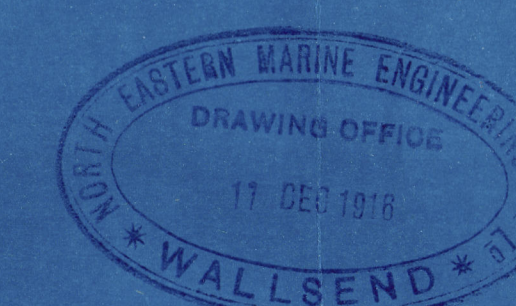


NORTHUMBERLAND ENGINE WORKS

TRACING N° 603A

STEAM BOILERS

SCALE INCH = 1 FOOT



15/12/16

SURVEY TO LLOYDS & OWNERS APPROVAL

HEATING SURFACE ON TUBES BETWEEN T. PLATES = 2207 SQ. FT.

ELSEWHERE = 440

TOTAL = 2647 SQ. FT. PER BOILER

STEAM SPACE = 387 CUB. FT.

WORKING PRESSURE = 220 LBS.

TEST PRESSURE = 440 LBS.

NOTE: ALL PLATES STAYS TO BE OF STEEL SMOKE TUBES OF IRON

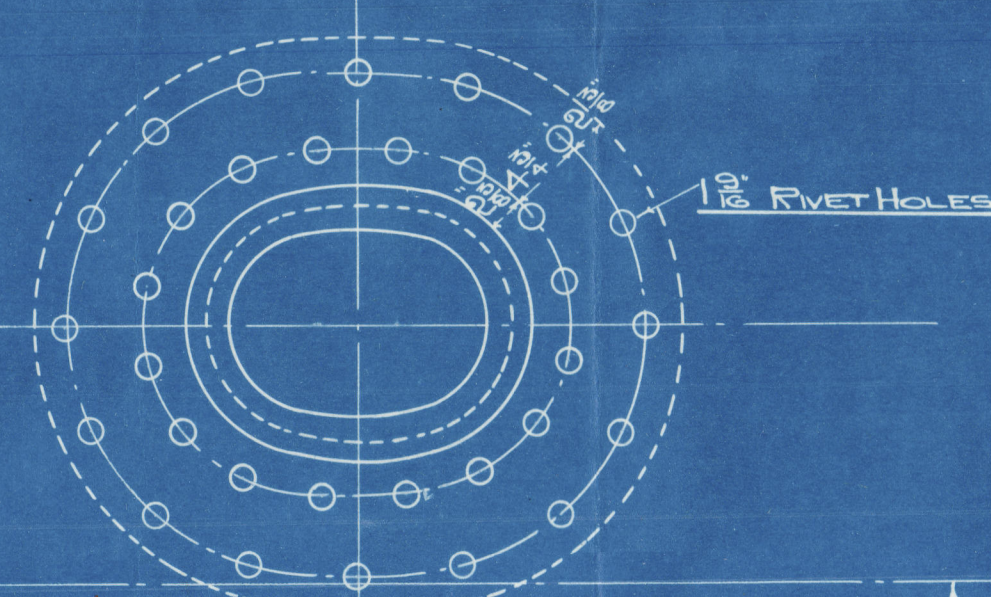
TENSILE STRENGTH OF SHELL PLATING TO BE NOT LESS THAN 29 TONS

ALL HOLES DRILLED IN PLATE AFTER PLATES ARE BENT

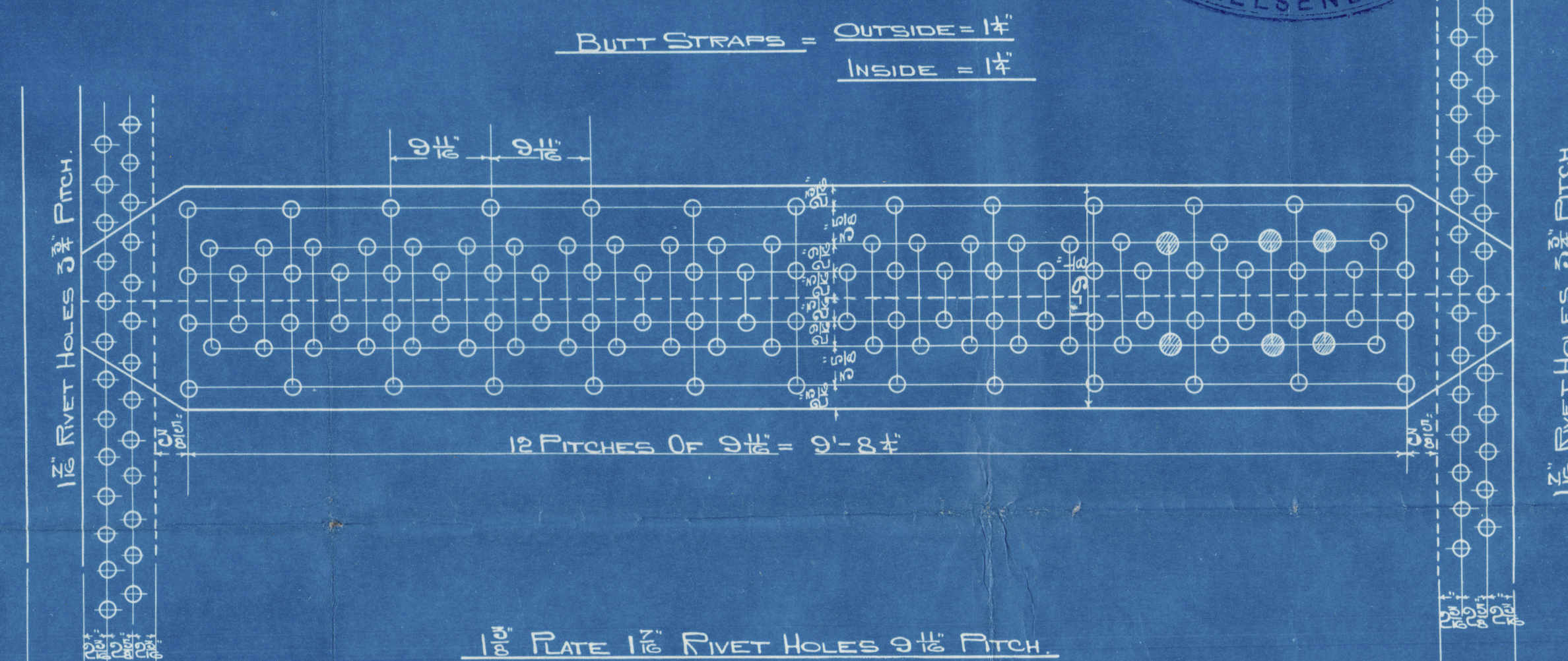
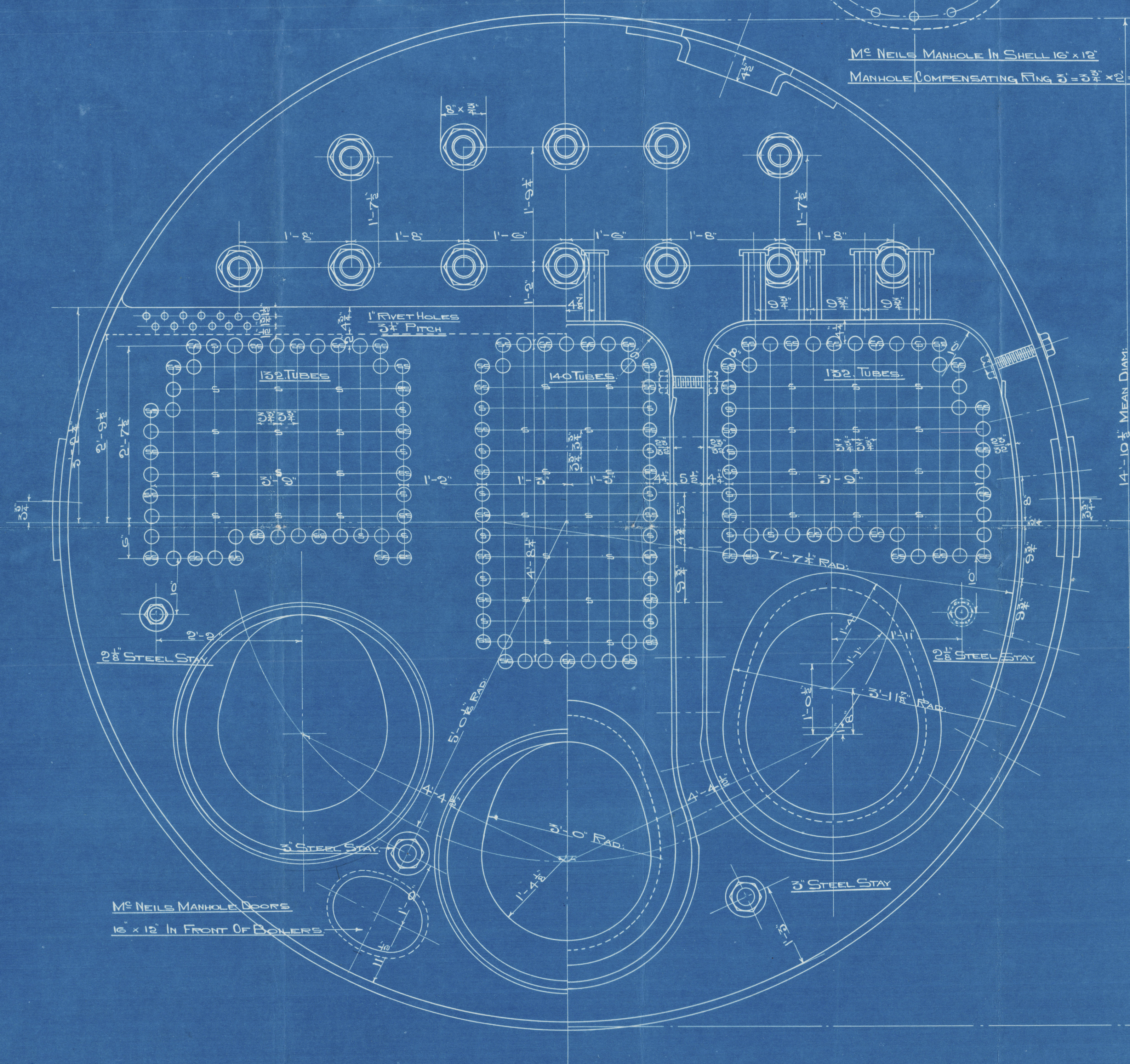
PERCENTAGE STRENGTH OF PLATE = 85.16 %

RIVETS = 90.62 %

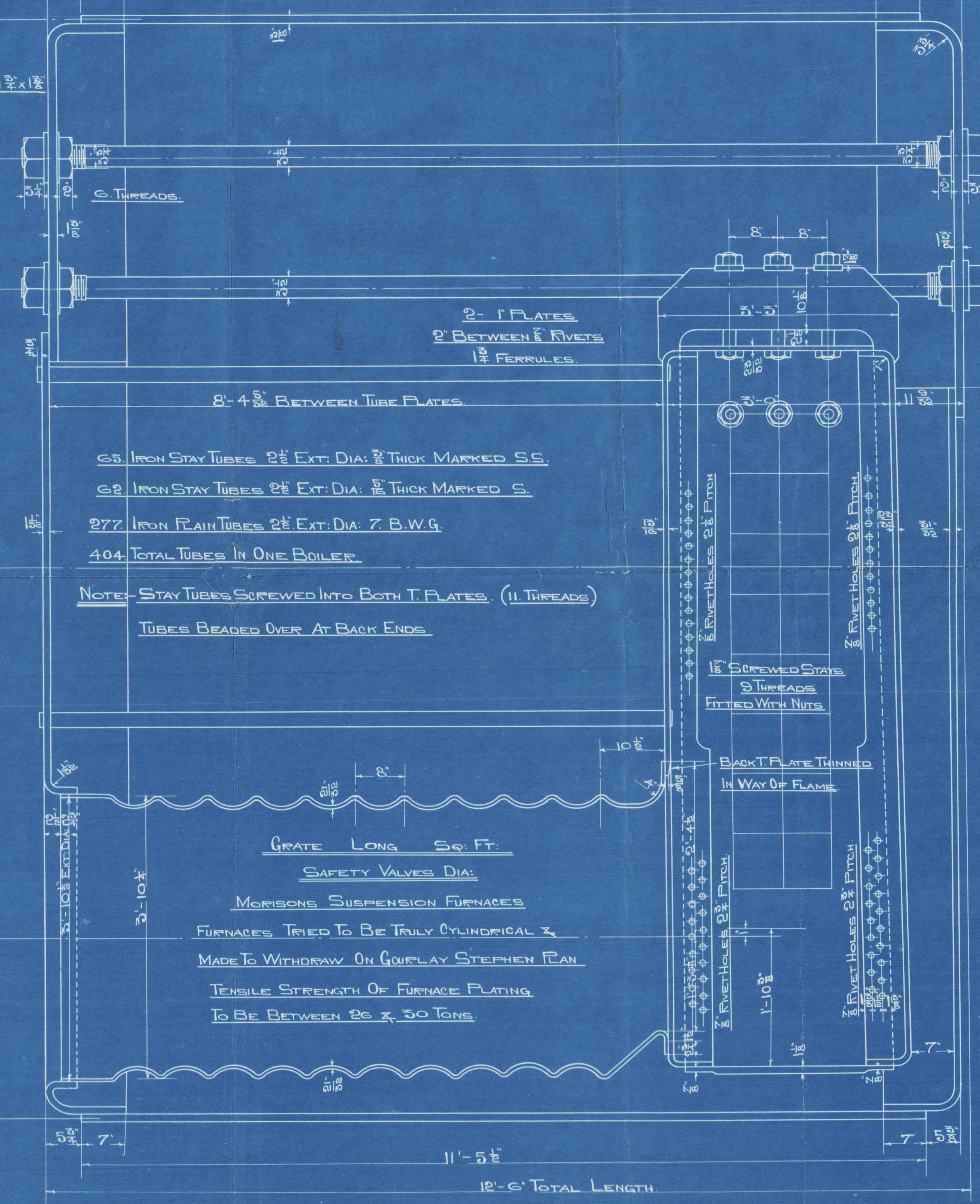
LLOYDS = $25.37 \times (22-2) \times 25.16 = 224.7$ LBS.
177.125



Mc NEILS MANHOLE IN SHELL 16" x 12"
MANHOLE COMPENSATING RING 5" x 3 1/2" x 2" = 11 1/2" x 1 1/2"



1 1/2" PLATE 1 1/2" RIVET HOLES 9 1/2" PITCH



- 58 IRON STAY TUBES 2 1/2" EXT. DIA: 3/8" THICK MARKED S.S.
- 62 IRON STAY TUBES 2 1/2" EXT. DIA: 1/8" THICK MARKED S.
- 272 IRON RAIN TUBES 2 1/2" EXT. DIA: 7 B.W.G.
- 404 TOTAL TUBES IN ONE BOILER.

NOTE: STAY TUBES SCREWED INTO BOTH T. PLATES. (11 THREADS)
TUBES BEADED OVER AT BACK ENDS

GRATE LONG SQ. FT.
SAFETY VALVES DIA:
MORRISON'S SUSPENSION FURNACES
FURNACES TRIED TO BE TRULY CYLINDRICAL &
MADE TO WITHDRAW ON GOWLAY STEPHEN PLAN
TENSILE STRENGTH OF FURNACE PLATING
TO BE BETWEEN 26 & 30 TONS

15-12-16

STEEL SCREWED STAYS THUS 0 2 1/2" DIA: (9 THREADS)

ALL OTHERS 1 1/2" DIA: 9 THREADS

NOTE: ALL SCREWED STAYS SCREWED INTO PLATE & FITTED WITH NUTS

CONTRACT 2292

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N. E. M. E. Co., LIMITED, WALLSEND.

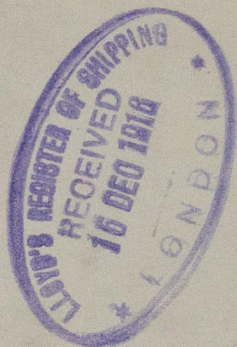
ENCLOSURE

FOR

Messrs.

Lloyds.

N. E. Marnie Eng Co 2292
2 Single-ended Boilers 220lbs

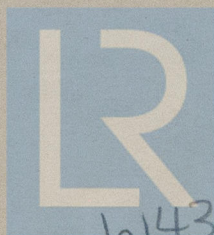


JS. TAIROR

NEWCASTLE ON TYNE.

Report No. 73313

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