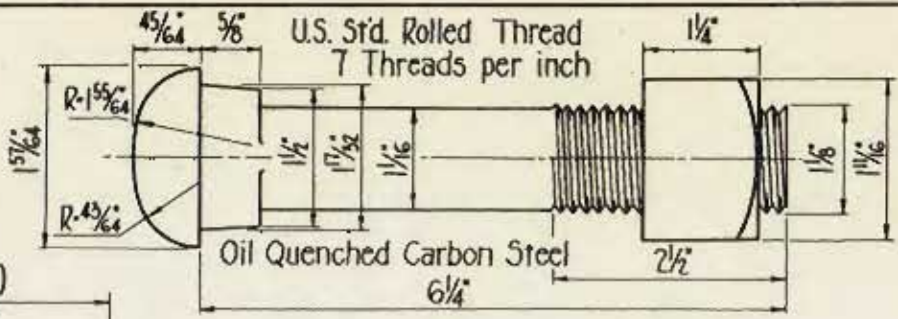
THE WESTERN PACIFIC RAILROAD CO.
STANDARD
132 LB. R.E. RAIL

NO SCALE

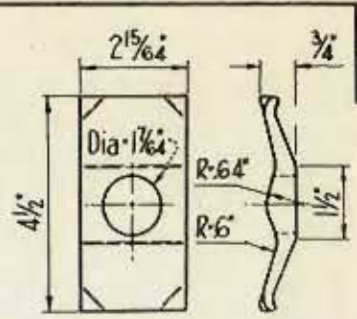
ADOPTED: Oct. 15, 1954



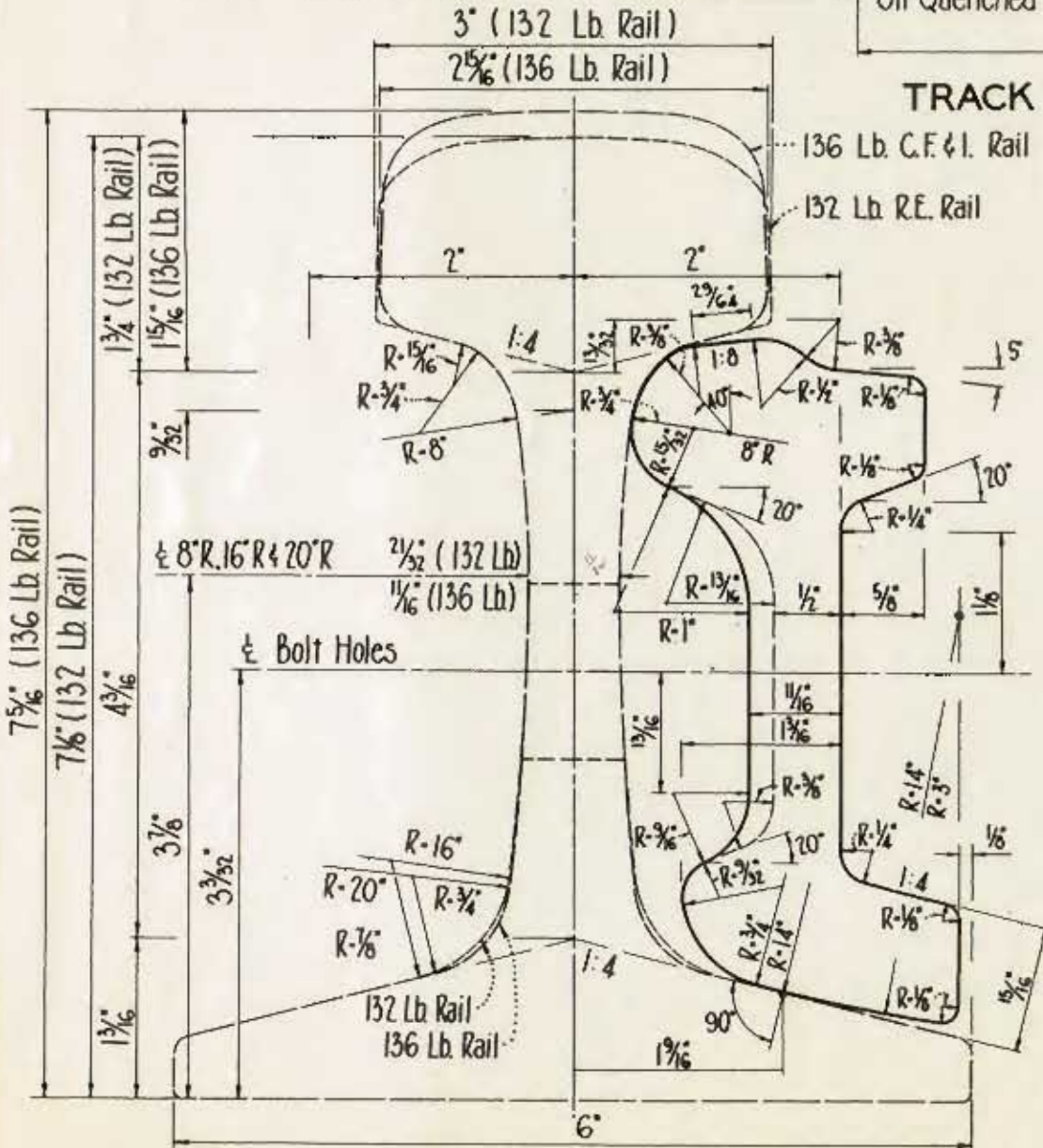
RAIL DRILLING



TRACK BOLT AND NUT



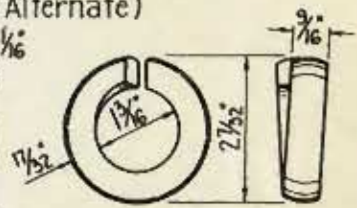
PATENT WASHER



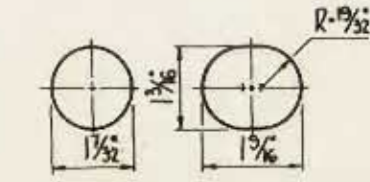
END ELEVATION OF RAIL AND JOINT BAR



ELEVATION OF JOINT BAR



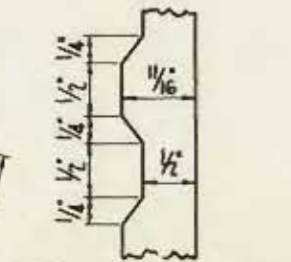
SPRING WASHER



BOLT HOLES

Alternate Round and Oval

ELEMENTS OF ONE JOINT (2 BARS)	
Moment of Inertia	31.8
Section Modulus: Head	13.2
Section Modulus: Base	12.0
Wt. of Bar per ft. - Gross	19.62 Lbs.
Wt. of Bars per pair - Net	115.1 Lbs.



LONGITUDINAL SEC. OF WEB

Approved: *Frank R. Mayfield*
Chief Engineer

OLD STANDARD
WESTERN PACIFIC RAILROAD CO.
STANDARD
HEADFREE 100% JOINT
FOR
132 LB. AND 136 LB. RAIL

NO SCALE

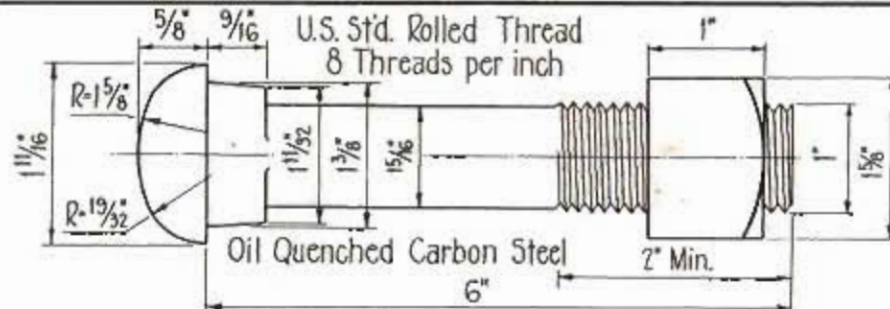
ADOPTED - DEC. 15, 1954

lev

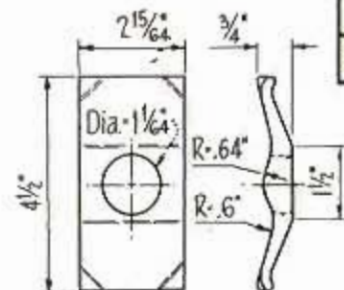
10-59: Redraw S-211.
 12-15-54, to 136 lb, change
 drilling, bolt, hole size, etc.
 12-63 Change bolt
 length.



RAIL DRILLING

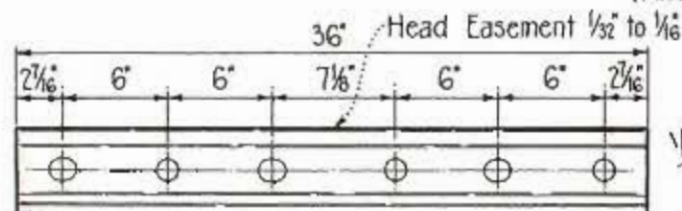


TRACK BOLT AND NUT

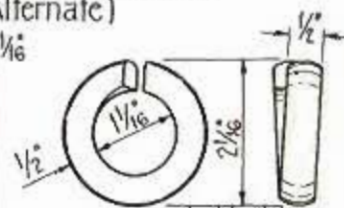


PATENT WASHER

(Alternate)

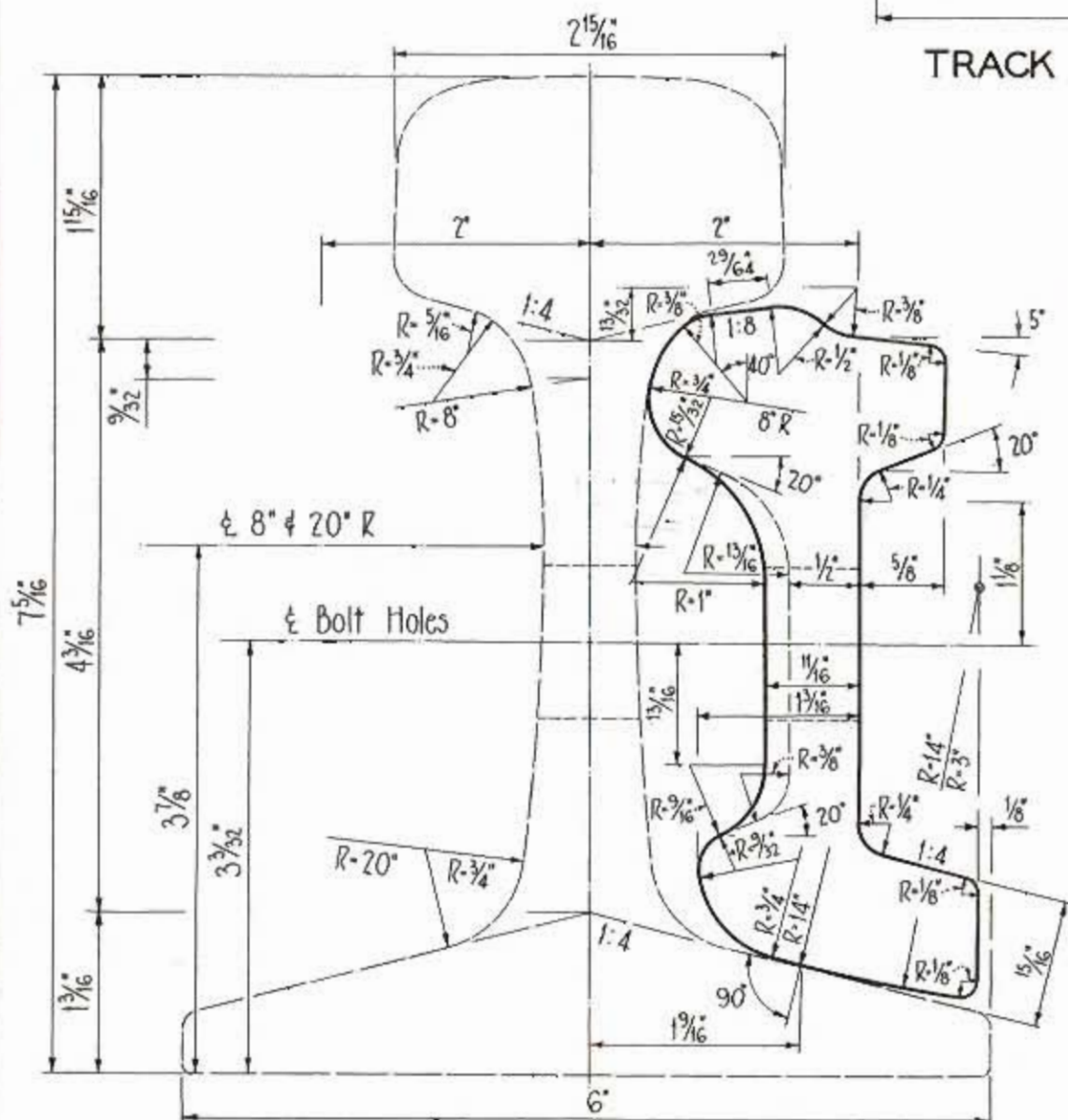


ELEVATION OF JOINT BAR

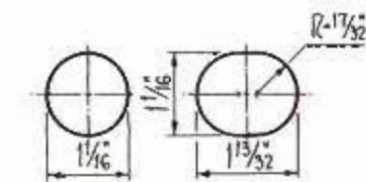


SPRING WASHER

(Alternate)

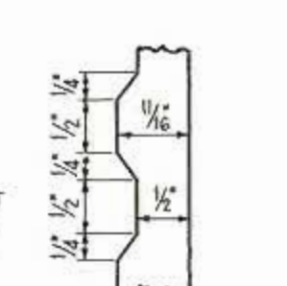


END ELEVATION OF RAIL AND JOINT BAR



BOLT HOLES

Alternate Round and Oval



LONGITUDINAL
 SEC. OF WEB

ELEMENTS OF ONE JOINT (2 BARS)	
Moment of Inertia	31.8
Section Modulus: Head	13.2
Section Modulus: Base	12.0
Wt. of Bar per ft. - Gross	19.62 Lbs.
Wt. of Bars per pair - Net	115.4 Lbs.

Approved: *Frank R. Woodford*
 Chief Engineer

OBsolete

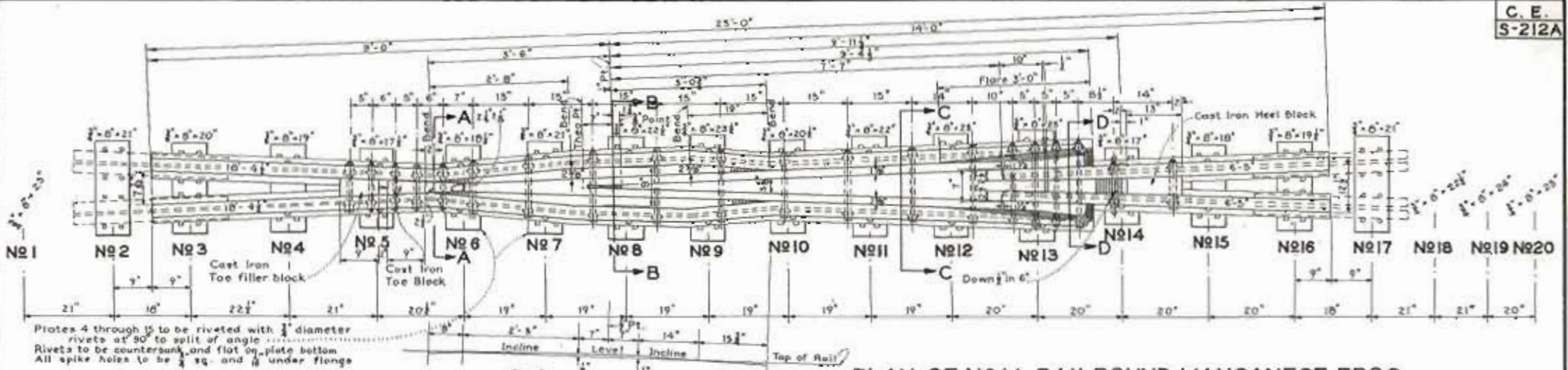
WESTERN PACIFIC RAILROAD CO.
 STANDARD

HEADFREE 100% JOINT
 FOR 136 LB. RAIL

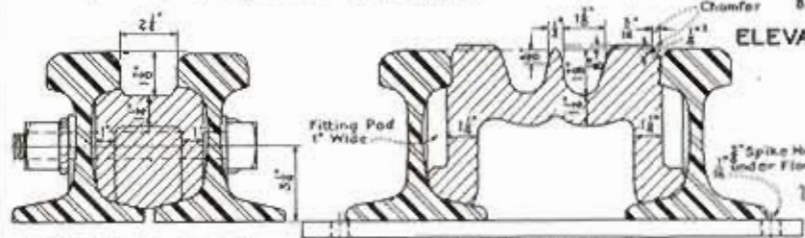
No Scale

Adopted: Oct. 1, 1959

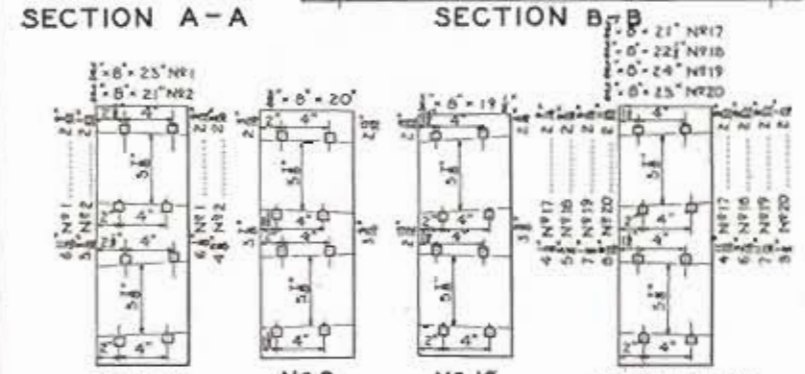
Wm
 2-2-66



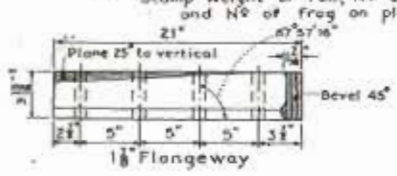
PLAN OF NO 14 RAILBOUND MANGANESE FROG



ELEVATION OF WING WHEEL RISER



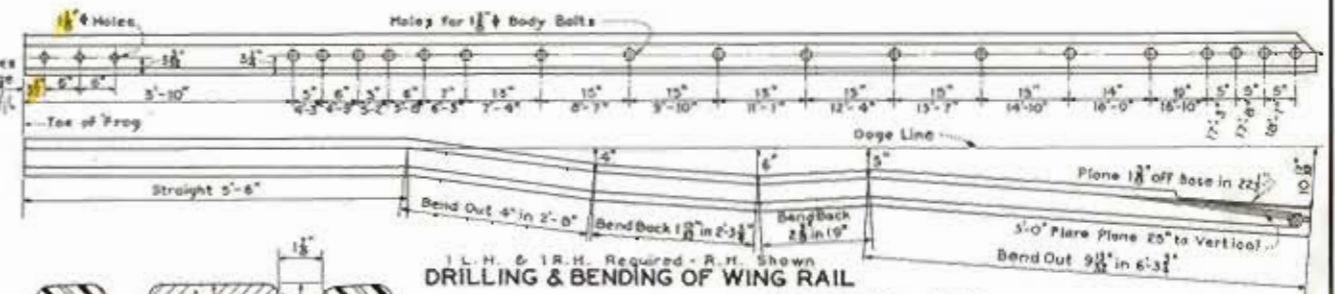
DETAIL OF LOOSE PLATES



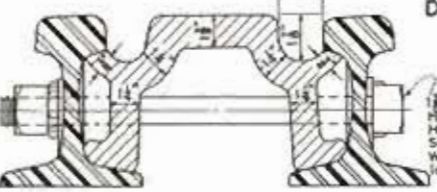
ROLLED STEEL FILLER
I.L.H. & I.R.H. Required
L.H. Shown



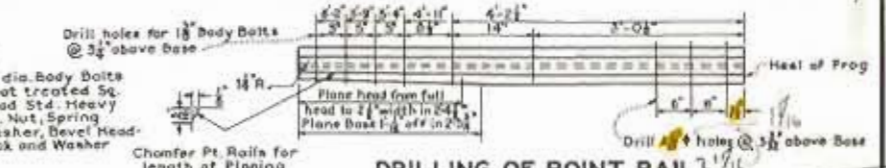
DETAIL OF BEVELED END OF WING RAIL



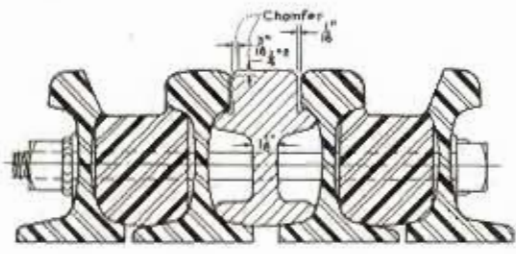
DRILLING & BENDING OF WING RAIL



SECTION C-C



DRILLING OF POINT RAIL



SECTION D-D

APPROVED *Frank R. Wood*
CHIEF ENGINEER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
NO 14 RAILBOUND MANGANESE FROG
136 LB. C.F. & I. RAIL

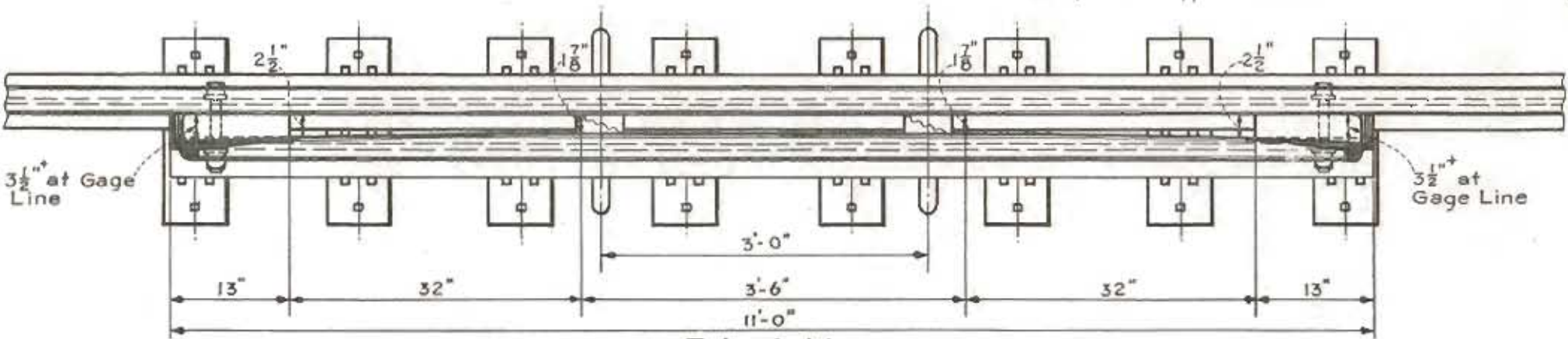
NO SCALE

ADOPTED: Nov. 1, 1962

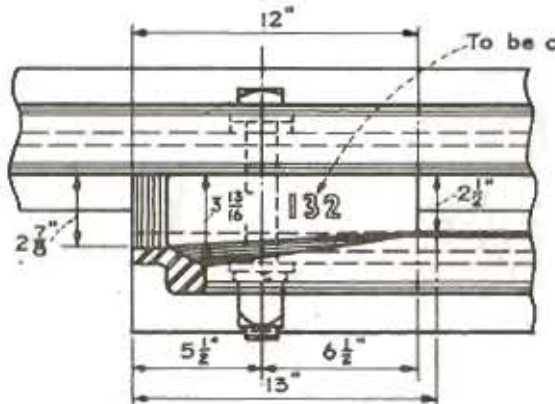
Show base plate rivets in B-B

136 1/2 132

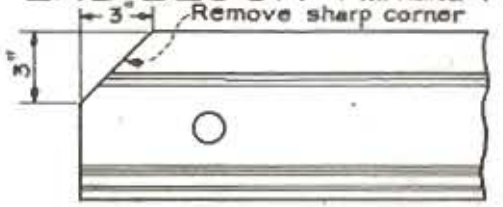
Ties spaced at approx. 18" centers



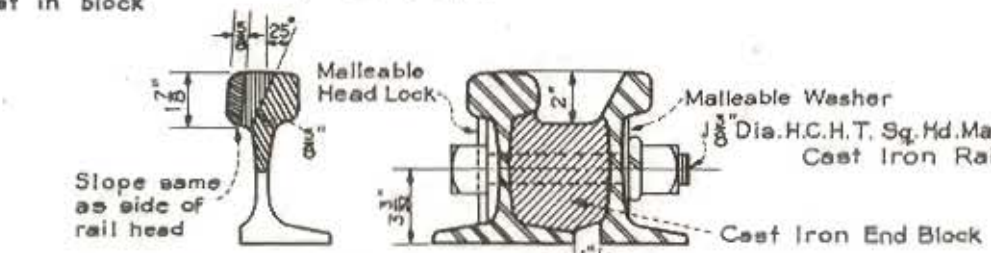
PLAN



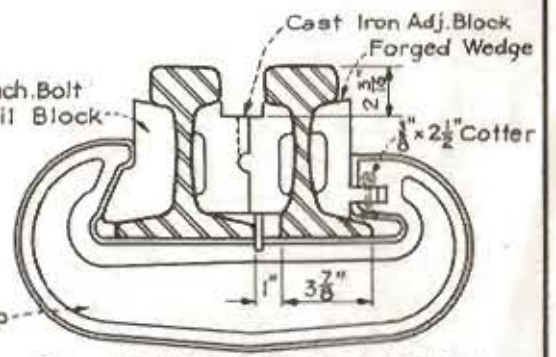
END BLOCK 1 Rt. Hand & 1 Lt. Hand Req'd.



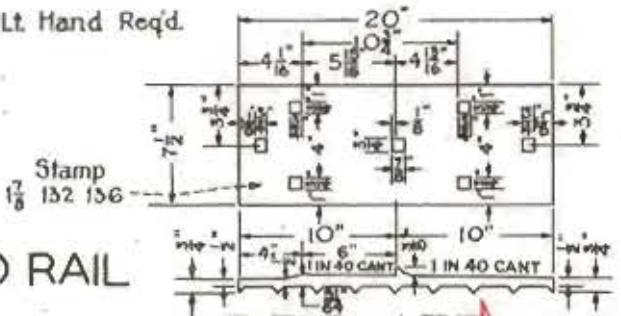
BEVELED END OF GUARD RAIL



PLANING DETAIL SECTION THRU END BLOCK



CLAMP ASSEMBLY 2 Complete Req'd.



TIE PLATE 8 Req'd.

Flat bottom prof.

APPROVED

Frank R. Wood
CHIEF ENGINEER

THE WESTERN PACIFIC RAILROAD CO.
STANDARD
11 FT. 132 LB. GUARD RAIL

No Scale

Adopted: June 1, 1951

one
2-4-51

55: Add Approval
 56: Change notes.
 59: Change Spacing
 63: Change notes & Spacing

	Size Spacing	MAIN LINE		BRANCH LINE		YARD TRKS. & SPURS	
		Main Tr.	Sidings	Main Tr.	Sidings	Leads & Heavy Switch Tracks	Light Switch Yd., & Ind. Trks.
SAN FRANCISCO	7" x 8" 20-39	7" x 8" 20-39				6" x 8" 20-39	6" x 8" 18-39
W. P. MOLE - M.P. 7.11 (OAK ST.)	7" x 8" 21-39	7" x 8" 20-39				6" x 8" 20-39	6" x 8" 18-39
M.P. 7.11 - SALT LAKE CITY	7" x 9" 23-39	7" x 9" 20-39	6" x 8" 20-39	6" x 8" 18-39	6" x 8" 20-39	6" x 8" 18-39	
KEDDIE - BIEBER	7" x 9" 23-39	7" x 8" 20-39				6" x 8" 20-39	6" x 8" 18-39
SAN JOSE BRANCH			7" x 8" 20-39	7" x 8" 18-39	6" x 8" 20-39	6" x 8" 18-39	
RENO BRANCH			7" x 8" 20-39	7" x 8" 18-39	6" x 8" 20-39	6" x 8" 18-39	

1. Primary Main Track - Oakland (M.P. 7.11) to Salt Lake City, and Keddie to Bieber, cross tie lengths to be 9'0" except through tunnels tie lengths to be 8'0".
2. All other tracks, including main track of branch lines, all sidings, yards, and other tracks, cross tie lengths shall be 8'0".
3. All curves over 10° on yard tracks and spurs shall have 20 ties per 39' rail length.
4. For number of ties for rail lengths other than 39' see S-218A.
5. Exceptions to above: Main Track Oakland to Salt Lake City. In areas of unstable embankment where maximum ground bearing of cross ties is necessary to adequately spread the load imposed, such as from Stockton to Sacramento, Sano to Ronda, Jungo (M.P. 496) to Gaskell (M.P. 510) and similar areas where ground stabilization has not been progressed, a spacing of 24-7"x9"x9' cross ties per 39' rail length should be retained.

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 2-4-66

This standard is to be used on new track and/or reconstruction or rehabilitation of existing trackage, or when rail relay, reballast, or heavy tie renewal projects are carried out.

Number of ties used for rail lengths other than shown shall be proportional.

THE WESTERN PACIFIC RAILROAD CO.
 STANDARD
 SIZES AND SPACING
 FOR CROSS TIES

APPROVED: *Frank R. Mansfield*
 Chief Engineer

NO SCALE

ADOPTED: JUNE 13, 1952
 REVISED: JAN. 1, 1963

1-35 & Decked ch
Lafayette.
1-59: change
most spacing
est Pittsburg
Montezuma
1-61: change
spacing & notes

C. E.
S-218A

		MAIN LINE		BRANCH LINE		YARD TRACKS & SPURS	
		Main Tr.	Sidings	Main Tr.	Sidings	Heavy Switch Trks & Curves	Light Yard & Industrial Trks
SACRAMENTO NORTHERN RY.							
LAFAYETTE to PORT CHICAGO	Size Spacing	6"x8" 16-33'	6"x8" 15-33'			6"x8" 17-33'	6"x8" 15-33'
PORT CHICAGO to PITTSBURG	Size Spacing	7"x8" 17-33'	7"x8" 16-33'	7"x8" 16-33'		6"x8" 17-33'	6"x8" 15-33'
MONTEZUMA to SACRAMENTO	Size Spacing	6"x8" 17-33'	6"x8" 16-33'	6"x8" 17-33'	6"x8" 15-33'	6"x8" 17-33'	6"x8" 15-33'
SACRAMENTO to CHICO	Size Spacing	6"x8" 17-33'	6"x8" 16-33'	6"x8" 17-33'	6"x8" 15-33'	6"x8" 17-33'	6"x8" 15-33'
TIDEWATER SOUTHERN RY.							
MAIN LINE AND BRANCHES	Size Spacing	6"x8" 17-33'	6"x8" 16-33'	6"x8" 17-33'	6"x8" 15-33'	6"x8" 17-33'	6"x8" 15-33'

All ties to be 8'-0" long.
This standard is to be used on new track and / or reconstruction or rehabilitation of existing trackage, or when rail relay, reballast, or heavy tie renewal projects are carried out.

Number of ties used for rail lengths other than shown shall be as noted below:
 16-39' = 15-36' = 14-33' = 12-30' = 30-72' = 32-78'
 18-39' = 17-36' = 15-33' = 14-30' = 33-72' = 36-78'
 19-39' = 18-36' = 16-33' = 15-30' = 36-72' = 38-78'
 20-39' = 18-36' = 17-33' = 15-30' = 37-72' = 40-78'
 22-39' = 20-36' = 18-33' = 16-30' = 40-72' = 44-78'
 23-39' = 21-36' = 19-33' = 18-30' = 42-72' = 46-78'

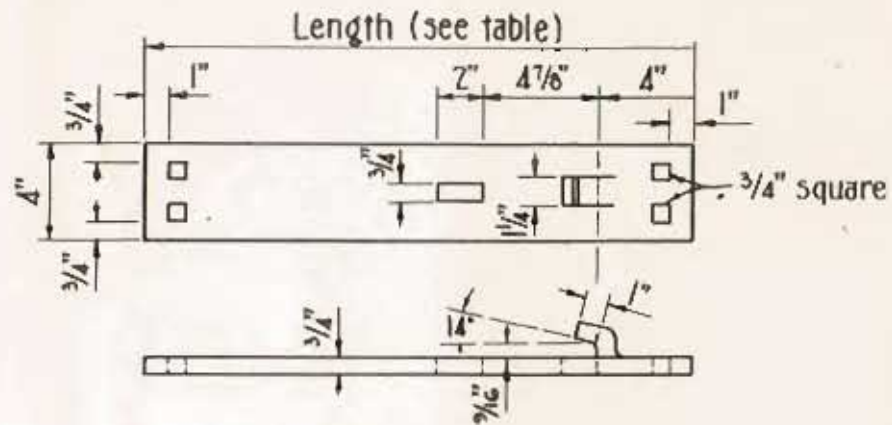
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2-4-66

SACRAMENTO NORTHERN RAILWAY
TIDEWATER SOUTHERN RAILWAY
**SIZES AND SPACING
FOR CROSS TIES**

APPROVED: *Franz R. McFarland*
Chief Engineer

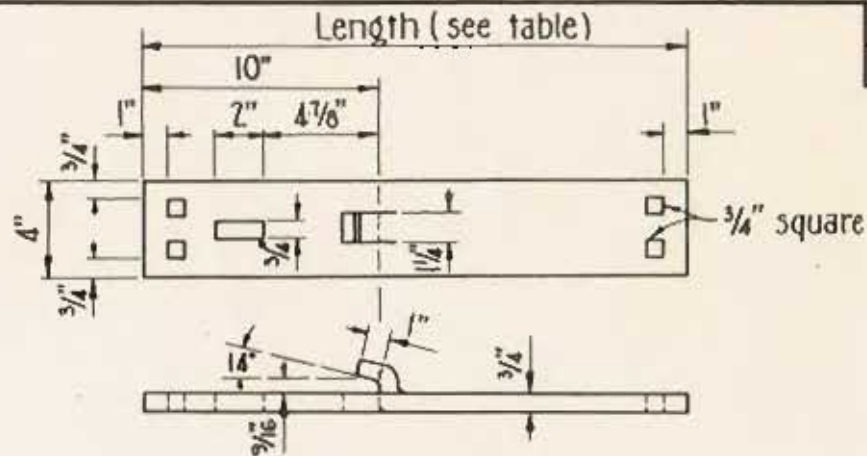
NO SCALE

ADOPTED: May 3, 1954
Revised: Jan. 1, 1963



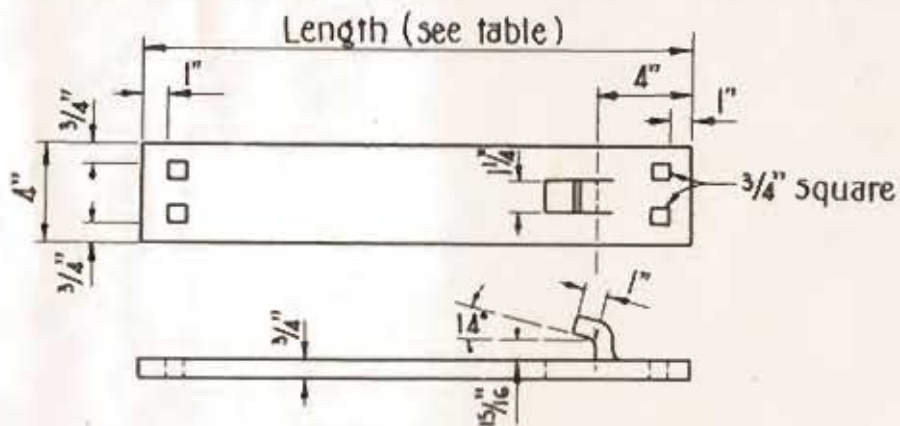
Length	Stamped
23"	L 23
27"	L 27
31"	L 31

"L" PLATES
(Low Hook)



Length	Stamped
23"	LR 23
27"	LR 27
31"	LR 31

"LR" PLATES
(Low Reverse Hook)



Length	Stamped
23"	H 23
27"	H 27
31"	H 31
35"	H 35

"H" PLATES
(High Hook)

- Note : 1. Hook Twin Tie Plates shown here are in accordance with A.R.E.A. Plan No 241-51.
2. These plates are to be applied only as shown or noted on C.E. Standard Drawings.
3. Store Department will stock only those types and sizes of plates which are required for frogs, switches, ect. shown on Standard Drawings except on special instructions from Engineering Department.

Approved: Frank R. MacFarland
CHIEF ENGINEER

Approved: H. C. Johnson
VICE PRESIDENT & GENERAL MANAGER

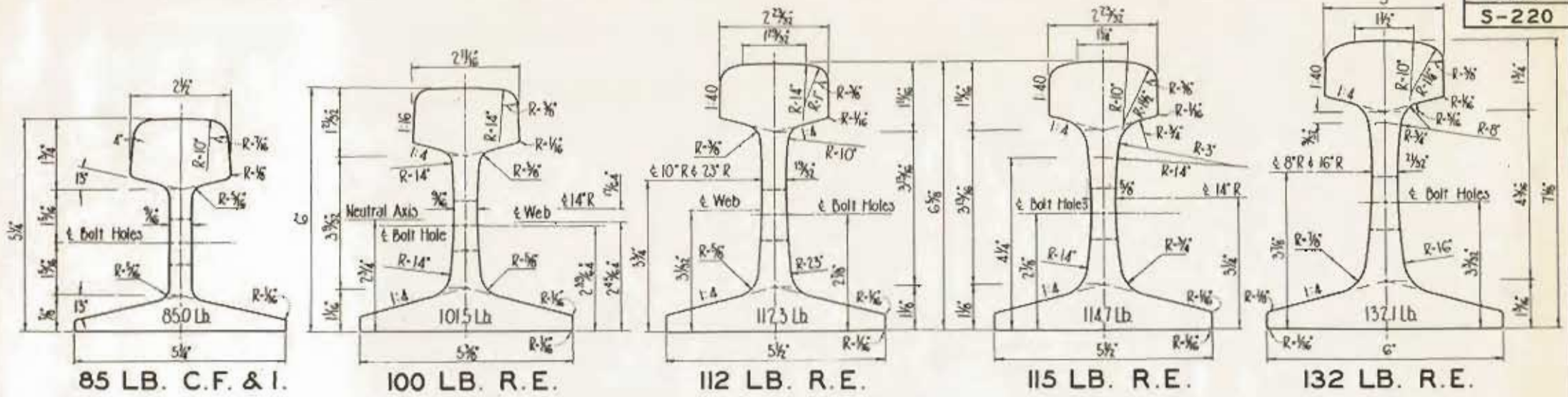
396
2-4-66

THE WESTERN PACIFIC RAILROAD CO.
STANDARD

HOOK TWIN TIE PLATES

SCALE : 1/2" = 1'-0"

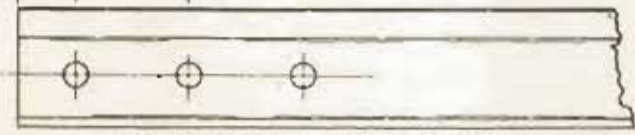
ADOPTED FEB. 1, 1954



ELEMENTS OF RAIL SECTIONS

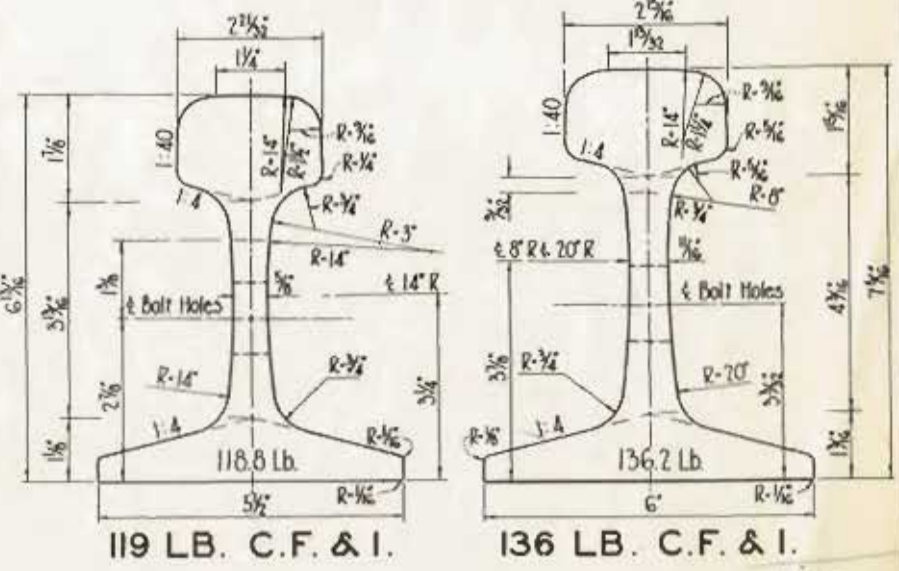
PROPERTIES	85 LB.	100 LB.	112 LB.	115 LB.	119 LB.	132 LB.	136 LB.
Area : Head (Sq. In.)	3.81 - 45.7%	3.80 - 38.2%	3.95 - 35.9%	3.91 - 34.8%	4.32 - 37.1%	4.42 - 34.1%	4.86 - 36.4%
Area : Web (Sq. In.)	1.51 - 18.0%	2.25 - 22.6%	2.77 - 25.1%	3.05 - 27.1%	3.04 - 26.1%	3.66 - 28.3%	3.62 - 27.1%
Area : Base (Sq. In.)	3.03 - 36.3%	3.90 - 39.2%	4.29 - 39.0%	4.29 - 38.1%	4.29 - 36.8%	4.87 - 37.6%	4.87 - 36.5%
Area : Total (Sq. In.)	8.35 - 100%	9.95 - 100%	11.01 - 100%	11.25 - 100%	11.65 - 100%	12.95 - 100%	13.35 - 100%
Moment of Inertia	29.80	49.00	65.5	65.6	71.4	88.2	94.9
Section Modulus : Head		15.10	18.1	18.0	19.4	22.5	23.9
Section Modulus : Base		17.80	21.8	22.0	22.9	27.6	28.3
Gross Tons per Track Mile	133.57	159.48	176.47	180.24	186.7	207.58	214.0
Net Tons per Track Mile	149.60	178.62	197.65	201.87	209.1	232.50	239.7

3 1/2"	6"	6"	119 lb. & 136 lb. : 1 1/8" dia. hole	Western Standard (OBSOLETE)
2 1/2"	6 1/2"	6 1/2"	115 lb. & 119 lb. : 1 1/4" dia. hole	Old Standard
2 5/8"	6"	6"	132 lb. & 136 lb. : 1 1/8" dia. hole	Old Standard
2 1/2"	6 1/2"		112 lb., 115 lb. & 119 lb. : 1 1/4" dia. hole	
2 1/8"	5 1/2"		100 lb. : 1 1/4" dia. hole	
2 3/8"	6"		85 lb. : 1 1/8" dia. hole	



DRILLING OF RAIL

Approved: *Frank R. Woodford*
Chief Engineer



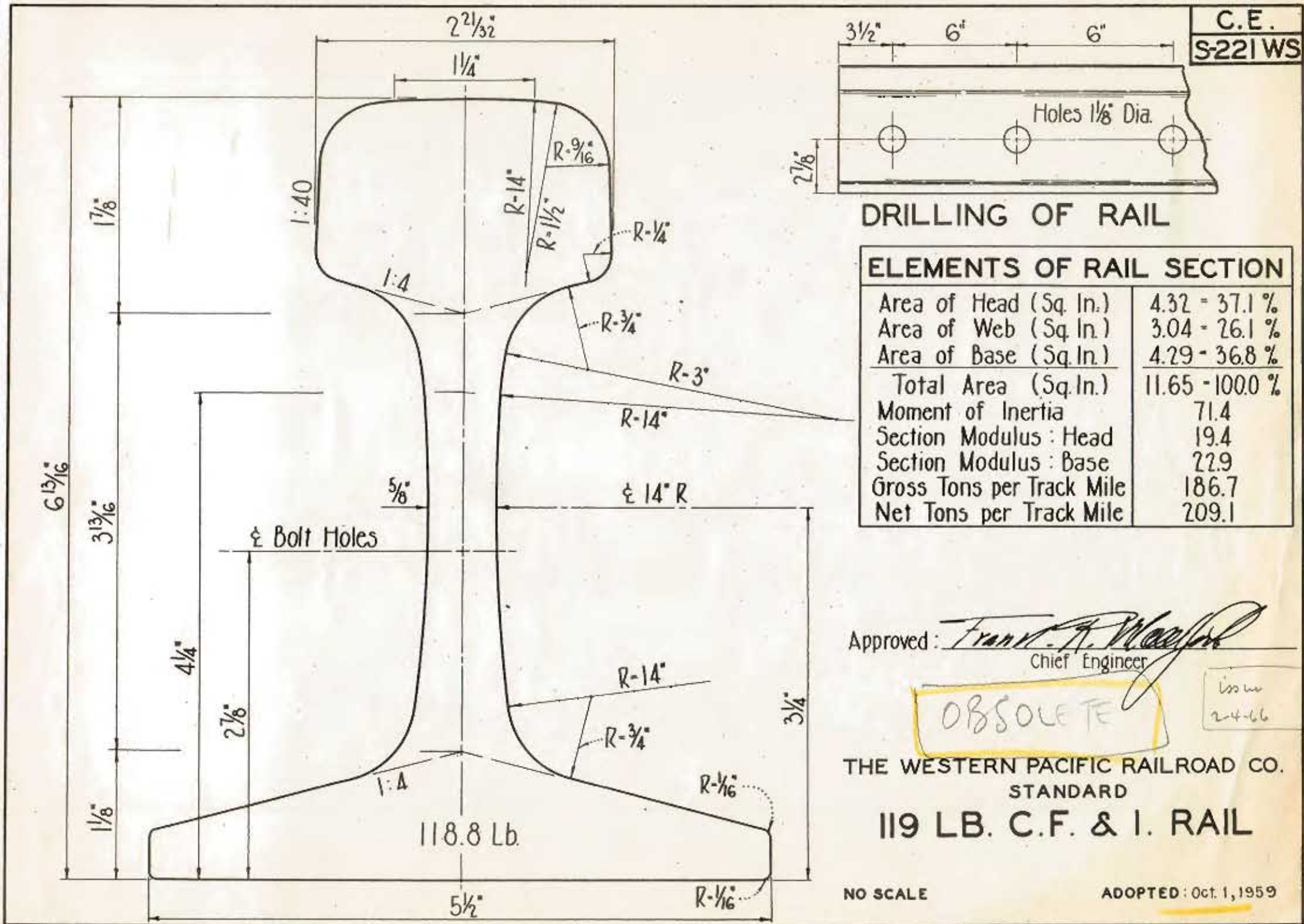
THE WESTERN PACIFIC RAILROAD COMPANY STANDARD RAIL SECTIONS

NO SCALE

Revised : Oct. 1, 1959

Adopted : Oct. 15, 1954
Revised

Renumbered S-221
of Oct. 15, 54 & added
W.S. drilling.



C.E.
S-221 WS

DRILLING OF RAIL

ELEMENTS OF RAIL SECTION

Area of Head (Sq. In.)	4.32 - 37.1 %
Area of Web (Sq. In.)	3.04 - 26.1 %
Area of Base (Sq. In.)	4.29 - 36.8 %
Total Area (Sq. In.)	11.65 - 100.0 %
Moment of Inertia	71.4
Section Modulus : Head	19.4
Section Modulus : Base	22.9
Gross Tons per Track Mile	186.7
Net Tons per Track Mile	209.1

Approved: *Frank A. Macfarlane*
Chief Engineer

OBSOLETE

Issue
2-4-66

THE WESTERN PACIFIC RAILROAD CO.
STANDARD

119 LB. C.F. & I. RAIL

NO SCALE

ADOPTED: Oct. 1, 1959

