

<u>HEATING SURFACE</u>		SQ. FEET
386 - TUBES 7-5% BETWEEN TUB. PLATES 2 3/4" EXT DIA		2082
3 - FURNACES 45" INTERNAL DIA		176
BACK TUBE PLATES		51
COMBUSTION CHAMBER BACKS		86
WRAPPER PLATES		185
TOTAL HEATING SURFACE IN ONE BOILER =		2580
" " " " TWO BOILERS =		5160
TOTAL H.S. IN THREE D.E. & TWO S.E. BOILERS =		19668

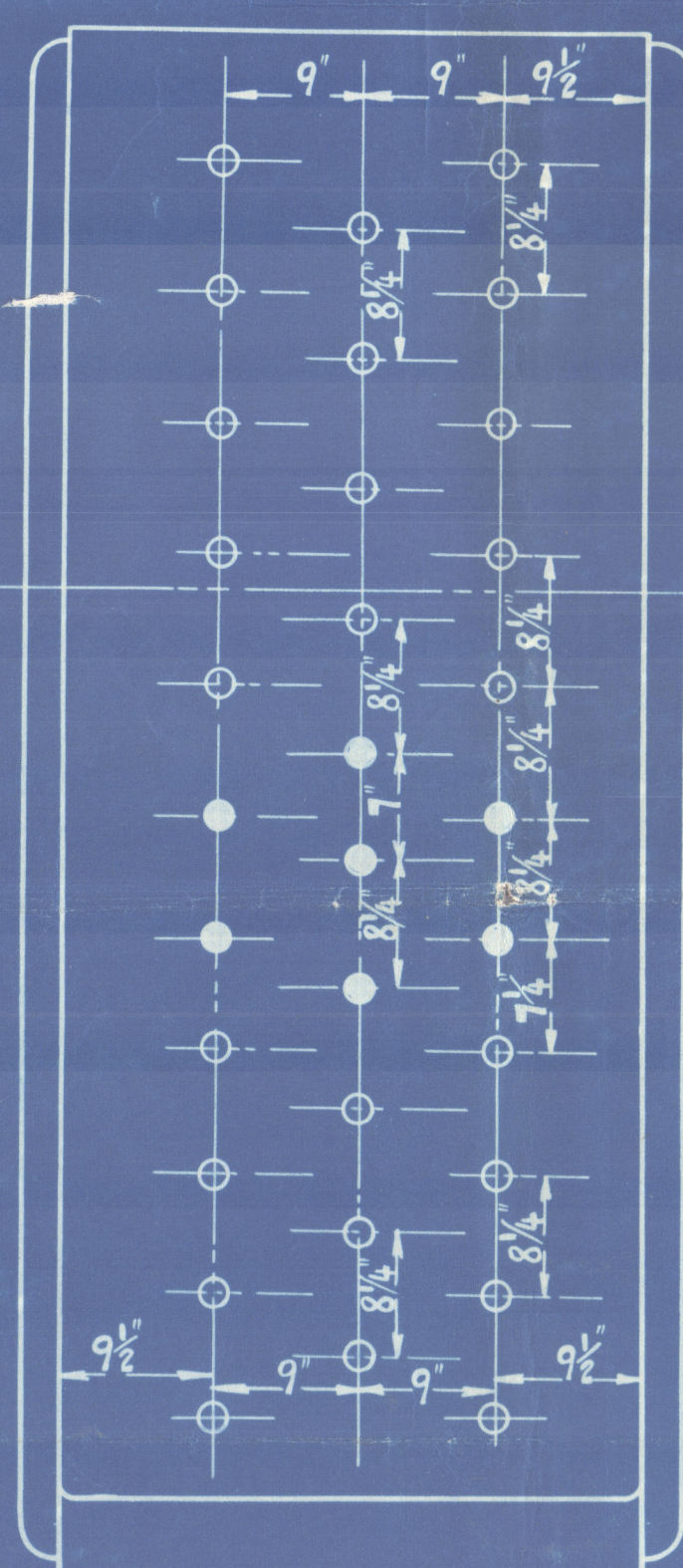
- GRATE SURFACE. -		SQ. FEET
3 - FURNACES 45" x 1" INSIDE DIA. x 5'-9" =		66.125
TOTAL G.S. IN TWO S.E. BOILERS		132.250
" " " THREE DE. & TWO S.E. BOILERS		529

$$\frac{\text{H.S.}}{\text{G.S.}} = 39 \qquad \frac{\text{T.S.}}{\text{G.S.}} = 31.5$$

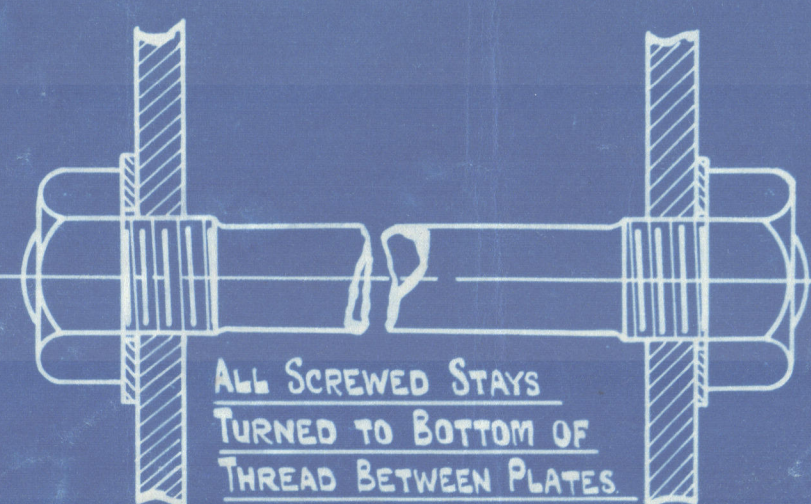
STEAM SPACE FROM 9' ABOVE CC TOPS.	475 CUB FT.
WEIGHT OF WATER AT WP 9' ABOVE CC TOPS	24 - 15
DRAUGHT AREA THRO' TUBES.	11 SQ FT

STEEL STAY BARS 3" DIA. AT SWELLED ENDS, 2 3/4" BODY, 6 THDS EFF. AREA = 5.93 sq.  
TENSILE STRENGTH 28 TO 32 TONS PER sq.  
DEPTH OF OUTSIDE NUTS = 3" INSIDE NUTS = 1 1/2"

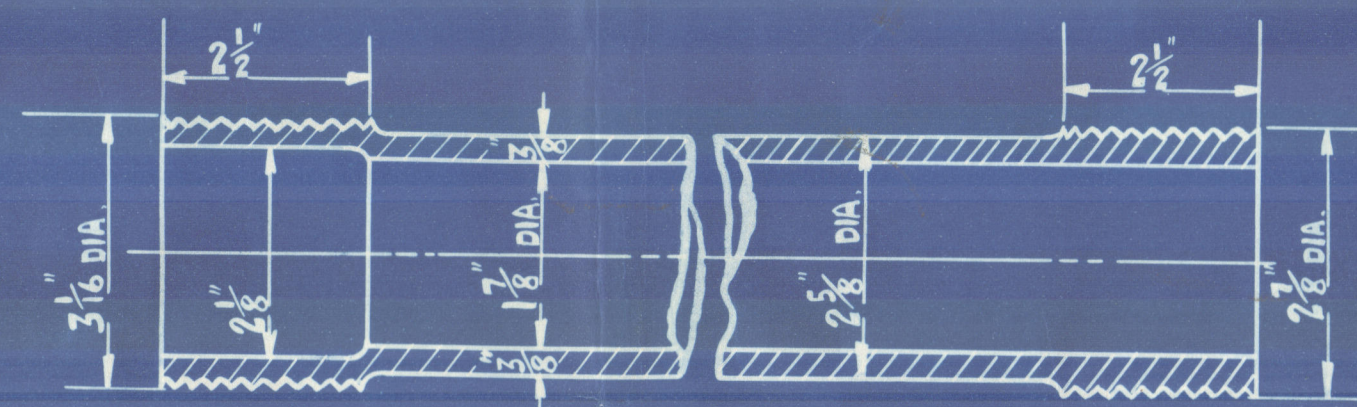
DEPTH OF OUTSIDE NUTS = 3" INSIDE NUTS = 1½"



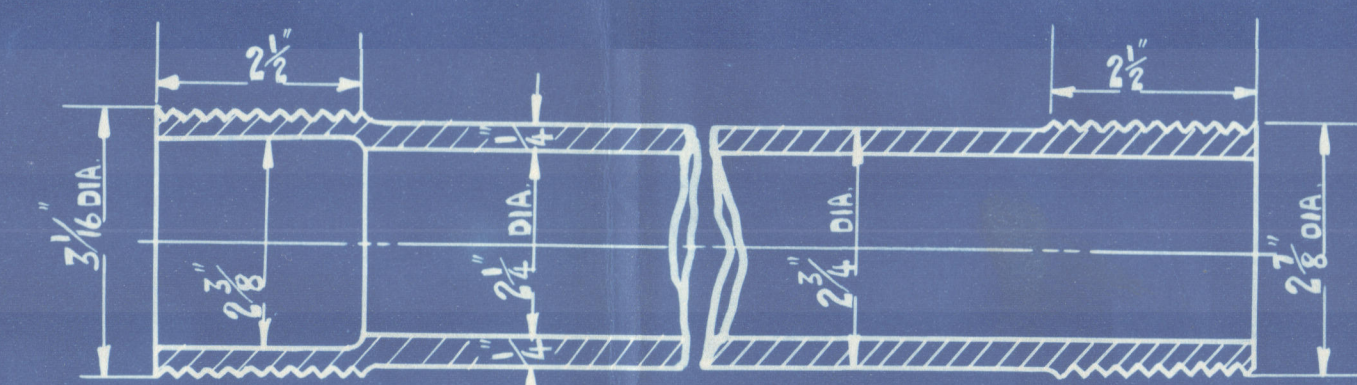
STAYS MARKED ● SCREWED THRO'  
SHELL & BUTT STRAPS.



— DETAIL OF "C.C." STAYS. —

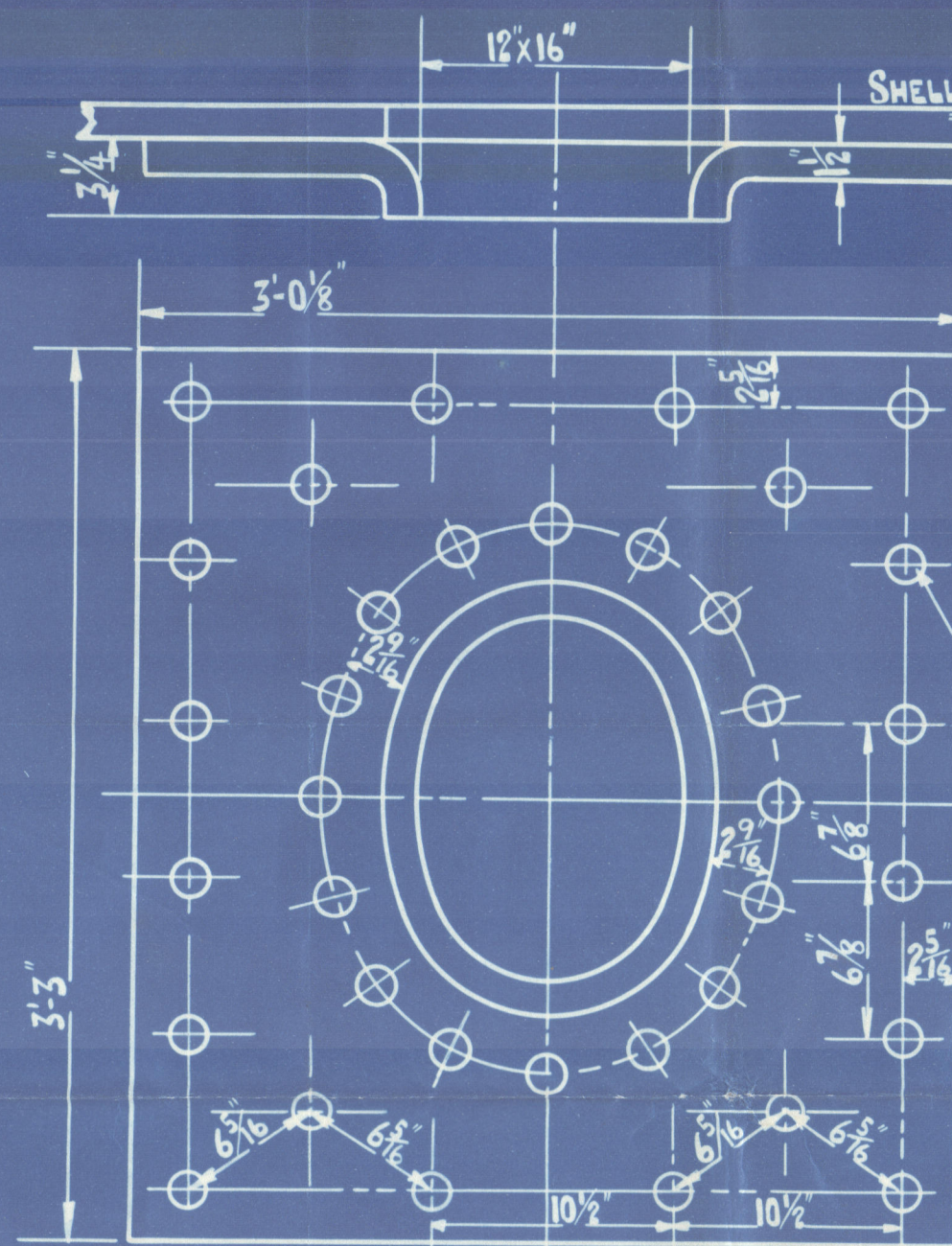


STAY TUBES MARKED (E) SCREWED 9 THDS. EFF AREA = 2.6507<sup>2</sup>



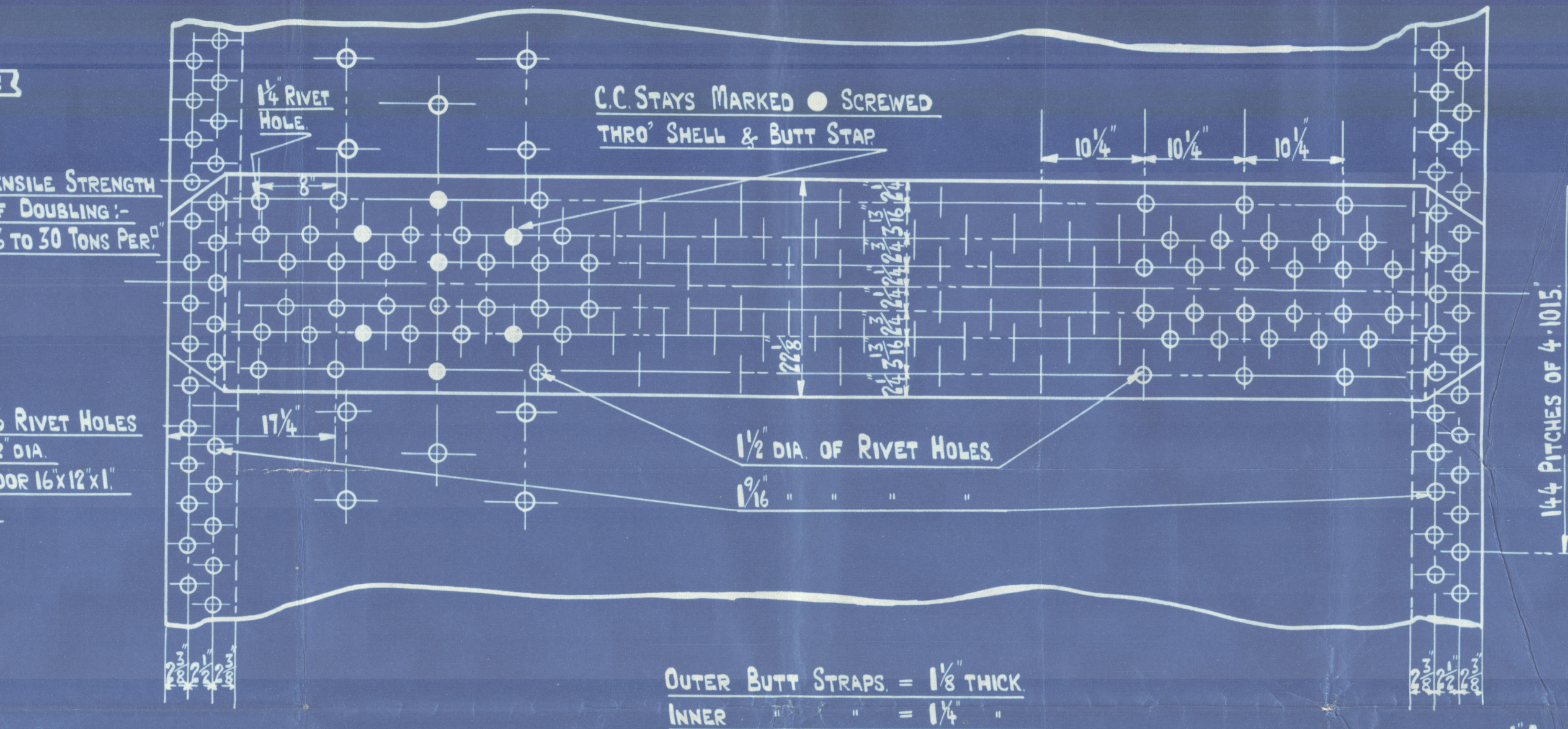
STAY TUBES MARKED (S) SCREWED 9 THDS. EFF. AREA = 1.880"

— DETAIL OF LAP WELDED WROT IRON STAY TUBES. —



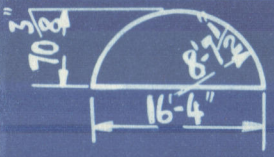
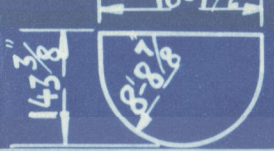
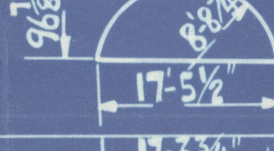

— Mc NEIL'S MANHOLE DOOR —

SCALE :-  $1\frac{1}{2}'' = 1 \text{ FOOT.}$



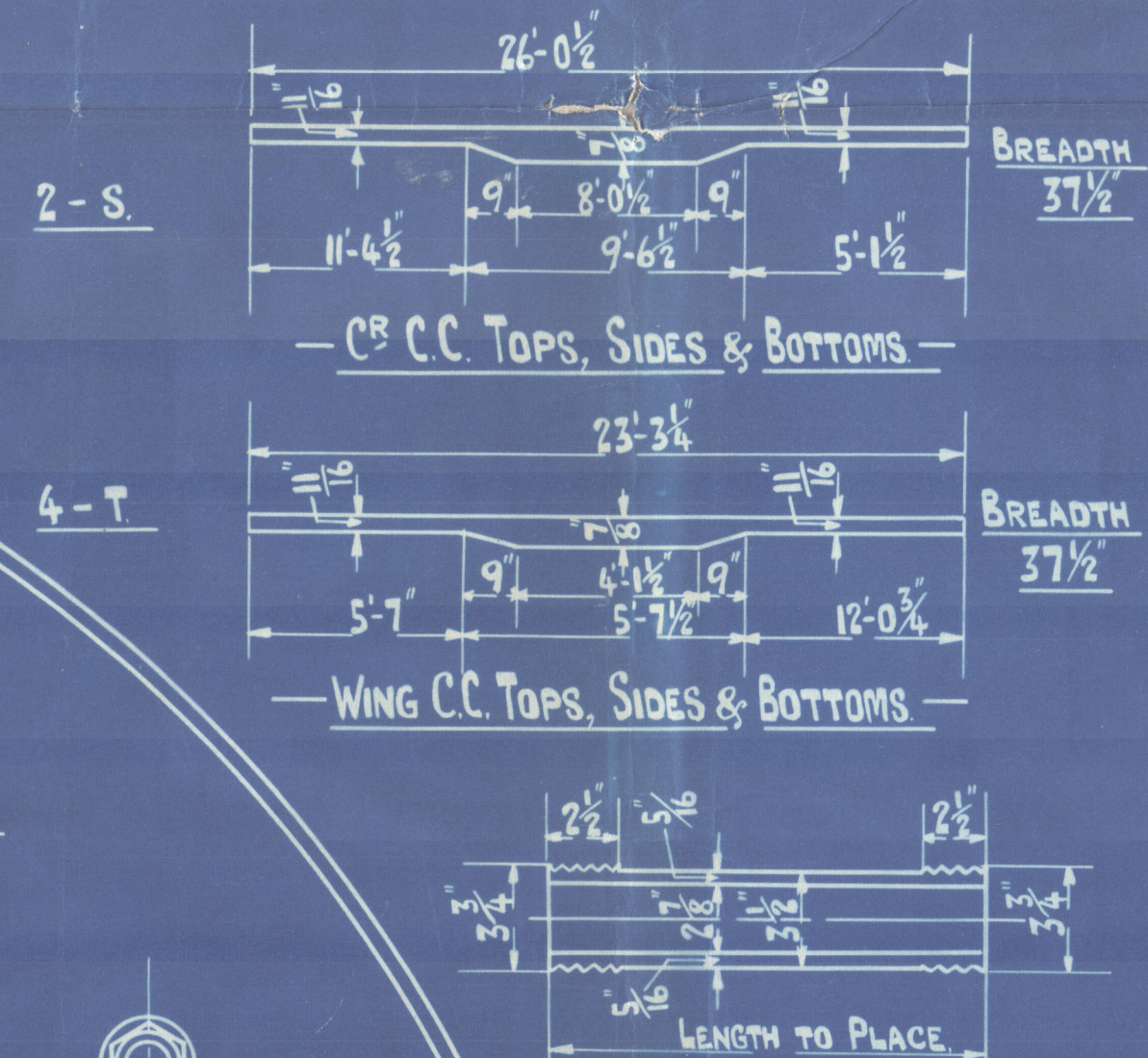
OUTER BUTT STRAPS. =  $1\frac{1}{8}$ " THICK  
INNER " " =  $1\frac{1}{4}$ " "

NOTE: STAY TUBES ARE NOT TO  
BE CAULKED UNTIL AFTER  
THE HYDRAULIC TEST.

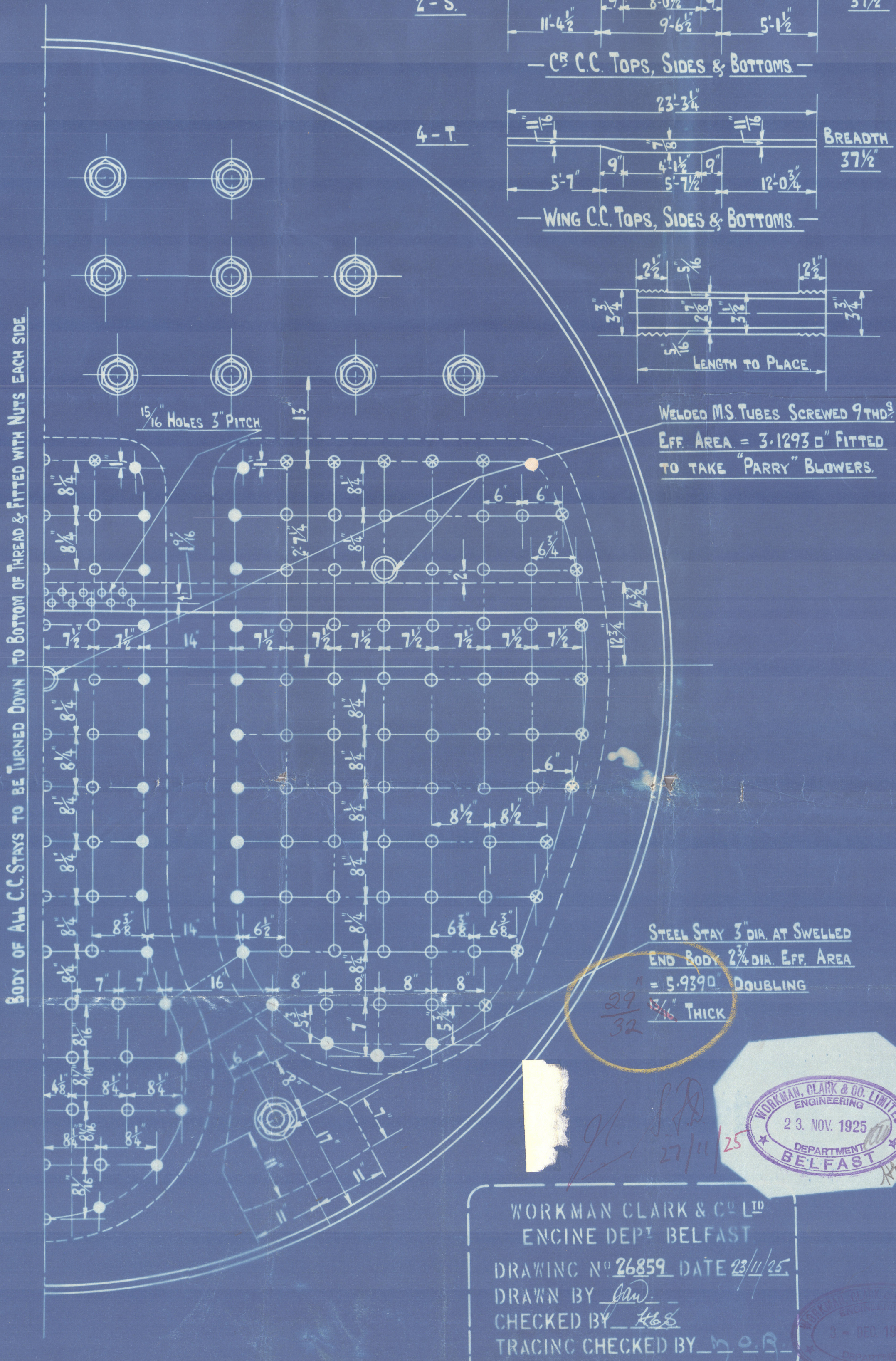
N <sup>o</sup>	STRAKE	DESCRIPTION	LENGTH	BREADTH	THICK
2	A	SHELL TOP	28'-3 $\frac{1}{4}$ "	13 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "
2	B	" BOTTOM	21'-5 $\frac{1}{4}$ "	"	"
4	C	BUTT STRAPS OUTER	11'-2"	22 $\frac{1}{2}$ "	1 $\frac{1}{2}$ "
4	D	" " INNER	10'-2 $\frac{1}{2}$ "	"	1 $\frac{1}{2}$ "
4	E	GIRDERS	14'-6"	4 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "
2	F	TOP FRONTS.			1 $\frac{1}{4}$ "
2	G	FURNACE FRONTS			1"
2	H	TOP BACKS.			1 $\frac{1}{4}$ "
2	J	BOTTOM BACKS.			29 32
2	K	C <sup>8</sup> BACK TUBE PLATE.	11'-0 $\frac{1}{2}$ "	61 $\frac{1}{8}$ "	1 $\frac{1}{2}$ "
4	L	WING " " "	8'-11"	70 $\frac{1}{2}$ "	"
2	M	C <sup>8</sup> C.C. BACKS	10'-10 $\frac{1}{8}$ "	58 $\frac{3}{8}$ "	21 32
4	N	WING " "	8'-9 $\frac{1}{2}$ "	69"	"
1	P	COMPENSATING PLATE	6'-7"	36 $\frac{1}{2}$ "	1 $\frac{1}{2}$ "

— STAY BAR LIST —

Nº	DESCRIPTION	DIA	LENGTH
	STEAM SPACE	2 3/4"	15'-0"
		—	—
	WATER SPACE	2 3/4"	15'-0"
	BREAST STAYS	2"	8'-6"
	SCREWED "	1 1/8"	18'-0"
	" "	1 3/4"	"
	" "	1 3/8"	"



WELDED M.S. TUBES SCREWED 9TH<sup>S</sup>  
EFF. AREA = 3.1293  $\square$ " FITTED  
TO TAKE "PARRY" BLOWERS.



STEEL STAY 3" DIA. AT SWELLED  
END BODY 2 3/4" DIA. EFF. AREA  
= 5.9390 DOUBLING

**No. 488.**  
**S. E. MAIN BOILERS**  
SCALE: 1" = 1 foot.



WORKMAN CLARKE & CO<sup>LD</sup>

T.S.S. NO 488.

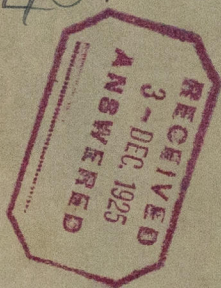
SINGLE ENDED BOILERS.

2 OFF.

WORKING PRESSURE 220 LBS.

J. Sandaff  
Castle

Bel 9643.



W193-0093



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