

| SURFACES | ONE BOILER | 3 BOILERS |
|-----------------------------|-------------|-------------|
| TUBES | 2100 # | 6300 # |
| FIREBOX TOP & SIDES | 158 " | 474 " |
| BACK | 82 " | 246 " |
| TUBEPLATE | 55 " | 165 " |
| FURNACES | 161 " | 483 " |
| TOTAL HEATING SURFACE | 2556 # | 7668 # |
| GRATE AREA (5-6 BARS) | 63.3 # | 190 # |
| TUBE AREA | 11.65 " | 34.95 # |
| WATER | 160 " | 480 " |
| STEAM SPACE | 514 # | 1542 # |
| GRATE AREA: HEATING SURFACE | 1:40.4 | |
| " : TUBE | 1:33.2 | |
| " : AREA | 5:43.1 | |
| " : WATER | 1:2.52 | |
| " : STEAM SPACE | 1:8.1 | |
| % BOILER ABOVE FIREBOX | 32.2 | |
| HEIGHT OF WATER | 26 1/2 TONS | 79 1/2 TONS |

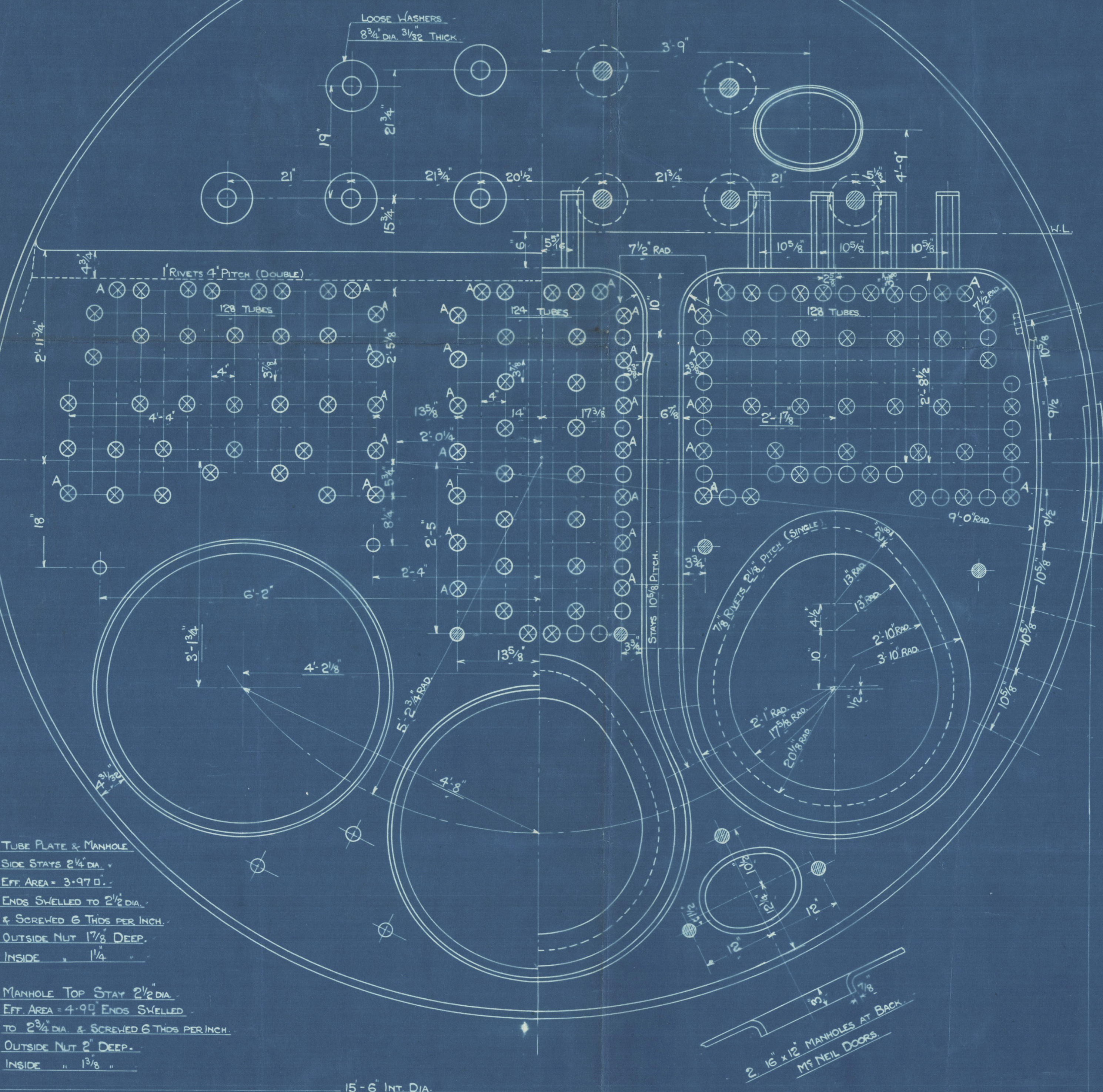
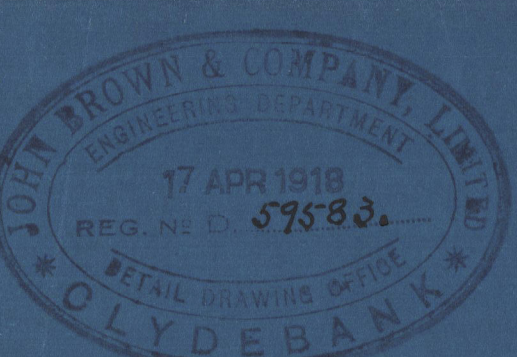
| RIVETING | LONG | BACK END | FRONT END |
|-----------------|--------|----------|-----------|
| RIVET HOLE DIA. | 1 1/16 | 1 1/16 | 1 3/16 |
| PITCH | 9.125 | 3.54 | 3.19 |
| % PLATE | 95.6 | 63 | 63 |
| % RIVET | 98.3 | 51.9 | 46.5 |

| LIMITS OF TENSILE STRENGTH & MATERIAL | |
|---------------------------------------|---------------|
| SHELL BUTTSTRAPS & GIRDERS | 28 TO 32 TONS |
| OTHER PLATES | 26 - 30 |
| FURNACES | 26 - 30 |
| MAIN STAYS | 28 - 32 |
| SCREWED STAYS | 26 - 30 |
| RIVET BARS | 26 - 30 |

SIEMENS MARTIN STEEL

ALL RIVET HOLES DRILLED IN PLACE.
MAIN STAYS SWELLED AT ENDS BY
HYDRAULIC PRESSURE AND ANNEALED.

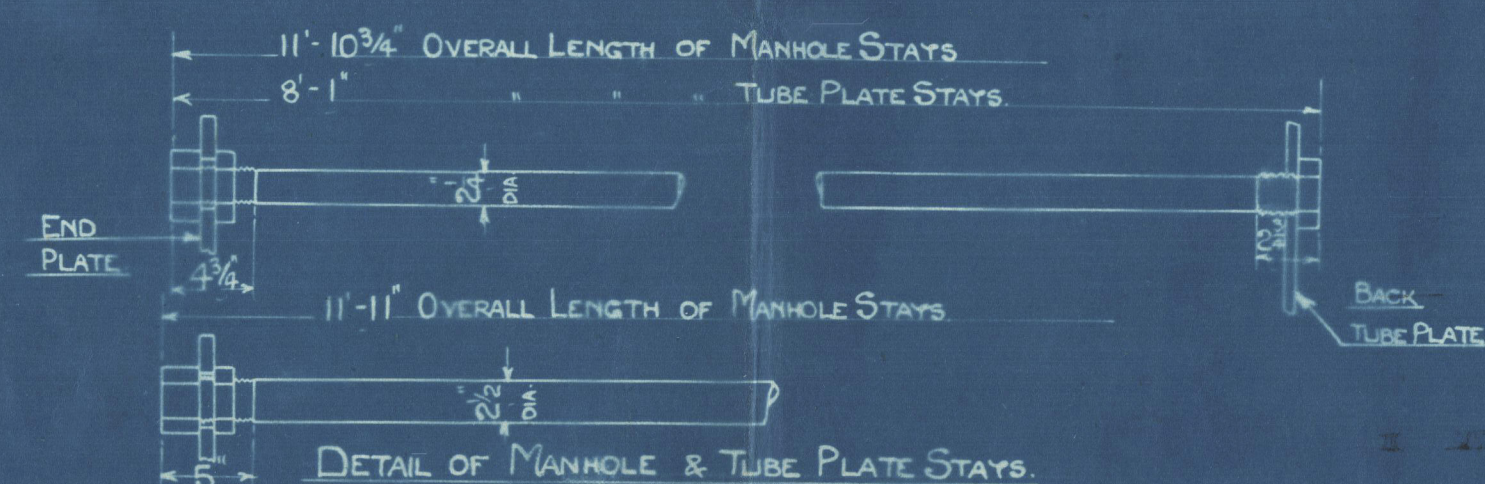
ONE 16 x 12 MANHOLE AT BACK.
MC NEIL DOOR.



TUBE PLATE & MANHOLE
SIDE STAYS 2 1/4 IN.
EFF. AREA = 3.97 D.
ENDS SWELLED TO 2 1/2 DIA.
& SCREWED 6 THDS PER INCH.
OUTSIDE NUT 1 7/8 DEEP.
INSIDE 1 1/4

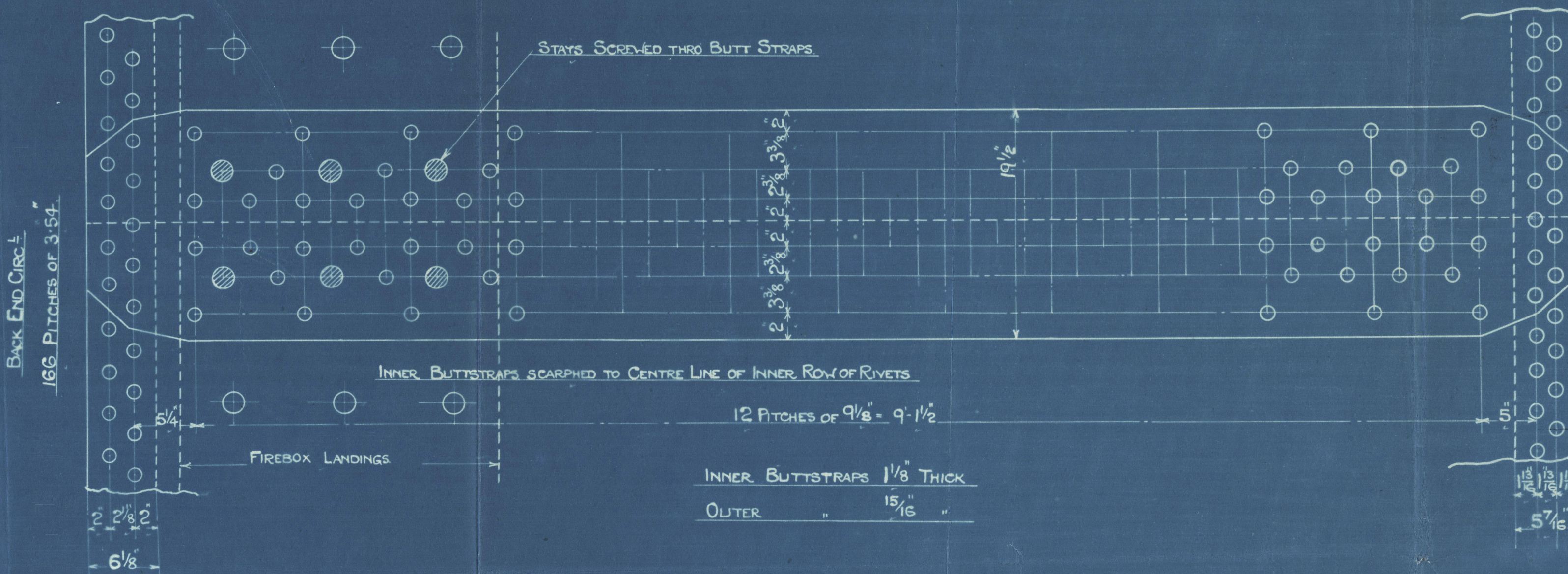
MANHOLE TOP STAY 2 1/2 DIA.
EFF. AREA = 4.95 ENDS SWELLED
TO 2 3/4 DIA. & SCREWED 6 THDS PER INCH.
OUTSIDE NUT 2 DEEP.
INSIDE 1 3/8

15'-6" INT. DIA.



END PLATE

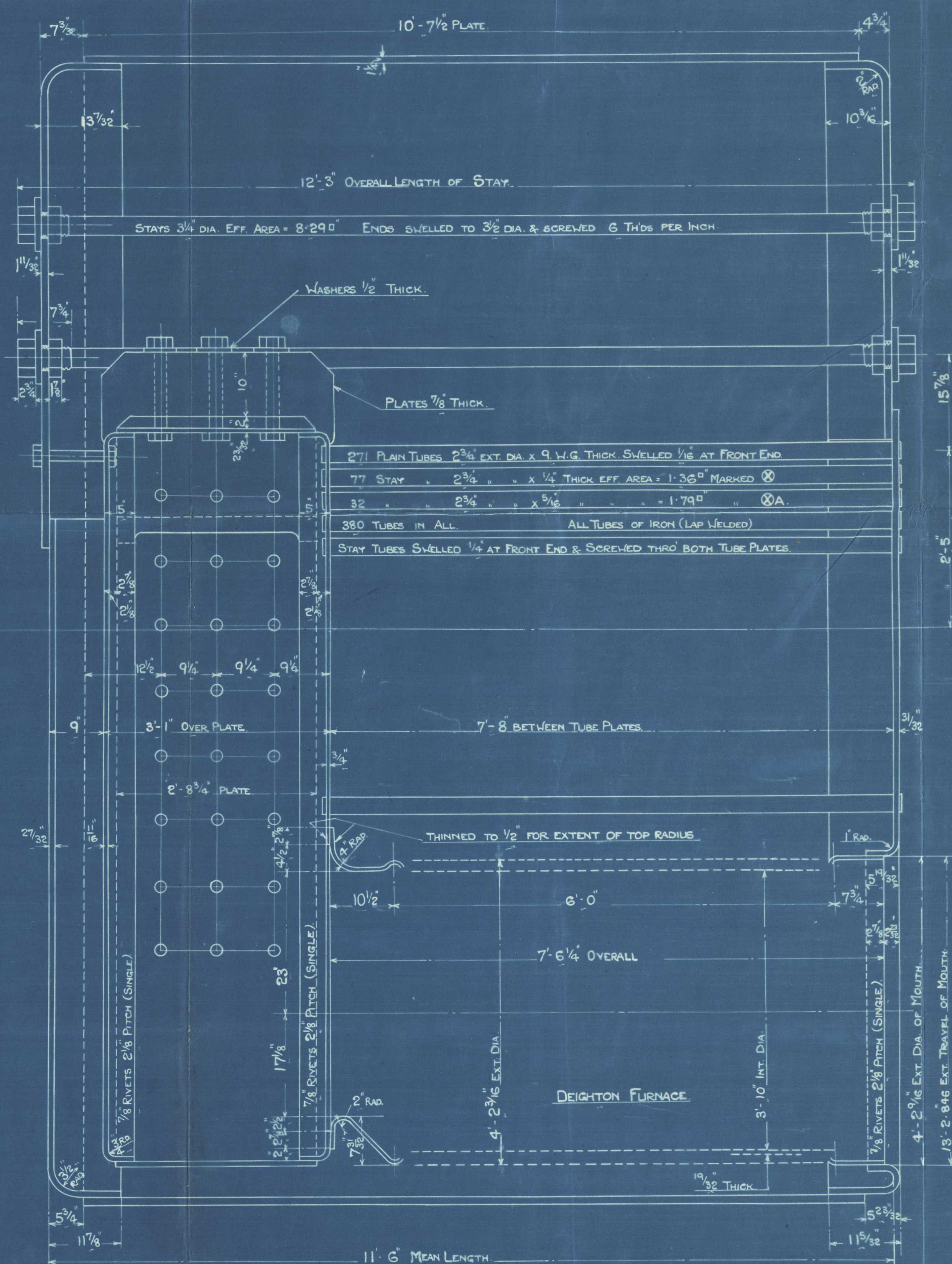
DETAIL OF MANHOLE & TUBE PLATE STAYS



BACK END CIRC.
182 PITCHES OF 3.19

FRONT END CIRC.
182 PITCHES OF 3.19

| BOILER N° | MADE BY |
|-----------|---------------|
| 544 | J. BROWN & CO |



11'-6" MEAN LENGTH

MAIN BOILER

3-0FF-

"N" CLASS STANDARD SHIPS

N° 544

WORKING PRESSURE = 180 LBS. PER SQ. INCH
TO PASS LLOYD'S SURVEY.
SCALES: 1" = 1 1/2' 1 FOOT.

ALL FIREBOX STAYS SCREWED THRO' BOTH PLATES & NUT FITTED AT EACH END EXCEPT STAYS FROM WING FIREBOX TO SHELL WHICH PROJECT 3/8" & ARE CAULKED.
ALL 1 1/8" NUTS 1 1/4" DEEP EXCEPT ON GIRDER TOPS WHERE THE OUTSIDE NUTS ARE 1 1/8" DEEP.

ALL 2" & 2 1/4" NUTS 1 1/2" DEEP

| FIREBOX STAYS - STEEL | | | |
|-----------------------|------|-------|-----------|
| POSITION | MARK | DIA. | EFF. AREA |
| BACK, TOP & SIDES | ○ | 1 1/8 | 2.395 D. |
| WIDE SPACE | ⊗ | 2 | 2.75 D. |
| TOP ROW | ⊙ | 2 1/4 | 3.49 D. |



Standard (Barling) (N. 1880)

Copy of plan (for N. 1880) appended

12. 3. 17. ^{OT} _{234496A}

J. Brown of G. d. d. S. O. 19/18.

Handwritten copy of self-portrait 5144

S. S. "S. S.":

Handwritten & 120 ft. 181, no: 541.

End. Rpt. no: 17541.

W1119-0222



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