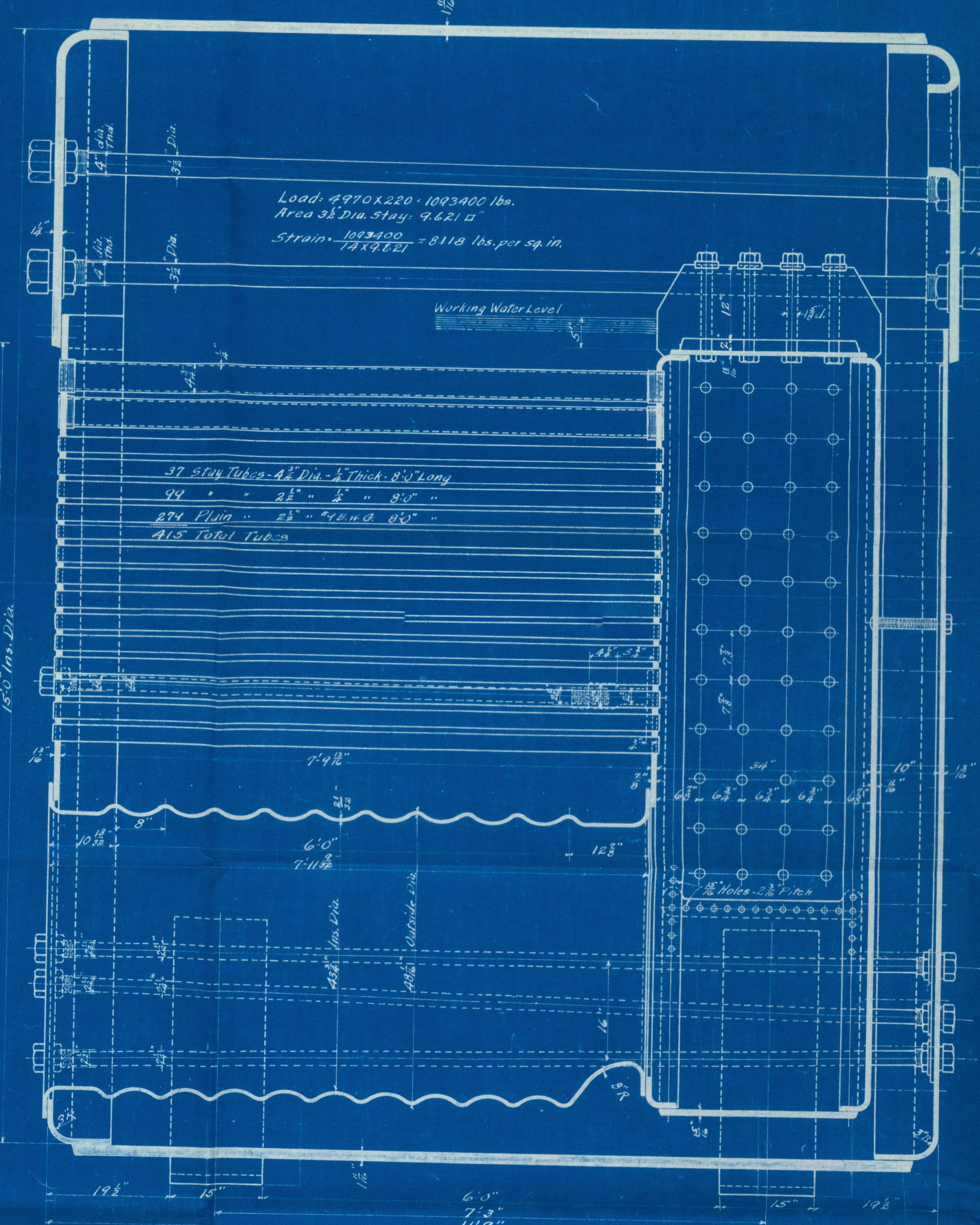
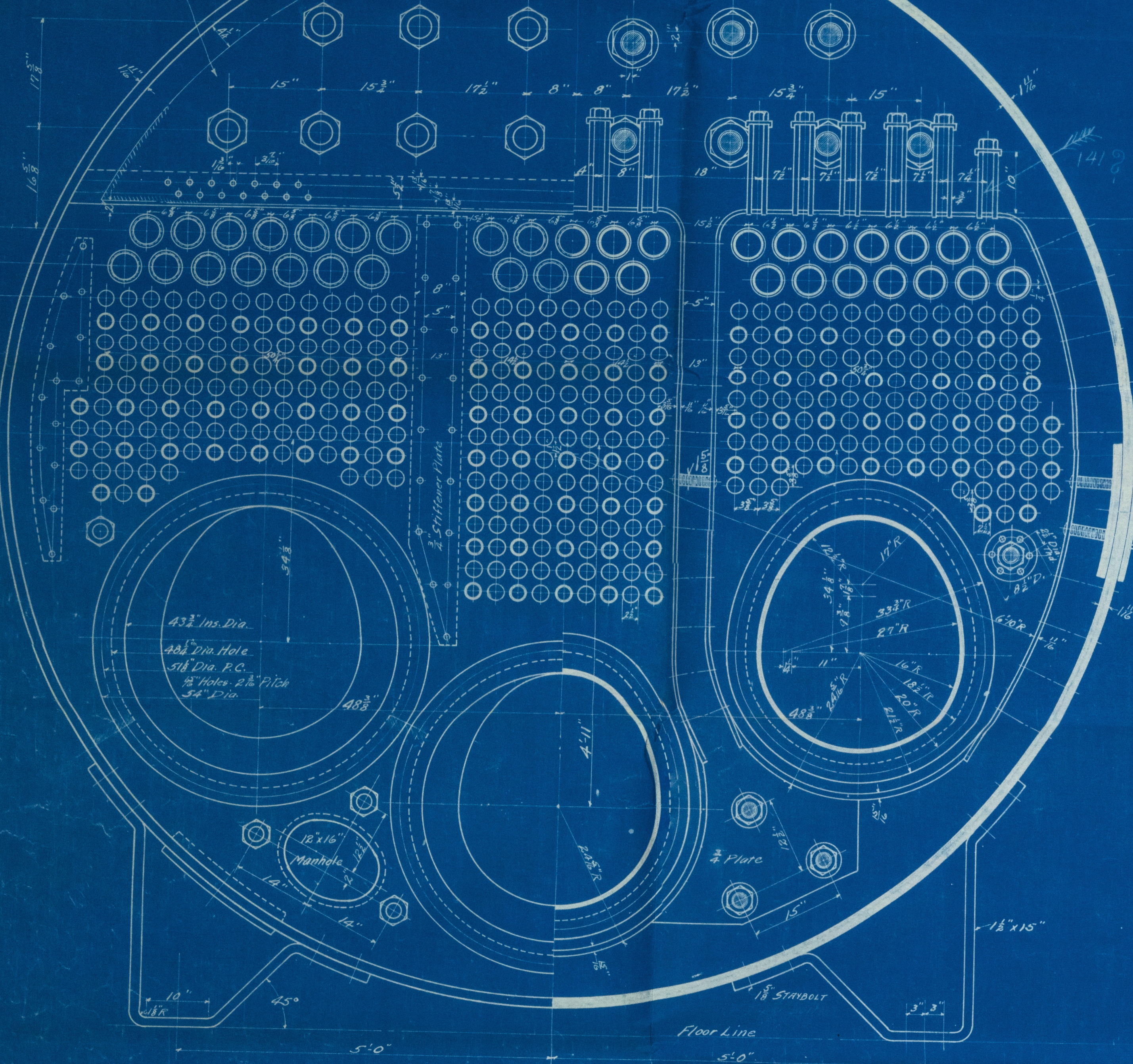


LOCATION OF MANHOLE IN REAR HEAD FOR HULL #142 ONLY

Area of Segment to be supported by 14 Main Stays: 4990 sq. in.



Data	One Boiler	Three Boilers
Heating Surface 37-4 1/2" Dia Tubes 8'-0" Long	360 sq. ft.	
" " 37 1/2" x 2 1/2" " " 8'-0" "	1935 sq. ft.	
" " 3- 48 1/2" O.D. Furnaces	235 sq. ft.	
" " 3- Combustion Chambers	300 sq. ft.	
Total	2830 sq. ft.	8490 sq. ft.

Grate Area with 5'-0" Grates	55 sq. ft.	165 sq. ft.
Tube Area with 2 1/2" Dia Tubes	12 sq. ft.	36 sq. ft.
Steam Space 5" above Combustion Chamber	418 cu. ft.	1254 cu. ft.
Water " upto 5" " "	865 cu. ft.	2595 cu. ft.
Working Pressure 220 lbs. per sq. in.		
Test " 330 " " "		

Boilers built to U.S. Regulations and Lloyd's Rules for 220 lbs.

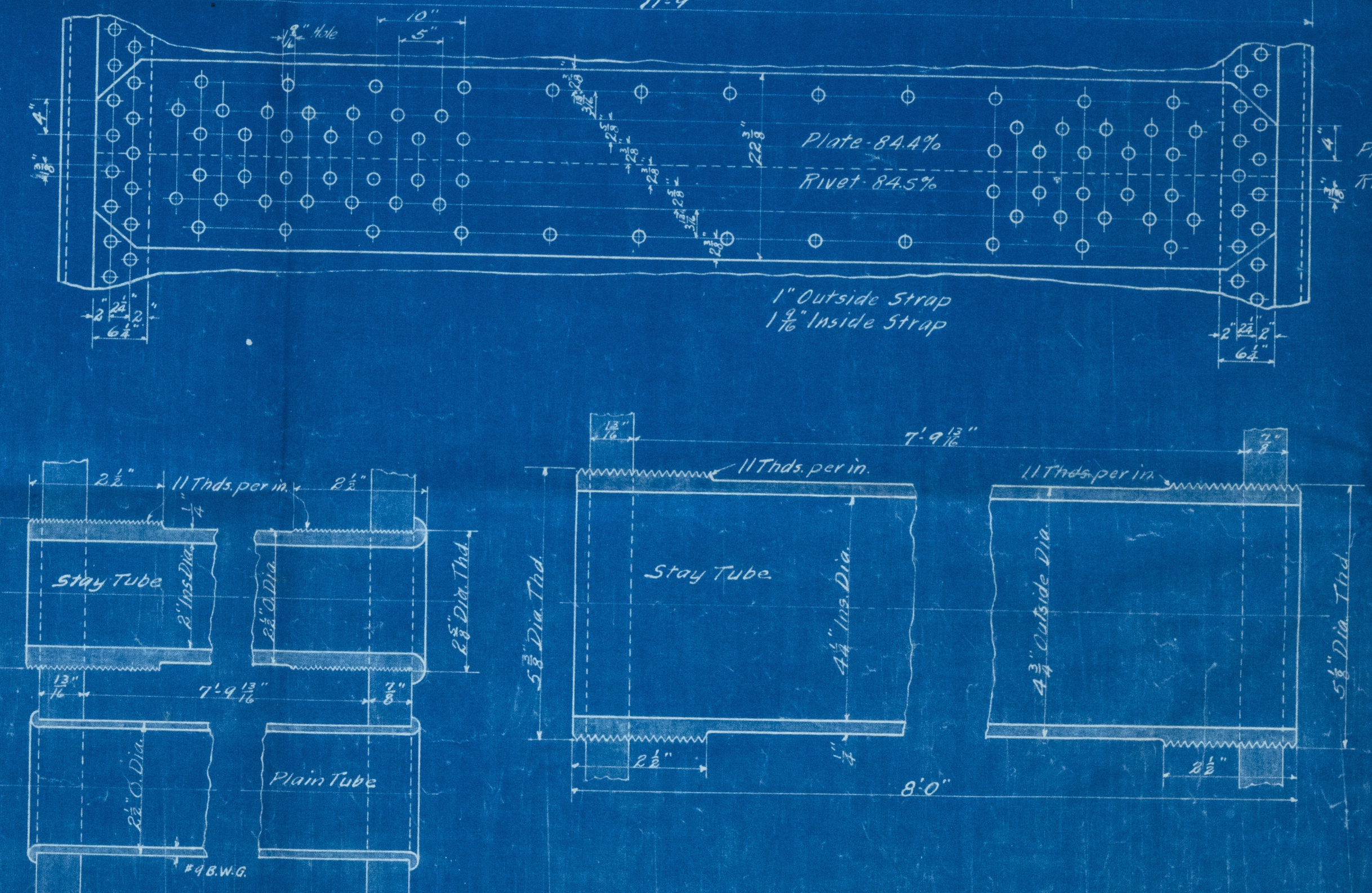
Material
Steel Plates, Steel Rivets, Charcoal Iron Tubes, All Holes Drilled
All Flanged Plates Annealed After Operation is Completed

Tensile Strength Shell - 60,000 lbs. Minimum
Flange 58,240 to 67,800 lbs.

Screw Stays Steel

	Working Pressure
U.S. Regulations 60,000 x 1.6875 = 101.25 6 x 90 100% = 31.5 225 lbs.	Lloyd's Rules 26,045 (27-2) 84.4 = 246.7 lbs. 180

U.S. Regulations	Data	Lloyd's Rules
Furnace 156,000 x 6.562 = 230 lbs. 46.75	1254 (10.5-2) = 222 lbs. 48.06	
Front Head Back 175 x 20 = 225 lbs. 17.655	175 x 20 = 227 lbs. (175 x 10) / 2	
Front Head Back Bottom 120 (13 1/2 x 17 1/2) = 230 lbs. 13 1/2	175 (13 1/2) = 373 lbs. 18 1/2	
Tube Plate 6425 (425) x 27,000 = 240 lbs. 35.56 x 3.625	14 x 1750 (425 x 27) = 264 lbs. 34 x 6.25	
Tube Plate 6425 (425) x 27,000 = 232 lbs. 35.56 x 3.625	14 x 1750 (425 x 27) = 258 lbs. 34 x 6.25	
Combustion Chamber 50 (300 x 9375-27) = 261 lbs. 48.625	50 (300 x 9375-27) = 261 lbs. 48.625	
Combustion Chamber Back 120 x 121 = 263 lbs. 7.4325	100 x 121 = 225 lbs. (121 x 10) / 2	
Combustion Chamber Circumference 120 x 121 = 234 lbs. 7.875	100 x 121 = 225 lbs. (121 x 10) / 2	
Girders 917 x 12 x 11.5 = 246 lbs. 28.15 x 101.5	1180 x 12 x 11.5 = 345 lbs. (1180 x 12) x 3.7	



DATE	ALTERATIONS	APPROVED
3-17-17	CHANGE LOCATION OF SUPERHEATER TUBES IN WING COMP. CHAMBER	W. E. Hodge

NUMBER OF PIECES	MARK	MATERIAL	DESCRIPTION
3	A	Steel	BOILER
UNION IRON WORKS CO. ENGINEERS AND SHIPBUILDERS SAN FRANCISCO, CALIF. SUBJECT: MARINE BOILER 15'-0" INS. DIA. 11'-9" LONG, 220 LBS. W.P. SCALE: 1/4" = 1 FT. DATE: Nov 1st 1916 DRAWN BY: W. E. Hodge APPROVED: W. E. Hodge TRACED BY: W. E. Hodge CHECKED BY: W. E. Hodge CASE No. 1696 SHEET No. 44466			

Copy of approved plan of Main Books
Union Iron Works N^o 142

S. & P. N^o 2571

"Arabutan"

ex S/S "War Sword"



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