

16-11-05

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# S.S.Nº 97. STEEL BOILERS

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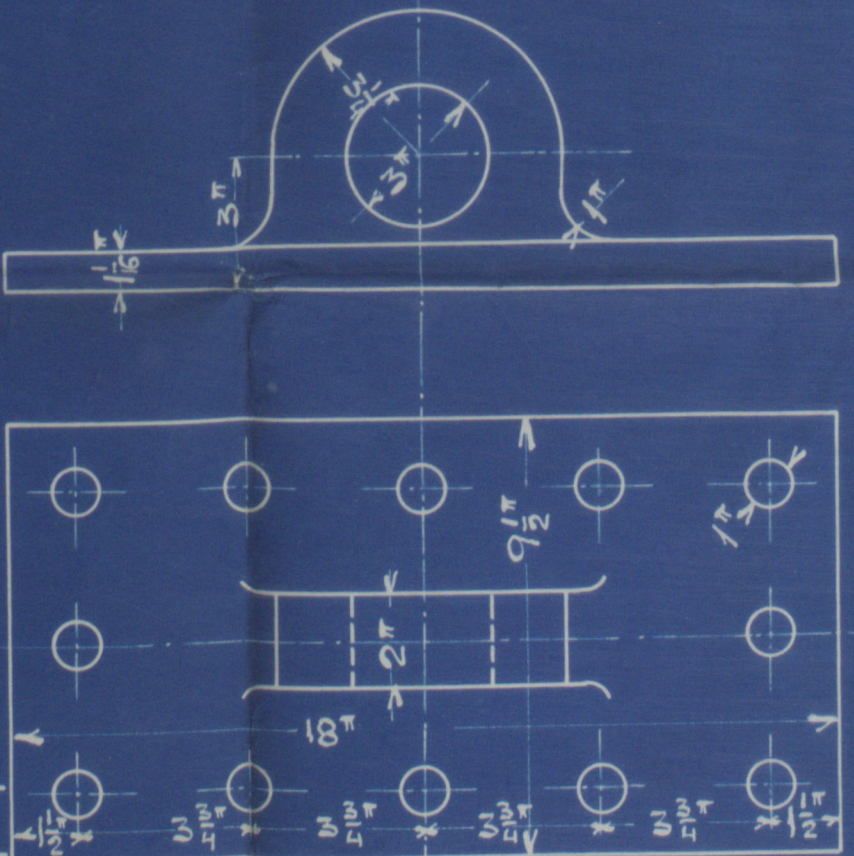
HEATING SURFACE:

301 TUBES = 1980<sup>sq</sup> ft  
3/2 FURNACES = 165<sup>sq</sup> ft  
3 FIREBOXES INCL. S.T.P. = 265<sup>sq</sup> ft  
TOTAL = 2406<sup>sq</sup> ft

TOTAL HEATING SURF. IN FOUR BOILERS = 9624<sup>sq</sup> ft

TOTAL GRATE AREA IN FOUR BOILERS = 242<sup>sq</sup> ft

LENGTH OF FIREBARS = 5<sup>ft</sup> 6<sup>in</sup>

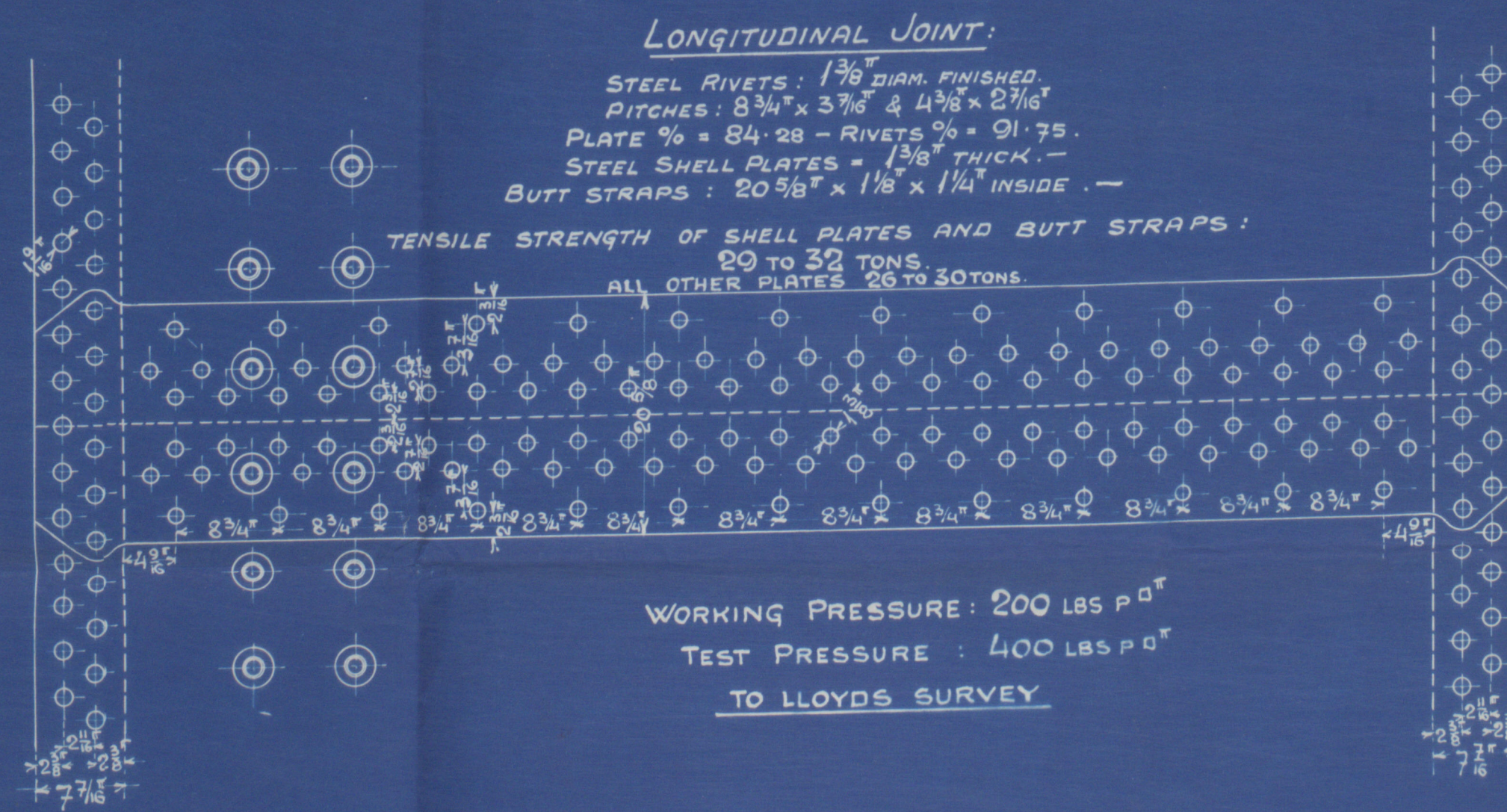


NOTE: ALL HOLES DRILLED IN PLACE



SCALE: 1" = 1'

ALL PITCHES OF 1/16" STEEL RIVETS 1/16" DIAM.

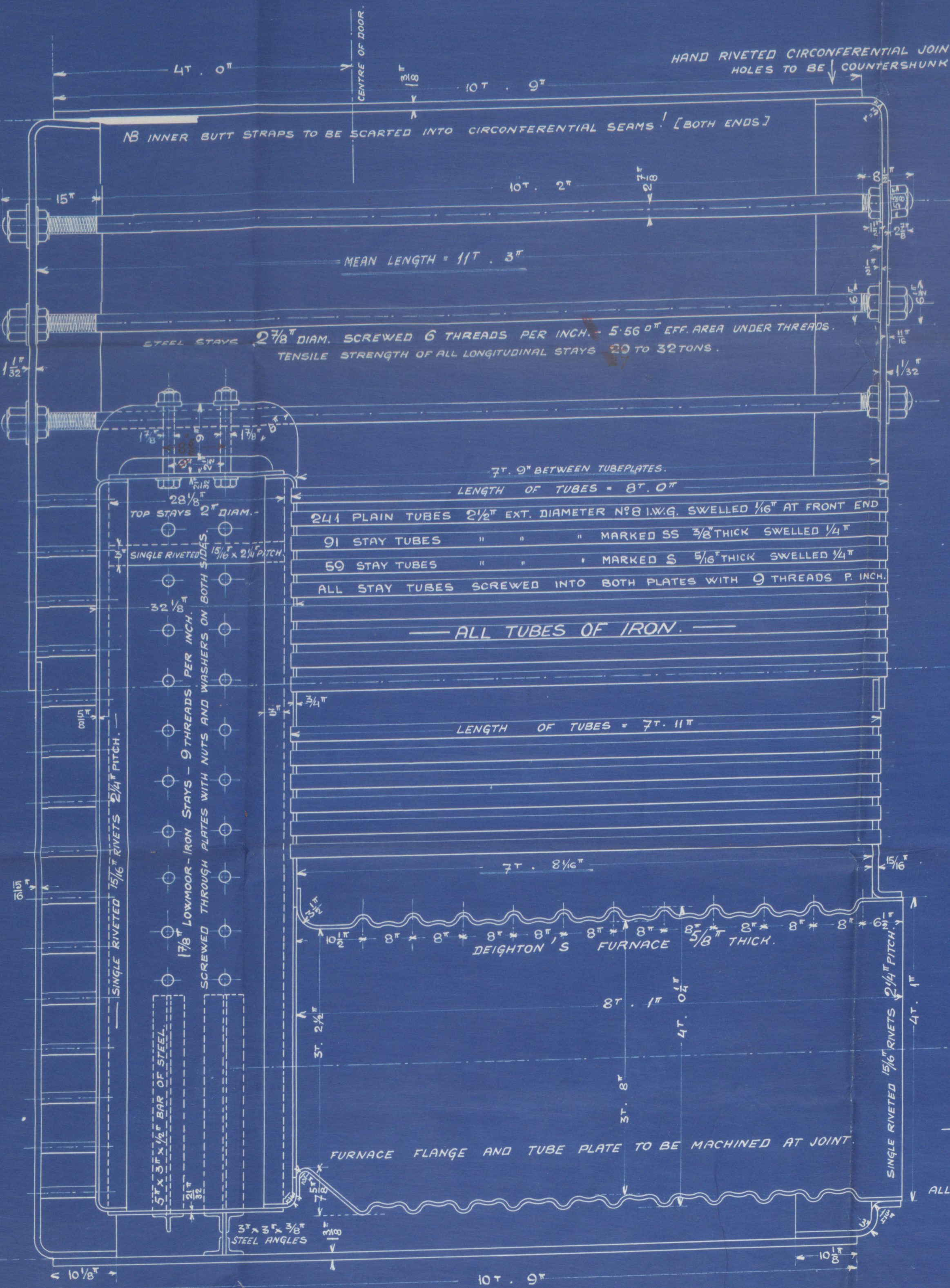


LONGITUDINAL JOINT:

STEEL RIVETS: 1/16" DIAM. FINISHED  
PITCHES: 8 3/4" x 3 3/8" & 4 3/8" x 2 7/16"  
PLATE 1/16" - RIVETS 1/16" - 91.75  
STEEL SHELL PLATES = 1/16" THICK  
BUTT STRAPS: 20 5/8" x 1 1/8" x 1 1/4" INSIDE

TENSILE STRENGTH OF SHELL PLATES AND BUTT STRAPS:  
29 TO 32 TONS  
ALL OTHER PLATES 26 TO 30 TONS

WORKING PRESSURE: 200 LBS P<sup>sq</sup> IN.  
TEST PRESSURE: 400 LBS P<sup>sq</sup> IN.  
TO LLOYD'S SURVEY



HAND RIVETED CIRCUMFERENTIAL JOINT.  
HOLES TO BE COUNTERSUNK.

18 INNER BUTT STRAPS TO BE SCARTED INTO CIRCUMFERENTIAL SEAMS [BOTH ENDS]

MEAN LENGTH = 11<sup>ft</sup> 3<sup>in</sup>

STEEL STAYS 2 7/8" DIAM. SCREWED 6 THREADS PER INCH - 5.66<sup>sq</sup> IN. EFF. AREA UNDER THREADS.  
TENSILE STRENGTH OF ALL LONGITUDINAL STAYS 29 TO 32 TONS.

7<sup>ft</sup> 9<sup>in</sup> BETWEEN TUBE PLATES.  
LENGTH OF TUBES = 8<sup>ft</sup> 0<sup>in</sup>

241 PLAIN TUBES 2 1/2" EXT. DIAMETER N<sup>o</sup> 11 W.G. SWELLED 1/16" AT FRONT END  
91 STAY TUBES " " MARKED SS 3/8" THICK SWELLED 1/16"  
50 STAY TUBES " " MARKED S 5/8" THICK SWELLED 1/16"  
ALL STAY TUBES SCREWED INTO BOTH PLATES WITH 9 THREADS P. INCH.

ALL TUBES OF IRON.

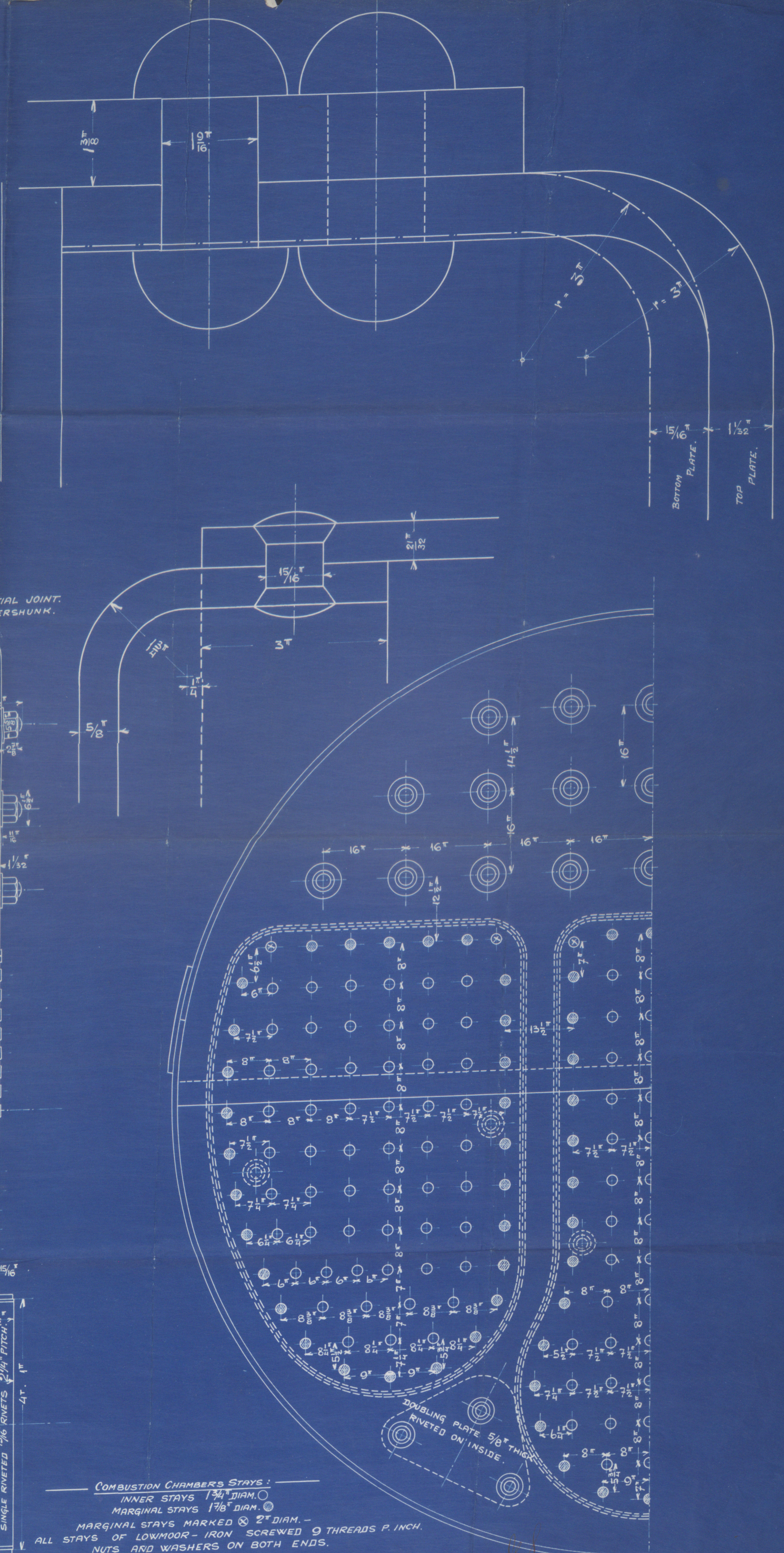
LENGTH OF TUBES = 7<sup>ft</sup> 11<sup>in</sup>

7<sup>ft</sup> 8 1/2<sup>in</sup>

DEIGHTON'S FURNACE 7/8" THICK.

FURNACE FLANGE AND TUBE PLATE TO BE MACHINED AT JOINT.

COMBUSTION CHAMBERS STAYS:  
INNER STAYS 1 3/8" DIAM. O  
MARGINAL STAYS 1 3/8" DIAM. O  
MARGINAL STAYS MARKED S 2" DIAM. -  
ALL STAYS OF LOWMOOR - IRON SCREWED 9 THREADS P. INCH.  
NUTS AND WASHERS ON BOTH ENDS.





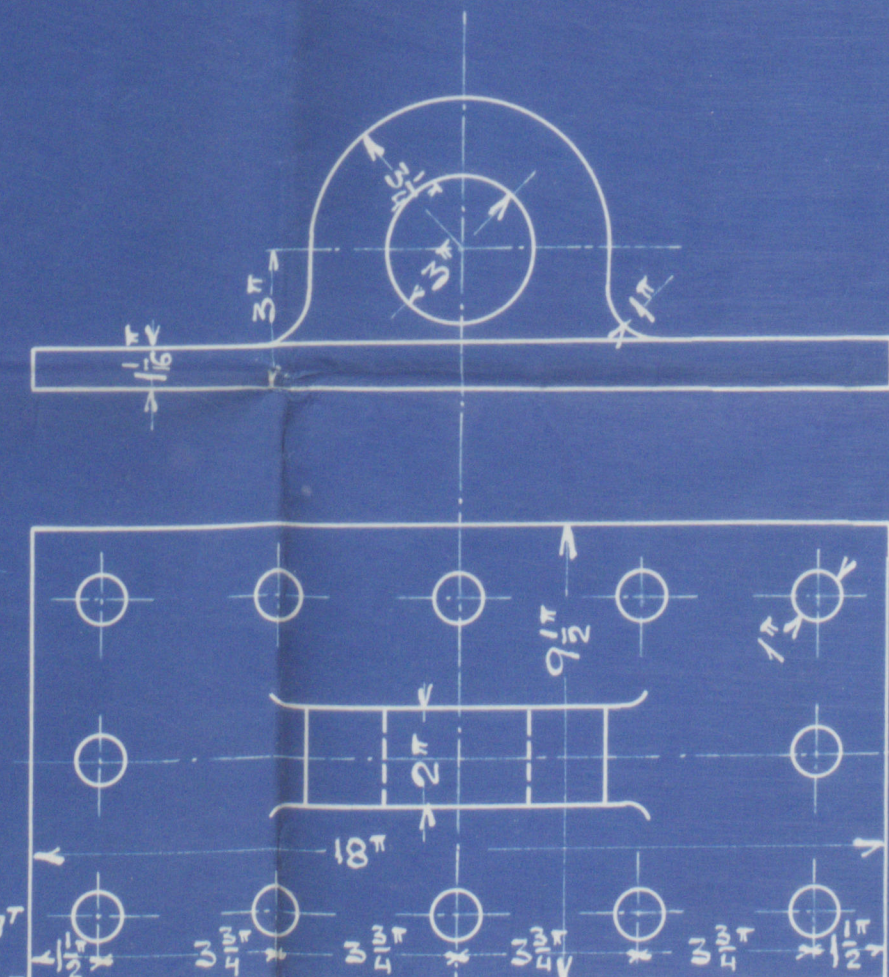


# S.S.N° 97. STEEL BOILERS

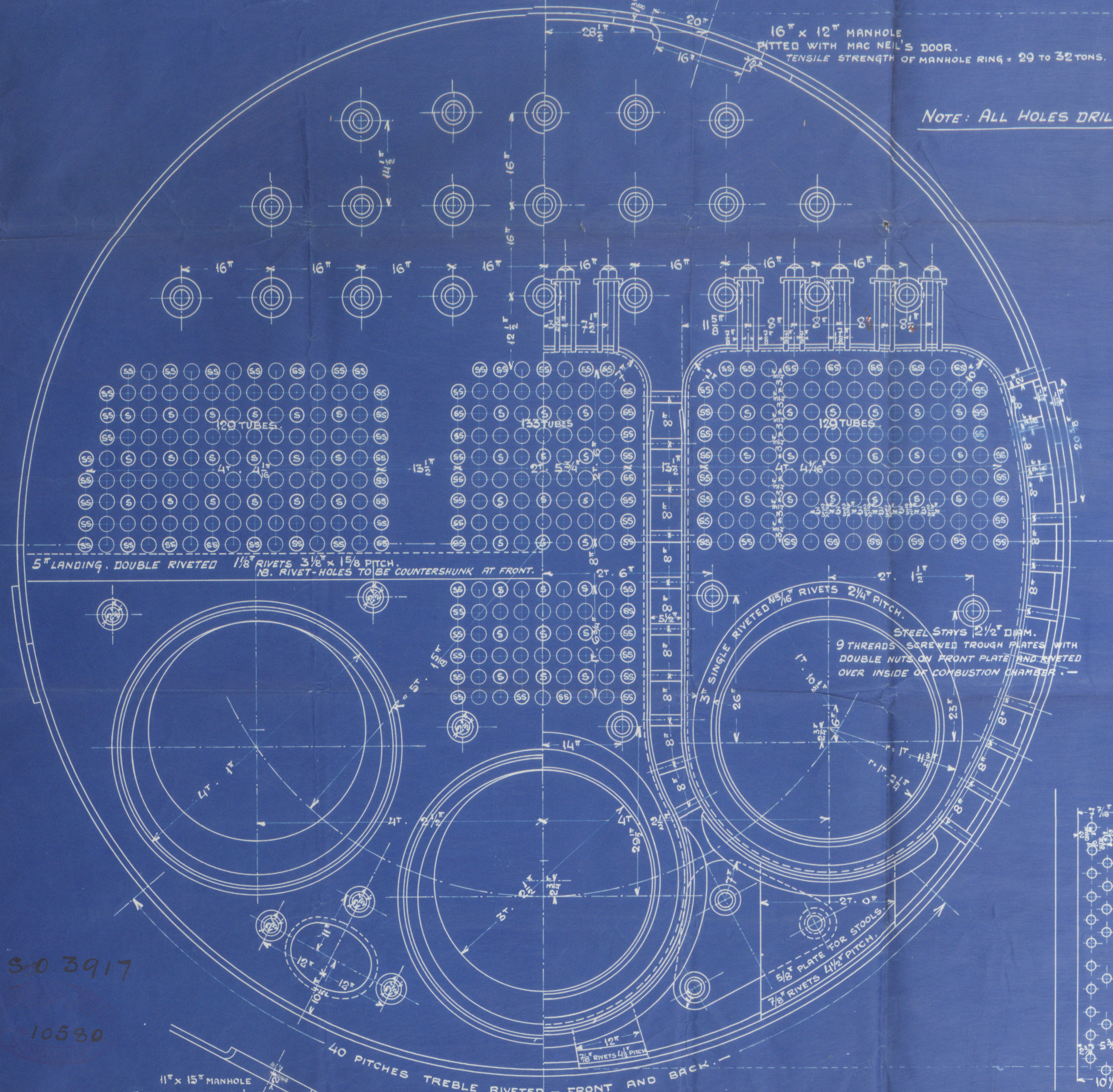
— 4 OFF THIS. —  
HEATING SURFACE:

391 TUBES = 1980"  
5/8 FURNACES = 163"  
3 FIREBOXES INCL. S.T.P. = 263"  
TOTAL = 2406"

TOTAL HEATING SURF. IN FOUR BOILERS = 9624"  
TOTAL GRATE AREA IN FOUR BOILERS = 242"  
LENGTH OF FIREBARS = 51.6"

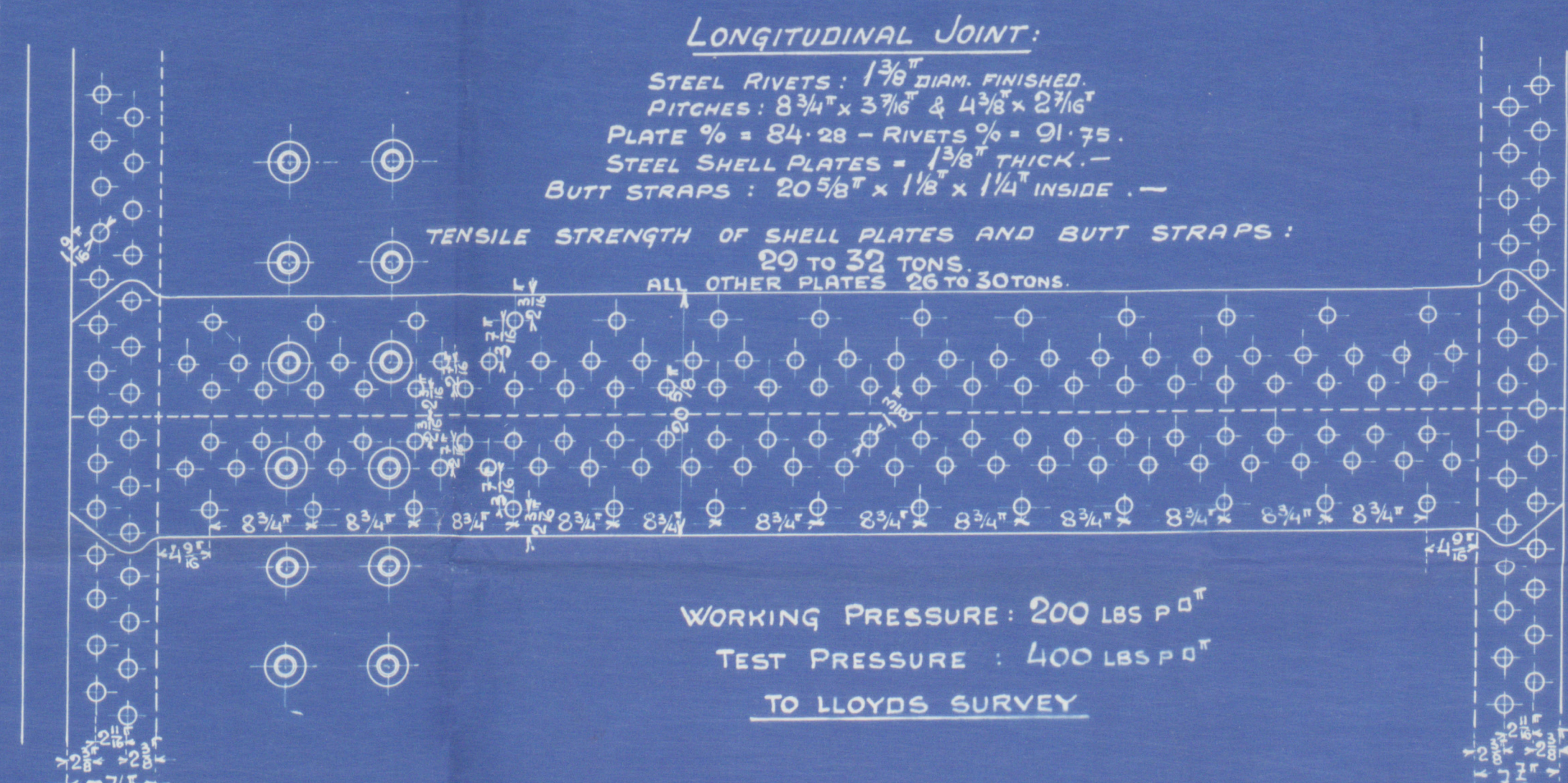


NOTE: ALL HOLES DRILLED IN PLACE.



SCALE: 1" = 17."

1/2 PITCHES OF 1/4" STEEL RIVETS 19" RADIAN.

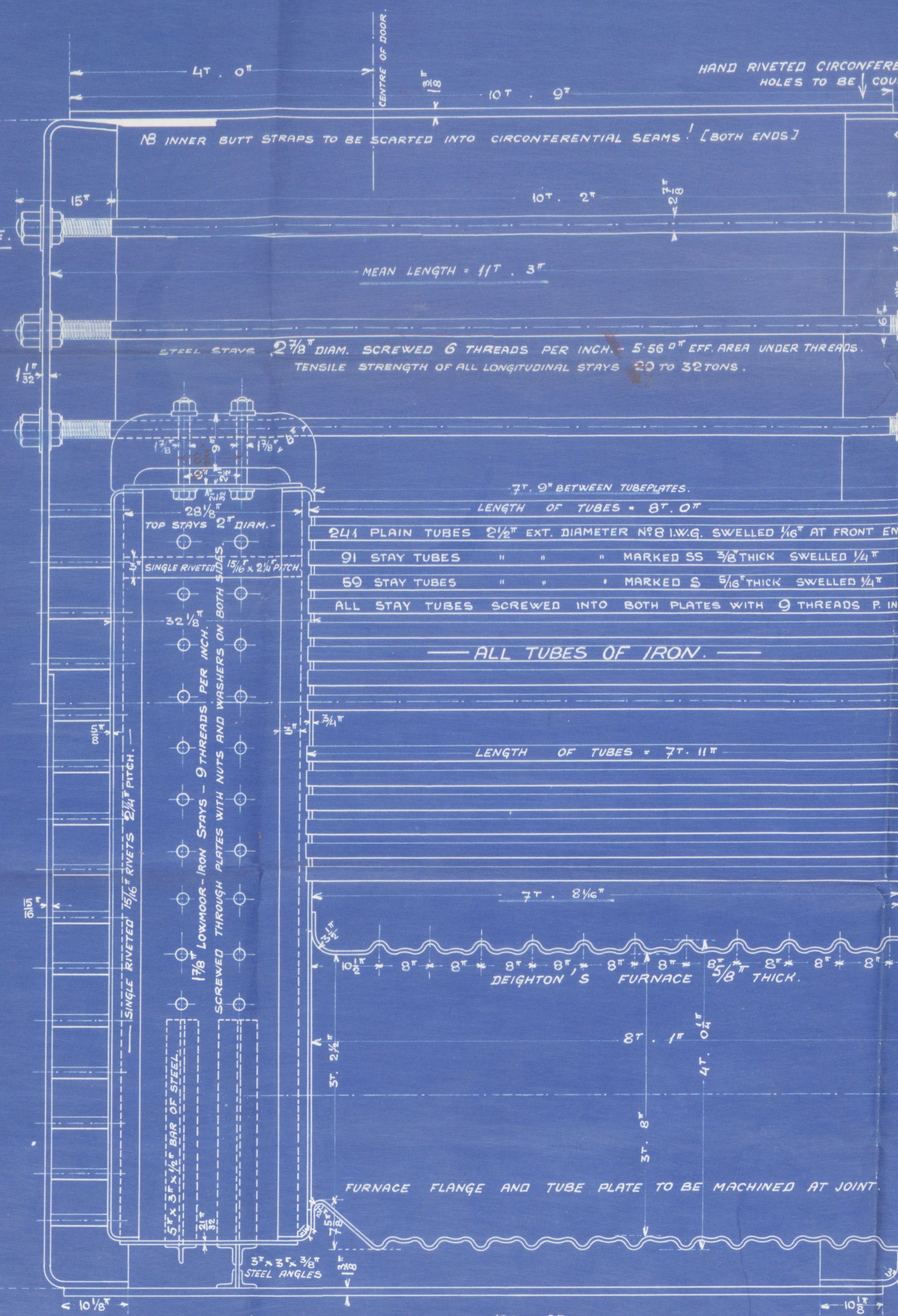


LONGITUDINAL JOINT:

STEEL RIVETS: 1 3/8" DIAM. FINISHED  
PITCHES: 8 3/4" x 3 3/8" & 4 3/8" x 2 7/16"  
PLATE 1/2" = 84.28 - RIVETS 1/2" = 91.75  
STEEL SHELL PLATES = 1 3/8" THICK.  
BUTT STRAPS: 20 3/8" x 1 1/8" x 1/4" INSIDE.

TENSILE STRENGTH OF SHELL PLATES AND BUTT STRAPS:  
20 TO 32 TONS.  
ALL OTHER PLATES 20 TO 30 TONS.

WORKING PRESSURE: 200 LBS. P. S.  
TEST PRESSURE: 400 LBS. P. S.  
TO LLOYD'S SURVEY



MEAN LENGTH = 117.3"

LENGTH OF TUBES = 87.0"

241 PLAIN TUBES 2 1/2" EXT. DIAMETER N.B. I.W.G. SWELLED 1/16" AT FRONT END  
91 STAY TUBES " " MARKED SS 3/8" THICK SWELLED 1/4"  
59 STAY TUBES " " MARKED S 5/8" THICK SWELLED 1/4"  
ALL STAY TUBES SCREWED INTO BOTH PLATES WITH 9 THREADS P. INCH.

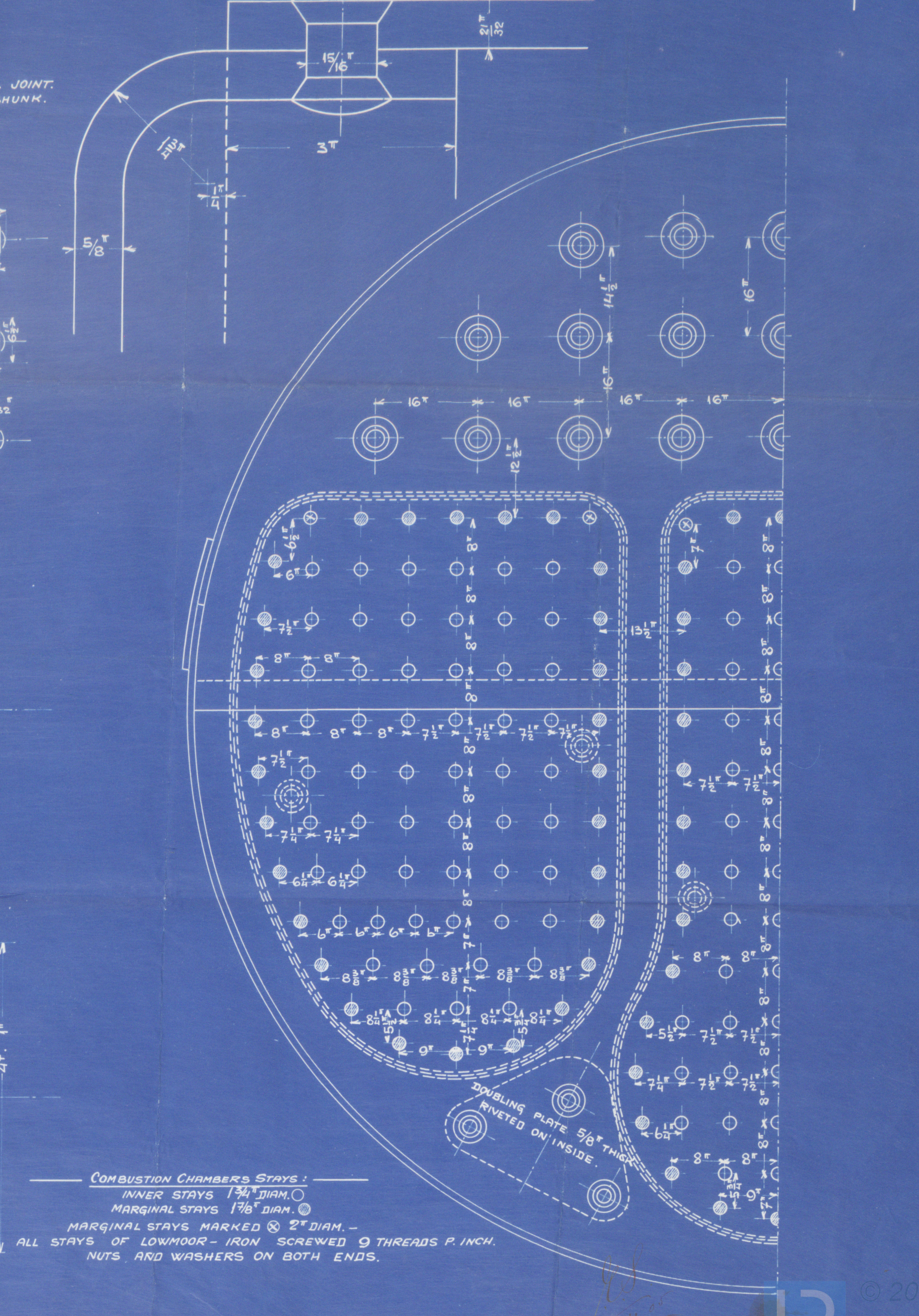
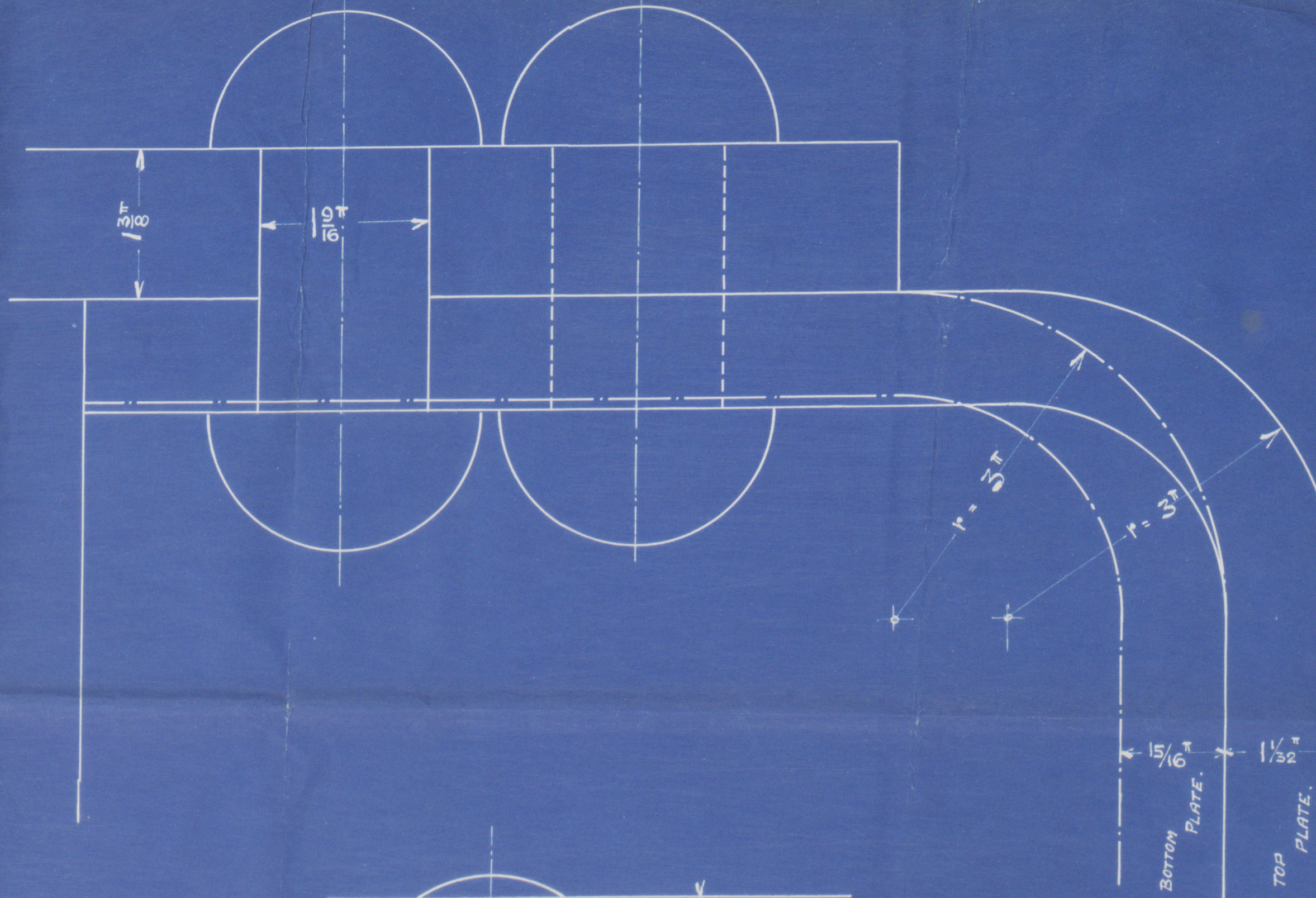
ALL TUBES OF IRON.

LENGTH OF TUBES = 77.11"

77.8 1/2"

DEIGHTON'S FURNACE 1/8" THICK.

FURNACE FLANGE AND TUBE PLATE TO BE MACHINED AT JOINT.



COMBUSTION CHAMBERS STAYS:  
INNER STAYS 1 3/4" DIAM.  
MARGINAL STAYS MARKED S 2" DIAM.  
ALL STAYS OF LOWMOOR-IRON SCREWED 9 THREADS P. INCH.  
NUTS AND WASHERS ON BOTH ENDS.



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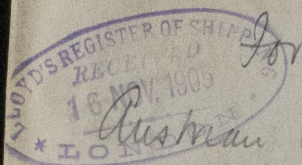


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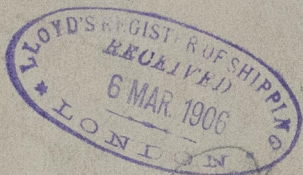


*Rushman Lloyd S. N. Coys*

*S.O. 97*

*Denny & Co.*

*Shipped in parcels  
to Inst. July 1906  
Gls. nkt. no. 23562*



*Denny*



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