



TERMS OF REFERENCE

BUILDING & DELIVERY OF 45FT FIBERGLASS DHOANI

1.BACKGROUND

Agro National Corporation (AgroNat) was formed 21st April 2020 as a State-Owned Enterprise (SOE) with the overall mandate to assist in developing the agricultural sector in the Maldives. AgroNat is working towards enforcing objectives such as enabling an efficient supply-chain for agriculture, providing technical expertise and training to farmers, expanding the role of women in farming, and facilitating access to quality fertilizers across islands. AgroNat will also aim to achieve economic targets relating to food security, import substitution, creation of jobs and improving the trade balance.

The Government of Maldives, in its Strategic Action Plan devised for 2019 – 2023, had proposed to establish a dedicated SOE for agricultural development, with an objective of revitalizing the agriculture sector as per the Blue Economy vision. Despite being an integral part of Maldivian society for ages, the agriculture sector has remained under-developed and unexposed to modern developments in farming techniques and technology. The government under its agenda for economic diversification aims to promote agriculture as a meaningful sector in the Maldivian economy.

AgroNat aims to expedite an efficient supply-chain for local agricultural products that will enable farmers to collect a fair price for their produce. Hence, AgroNat is purchasing locally produced fruits and vegetables from farmers and re-selling the produce to wholesale buyers. In the intermediate term, the corporation aims to work towards an import substitution policy that will reduce imports of certain locally produced crops by 50%.

AgroNat is working on addressing the challenges faced by farmers in maintaining the cold chain and timely delivery of produce to the market. As such, the company is planning to construct purpose build transport vessels.

AgroNat intends to hire a firm for construction, delivery, and testing of AgroNat vessel.

2. SCOPE OF SERVICES AND EXPECTED DELIVERABLES

- i. Construction of vessel as per the design and specification provided and agreed.
- ii. Supply of necessary documents required for vessel registration.
- iii. Perform all the operational dock trials and sea trials for the vessels in accordance with the requirement provided by AgroNat and testing plans by AgroNat.

3. FACILITATE IN MONITORING

The firm is expected to work very closely with AgroNat in all projects related matters and will report directly to the Head of Business Development Department. The firm shall assist AgroNat and its technical consultants during routine monitoring of boat building work.

4. QUOTATION

The quotation should have break down price for,

- Mould
- Hull construction

- Other boat equipment and accessories

5. MARKING CRITERIA

#	DETAILS	MARKS
1	Price	40
2	Duration	5
3	Experience	10
4	Warranty	05
5	Technical Evaluation (Building Materials)	35
6	Financial Capacity	05

5.1 Price (40% of the Total score)

The highest score shall be awarded to the bid with the lowest bid price. For the remaining bids, points will be given to using the formula below:

$$\text{Price Score} = \frac{\text{Lowest proposed total price from among the bids received}}{\text{Particular Bidder's proposed total price}} \times 40\%$$

5.2 Duration (5% of the Total score)

The maximum points allocated under this criterion will be awarded to the bidder with the lowest proposed Delivery Period, and the remaining bidders will be awarded points on a pro rata basis in descending order.

The formula thus used for the computation of the score is as follows:

$$\begin{aligned} &\text{Delivery Period Score} \\ &= \frac{\text{Lowest proposed delivery period from among the bids received}}{\text{Particular Bidder's proposed delivery period}} \times 5\% \end{aligned}$$

5.3 Experience (10% of the Total score)

Experience will be considered for the works completed in the last 10 years related to boat building, boat repairs, and supplying boats.

Work experience letter should be in the contractor's letterhead with the contractor's stamp and signature. Marks will be given to maximum 5 experience letters. Each letter will carry 2 marks.

6.4 Warranty (5% of the Total score)

Hull (5 Marks)

$$\frac{\text{Particular bidders warranty on hull}}{\text{Highest Warranty proposed on hull}} \times 5\%$$

G. TECHNICAL EVALUATION CRITERIA

#	DETAILS	MARKS
1	Fiber resin mechanical properties / quality (data sheet to be submitted)	50
2	Fiber gelcoat properties (data sheet to be submitted)	30
3	Scantling (Scantling design to be submitted)	20

H. PAYMENT TERMS

#	DESCRIPTION	PERCENTAGE
1	Advance Payment	15
2	Completion of hull (Except for cabins)	10
3	Completion of cabins	5
4	Payment 4	15
5	Payment 5	15
6	Payment 6 – After completion and handover of the vessel	35
7	Payment 7 – Retention (up to the end of warranty period)	5

* Payment 4 & 5 will be date shall be assigned, depending on the duration proposed by the bidder.

ANNEX-1

TECHNICAL SPECIFICATIONS FOR 45FT VESSEL

DESCRIPTION	SIZE/MATERIALS	UOM
Hull Materials	FIBERGLASS	
Length Overall	13.716	M
Beam Max	4.449	M
Length On DWL	11.820	M
Depth at Mid Ship	1.957	M
Draft	1.053	M
Displacement Light	14	TONS
Engine HP	150-200	HP
Engine Displacement (Max)	6.5	LITERS
Fuel Capacity	1000	LITERS
Fresh Water Capacity	400	LITERS

45FT VESSEL WITH STANDARD SPECIFICATION INCLUDING THE FOLLOWING FEATURES:

- White gelcoat finishing on hull & deck exteriors, FRP hardtop, laminate-glass front & side windscreens as per shared drawings
- Hydraulic steering system.
- Wiring should be DC tin coated AWG cables.
- Fiberglass mat thickness of the vessel (As per scantling).
- AgroNat logo and name to be in gelcoat.
- Non-skid deck to be in gelcoat.
- Cargo storage compartments underneath deck with 2 NOS with access hatches.
- Cabin with fiberglass gelcoat finished dashboard and cabinets (dashboard fitted with COMPASS).
- Standard toilet with marine electric toilet, wash basin, showerhead, towel holder.
- Electrical wiring (with DC 200AH house battery x 1, battery switch, engine room blower, cabin and deck lights, switches, 12G switch panel, USB charger, navigation light set & search light
- Engine foundation, engine's seawater-line, fuel and water tank connections and fittings.
- Details of fibreglass materials (Resin and Gelcoat) to be used for building must be provided by the bidder at time of bid submission.

VESSEL EQUIPMENTS AND ACCESSORIES

DETAILS	UOM	QTY
Maintenance free Battery 200AMP (house & engine start battery)	NOS	1
Battery switch (On/Off)	NOS	1
Blige pump 2000GPH 12V with float switch	NOS	1
Bilge alarm system 12V	NOS	1
Fresh water pump 26LPM 12V	NOS	1
Engine exhaust blower	NOS	1
Marine electric toilet 12V	NOS	1
Engine room light 12V	NOS	2
Cabin and Cargo compartment lights 12V	NOS	8
USB charger port dual	NOS	1
Search light 12V (remote control type)	NOS	1
Navigation light set 12V	NOS	1
Marine compass	NOS	1
Captain seat	NOS	1
Steering System	NOS	1

DOCUMENTATION

- All documents required for vessel registration.

WARRANTY FOR

- Hull

REQUIRED SPECIFICATIONS FOR RESIN

Bidders must submit product datasheets specifying mechanical properties with test methods, nature of chemical, applications or principal properties and certificate of approval from an established classification society for boat building.

Required specifications and mechanical properties.

Property	Value
Tensile Strength	90 MPa
Tensile E-modulus	3900 MPa
Elongation at break	4.6 %
Flexural Strength	133 MPa
Flexural E-modulus	4000 MPa
Impact res-unnotched	27 KJ/m ²
Heat Deflection Temperature	87 °C
Hardness (barcol)	>40

REQUIRED SPECIFICATIONS FOR GELCOAT

Bidders must submit product datasheets specifying characteristics of cured product, water absorption of cured product, specifications of base gelcoat, principal properties, and manufacturer recommended applications and certificate of approval from an established classification society for boat building. Bidders shall make sure the datasheets mention test methods.

Required specifications.

Characteristics	Typical Value for Brush Application (Base Gelcoat)	Typical Value for Brush Application (Base Gelcoat)
Barcol Hardness	40-45	45-45
Tensile Strength	50±5 MPa	50±5 MPa
Tensile Modulus	3650±150 MPa	3800±150 MPa
Elongation at Break	≥2.5	≥2.5
Flexural Strength	95±5 MPa	85±5 MPa
Flexural Modulus	3300±150 MPa	3600±150 MPa
HDT 66 psi	≥95 °C	≥95 °C
Water absorption of cured product at 40°C after 16hrs (RINA/LRS approved)	<60 mg	< mg

ANNEX 2

DRAWINGS

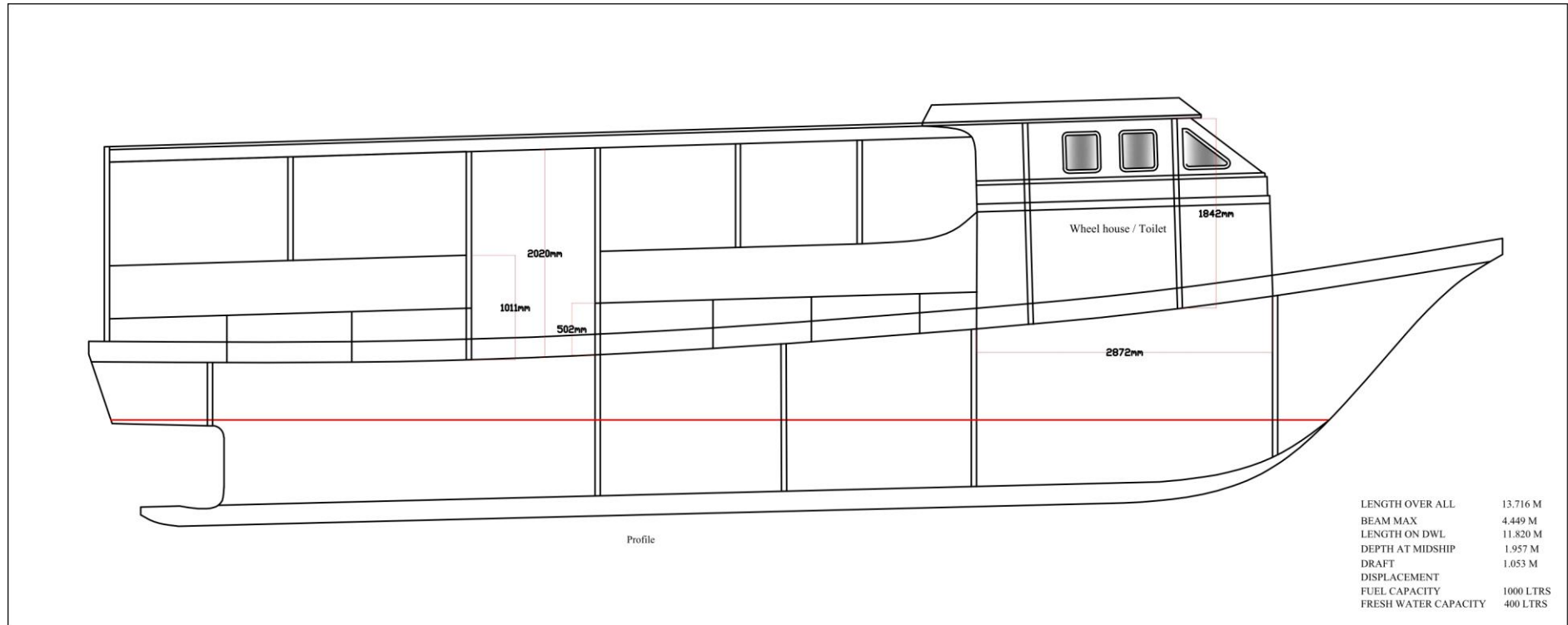


Figure 1: General Arrangement (Profile View)

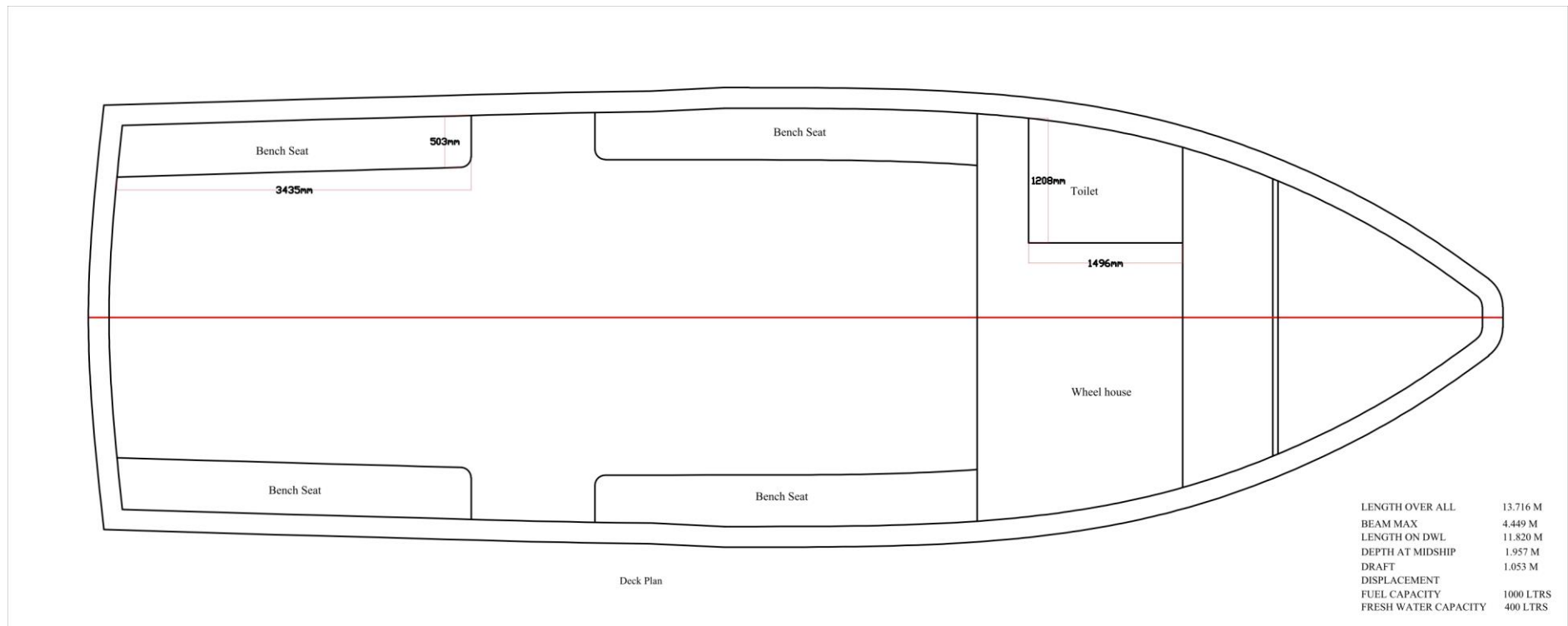


Figure 2: General Arrangement (Plan View)

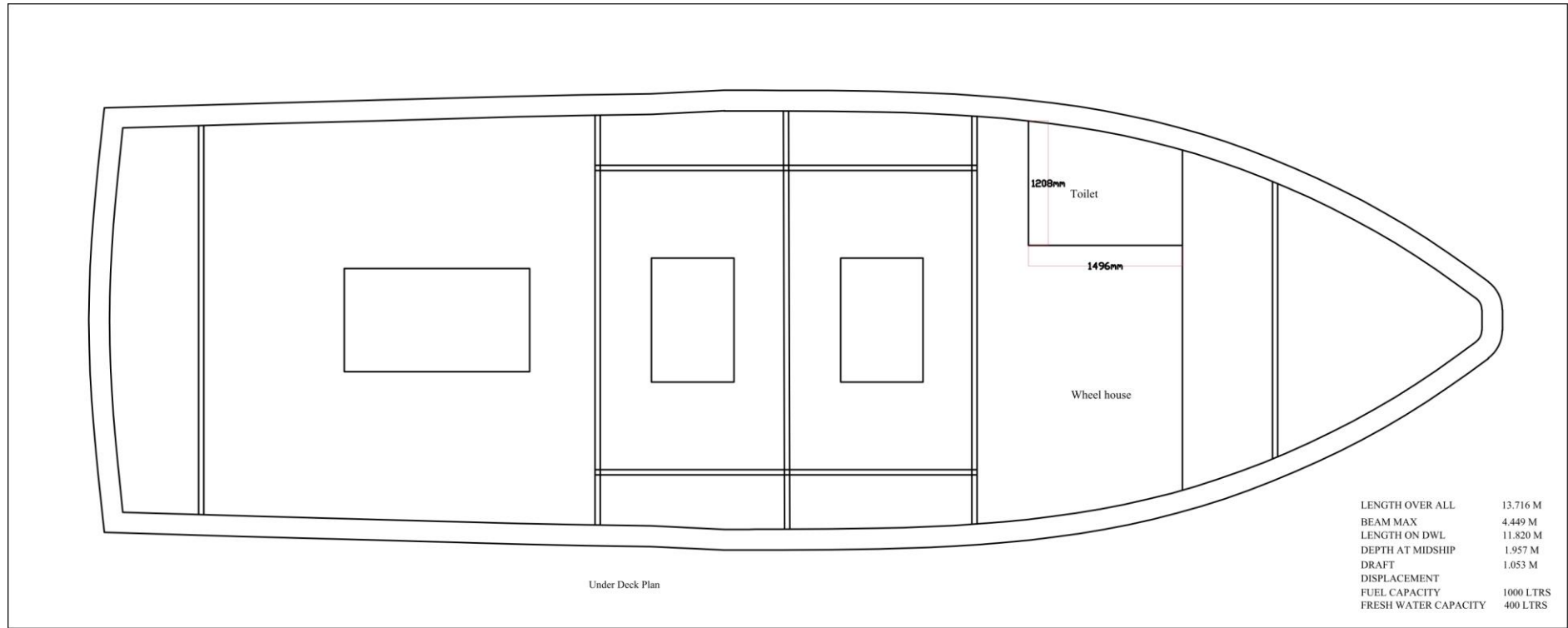


Figure 3: General Arrangement (Plan View)

