

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

19159.

Computation of Freeboard for Steamer, Sailing Ship, Tanker  
having *Raised Quarter Deck and Focle*

(Type of Superstructures.)

Ship's Name <b>"NORTHWOOD"</b>	Nationality and Port of Registry <i>Middlebrough</i>	Official Number <b>164832</b>	Gross Tonnage <b>1146</b>	Date of Build <b>1936</b>
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Moulded Dimensions: Length **214'-6"** Breadth **33'-10"** Depth **16'-6"**  
Moulded displacement at moulded draught = 85 per cent. of moulded depth **2100** tons  
Coefficient of fineness for use with Tables **722.8**

Port of Survey *Lith*  
Date of Survey *while building*  
Name of Survey *Ernest Savard*  
Particulars of Classification **T100 A1**  
**"WITH FREEBOARD"**

<p>Depth for Freeboard (D)</p> <p>Moulded depth ... <b>16.5</b></p> <p>Stringer plate ... <b>4/16" D" .04</b></p> <p>Sheathing on exposed deck <math>T \left( \frac{L-S}{L} \right) =</math> <b>none</b></p> <p>Depth for Freeboard (D) = <b>16.54</b></p>	<p>Depth correction</p> <p>(a) Where D is greater than Table depth <b>2.24</b> (D-Table depth) R = <math>(16.54 - 14.30) 1.650</math> = <b>+ 3.70"</b></p> <p>(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <b>✓</b></p> <p>If restricted by superstructures <b>✓</b></p>	<p>Round of Beam correction</p> <p>Moulded Breadth (B) <b>33.83'</b></p> <p>Standard Round of Beam = <math>\frac{B \times 12}{50} =</math> <b>8.12"</b></p> <p>Ship's Round of Beam = <b>8 1/8" = 8.12"</b></p> <p>Difference <b>✓</b></p> <p>Restricted to</p> <p>Correction = <math>\frac{\text{Diff}^a}{4} \times \left( 1 - \frac{S_1}{L} \right) =</math> <b>✓</b></p>
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## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	✓				
" overhang ...	✓				
R.Q.D. enclosed ...	<b>150'</b>	<b>150.00</b>	<b>4.5'</b>	✓	<b>150.00</b>
" overhang ...	✓				
Bridge enclosed ...	✓				
" overhang aft ...	✓				
" overhang forward ...	✓				
F'cle enclosed ...	<b>24.5'</b>	<b>24.50</b>	<b>7.0'</b>	✓	<b>24.50</b>
" overhang ...	<b>none</b>				
Trunk aft ...	✓				
" forward ...	✓				
Tonnage opening aft ...	✓				
" " forward ...	✓				
Total ...	<b>174.50</b>	<b>174.50</b>			<b>174.50</b>

Standard Height of Superstructure **6.00'**  
" " R.Q.D. **3.763'**  
Deduction for complete superstructure **27.45'**  
Percentage covered  $\frac{S}{L} =$  **81.37%**  
" "  $\frac{S_1}{L} =$  **81.37%**  
" "  $\frac{E}{L} =$  **81.37%**  
Percentage from Table, Line A.  
(corrected for absence of forecastle (if required)) **77.00%**  
Percentage from Table, Line B.  
(corrected for absence of forecastle (if required))  
Interpolation for bridge less than 2L (if required)  
Deduction = **27.45' x .77 = - 21.13'**

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	Mean actual sheer aft	Mean standard sheer aft
A.P. ...	<b>31.45</b>	✓	1	<b>31.45</b>	<b>24"</b>	<b>32.84</b>	✓	1	<b>32.84</b>		
1/8 L from A.P. ...	<b>14.00</b>	✓	4	<b>56.00</b>	<b>10.75"</b>	<b>14.61</b>	✓	4	<b>58.44</b>		
2/8 L " ...	<b>3.46</b>	✓	2	<b>6.92</b>	<b>2.625"</b>	<b>3.61</b>	✓	2	<b>7.22</b>		
Amidships ...	✓	✓	4	✓	✓	✓	✓	4			
3/8 L from F.P. ...	<b>6.92</b>	✓	2	<b>13.84</b>	<b>8.625"</b>	<b>8.625</b>	✓	2	<b>17.25</b>		
1/2 L " ...	<b>28.00</b>	✓	4	<b>112.00</b>	<b>34.75"</b>	<b>34.75</b>	✓	4	<b>139.00</b>		
F.P. ...	<b>62.90</b>	✓	1	<b>62.90</b>	<b>78"</b>	<b>78.00</b>	✓	1	<b>78.00</b>		
Total ...				<b>283.11</b>					<b>332.75</b>		

Mean actual sheer aft = **Excess**  
Mean standard sheer aft = **Excess**  
Length of enclosed superstructure forward of amidships = **> .1L**  
" " aft of " = **> .1L**

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{75-S}{2L} \right) = \frac{49.64}{18} \left( \frac{75 - .4068}{2} \right) = - .95"$   
If limited on account of midship superstructure. **✓**  
If limited to maximum allowance of 1 1/2 ins. per 100 ft. **✓**

<p>Deduction for Tropical Freeboard.</p> <p>Addition for Winter and Winter North Atlantic Freeboard.</p> <p>R.Q. Depth to Freeboard Deck = <b>21.03</b></p> <p>Summer freeboard = <b>5.96</b></p> <p>Moulded draught (d) = <b>15.07</b></p> <p>Deduction for Tropical freeboard and addition for Winter freeboard = <math>\frac{d}{4}</math> inches = <b>3.77 = 3 3/4</b></p> <p>Addition for Winter North Atlantic Freeboard (if required) = <b>3 3/4 + 2 = 5 3/4</b></p>	<p>Deduction for Fresh Water.</p> <p>Displacement in salt water at summer load water line <b>215 2/8</b></p> <p><math>\Delta = 2295</math></p> <p>Tons per inch immersion at summer load water line</p> <p>T = <b>14.35</b></p> <p>Deduction = <math>\frac{\Delta}{40T}</math> inches = <b>4.00 = 4</b></p>	<p>TABULAR FREEBOARD corrected for Flush Deck (if required)</p> <p>Correction for coefficient <math>\frac{.722 + .68}{1.36} = \frac{1.402}{1.360}</math></p> <table border="1"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction ...</td> <td><b>3.70</b></td> <td></td> </tr> <tr> <td>Deduction for superstructures ...</td> <td></td> <td><b>21.13</b></td> </tr> <tr> <td>Sheer correction ...</td> <td></td> <td><b>.95</b></td> </tr> <tr> <td>Round of Beam correction ...</td> <td></td> <td></td> </tr> <tr> <td>Correction for Thickness of Deck amidships ...</td> <td></td> <td><b>.12</b></td> </tr> <tr> <td>Other corrections, scantlings, etc. ...</td> <td></td> <td></td> </tr> <tr> <td><b>63.60</b></td> <td></td> <td></td> </tr> <tr> <td><b>67.30</b></td> <td></td> <td></td> </tr> <tr> <td>Summer Freeboard = <b>71.50</b></td> <td></td> <td></td> </tr> </table>		+	-	Depth Correction ...	<b>3.70</b>		Deduction for superstructures ...		<b>21.13</b>	Sheer correction ...		<b>.95</b>	Round of Beam correction ...			Correction for Thickness of Deck amidships ...		<b>.12</b>	Other corrections, scantlings, etc. ...			<b>63.60</b>			<b>67.30</b>			Summer Freeboard = <b>71.50</b>		
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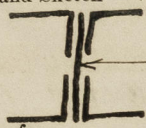
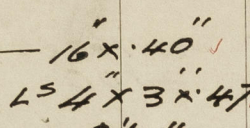
SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, **Wood, Steel, Deck**:-

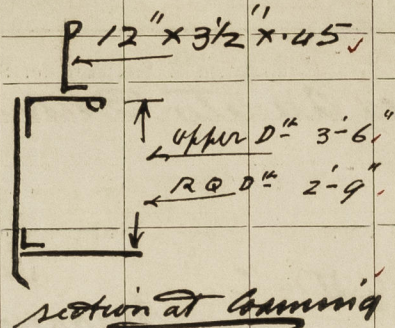
Tropical Fresh Water Line above Centre of Disc ...	<b>7 3/4</b>	Tropical Fresh Water Freeboard ...	<b>5' 11 1/2"</b>
Fresh Water Line " " ...	<b>4</b>	Fresh Water " " ...	<b>5' 3 3/4"</b>
Tropical Line " " ...	<b>3 3/4</b>	Tropical " " ...	<b>5' 7 1/2"</b>
Winter Line below " " ...	<b>3 3/4</b>	Winter " " ...	<b>5' 7 1/4"</b>
Winter North Atlantic Line " " ...	<b>5 3/4</b>	Winter North Atlantic " " ...	<b>6' 3 3/4"</b>
			<b>6' 5 1/4"</b>

- 1 SEP 1936



# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
		Upper D <sup>h</sup>		R.Q. D <sup>h</sup>					
Description of Hatchway		N <sup>o</sup> 1		N <sup>o</sup> 2		N <sup>o</sup> 3			
Dimensions of Hatchway		31' x 20'5"		31' x 20'5"					
COAMINGS	Height above Deck	4'-6"		3'-9"		3'-9"			
	Thickness	44"		44"		44"			
	Sides	10 x 3 1/2 x 44"		10 x 3 1/2 x 44"		10 x 3 1/2 x 44"			
	Ends	8'-0"		8'-0"		8'-0"			
HATCH BEAMS	Number	4		4		4			
	Spacing	6'-3 3/5"		6'-3 3/5"		6'-3 3/5"			
	Scantling and Sketch								
	Bearing Surface	2 1/2"		2 1/2"					
FORE AND AFTERS	Number								
	Spacing								
	Unsupported Lengths								
	Scantling* and Sketch								
HATCH COVERS	Material	W.P.		W.P.					
	Thickness	3"		3"					
	How fitted	You 9 apt		You 9 apt					
	Bearing Surface	4" x 3"		4" x 3"					
Spacing of Cleats		24"		24"					
Number of Tarpaulins		Two		Two					



\*Are wood fore and afters steel shod at all bearing surfaces? *yes*  
 Are battens and wedges efficient and in good condition? *yes*  
 Are tarpaulins in good condition and in accordance with rule requirements? *yes*  
 Are lashings provided in accordance with rule requirements? *yes. For all hatches there are fitted 3 ring bolts for ordinary lashings, also 5 eye plates for special, each side.*

Particulars of fiddley, funnel and ventilator coamings:— *The fiddley top is of steel, the openings have steel rod gratings, and steel plate covers hinged & secured by metal clips. The Engine Room skylight is efficient. The coal bunker opening:— 18'-6" x 5'-9" coaming 3' x 3' x 3' L, cleats 24" apart. W.P. covers 3", have 2 5/8" bearing surface. Two Tarpaulins. The funnel & ventilator coamings remain to be examined, also the fiddley casing finally examined after Engines & Boiler installed and found satisfactory.*

*none.*

Particulars of Companionways:—

*none.*

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—

*on R.Q. D<sup>h</sup>:— 1 @ 13 1/2" clear x 36" x 48" high, to hold (supported by brackets at bottom)  
 " " " :— 2 " 4" " " x 30" high, Goose neck type, to bunkers.  
 " Upper " :— 1 " 13 1/2" " " x 36" x 30" high, to hold. *on flat 3'-6" high.*  
 " Fore " :— 2 " 6" " " x 36" x 36" " , to accommodation.  
 " " " :— 1 " 6" " " x 30" x 18" " , to Fore Peck store.*

*The 13 1/2" clear coamings are supplied with metal caps and canvas covers. The remaining coamings are supplied with wood plugs & " "*

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—

*on Fore D<sup>h</sup> to Fore Peck Tower:— 1 @ 3" clear x 18" high (protected by shrouding)  
 " Upper " " " " " :— 2 @ 2 1/2" " " x 6'-6" " " supported by connection to Fore B.H.B.  
 " R.Q. D<sup>h</sup> " " " " " :— 2 @ 2" " " x 2'-6" " " (air & sounding combined)  
 " " " " " " " :— 2 @ 2" " " x 2'-6" " " "  
 " " " " " " " :— 2 @ 3" " " x 2'-6" " " (air & sounding combined)  
 " " " " " " " :— 1 @ 3" " " x 2'-6" " " "  
 " " " " " " " :— 1 @ 2" " " x 2'-6" " " "*

Particulars of Gangway Cargo and Coaling Ports:— *wood plugs are provided for all air pipes, & sniffling holes drilled.*

*none*



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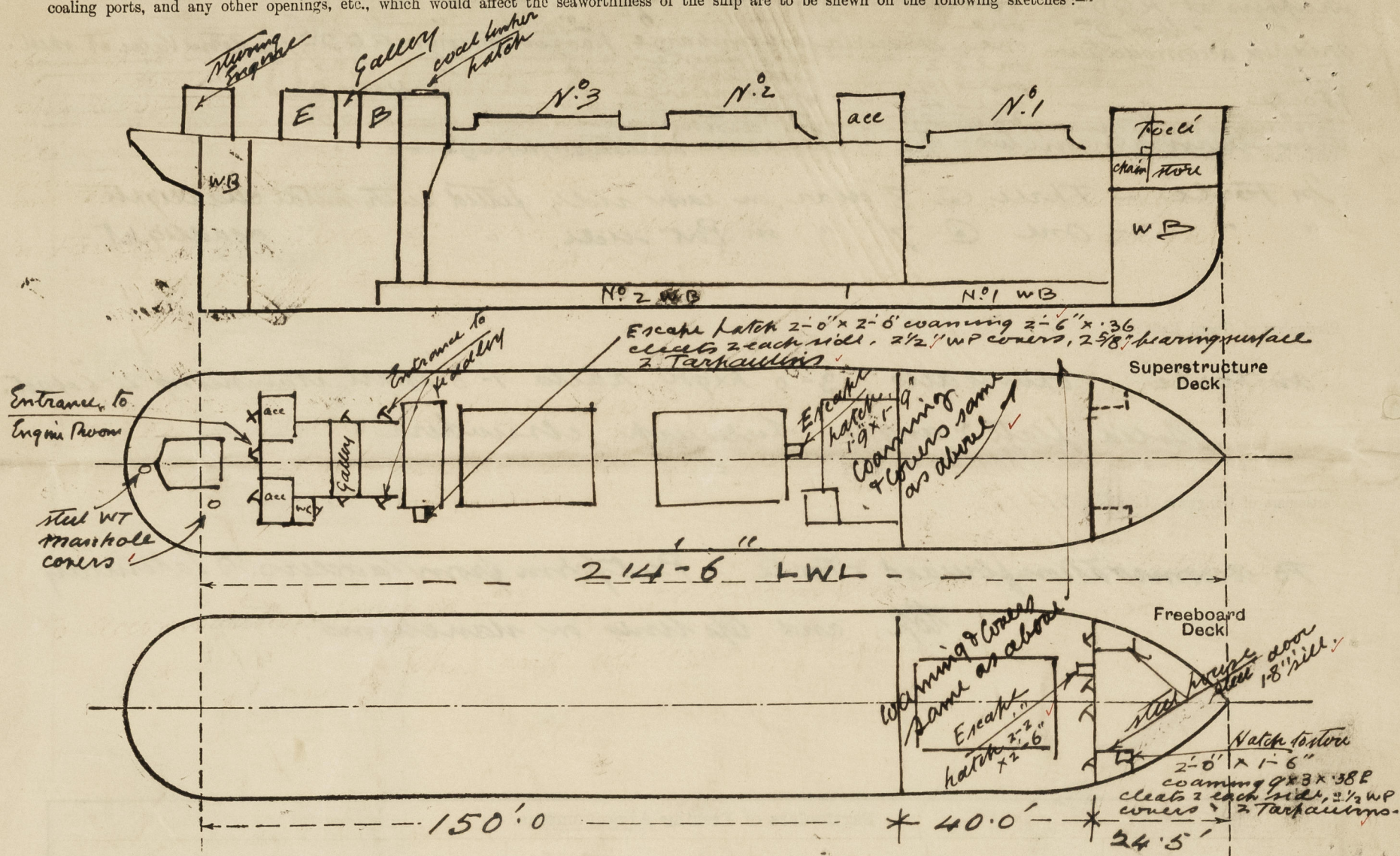






# Northwood

Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shewn on the following sketches:—



State any special features in the construction of the ship:—

The following plans are forwarded herewith:—  
 Midship Section.  
 Profile & Quers.  
 Modified Arrangement of Fore Pealm.

Builder's name and yard number

Burntisland SBC & Co

N° 202

Names of sister ships

Very similar to Northwood

Owners

Joseph Constantine, S.S. Lines Ltd.

Fee £

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Received by me

(To be charged with Port Entry fees)



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