RFx: 3000021994 Title: Truckable Work Boats - DOTD



# STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT TECHNICAL SPECIFICATIONS FOR

## TRUCKABLE WORK BOAT

# PROJECT NO. H.972349.1 EQUIPMENT SPECIFICATION H.972349.1

REV. 9/14/2022

# **GENERAL**

This specification sets forth the minimum requirements for a Truckable Work Boat built to USCG Standards.

Equipment shall be new, a production model of current manufacture, and must meet all state and Federal safety and emission standards in effect at time of order.

# REPRESENTATIVE SPECIFICATIONS

A Truckable Work Boat, with appropriate options and standard features, was used to develop these specifications and establish equivalency evaluation criteria.

Equipment of similar style, type, character, quality, features, and purpose conforming to the following detailed requirements/specifications will be considered. For evaluation purposes, bidder's proposing an exception/equivalent option/feature to those specified herein, may be required to provide manufacturer/product information (catalogue sheets, detailed specifications, pictures, etc.). This information will be evaluated against the minimum requirements of this specification. Proposed submittals that are determined not to be equivalent to the established criteria will be rejected.

# LOUISIANA AUTHORIZED DEALER(S)

Proposed mechanical and electrical components must be from a manufacturer who has an authorized dealer <u>within the State of Louisiana</u> where parts and service can be obtained. Authorized dealer(s) must have properly trained technicians plus all other resources necessary to perform warranty and repair services in complete accordance with the manufacturer's requirements. A letter certifying the ability to meet this requirement, inclusive of the service company name(s) and address(es) of the Louisiana authorized dealer(s), should be supplied with the bid submittal and may be required prior to award.

#### **DELIVERY & ACCEPTANCE**

Vendor shall perform a test run of the vessel to verify that all features and capabilities are operating properly at time of delivery. Documentation of testing may be required prior to acceptance by the Department.

Unit(s) must be delivered assembled (including all components, accessories, etc.) and ready for operation without any additional preparation beyond delivery exception requirements, but not limited to, ensuring, upon delivery, all fluid levels, except fuel tank(s), are at their full mark (exceptions for delivery are allowed) or to be filled, all necessary lubrication has been performed, etc. A Representative of the Louisiana Department of Transportation and Development shall perform an inspection on each vessel prior to acceptance, and an acceptance will be provided electronically.



Any unit delivered under this specification is subject to rejection if there is evidence of poor workmanship, by either the vendor or the original manufacturer. Noted defects and/or nonconformance findings shall be corrected by the vendor. Corrections must be completed and approved by the Equipment Engineer or his Representative prior to final acceptance.

Unit(s) shall be delivered "upon an agreed location within the State of Louisiana;" DOTD will coordinate the unloading operation and unloading equipment with the vendor/delivery driver in order to offload the vessel.

**NOTE:** The Department will have space available for equipment to be unloaded.

# EACH UNIT MUST BE SUPPLIED WITH THE FOLLOWING DOCUMENTATION:

- 1. Notarized Bill of Sale (USCG)
- 2. Builders Certification
- 3. USCG Documentation
- 4. Owner's/Operator's Manual(s)
  - a. Two (2) Hardcopy
  - b. One (1) Digital Copy
    - i. Acceptable Formats: Flash Drive or E-mail
- Service Manual(s)
  - a. Two (2) Hardcopy
  - b. One (1) Digital Copy
    - i. Acceptable Formats: Flash Drive or E-mail
- 6. Vessel Drawing(s) as applicable
  - a. Two (2) Hardcopy
  - b. One (1) Digital Copy
    - i. Acceptable Formats: Flash Drive or E-mail
  - c. Build sheets should be written in plain language (not company specific codes) and include, at a minimum, all standard & optional features of the delivered unit.

**NOTE:** Invoices will not be processed for payment until the unit(s) have been inspected by the LADOTD Engineer or their Representative(s) and deemed in compliance with the specifications.

# **BID SUBMITTALS**

Any additions, deletions, or variations from the specifications should be noted in the "Bidder's Exceptions" page of this specification. Exceptions that are noted to be less than a minimum requirement will not be accepted.

Any additions, deletions or variations from the manufacturer's standard published specifications should be noted on the "Bidder's Exceptions" page of this specification. Unless otherwise noted, any items appearing in the manufacturer's standard published specifications furnished by the Bidder are assumed to be included in the Bidder's submittal.

Failure to note any specification exceptions, manufacturer specification alterations, and/or vendor installations prior to award may result in rejection of the equipment at the time of delivery.

THE NUMBER OF DELIVERY DAYS AFTER RECEIPT OF ORDER (ARO) MAY BE USED AS A FACTOR IN THE AWARD.



# **NOTICE TO BIDDERS**

Bidder should complete every item described in detail in the "Equipment Specifications" section by either entering "Yes" or "No" in the space provided. Enter "Yes" to indicate the item being bid is exactly as specified. Enter "No" and provide a written description on Attachment 1 to indicate any proposed item which deviates from the specification.

THIS SPECIFICATION SHOULD BE EXECUTED IN ACCORDANCE WITH THE ABOVE INSTRUCTIONS AND RETURNED ALONG WITH BID AND LITERATURE TO BE CONSIDERED FOR AN AWARD.

Note: All Values listed below are minimums unless noted otherwise.

# 1. Section 1

1.1. Dimensions of Craft

**1.1.1.** Length: Approx. = 25'- 11" LOA

**1.1.1.1.** Not To Exceed, 25'- 11" LOA

**1.1.2.** Beam: 14'-0" **1.1.3.** Depth: 5'-0"

1.1.4. Pilot House Height of Eye: Approximately 15'-0"

**1.1.4.1.** Pilot House: 4'- 6" Wide x 4'- 0" Long x 6'- 9" High

**1.1.4.2.** Storage Deck House: 9'- 0" Wide x 4'- 0" Long x 7'- 0" High

**1.1.4.2.1.** Grab Rail: 1 - ¼" Sch. 40 pipe / 39.5" above the main deck

1.1.5. Displacement: (Approx.) 43,000 lbs.

Comply Yes/No:	
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- 1.2. Materials & Structure (or Equivalent)
  - **1.2.1.** Steel: All New and Primed to ASTM A-36,
  - 1.2.2. Shell Plating Thickness: 1/4"
    - 1.2.2.1. Deck / Sides / Bottom / Head Log / Transom
  - **1.2.3.** Framing
    - **1.2.3.1.** Deck
      - **1.2.3.1.1.** Angle: 3"x 3"x ¼" @ 24" O.C.
    - **1.2.3.2.** Sides
      - **1.2.3.2.1.** Angle: 3"x 3"x ¼" @ 20" O.C.
    - **1.2.3.3.** Bottom
      - **1.2.3.3.1.** Angle: 4"x 3"x ¼" @ 20" O.C.
    - 1.2.3.4. Welds: 3" @ 12" O.C.
  - **1.2.4.** Bulwarks:
    - **1.2.4.1.** Continuous and Flanged all-around hull
    - 1.2.4.2. Plate & Bracket Thickness: 1/4"
    - **1.2.4.3.** Height: 14"
    - **1.2.4.4.** Flange: 2"
  - **1.2.5.** Rub Rails: ½" x 4" flat bar



- **1.2.6.** Bow Push Pivot Barge Connection: Barge locking pin for connection to the barge. A Pilot House actuated latching devise shall also be installed Port/Stbd. (Ref page 12) on the stern to hip-up to the barge.
- **1.2.7.** Stern Push Knees: With 5' Over All Height installed. Pads are 2" thick rubber bonded to ½" x 10" steel backing plate.

<b>Comply Y</b>	es/No:	
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#### **1.3.** Details

- 1.3.1. Bulwarks: All-around hull
- 1.3.2. Grab Rail: All –around deckhouse at main deck level
- **1.3.3.** Barge Connection:
  - **1.3.3.1.** Barge locking pivot pin connection assembly mounted on the bow centerline for connecting to the ferry barge. (Reference page 12)
  - **1.3.3.2.** Pilot House actuated side hook mounted port side and stbd. side aft for connecting to the ferry barge. (Reference page 12)
- 1.3.4. Stern Push-Knees:
  - **1.3.4.1.** Two C12 x 20.7 channels, extending 36" above deck, each with bracing  $\frac{1}{2}$ " plate finished with  $\frac{3}{8}$ " x 2" flat bar, and  $\frac{1}{2}$ " x 10" backing plate.
  - **1.3.4.2.** Two Rubber pads 2" thick bonded to backing plate over entire width and length of backing plate.
- 1.3.5. Rub Bars: Flat Bar ½"x 4"Wide.
  - **1.3.5.1.** Continuous Flat bar along head logs, all corner radii, and along each side of hull (rake and midbody).
- **1.3.6.** Winches:
  - 1.3.6.1. Two 5-ton manual winches installed on the aft deck.
- **1.3.7.** Pilot House:
  - **1.3.7.1.** Pilothouse is 4' 6" wide x 4' long x 6' 9" high and is constructed of 3/16" steel plate with sloping forward window and visor around roofline with rear door access.
  - **1.3.7.2.** Sides framed with 3/8" x 2" flat bar.
  - **1.3.7.3.** Overhead pilothouse framed with  $2'' \times 2'' \times 1/4''$  angle and  $3/8'' \times 2''$  flat bar. The pilot house is elevated on a 7' storage deck house.
  - **1.3.7.4.** One (1) overhead cabin LED (red/white) light shall be installed. Two (2) six-gang 12-volt breaker panels mounted in dash of pilothouse.
  - 1.3.7.5. One (1) Captain's Chair.
  - **1.3.7.6.** One (1) front window 4' x 3' horizontal slide. Two (2) side windows are 3' x 3' horizontal slide and one (1) rear window 15" x 30" vertical slide mounted in 6' x 2' aluminum door. All windows are tempered safety glass.
    - **1.3.7.6.1.** Pilot house window to have chain driven / pull down / grey tint / roller shades.
  - **1.3.7.7.** One (1) 7" sealed beam searchlight, one (1) single-bugle horn, one (1) VHF antenna and roof mounted A/C on pilothouse top.
  - **1.3.7.8.** Flanged for take down and ready for cable disconnection.
- **1.3.8.** Storage Deck House Pedestal:
  - **1.3.8.1.** Pedestal for Pilot House framed with 2" x 2" x ¼" angle and 3/8" x 2" flat bar.
  - 1.3.8.2. The storage house has one (1) overhead cabin LED light and exhaust fan installed.
  - **1.3.8.3.** Two (2) side windows are 3' x 3' horizontal slide. All windows are tempered safety glass.



- **1.3.8.4.** One (1) forward facing mounted 6' x 2' aluminum door.
- 1.3.9. Engine Housing (Box):
  - **1.3.9.1.** Engine room housing is 7' long by 9' wide by 27" above deck. Constructed of 3/16" plate and framed with 3/8" x 2" flat bar. Overhead framed with 3" x 3" x  $\frac{1}{4}$ " angle. Housing cover removable for complete access to engine room.

Comply Yes/No:	
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- **1.4.** Powertrain/Fuel/Control Systems
  - **1.4.1.** Power Train:
    - **1.4.1.1.** Two (2) John Deere 6068AFM85 diesel engines, 300 HP each@ 2500 RPM (M3 rating) Tier 3, connected to Two (2) ZF 305 2.91:1 transmissions shall be installed.
    - **1.4.1.2.** Two (2) 2 1/2" Aquatech 17 stainless steel propeller shafts with two (2) 34"x 18" x 4 blade bronze propellers installed.
    - **1.4.1.3.** Two (2) -21/2'' Cutlass stern bearings shall be installed.
    - **1.4.1.4.** Two (2) PYI pack-less shaft seals installed.
  - **1.4.2.** Exhaust:
    - **1.4.2.1.** Installed through stacks mounted on engine housing box top with 5" (cowl) spiral exhaust silencers, residential quiet.
  - **1.4.3.** Engine Cooling:
    - **1.4.3.1.** Closed freshwater system circulated through C7 x 9.8 channel welded to bottom of hull. System is air pressure tested for integrity before painting.
  - **1.4.4.** Fuel Tank:
    - **1.4.4.1.** Fuel tank with (gauge mounted in Pilot House) and a capacity at approximately 350 gallons and air pressure tested before installation. The fuel tank has a vent pipe and 2-½" fill pipe and valve for fuel shut off. Emergency fuel shut off outside engine room shall be installed. Tanks shall have a 22" multi bolt manhole installed.
  - **1.4.5.** Rudders:
    - **1.4.5.1.** Two (2) main steering rudders. Rudderstocks shall be 2" cold drawn steel in bronze bushings. Tiller arm pins shall have grease fittings installed. Rudders constructed of ¼" steel plates with 3/8" x 2" flat bar bracing. Rudder angle indicators shall be installed for rudders.
  - 1.4.6. Hydraulic Steering:
    - **1.4.6.1.** Two (2) hydraulic pumps, one driven off each engine. Control valve and flow regulator mounted in the engine room operated by a push pull-pull cable.
  - **1.4.7.** Engine Controls:
    - **1.4.7.1.** Main Engine control panel mounted in pilot house
    - **1.4.7.2.** Single Dual lever control head with heavy-duty 43C control cables.

Comply	Yes/No:	

- **1.5.** Electrical
  - 1.5.1. Electrical & Power Systems:
    - **1.5.1.1.** One 8.5 KW Diesel Marine Generator



- **1.5.1.1.1.** Remote start/stop, include marine starter battery
- 1.5.1.1.2. Hospital grade muffler
- **1.5.1.1.3.** Auto-protection for low oil pressure and high coolant temperatures
- 1.5.1.1.4. All required fluids for operation are to be included
- **1.5.1.2.** Two (2) 12V DC heavy duty 8D marine batteries with charger mounted in Coast Guard approved battery boxes located in the engine room.
  - **1.5.1.2.1.** One (1) 12V (DC) Light bar on emergency circuit mounted in the engine room.
  - **1.5.1.2.2.** Three (3) LED lights mounted in the engine room.
  - **1.5.1.2.3.** One (1) Water Tight Marine 115 volt deck connection.
  - 1.5.1.2.4. Two (2) Water Proof 115 volt connections in deck house
  - **1.5.1.2.5.** One (1) VHF radio shall be installed in pilot house.
  - **1.5.1.2.6.** Four (4) LED flood lights with individual controls shall be installed on the pilot house visor, one forward, one on each side and one aft on emergency circuit.
- **1.5.1.3.** One (1) 24V 18 amp (DC) Emergency Power Supply with a 24 V ERC Relay Charger.
- **1.5.1.4.** One (1) Lincoln Electric Handy MIG Wire Feed Welder with Gun, MIG and Flux-Cored Wire, Hand Shield, Gas Regulator and Hose, 115 V located below the pilot house.

Comply Yes/No:	
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# 1.6. Peripheral Systems

- **1.6.1.** Ventilation:
  - 1.6.1.1. One (1) 12 VDC 700 CFM blower shall be installed in the engine house for engine room ventilation.
  - 1.6.1.2. One (1) Roof Mounted AC (12,000btu) with Heat for pilot house.
  - **1.6.1.3.** One (1) vent fan with rain shield for storage house pedestal.
- **1.6.2.** Navigation Lights:
  - **1.6.2.1.** Mast on top of pilot house shall have two (2) white tow lights forward and two (2) amber tow lights aft. Green and red side lights shall be installed on the side of the pilot house.
  - **1.6.2.2.** One (1) All around Stern Light
- 1.6.3. Windshield Wiper
  - 1.6.3.1. 12V Heavy Duty Windshield Wiper
- **1.6.4.** Bilge Pump:
  - **1.6.4.1.** Two (2) 12 volt 1,000 GPH pump.
- **1.6.5.** Bilge Alarm:
  - **1.6.5.1.** One high bilge level alarm as required by USCG.
- 1.6.6. Fire Det./Gen. Alarm:
  - **1.6.6.1.** One fire detection and general alarm system shall be installed.
- **1.6.7.** Fire Pump
  - **1.6.7.1.** Portable diesel driven fire pump mounted on main deck as required by USCG.
- **1.6.8.** Fire Extinguishers
  - 1.6.8.1. Engine Room (10# ABC)/Pilot House (5# ABC)/Storage Pedestal (#5 ABC) Fire Extinguishers.
- **1.6.9.** Misc. Equipment:
  - **1.6.9.1.** Vendor shall furnish and install all safety equipment, communications equipment, lifesaving, and firefighting equipment required by the USCG.
- **1.6.10.** Bitts:
  - **1.6.10.1.** One double towing bitt, one double head bitt, and four single quarter bitts.



- **1.6.11.** Lifting Eyes:
  - **1.6.11.1.** Four permanent vessel lifting eye straps welded to hull.
- 1.6.12. Anodes:
  - **1.6.12.1.** Four 12- pound zinc anodes shall be installed on the bottom aft.

Comply	Yes/No:	
Comply	res/No:	

- **1.7.** Paint System:
  - 1.7.1. All New Steel: Prior to Assembly
    - **1.7.1.1.** Surface Preparation:
      - **1.7.1.1.1.** Abrasive wheel-a-brate blast to SSPC-SP10-85 "Near White Blast" standard the entire surface area, ensuring to achieve a surface profile between 1.5 mils and 2.5 mils
      - **1.7.1.1.2.** Blow down with high-pressure air to remove any spent abrasives and other contaminants, being sure the surface is completely dry prior to application of coatings.
    - **1.7.1.2.** Coatings:
      - **1.7.1.2.1.** Apply one (1) full coat of Interplate 937 Nippe Ceramo NQA933/NQA936 Heat Resistant Zinc Silicate Shop Primer Gray at 2.4 mils wet to yield 0.6 mils dry. At 73°F allow a minimum of 5 minutes to handle. (Note: After Interplate 937 NQA933/NQA936 Pre-Construction Zinc Primer applied and ferry assembled)
  - 1.7.2. Keel to Waterline
    - **1.7.2.1.** Coating System:
      - **1.7.2.1.1.** Apply one (1) full coat of Intertuf 262 KHA305/KHA062 Epoxy Buff or equivalent at 8.3 mils wet to yield 6.0 mils dry. At 73° F allow a minimum of 6 hours and a maximum of 1 month before over coating.
      - **1.7.2.1.2.** Apply one (1) full coat of Intertuf 262 KHA302/KHA062 Epoxy Gray or equivalent at 8.3 mils wet to yield 6.0 mils dry. At 73° F allow a minimum of 4 hours and maximum of not beyond a tacky state before over coating.
      - **1.7.2.1.3.** Apply one (1) full coat of Interspeed 6400NA BQA674 Red Antifouling or equivalent at 8.3 mils wet to yield 5.0 mils dry. At 73° F allow minimum of 24 hours and a maximum 21 days before over coating.
      - **1.7.2.1.4.** Apply one (1) full coat of Interspeed 6400NA BQA679 Black Antifouling or equivalent at 8.3 mils wet to yield 5.0 mils dry. At 73° F allow minimum of 24 hours and a maximum 21 days before overcoating. Also allow minimum of 24 hours before flooding.
  - **1.7.3.** Waterline to Deck Edge and Bulwarks (Inside and Outside)
    - **1.7.3.1.** Coating System:
      - **1.7.3.1.1.** Apply one (1) full coat of Interzinc 75V EPA75V/EPA076V Zinc-Rich Epoxy Red or equivalent at 4.7 mils wet to yield 3.0 mils dry. At 73° F allow a minimum of 8 hours and a maximum of 2 months before over coating.
      - **1.7.3.1.2.** Apply one (1) full coat of Intertuf 262 KHA304/KHA062 Epoxy Black or equivalent at 8.3 mils wet to yield 6.0 mils dry. At 73° F allow a minimum of 6 hours and maximum of 3 days before overcoating.
      - **1.7.3.1.3.** Apply one (1) full coat of Interthane 990 PHY999/PHA046 Polyurethane Finish Black or equivalent at 5.0 mils wet to yield 3.0 mils dry. At 73° F allow minimum of 6 hours and a maximum of 30 days before overcoating.
      - **1.7.3.1.4.** Paint Vessel Name and Hailing Port on Bulwarks



## **1.7.4.** Deck Area

- **1.7.4.1.** Coating System:
  - **1.7.4.1.1.** Apply one (1) full coat of Interzinc 75V EPA75V/EPA076V Zinc-Rich Epoxy Red at 4.7 mils wet to yield 3.0 mils dry. At 73° F allow a minimum of 8 hours and a maximum of 2 months before overcoating
  - **1.7.4.1.2.** Apply one (1) full coat of Intertuf 262 KHA305/KHA062 Epoxy Lt Buff at 8.3 mils wet to yield 6.0 mils dry. At 73° F allow a minimum of 10 hours and a maximum of 3 days before overcoating. (Note: Non-Skid Additive #7754D to be added to flat walking deck surface, being sure to sandwich into the film surface of epoxy)
  - **1.7.4.1.3.** Apply one (1) full coat of Interthane 990 PHk766/PHA046 Polyurethane Finish Color gray at 5.0 mils wet to yield 3.0 mils dry. At 73° F allow minimum of 6 hours and a maximum EXT days before overcoating.
- **1.7.5.** Bitts / Other Deck Items
  - **1.7.5.1.** Coating System:
    - 1.7.5.1.1. Apply one (1) full coat of Interthane 5703 Black. Allow minimum 8 hours prior to overcoating.
- 1.7.6. Pilot House and Storage Deck House Pedestal
  - **1.7.6.1.** Coating System:
    - **1.7.6.1.1.** Apply one (1) full coat of Interzinc 75V EPA75V/EPA076V Zinc-Rich Epoxy Red at 4.7 mils wet to yield 3.0 mils dry. At 73° F allow a minimum of 8 hours and a maximum of 2 months before overcoating.
    - **1.7.6.1.2.** Apply one (1) full coat of KHA302/KHA062 Epoxy Lt Gray at 7.0 mils wet to yield 5.0 mils dry. At 73° F allow a minimum of 6 hours and maximum of 3 days before overcoating.
    - **1.7.6.1.3.** Apply one (1) full coat of Interthane 990 PHA074/PHA046 Polyurethane Finish Blue White at 5.0 mils wet to yield 3.0 mils dry. At 73° F allow a minimum of 6 hours and a maximum of 30 days before overcoating.
    - **1.7.6.1.4.** Apply one (1) full coat of Interthane 990 PHB000/PHA046 Polyurethane Finish Color white at 4.0 mils wet to yield 2.0 mils dry. At 73° F allow a minimum of 8 hours and a maximum of EXT days before overcoating. (Stripes on House, Kick Plates and Top Rail of Handrails)
    - **1.7.6.1.5.** Apply one (1) spot coat of Interthane 990 PHB000/PHA046 Polyurethane Finish Color White at 4.0 mils wet to yield 2.0 mils dry. At 73° F allow minimum of 16 hours and a maximum of 30 days before overcoating. (Applied to Stripes on House and Underside Visor)
- **1.7.7.** Steps
  - **1.7.7.1.** Coating System:
    - **1.7.7.1.1.** Apply one (1) full coat of Interthane 5703 Yellow with Non Skid Compound. Allow minimum 8 hours prior to overcoating.
- 1.7.8. Hand / Grab Rails
  - **1.7.8.1.** Coating System:
    - 1.7.8.1.1. Apply one (1) full coat of Interthane 5703 Black. Allow minimum 8 hours prior to overcoating.
- **1.7.9.** Fire Equipment
  - **1.7.9.1.** Coating System
    - **1.7.9.1.1.** Apply one (1) full coat of Interthane 5703 Ensign Red. Allow minimum 8 hours prior to overcoating.
- 1.7.10. Below Deck & Bilge Areas
  - **1.7.10.1.** Coating System:
    - **1.7.10.1.1.** Apply one (1) full coat of Intertuf 262 KHA303/KHA062 Epoxy Red at 7.0 mils wet to yield 5.0 mils dry. At 73½ F allow a minimum of 6 hours and a maximum of 1 month before overcoating.



- **1.7.10.1.2.** Apply one (1) stripe coat of Intertuf 262 KHA302/KHA062 Epoxy Lt Gray at 3.0 mils wet to yield 2.0 mils dry. At 73° F allow a minimum of 6 hours and a maximum of 1 month before overcoating. (Applied to weld seams, edges, cut outs, lip faces)
- **1.7.10.1.3.** Apply one (1) full coat of Intertuf 262 KHA302/KHA062 Epoxy Lt Gray at 7.0 mils wet to yield 5.0 mils dry. At 73° F allow a minimum of 6 hours and maximum of 30 days before overcoating.
  - No hot work should be performed on the vessel during painting application and initial venting of solvents from tanks.
  - The ventilation system should be so arranged that "dead spaces" do not exist.
  - Ventilation must be maintained during application and continue while the solvent is released from the paint film during curing.
  - All equipment should be explosion proof and in good working condition.

Comply Yes/No:	
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# 2. Section 2

- **2.1.** Navigation Systems
  - 2.1.1. Radar System:
    - **2.1.1.1.** One 10.4" Color LCD Display and 3.5' antenna 4kW, 48NM utilizing NMEA cable(s) and 24V 18 amp (DC) power supply having a 24V ERC-emergency relay charger
  - **2.1.2.** Depth Sounder System:
    - 2.1.2.1. One 5.7" LCD 50/200 KHz Transducer 201R
  - **2.1.3.** VHF Radio:
    - **2.1.3.1.** One Radio w/ integrated GPS (color black); Phase III VHF antenna w/ extension tube (less 4187-HD mount)
  - 2.1.4. Automatic Identification System (AIS) & Antenna:
    - **2.1.4.1.** One Class A AIS transponder w/4.3" color LCD display with mounting bracket (less antenna)
    - **2.1.4.2.** One 4' broad band AIS with mast mounting sleeve
  - 2.1.5. Loud Hailer System
    - **2.1.5.1.** One 30 watt with LCD display integrated with onboard intercoms, alarms, and have both listen back as well as siren features
    - **2.1.5.2.** Two Public announcement horn/speaker; frequency response 200Hz-15kHz, max power 40W, with impedance 8 ohms, weatherproof ABS construction
  - 2.1.6. Vessel Horn
    - **2.1.6.1.** Trumpet Electric Horn with Stainless Steel Housing
  - **2.1.7.** Rudder Angle Indicator
    - **2.1.7.1.** One Rudder Angle Indicator mounted in Pilot House

Comply	Yes/No:	
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## 3. Section 3

**3.1.** Documentation:

Fabricators will provide a Builder Certificate and a Bill of Sale on USCG forms for the owner of the vessel together with USCG documentation for the vessel once final payment has been made.

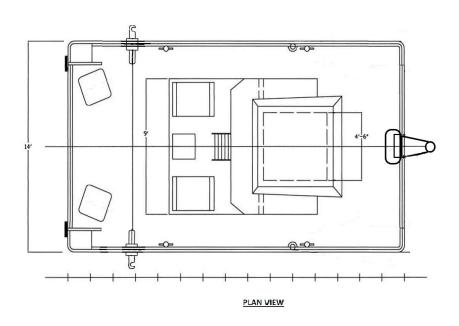
Comply Yes/No:	
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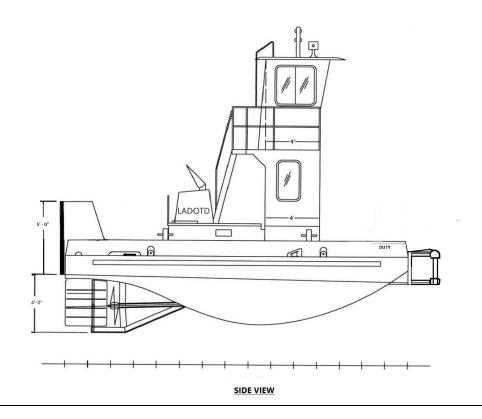


aforementioned specification in the column to the left and the exception in the column to the right. Responses may be typed or hand-written. Handwritten responses must be legible. If additional space is needed, please print a duplicate copy of this sheet. "Bidder's Exceptions" page(s) should be returned with the bid submittal.		
Examples:		
1.4.1	Engine has 325 horsepower @ 2400 RPM	
1.5.1.2	Batteries have 2000 CCA combined.	
2.2.3	4" channel on 12" centers.	
Spec./Detail Reference	Exception	

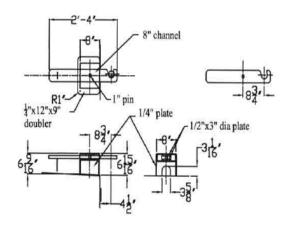


# **CONCEPT PLANS**

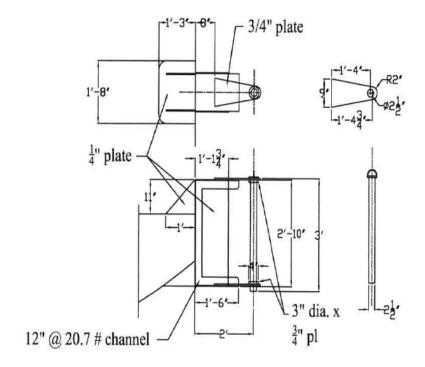








Side Latch Assembly Port / Stbd



Bow Pivot Pin Assembly