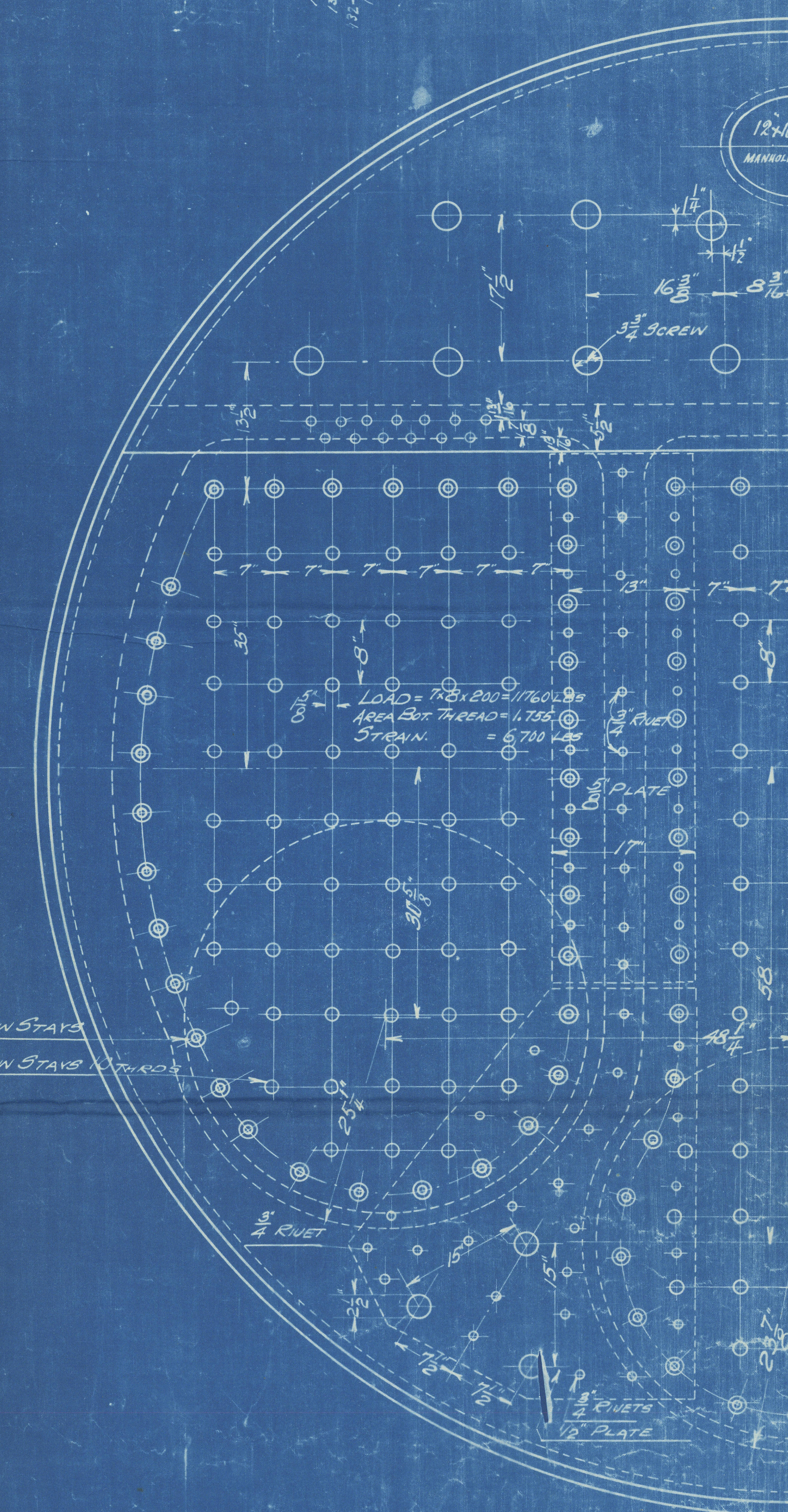
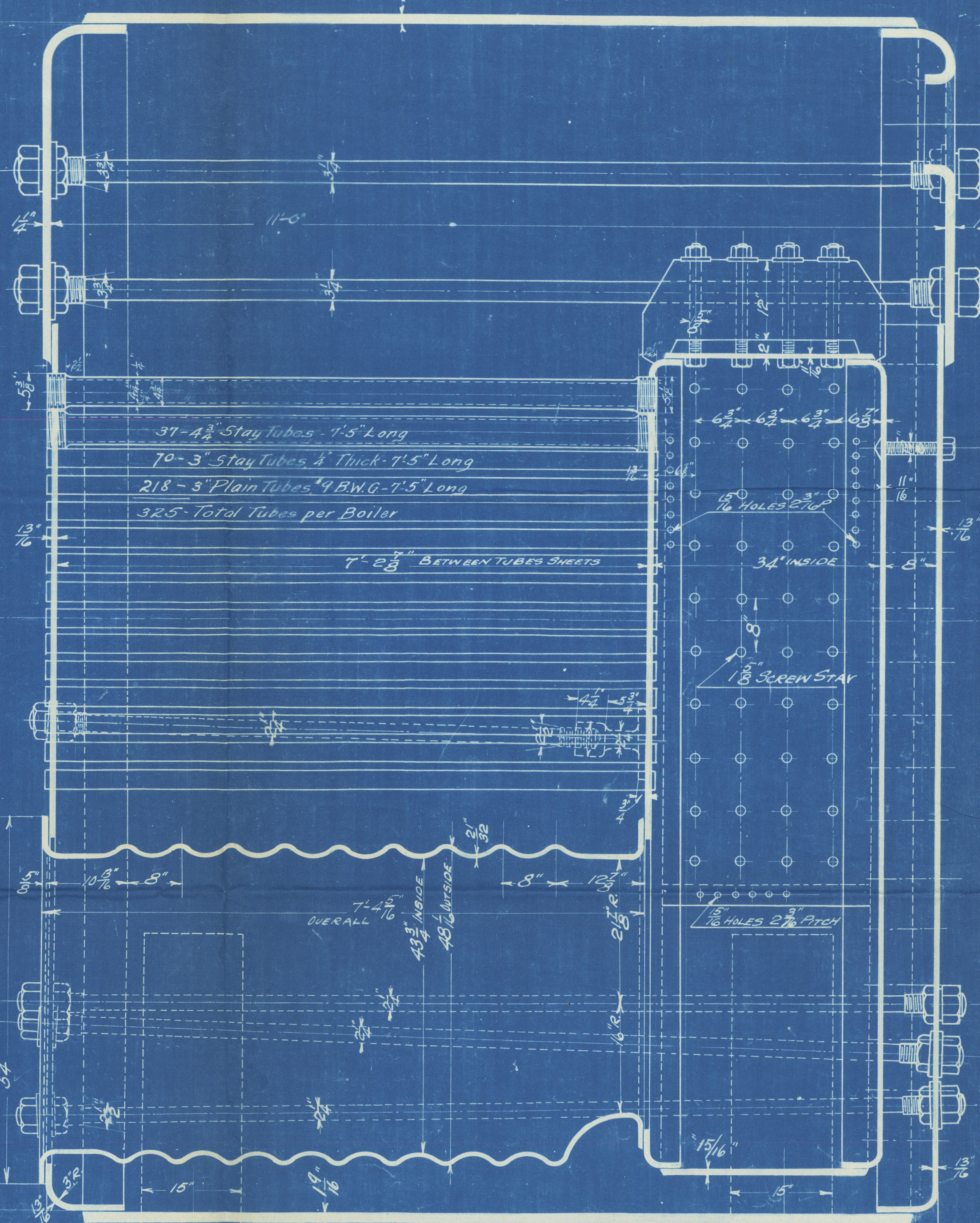
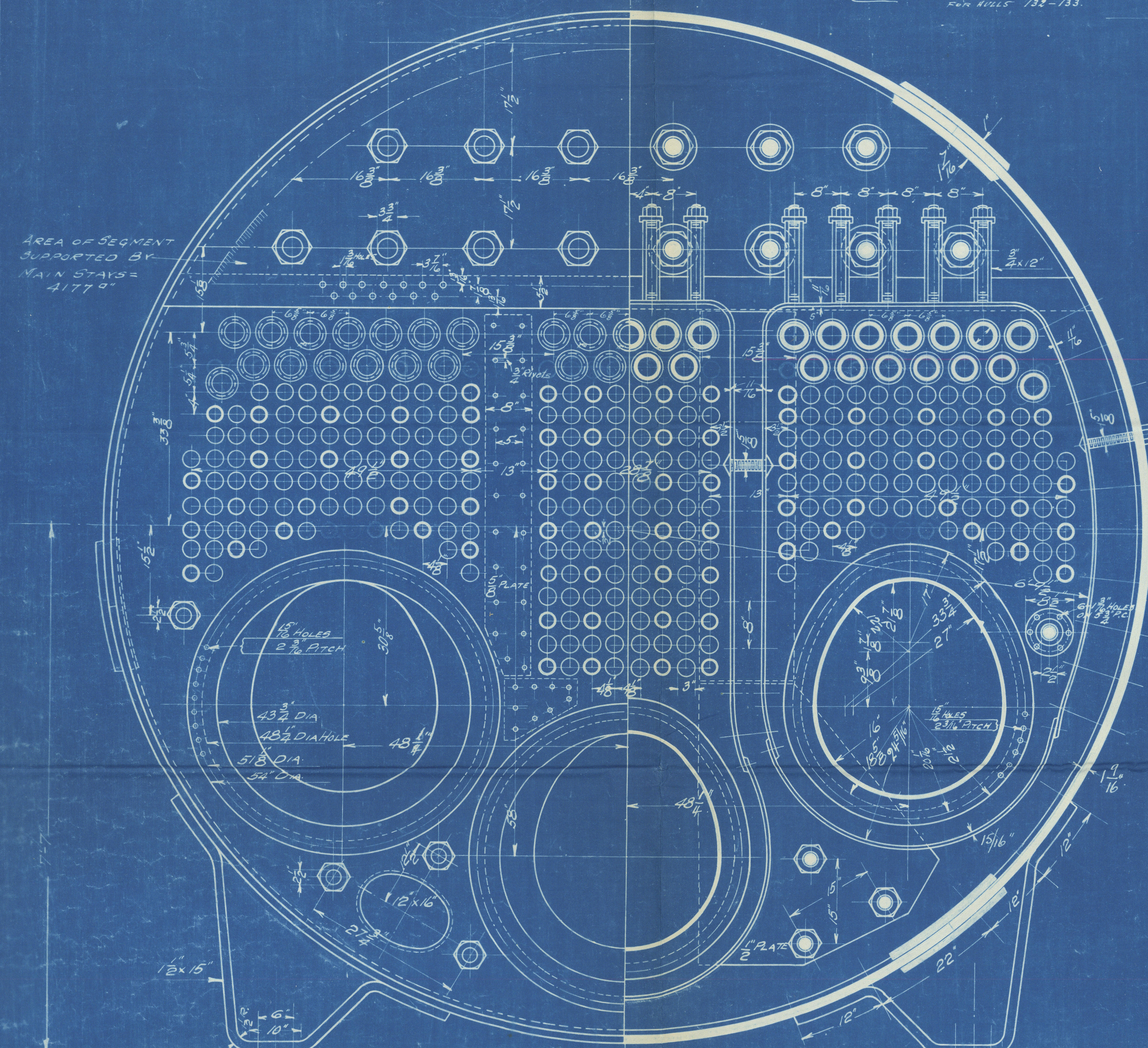


NOTE: MANHOLE IN BACK HEAD AS SHOWN ABOVE.
RULING 132-133.

DATE	ALTERATION	BY	APP'D
12/1/16	CHANGED FROM 17 TO 18 SCREW STAYS	W. J. B.	
12/1/16	CHANGED FROM 17 TO 18 SCREW STAYS	W. J. B.	
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12/1/16	CHANGED FROM 17 TO 18 SCREW STAYS	W. J. B.	

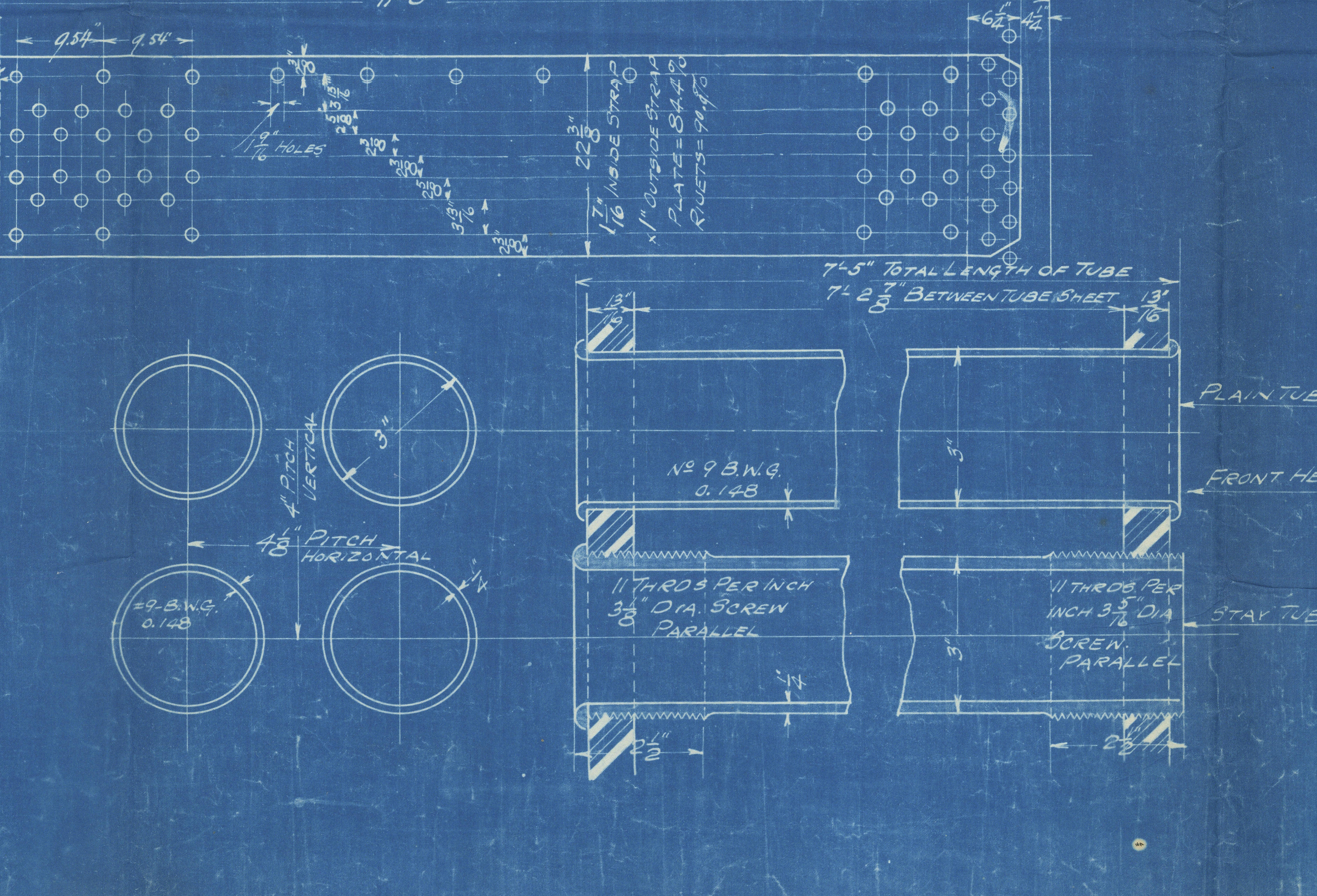


DATA FOR ONE BOILER		
HEATING SURFACE	37-4 1/2" DIA. TUBES 7'-5" LONG	= 2095 sq. ft.
"	3-48" DIA. OUTSIDE FURNACES	235 "
"	3- COMB. CHAMBER	275 "
	TOTAL	2605 "

DATA FOR 3 BOILERS		
HEATING SURFACE	111-13 1/2" DIA. TUBES 22'-15" LONG	= 6285 sq. ft.
"	9-48" DIA. OUTSIDE FURNACES	705 "
"	9- COMB. CHAMBER	825 "
	TOTAL	7815 sq. ft.

COMPRESSION STRESS ON TUBE PLATES U.S.R.		
C = 210 x 4.125 x 35.5	= 3274 LBS FOR REG. 3" TUBES	
C = 210 x 16.5 x 35.5	= 12400 LBS FOR TOP ROW ONLY FOR SUPERHEATERS	
C = 210 x 35.5 x 35.5	= 26000 LBS FOR BOTTOM ROW ONLY FOR SUPERHEATERS	

DATA		
U.S. REGULATIONS		
FURNACE W.P. 15600 x 26562	= 223 LBS	
FRONT HEAD BACK TOP	P = 175 x 20 = 3500 LBS	
MAIN STAY LOAD = 4177 x 210 = 8770 LBS		
STAY PER" 835 x 100	= 83500 LBS	
FRONT HEAD BOT. NEST OF TUBES	P = 140 x 175 x 175 = 42875 LBS	
TUBE PLATE COMB. CHAMBER	P = 108 x 210 x 210 = 47520 LBS	
COMB. CHAMBER CIRCUM.	P = 120 x 121 = 14520 LBS	
COMB. CHAMBER BOTTOM	P = 50 x 300 x 15 = 22500 LBS	
COMB. CHAMBER GIRDERS	P = 917 x 14 x 15 = 19267.5 LBS	



UNION IRON WORKS CO.			
ENGINEERS & SHIPBUILDERS			
SAN FRANCISCO, CALIF.			
SUBJECT: MARINE BOILER			
17'-9" INS. DIA. 17'-0" 210 LBS W.P.			
FITTED FOR OIL & COAL			
SCALE	DATE	DATE	DATE
1/4" = 1'-0"	12-1-16	12-1-16	12-1-16
DRAWN BY	W. J. B.	APPROVED	
CHECKED BY			
CASE NO.	426	SHEET	43416

Copy of approved plan of Main bulks.

Union Iron Works S.S. No. 132

S. F. Rpt. - No. 2525

Sp. "War Knight"



RECEIVED

W721-0130



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