

Un-Decked Boats 19ft to 23 ft



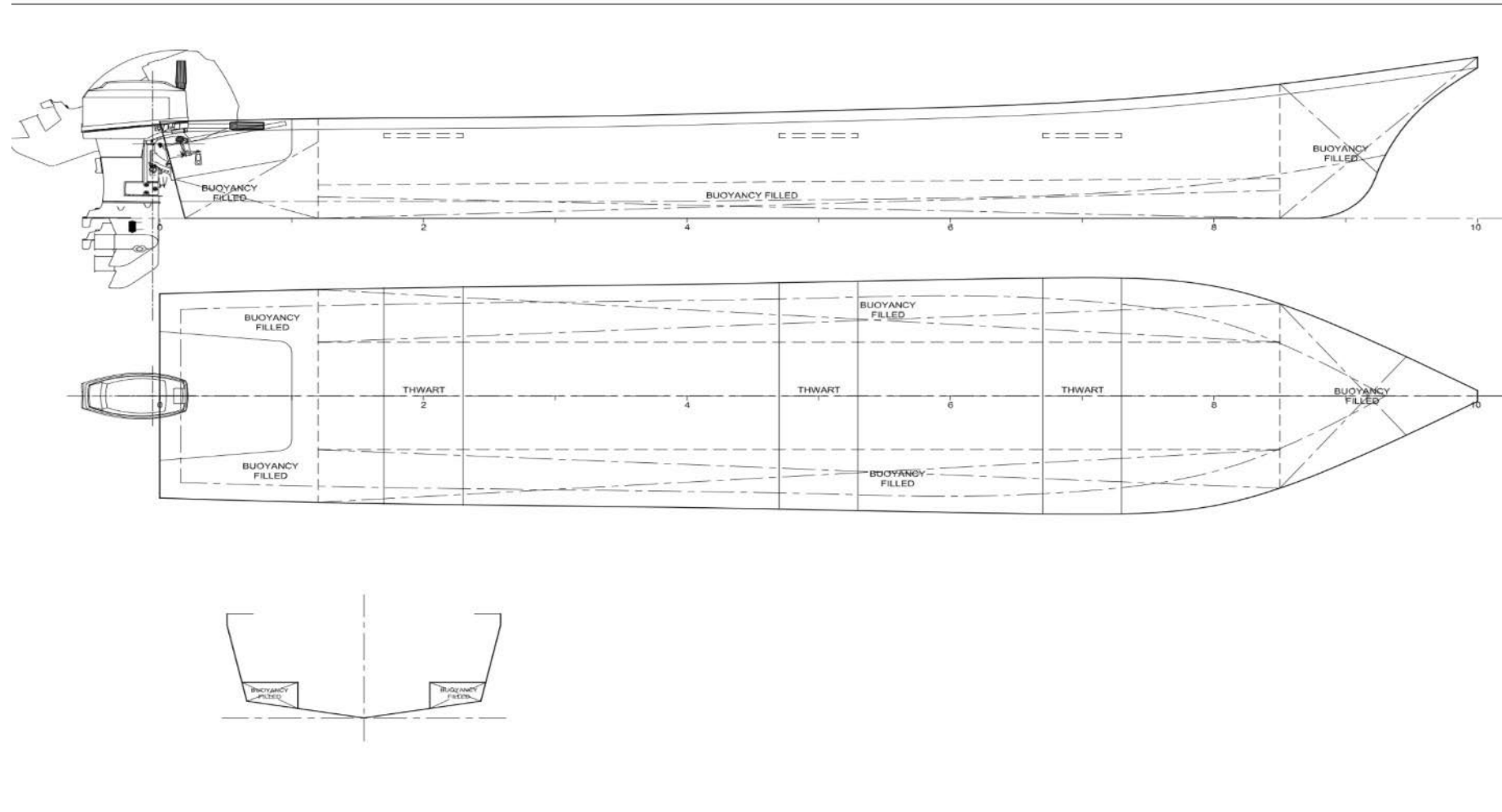
Safety

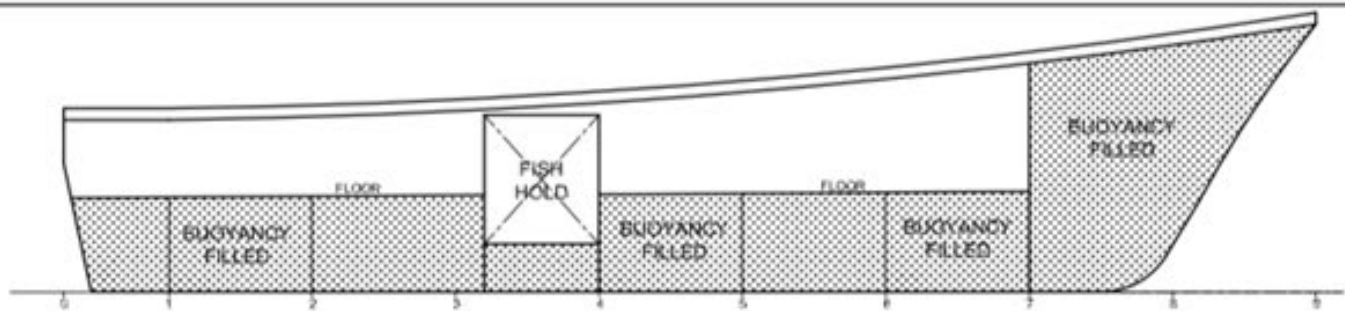
- Reserve Buoyancy: current EPS foam is fitted in a small forward floor section and under the gunwales. Proposed buoyancy will be by volume at least in excess of 10% of the boat weight with OBM and accessories.

Existing in pic below

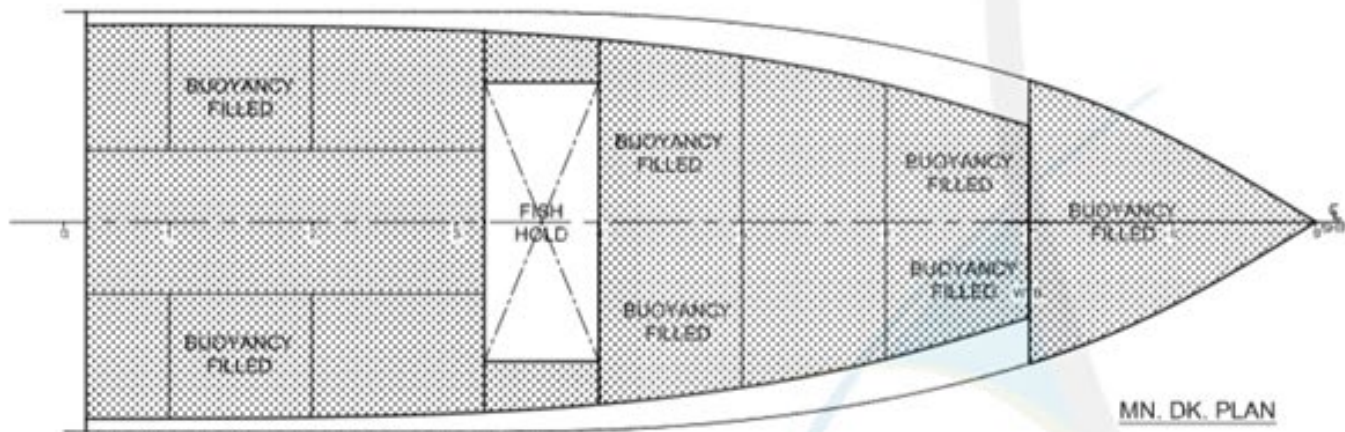


Examples of buoyancy distribution below

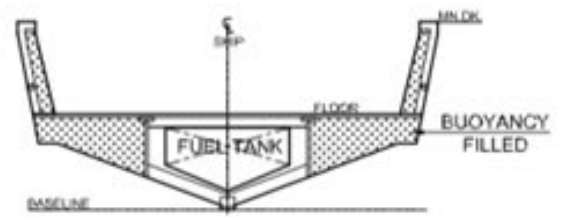




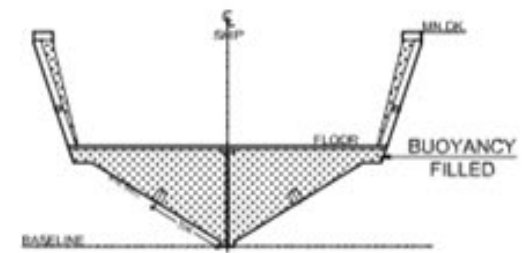
PROFILE



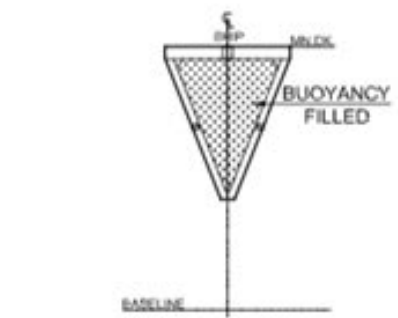
MN. DK. PLAN



SECTION AT FR. NO. 02
LOOKING AFT



SECTION AT FR. NO. 05
LOOKING AFT



BULKHEAD AT FR. NO. 08
LOOKING FWD

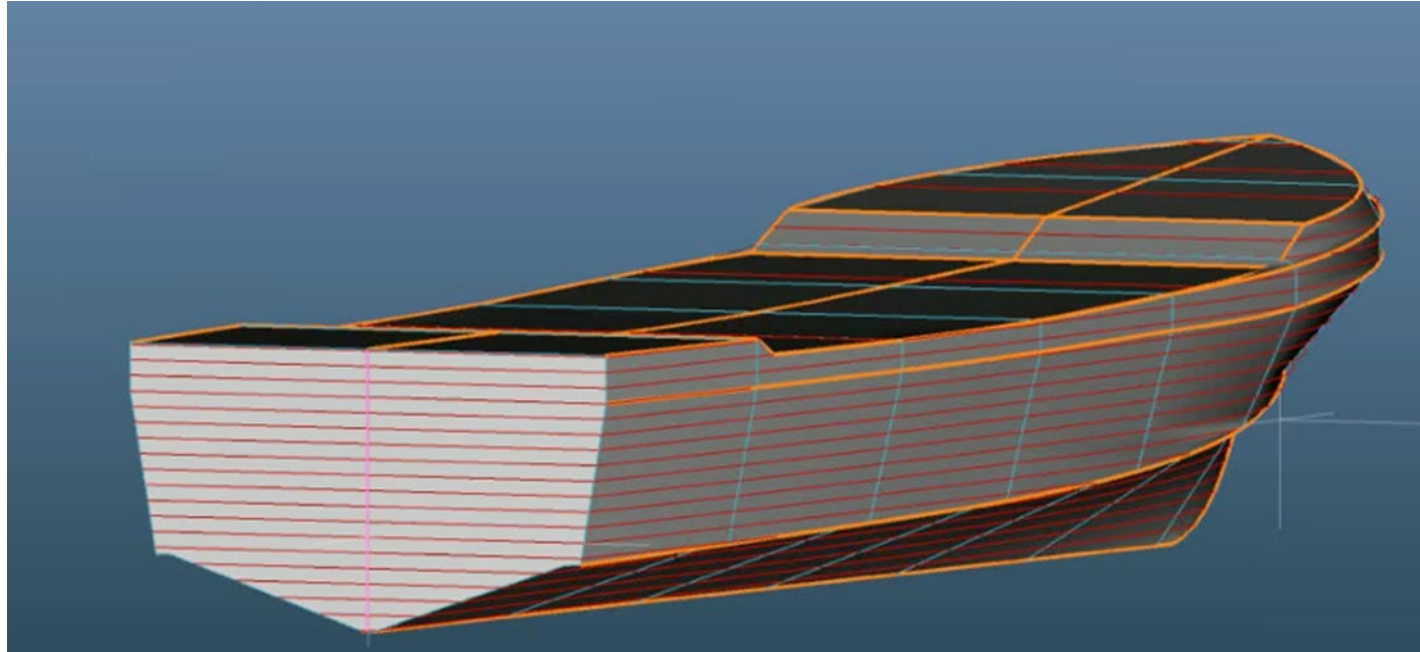
MN. DK.



DESCRIPTION

VOLUME

An estimated weight of the additional buoyancy is about 10 kgs



Improvements to Structure Framing and Lamination Schedule



Currently transverse frames only



Proposed example of longitudinal girders giving the boat improved strength along the length

Lamination Schedule designed for the vessel, example below:

LAMINATE SCHEDULE (Layer 1 = Closest to Mould)			STIFFENER SCHEDULE (Layer 1 = Closest to Mould)		
LAYER	MATERIAL	WEIGHT (g/m ²)	LAYER	NAME	WEIGHT (g/m ²)
BOTTOM / SIDE LAMINATE			KEELSON / BOTTOM TRANS. HEIGHT = 75mm; WIDTH = 50mm;		
OUT	GELCOAT	-	IN	CSM	300
2	CSM	300	2	WR	610
3	CSM	450	3	CSM	300
4	WR	610	4	WR	610
5	CSM	300	OUT	CSM	300
6	CSM	300	SIDE TRANS. STIFF		
7	WR	610	HEIGHT = 50mm; WIDTH = 50mm;		
8	CSM	300	IN	CSM	300
9	WR	610	2	WR	610
IN	CSM	450	3	CSM	300
MAIN DECK LAMINATE			4	WR	610
OUT	GELCOAT	-	OUT	CSM	300
2	CSM	300	BTM / SIDE LONGL. STIFF.		
3	CSM	450	HEIGHT = 40mm; WIDTH = 40mm;		
4	WR	610	IN	CSM	300
5	CSM	450	2	WR	610
6	WR	610	OUT	CSM	300
IN	CSM	300			

Bilge Options



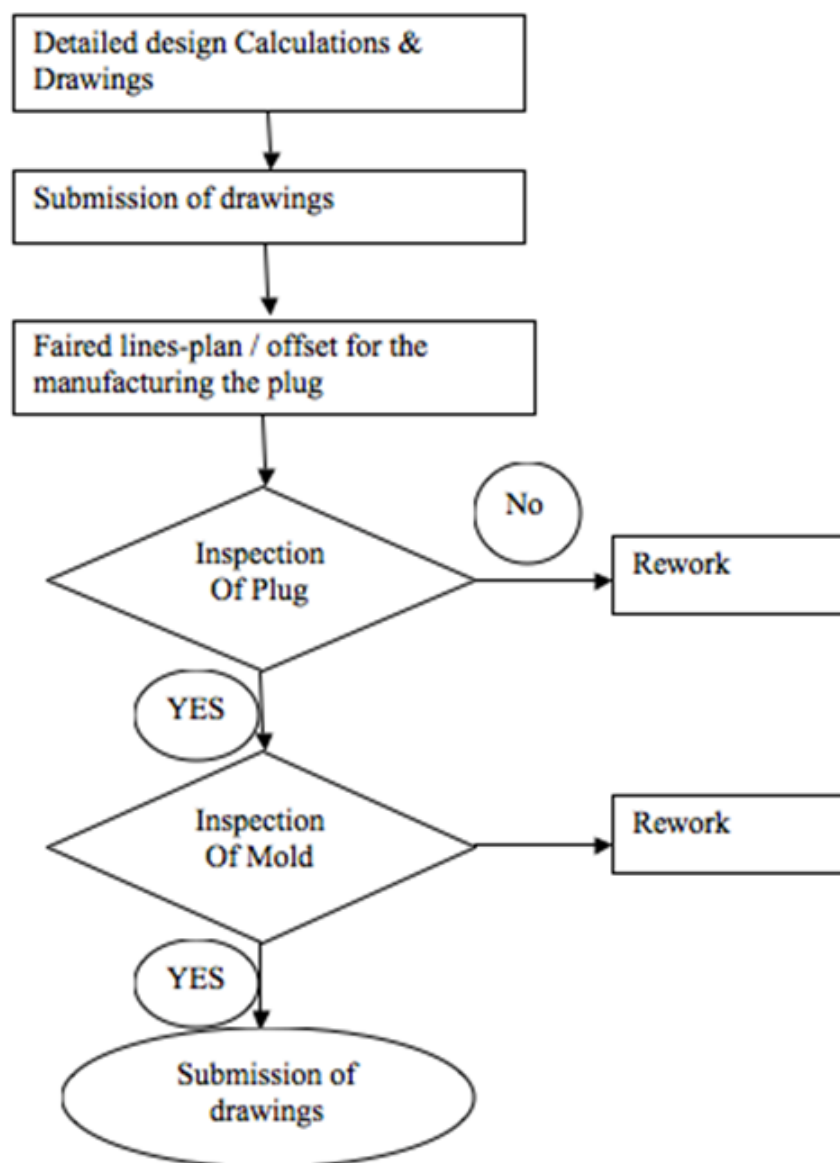
Self Draining Interior



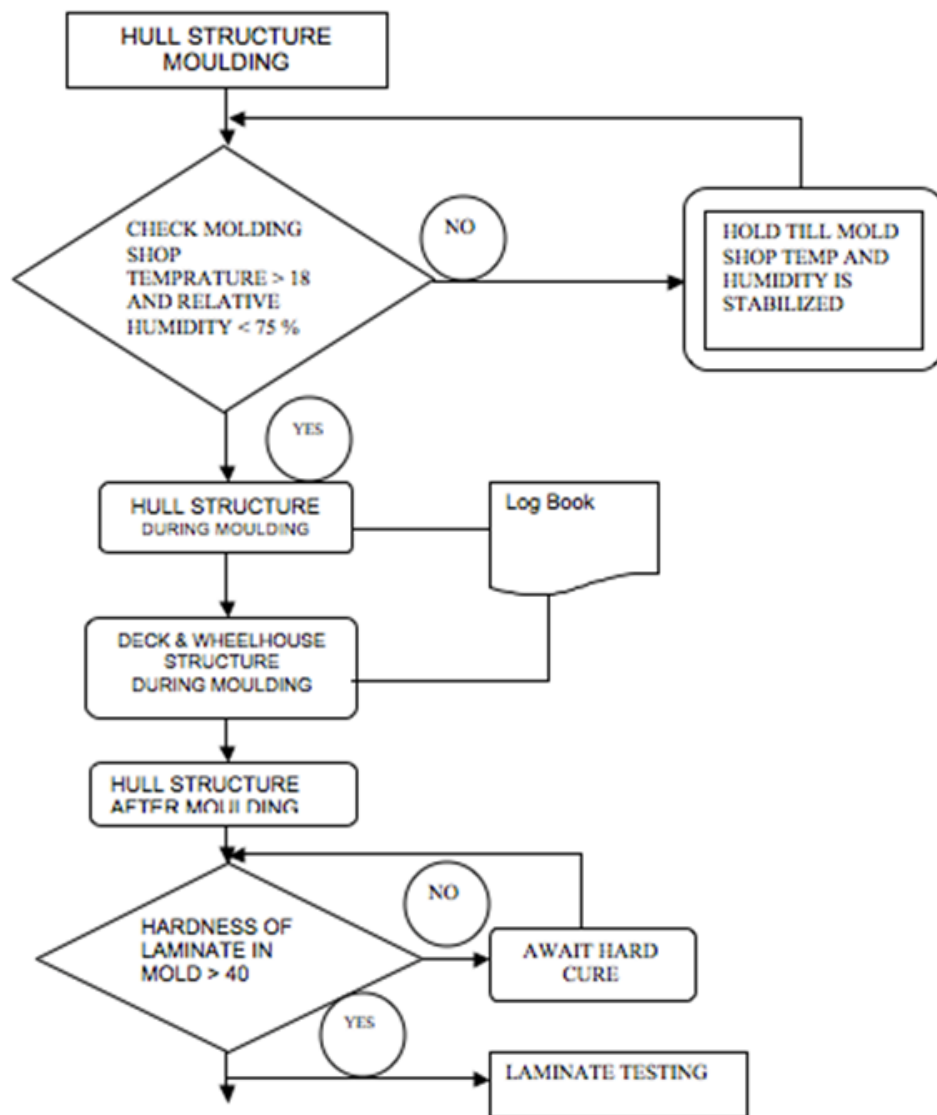
FRP construction practice and Quality Assurance

- Following a designed lamination schedule
- Controlled work space environment (dust free, styrene extraction, temp and humidity monitoring)
- Adequate time between laminate sets and final laminate cure time.
- Attention to detail of hand layup for removal of excess resin and air bubbles
- QC practice of maintaining records of raw materials and lamination control sheets
- Testing of laminate samples for hardness, strength and flexure.
- A training course has been proposed for boat builders and local inspectors.
- Design QC below

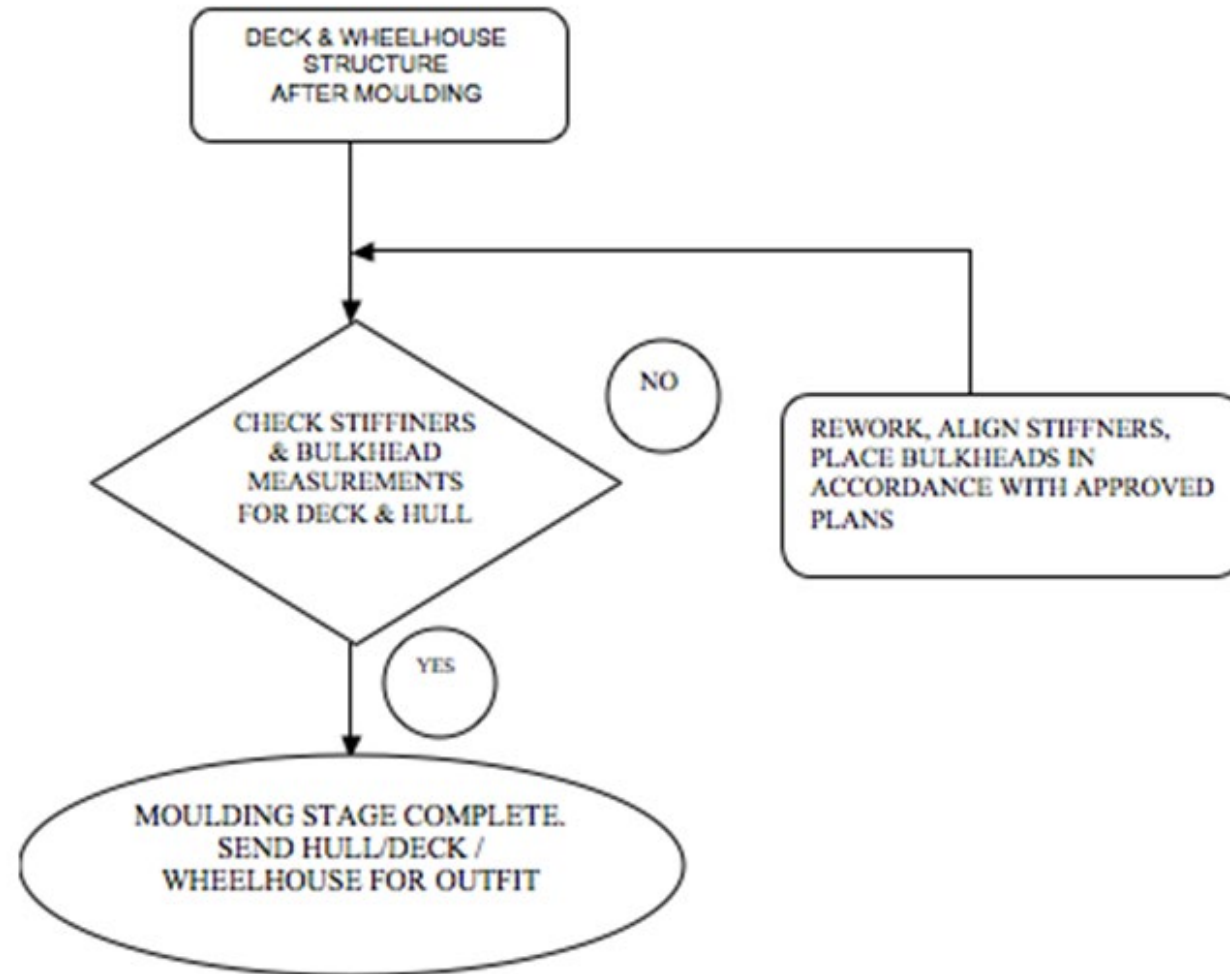
FLOW CHART FOR QUALITY ASSURANCE PLAN FOR G.R.P. BOAT'S HULL STRUCTURE



FLOW CHART FOR QUALITY ASSURANCE PLAN FOR G.R.P. BOAT'S HULL STRUCTURE

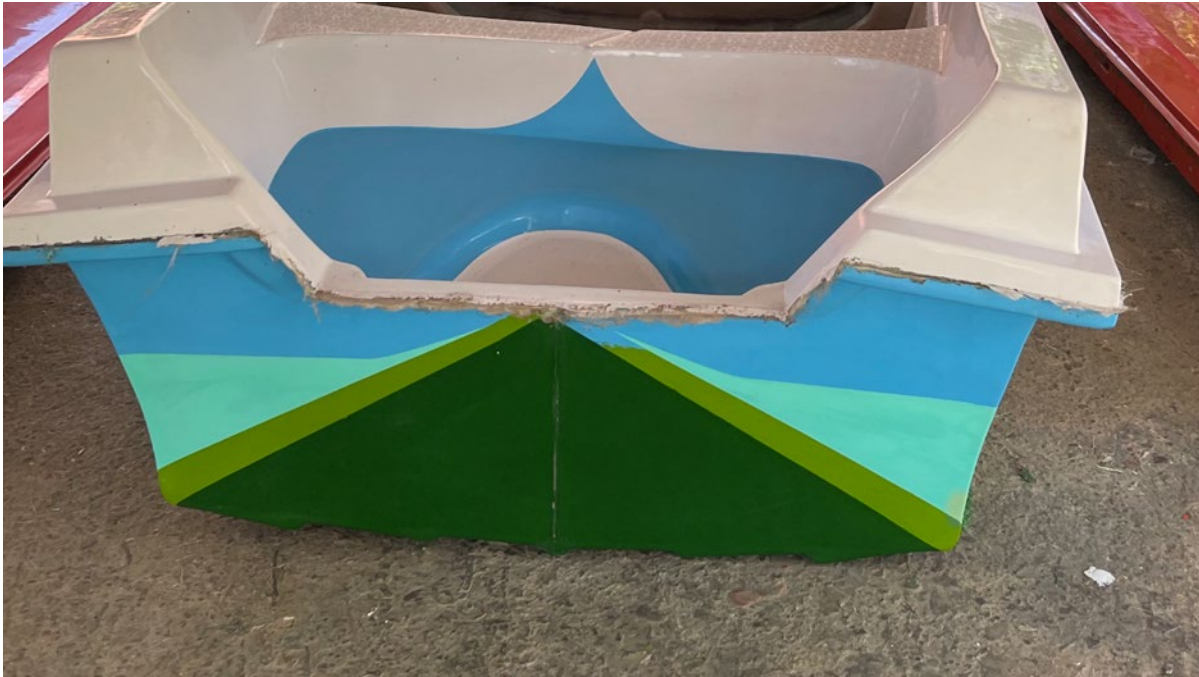


Build QC



Design Revisions

- Marginal increase in aft deadrise angle together with an increased



beam and pronounced spray rails.

Increased fore deck



Finishing of rough FRP edges



Sail socket

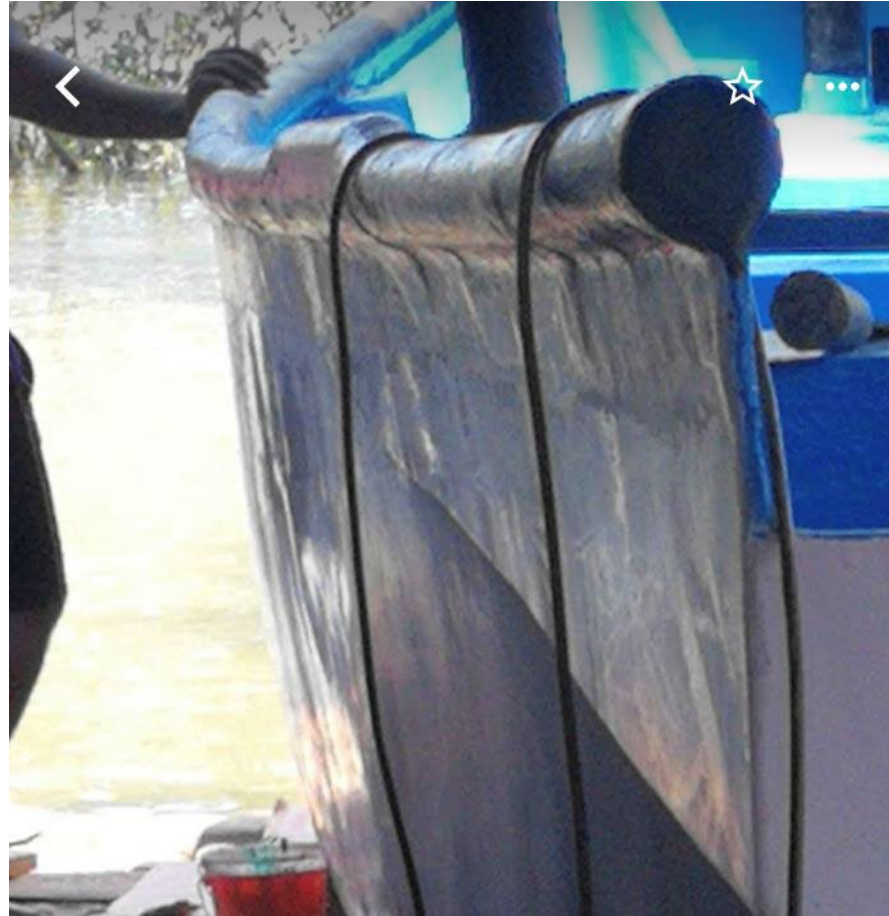
- Sail mast socket to have mast foot base below deck for the use of a sail as an alternate means of propulsion. Fishers in Kalpitiya are currently using sails to reduce fuel consumption and costs.



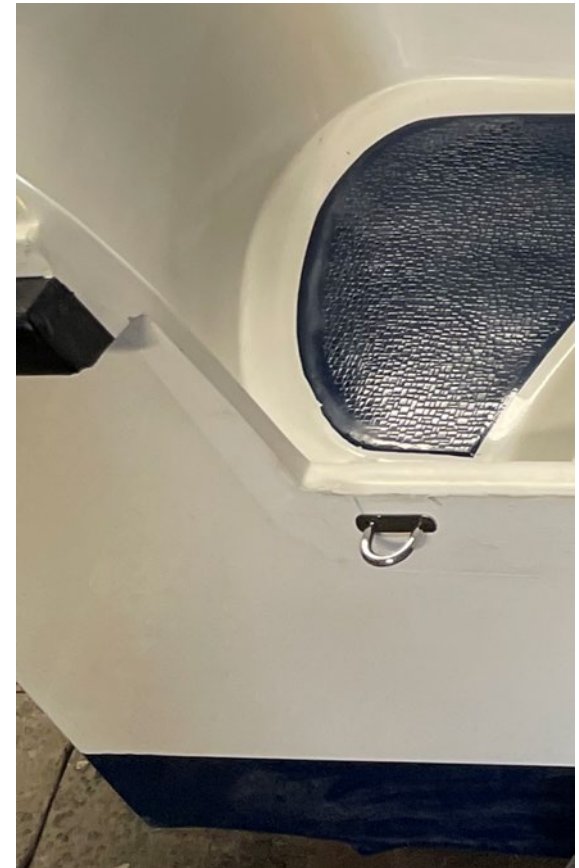
A Stainless Steel Keel shoe to prevent damage during beach launching and recovery.



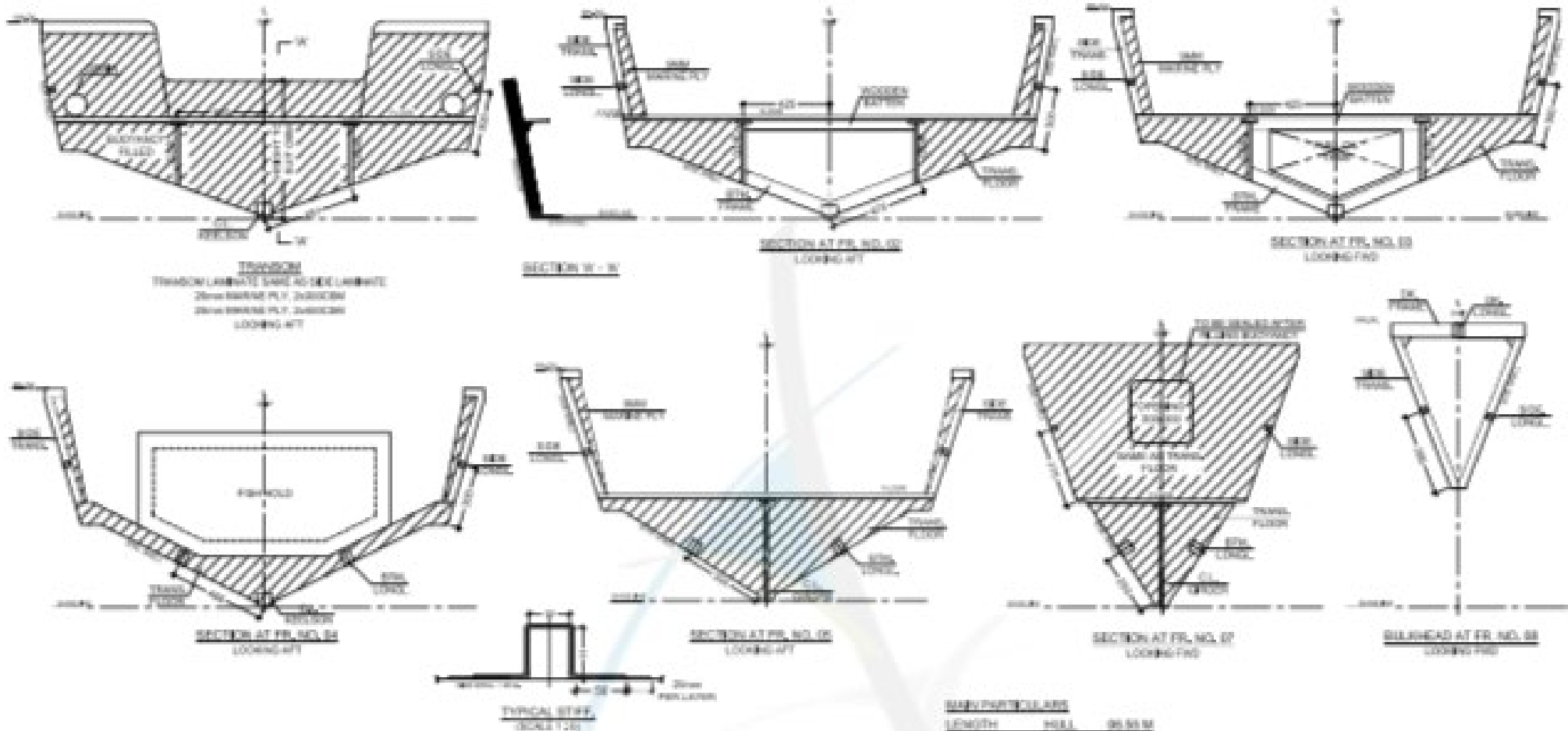
Rounded gunwales for smooth deployment and recovery of gill nets

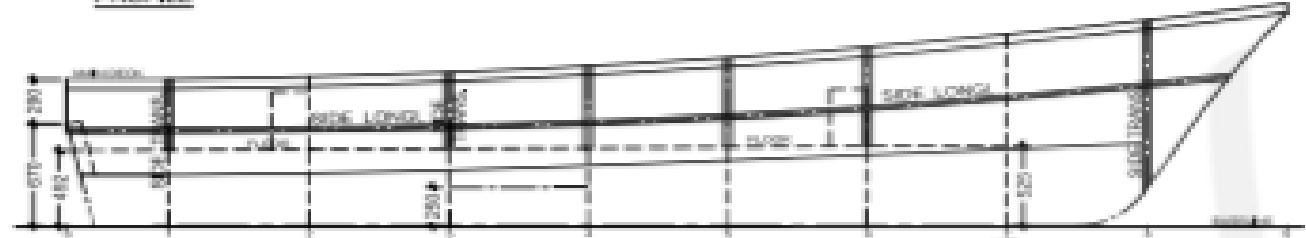
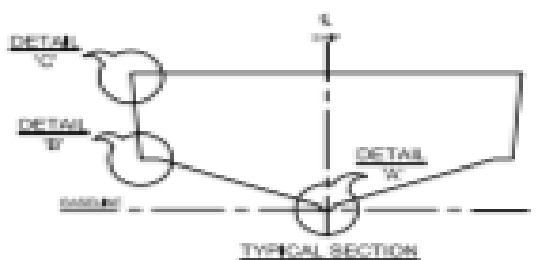
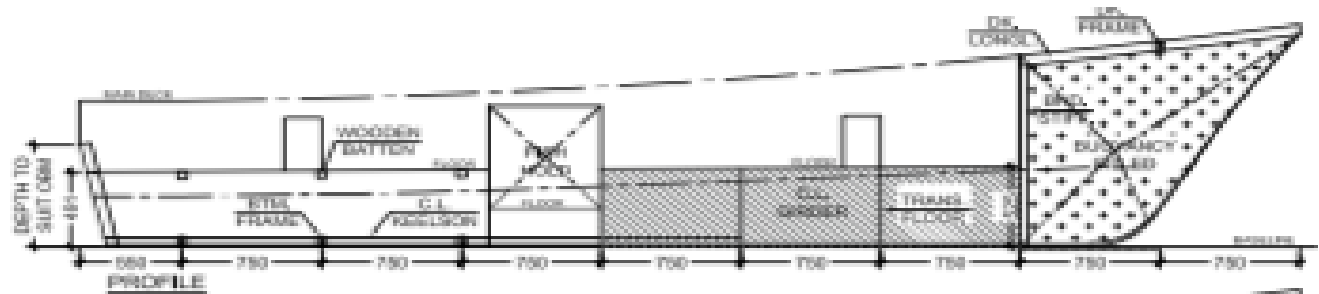


Mooring and anchoring stainless steel eyes



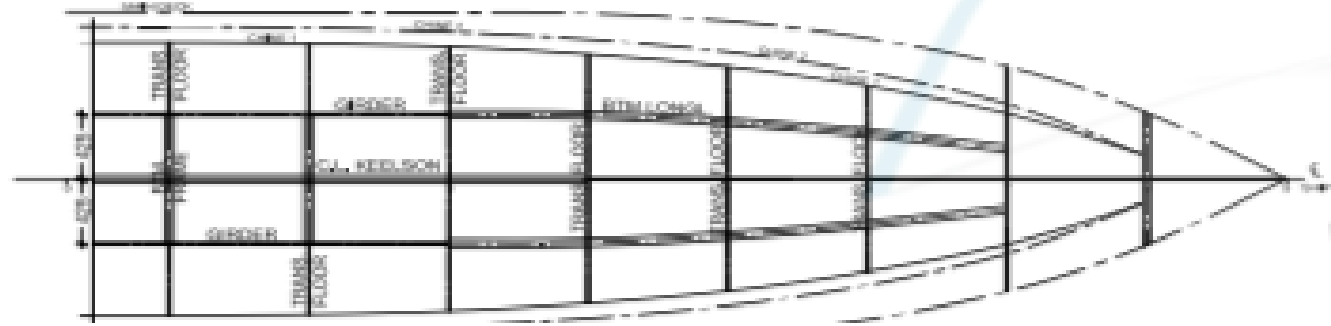
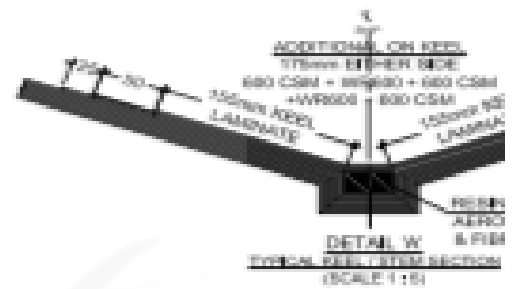
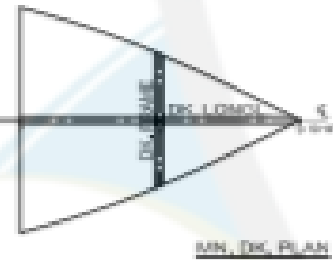
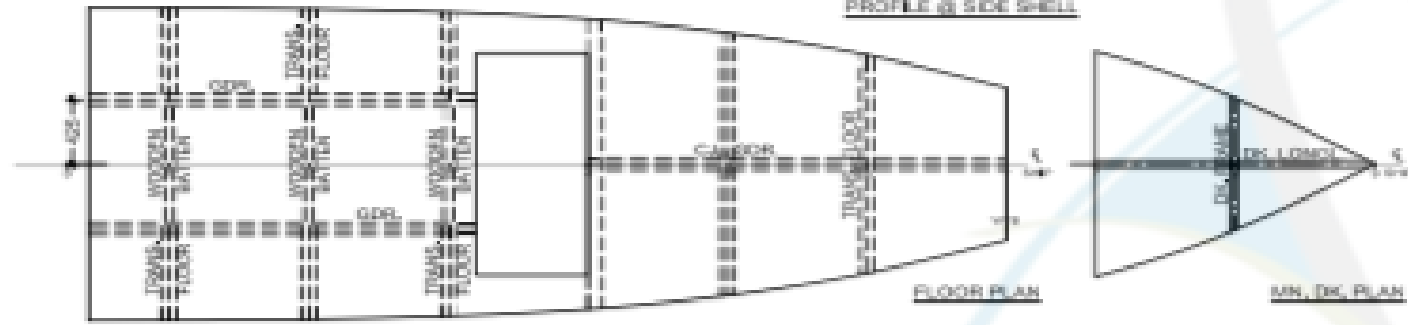
Structural design





- RUNNING TRIM ANGLE = 3°
- DEADRISE ANGLE AT LCG = 24.4°
- BREADTH AT WATERLINE = 2,083 mm
- BLOCK COEFFICIENT = 0.288
- DISPLACEMENT = 2,178 Tonnes

- LAMINATE PROPERTIES**
- TENSILE STRENGTH = 280 N/mm²
 - FLEXURAL STRENGTH = 300 N/mm²
 - GLASS CONTENT = 6.42



NOTE:
ALSO REF
1. TRAP

APPROXIMATE FOR DESIGN

Marine Safety grab bag



Life Saving Equipment



FRP Removable ice boxes



Thank you for your attention

Any questions?