

'DELTA' 9.8 metre Multi Role Vessel

OUTLINE SPECIFICATION 27 November 2007

SERIAL NO	<u>SPECIFICATION</u>														
1.0	<p>General description of Vessel: The vessel is of planing hull form with hull constructed of Fibre Reinforced Plastic (FRP). Propulsion is by single high-speed diesel engine installed aft and coupled to a stern drive unit. The Wheelhouse structure is also constructed from FRP. The wheelhouse provides seating for up to six persons and is fully enclosed. The deck is at the upper level of the fendering arrangement. Handrails conforming to MCA requirements are fitted around the Wheelhouse and on the aft and forward deck. A 'Hadrian' pilot safety rail is fitted around the periphery of the Wheelhouse to allow safe movement on deck for the crew and pilots.</p>														
1.1	<p>Dimensions & Particulars:</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 40%;">Length overall</td> <td>9.80metres</td> </tr> <tr> <td>Beam overall</td> <td>3.30metres</td> </tr> <tr> <td>Estimated Draft</td> <td>0.7metres with leg down</td> </tr> <tr> <td>Estimated Displacement</td> <td>5.5 tonnes (loaded)</td> </tr> <tr> <td>Performance</td> <td>Speed through the water is 28 knots at maximum power in calm conditions with optimum trim and full fuel and water and 2 crew</td> </tr> <tr> <td>Operating criteria</td> <td>Capable of operating in 2m seas and 20-25kt winds and at slow speeds 6-12kts suitable for pilot transfer.</td> </tr> <tr> <td>Estimated Range</td> <td>200 nautical miles at cruising speed of 22knots</td> </tr> </table>	Length overall	9.80metres	Beam overall	3.30metres	Estimated Draft	0.7metres with leg down	Estimated Displacement	5.5 tonnes (loaded)	Performance	Speed through the water is 28 knots at maximum power in calm conditions with optimum trim and full fuel and water and 2 crew	Operating criteria	Capable of operating in 2m seas and 20-25kt winds and at slow speeds 6-12kts suitable for pilot transfer.	Estimated Range	200 nautical miles at cruising speed of 22knots
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2.0	<p>Compliance Standards: The vessel will be designed, constructed, fitted out and equipped in accordance with the requirements of the MCA Workboat Code (Harmonised) MGN 280. The vessel will be supplied certified to operate as a workboat with 'Pilot Boat' endorsement. The hull will be constructed in accordance with Lloyds Register 'Special Service Craft' Rules for +100A1 HSC Mono Pilot G3 for operation within 20 n miles of a safe haven</p>														
2.1	<p>Stainless Steel: All stainless steel employed in the construction of this vessel is marine quality to BS970 or 1449 , Grade 316S31 or 316S11.</p> <p>Aluminium Alloy: All aluminium alloy employed in the construction of this vessel is marine quality conforming to BS 1470 and 1474, Grades 5086-0 and 6062-T6.</p>														
2.2	<p>Hull Construction and Materials: The hull is constructed as a one piece moulding with heavy duty lay-up using pigmented isophthalic gelcoat and pigmented resin in black or as required. Isophthalic polyester resin is employed for the main laminate and internal structural framework bonding. Mild steel tapping plates are bonded into the longitudinal girder top faces as required for the engine mounting pedestals. Plywood bulkheads and deck are of first quality resin bonded material sheathed on both faces to BS 1088WPB.</p>														

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2.3	<p>Fendering: The vessel will be provided with a gunwale fender formed with a cellular foam core and overcoated with polyurethane. The fender system is constructed in sections which can be replaced individually. The outer surface of the fender is covered with layers of sacrificial EPDM rubber extrusion and the upper surface is non-slip.</p>
3.0	<p>Hull and Deck Arrangements: Secure mooring arrangements are provided and include bollards, cleats and fairleads mounted on the deck. The aft bollards are suitable for towing a vessel of similar size and displacement at below 5kts.</p>
3.1	<p>A bow fairlead is mounted on the foredeck.</p>
3.2	<p>A recessed stowage locker is provided on the foredeck for anchors, chain and warp, this locker is provided with a deck mounted hand operated bilge pump.</p>
3.3	<p>Side decks are of such width as to permit safe movement of crew alongside the Wheelhouse in compliance with MGN 280. A secure pilot rail (matt black finished alloy) is mounted on fwd deck area up to anchor locker for crew safety when foredeck working. The deck is coated with a non-slip grit painted surface.</p>
3.4	<p>Lifting Lugs are provided for four point lift suitable for slinging the Vessel ashore in full load condition + 5% margin, by crane. Slings are Purchaser supply.</p>
3.5	<p>An LSA equipment stowage area is provided in the forward part of the Wheelhouse.</p>
3.6	<p>Engine casing flush with the deck is provided with hinged top access panel on stainless steel gas spring struts. Appropriate sealing arrangements are incorporated to give weather-tight integrity when closed.</p>
3.7	<p>The stern-drive unit is protected by a tubular aluminium alloy protection frame.</p>
3.8	<p>Watertight deck hatches for access to fuel tank manholes and bilge spaces are Bailey Hatch type or similar. Full access is provided to void bilge space sections for inspection and maintenance.</p>

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3.9	<p>Wheelhouse is of FRP construction and is well secured to the deck structure and located as dictated by the design criteria. The structure is framed as appropriate for rigorous commercial service and is enclosed with access through a lockable aluminium alloy weather-tight door with fixed window and hook back. The Wheelhouse is fitted with robust fixed aluminium alloy framed window units glazed in clear toughened glass. A heavy-duty pantograph screen wiper is fitted for the helm windscreen. Forward facing windows are inward sloping to reduce glare. The Wheelhouse is pigmented 'safety orange' or as required.</p> <p>Grab rails are fitted as required to provide safe movement within the vessel. Appropriate mountings are provided for radar scanner, signal mast, radio aerials and other navigation antennae.</p> <p>Fuel tank filler is mounted on the deck surface.</p> <p>A forward safety rail is fitted for the deckhand to clip on to during transfer.</p> <p>The roof has a non-slip surface. The safe working load of the roof is sufficient to bear the mass of any equipment mounted or stowed on the roof by the Builder, and the mass of 1 person.</p> <p>The roof of the Wheelhouse has a tether point for a personnel harness safety line.</p> <p>Roof windows are fitted above the helm seat.</p>
3.10	<p>Internal fit-out provides a helm position to the port side with a steering compass, instrument console, switchgear and engine controls, navigational electronics display. Instruments panel is mounted for easy servicing. Freshwater screen wash operated by solenoid valve and a 10 litre polyethylene portable jerry can tank. Screen demisting facility is provided using waste heat from the main engine through a heater/blower matrix. Seating for 3 persons on KAB or similar suspension seats is fitted. Seating for a further 3 persons of bench type is also provided. Secure grab rails for seating and standing crew members is fitted.</p>
3.11	<p>Mooring and Anchoring: Anchor, cable, mooring and towing lines are provided in accordance with the requirements of MGN280.</p>
4.0	<p>Machinery and Installations: A single high-speed marine diesel engine is installed coupled to stern-drive unit. The engine is mounted on substantial longitudinal girders and arranged in the stern area contained within a casing arrangement as described in para 3.6. Installation complies with manufacturer's requirements.</p>
4.1	<p>Machinery is Yanmar 6LP with Bravo 2 Sterndrive. The engine develops sufficient power to achieve not less than 30 knot performance with 90% fuel and water load and 3 persons. The engines are covered by Yanmar's warranty.</p>
4.2	<p>The engine control system is Yanmar.</p>

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4.3	Engine compartment ventilation is of natural inlet and natural outlet extraction. The system is arranged to provide maximum protection against water ingress. The system includes protected inlet cowlings on the Wheelhouse roof, with water traps, routed to the engine space. Vent ducts incorporate efficient fire closing devices. Extraction vents are mounted on casing top in standpipes.
4.4	Engine compartment is lined internally using acoustic insulation to reduce noise levels in the Wheelhouse to meet MGN280 requirements.
4.5	The engine has a through transom exhaust.
4.6	The fuel system comprises a single 300 litre fuel tank of stainless steel construction with access panel provision for cleaning. All fuel piping is in approved flexible hose to ISO 6048. The fuel filter/water separator is Separ type. A remote fuel shut-off is arranged to be operable outside the Machinery Space.
5.0	Electrics and Electronics: The system is 12 volt DC, two wire, single pole protected with an engine driven alternator of not less than 60amp capacity. Two battery banks are provided for engine start & general service (100-ampere hours minimum capacity). Batteries are fitted in sealed boxes with ventilation to atmosphere. A split charge system allows both battery banks to be charged by the alternator. Isolating and selecting switchgear is provided for battery isolation and emergency paralleling.
5.1	Electrical wiring and installation complies with the requirements of MGN 280. Cables are tinned copper with fire retardent, low smoke and halogen sheathing complying with IEC 332-3. Cable connections are made with Deutch connectors.
5.2	<p>Electrical equipment supplied and fitted:</p> <ul style="list-style-type: none"> 1 in No. Port navigation light 1 in No. Starboard navigation light 1 in No. Steaming light 1 in No. Stern light 1 in No. On duty pilot light –all round red 1 in No. Anchor/Pilot light – all round white 1 in No. Pantograph wipers – heavy duty type 1 in No Pressure pump, solenoid operated valve for screen wash 4 in No. Wheelhouse footlights 1 in No. Demisting for wheelhouse screen 1 in No. Shore Power Connector. 3 in No. Deckhead interior lights(Wheelhouse)- 1 red, 2 white) 2 in No. Engine compartment lights 1 in No. Watertight plug and socket. 1 in No. Fuel tank contents gauge 2 in No. Electric submersible bilge pumps c/w pressure switches 1 in No. Francis searchlight, controlled from Wheelhouse 1 in No. Loud hailer with added sound making device. 1 in No. Flood light

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	<p>Electronic Navigation Equipment supplied and fitted.</p> <p>2 in No. VHF/DSC marine radio telephone - ICOM M601 or similar 1 in no Portable VHF radio – ICOM IC53EURO or similar 1 in no Search and Rescue Transponder (SART) 1 in No. Radar /Chartplotter – Raymarine 18” radome and 7.5 Colour LCD daylight display. Interfaced with GPS 1 in No. GPS - Raymarine Raystar 125 antenna</p>
6.0	<p>Cathodic protection: Cathodic protection is provided as per engine manufacturer's recommendation.</p>
7.0	<p>Steering System: Delta supplied steering system. Emergency steering is in accordance with MGN 280</p>
8.0	<p>Bilge Systems: Rule 3000 or similar, 12v DC electric submersible bilge pumps of 3000ltr/hr are installed in both the Machinery Space and Tank Space bilges. A Whale manual bilge pump of not less than 70 ltr/minute capacity is also installed. This pump is installed within the Machinery Space and operated from deck through weather-tight gland. This pump discharges through transom by anti-siphon loop. Bilge alarm sensors in both the Machinery Space and tank Space bilges are installed with audible and visual indications on panel at helm console.</p>
9.0	<p>Fire Protection Systems: A fire detection is provided in the Machinery Space with a smoke detector fitted above the engine. Fire drenching system is provided for this space using an FM200 based system.</p>
10.0	<p>Lifesaving Appliances: Provided for 6 persons as required by MGN 280 Harmonised Code. A 'Jason's Cradle is provided for man-overboard recovery.</p>
11.0	<p>Safety Equipment: All safety equipment required under the MGN 280 harmonised code Category 3 including Pilot Boat Section is supplied.</p>
12.0	<p>Trials: Two sets of trials are carried out. Harbour trials and Sea trials. Before the trials are conducted a Trials Programme and Trials Requirements and Function Test is produced and the procedure for each harbour and sea trial agreed. A crew familiarisation programme is incorporated into the schedule. Documentation is provided in respect of all tests and certificates.</p>

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	<p>Harbour Trials:</p> <ol style="list-style-type: none"> 1. Bilge & Fire pump system 2. Electrical functioning trials 3. Alarm and indicators 4. Machinery functioning. 5. Steering gear 6. Anchor <p>Sea Trials</p> <ol style="list-style-type: none"> 1. Contract speed trial over approved measured distance. 2. Progressive speed trials at light load. 3. Progressive trials at full load. 4. Astern trials 5. Anchor trial. 6. Emergency steering trials 7. Turning circles. 8. Emergency stop. 9. Manoeuvring alongside moving vessel.
13.0	<p>Manuals: Operation and maintenance handbooks as supplied by manufacturers. All manuals as required under the Workboat Code including Stability Information Booklet and Safety(Training) Manual will be provided. A set of 'as-fitted drawings and specification in both hard-copy and electronic (pdf) format will also be supplied.</p>
14.0	<p>Spares: A list of recommended consumable and breakdown spares will be provided.</p>
15.0	<p>Delivery: The vessel will delivered to Whitstable.</p>
16.0	<p>Training: The Builder provides for 2 days sea acceptance trials at its nominated port including 1 days operational and technical training for crew and maintenance staff to familiarise them with the craft.</p>