



# Request for Quote

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS  
ONE CAPITOL HILL  
PROVIDENCE RI 02908

CREATION DATE : 19-NOV-12  
BID NUMBER: 7458293  
TITLE: MOBILE DIVE COMMAND UNIT VEHICLE - PUBLIC SAFETY  
  
BID CLOSING DATE AND TIME:21-DEC-2012 10:30:00

BUYER: Hill, Lisa  
PHONE #: 401-574-8118

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DOA CONTROLLER  
ONE CAPITOL HILL, 4TH FLOOR  
SMITH ST  
PROVIDENCE, RI 02908  
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DPS STATE POLICE HEADQUARTERS  
311 DANIELSON PIKE  
NORTH SCITUATE, RI 02857  
US

Requisition Number: 1292893

Line	Description	Quantity	Unit	Unit Price	Total
1	Mobile Dive Command Unit Vehicle Line Note to Bidders: ANTICIPATED DELIVERY	1.00	Each		

Delivery: \_\_\_\_\_

Terms of Payment: \_\_\_\_\_

It is the Vendor's responsibility to check and download any and all addenda from the RIVIP. This offer may not be considered unless a signed RIVIP generated Bidder Certification Cover Form is attached and the Unit Price column is completed. The signed Certification Cover Form must be attached to the front of the offer

### BID OVERVIEW:

The following specifications outline the minimum requirements for a custom manufactured Mobile Dive Command Unit to be utilized by Rhode Island State Police. The vehicle will be utilized in the most critically sensitive operations and must be designed and constructed for its intended use and be of heavy duty construction for a life expectancy to exceed 20 years. While all efforts have been made to fully detail the construction materials, methods and equipment required to accomplish this task, it remains the vendor's responsibility to choose components that will provide maximum performance, service life, and safety and not just meet the minimum requirements. Any item necessary for the normal and intended use of the vehicle will be supplied by the Vendor even if it is not fully detailed by the specifications.

Due to the complexity of the conversion and the sensitive gear the vehicle will carry, prospective vendor's must provide detailed specifications. A general statement or letter stating that the vendor meets all specifications will not be acceptable. Additionally, photo copies of this specification will not be an accepted response. Failure to meet this requirement will result in disqualification. Vendors are required to include a minimum of one (1) reference of a Mobile Dive Command Unit of similar design delivered in the current year. Five (5) additional references shall be included of Mobile Dive Command Units that have been in service for a minimum of five years. (include Department name, contact name and telephone number). Failure to meet this requirement will result in disqualification.

Brand names are used to establish minimum standards. If an alternate brand or model is bid, equivalency must be demonstrated. All exceptions are to be listed on a separate sheet of paper with reasons for exceptions. If item is to be purchased rather than made by bidder, appropriate literature demonstrating equivalency must be provided. Failure to demonstrate equivalency will be cause for rejection. Vendor may be requested to demonstrate the merits of the items by means agreed to user.

No drawings are provided with this bid. It is up to the individual vendor to supply their own design for submission. It is understood that each manufacturer has certain features that they incorporate into the design of their vehicles. There is enough information in the specifications that an experienced vendor can provide appropriate drawings for this bid.

In order to fairly evaluate each vendor's technical ability and design capability, electronic blueprints are to be provided with bid response.

The blueprints are to be scaled for "D" size paper, 24" x 36" in size, all views must be on 1/2" = 12" scale.

The blueprints are to be provided as follows:

- Interior floor plan (overhead)
- Right hand section view interior
- Left hand section view interior
- Appropriate section views interior
- Driver and passenger view exterior
- Front and rear view exterior
- Roof view exterior

### PHOTOS, LITERATURE, DVD

Descriptive literature, photos, and/or DVD of similar designed vehicles must be provided with bid response to show that supplier has built vehicles of this size and complexity.

#### ENGINEERING DOCUMENTS:

- As built weight calculations to be supplied with bid showing proposed vehicle, front axle, rear axle, and total weight.
- Electrical load calculations showing power draw for all installed 120/240VAC and 12VDC systems to be supplied with bid.

#### CHASSIS:

- 2013 *Freightliner* M2 106 Conventional cab 26,000-lb. GVWR with spring rear suspension and hydraulic brakes.
- CUM ISB 6.7 300 HP @ 2600 RPM, 2600 GOV, 660 LB/FT @ 1600 RPM

#### ENGINE EQUIPMENT:

- 2010 EPA/Carb emission certification
- 2008 Carb emission certification - clean idle
- 12V 200 amp 28-si quadramount pad alternator with remote battery volt sense
- (2) Group 31, 12 volt maintenance free 2200 cca threaded stud batteries
- Single battery box frame mounted LH side under cab
- GVG, fire and emergency service vehicles engine warning
- *Cummins* exhaust brake integral with variable geometry turbo
- RH standard horizontal tailpipe
- Antifreeze to -34f, ethylene glycol pre-charged sca heavy duty coolant
- Gates blue stripe coolant hoses or equivalent
- 750 watt/115 volt block heater

#### TRANSMISSION:

- Allison 2500 EVS automatic transmission with PTO provision
- Synthetic transmission fluid

#### TRANSMISSION EQUIPMENT:

- 5 Speed, EVS 5/3/2/1 selector, neutral range indicator
- Water to oil transmission cooler, in radiator end tank
- Transmission oil check and fill
- Synthetic transmission fluid

#### FRONT AXLE AND EQUIPMENT:

- 10,000# Drop Single front axle
- Hydraulic pin-slide disc front brakes
- Fire and emergency severe service, non-asbestos front lining
- Chicago rawhide scotseal classic front oil seals
- TRW thp-60 power steering
- Synthetic 75w-90 front axle lube

#### FRONT SUSPENSION:

- 10,000# Taperleaf front suspension
- Front shock absorbers
- Front swaybar

#### REAR AXLE EQUIPMENT:

- 17,500# R-series quiet ride single rear axle
- 5.13 rear axle ratio
- Hydraulic pin-slide disc rear brakes
- Fire and emergency severe service non-asbestos rear brake lining
- *Chicago* rawhide scotseal classic rear oil seals
- Synthetic 75w-90 rear axle lube

#### REAR SUSPENSION:

- 18,000# Multi-leaf spring rear suspension with leaf spring helper
- Spring suspension - no axle spacers
- Single spring rear suspension stabilizer bar

BRAKE SYSTEM:

- Hydraulic brake package
- WABCO Hydraulic 4s/4m without traction control

FRAME:

- 9/32x3-7/16x10-1/16 inch steel frame (7.14mmx255.6/0.281x10.06 inch) 80ksi

CHASSIS EQUIPMENT:

- Three-piece 14 inch chromed steel bumper with collapsible ends
- Front tow hooks - frame mounted

FUEL TANKS:

- 50 gallon/189 liter rectangular aluminum fuel tank - RH
  - 50 gallon/189 liter short rectangular aluminum fuel tank - LH
  - Rectangular fuel tank(s)
  - Plain aluminum/painted steel fuel/hydraulic tank(s) with painted bands
  - Fuel tank(s) forward
  - Plain step finish
  - Fuel filter/water separator with primer pump
  - Auxiliary fuel supply and /return ports located on LH fuel tank
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- High temperature reinforced nylon fuel line
  - Length of auxiliary pickup tubes (generators, furnaces etc.) shall prevent these devices from using more than 75% of vehicle's fuel tank capacity

TIRES:

- *Michelin XZE2 275/80R22.5 14 ply radial front tires (or current model)*
- *Michelin XDE M/S 275/80R22.5 14 ply radial rear tires (or current model)*

WHEELS:

- *Accuride Accu-lite 50408 22.5x8.25 10-hub pilot 2-hand steel disc front wheels*
- *Accuride Accu-lite 50408 22.5x8.25 10-hub pilot 2-hand steel disc rear wheels*

CAB EXTERIOR:

- 106 inch BBC flat roof aluminum conventional cab
- Leaf spring rear cab suspension
- LH and RH exterior grab handles
- Hood mounted chromed plastic grille
- Dual electric horns
- Door locks and ignition switch keyed the same
- LED aerodynamic marker lights
- Daytime running lights

- Dual west coast bright finish heated mirrors with LH and RH remote door mounted mirrors
- LH and RH 8" bright finish convex mirrors mounted under primary mirrors
- RH down view mirror
- Omit rear window(s)
- Tinted door glass LH and RH with tinted operating wing windows
- RH and LH electric powered windows
- Tinted windshield

#### CAB INTERIOR:

- Interior convenience package
- Heater, defroster and air conditioner
- Heavy duty air conditioner compressor
- Silencer package for cab
- Solid-state circuit protection and fuses
- Dome door activated LH and RH, dual reading lights, forward cab roof
- LH and RH electric door locks
- (1) 12 volt power supply in dash
- High back non suspension driver seat with fore and aft adjustment
- High back non suspension passenger seat
- 3 Point high visibility orange retractor driver and passenger seat belts
- Adjustable tilt and telescoping steering column

#### INSTRUMENTS & CONTROLS:

- Black gauge bezels
- Intake mounted air restriction indicator without graduations
- 1040 87 db to 112 db automatic self-adjusting backup alarm
- Electronic cruise control with switches in lh switch panel
- Odometer/trip/hour/diagnostic/voltage display: 1x7 character, 26 warning lamps, data linked, icu3
- 2 Inch electric fuel gauge
- Programmable rpm control - electronic engine
- Electrical engine coolant temperature gauge
- 2 inch transmission oil temperature gauge
- Engine and trip hour meters integral within driver display
- Electric engine oil pressure gauge
- AM/FM/WB Radio with CD player, ipod interface, and USB and front auxiliary inputs
- Electronic mph speedometer with secondary kph scale, without odometer
- Electronic 3000 rpm tachometer
- Digital voltage display integral with driver display
- Foot pedal operated park brake and warning indicator for hydraulic brake

#### CHASSIS WARRANTY:

- Two (2)-year/unlimited miles *Freightliner* M2 chassis warranty.
- Two (2)-year/100,000 mile *Cummins* engine warranty.
- Five (5)-year/unlimited miles *Allison* transmission warranty.

DOT triangle reflector kit with three (3) triangles.

Stainless steel wheel liners with braided stainless steel valve stem extenders.

Route horizontal exhaust to streetside.

## BODY:

- Load space area shall be 83" high x 93" wide x 22' long custom all aluminum dry van body with the following:
  - One (1) 32" wide x 82" high 0.125" aluminum sedan door with 21.5" wide x 25.5" high fixed window and mini-blind. Door shall have continuous stainless steel piano hinge, two (2) nylon door straps and an aluminum drip rail.
  - Aluminum alloy 3" wall beams chemically bonded to 0.125 outer wall. Studs feature machined wire pass-throughs, and raised adhesive control features on base.
  - Wall beams chemically bonded to sidewalls. Use of two-sided tape is not acceptable.
  - Body shall have 0.125" strain-hardened aluminum alloy 5052-H36 outer walls.
  - Skirt supports, 1.5 x 1.5 x 0.125 angle to reinforce skirt edge and hold bottom edge in a straight line. 0.188 x 1.00" flat braces placed at 4' intervals and riveted to lower wall angle and floor to maintain sidewall skirt rigidity.
  - Fender flares, 1.38" x 2.25" x 0.090" roll formed and radiused 5052-H32 aluminum sheet, mechanically fastened to wheel opening. Edges sealed against moisture.
  - NFPA 1901 embossed 0.125" aluminum tread plate roof attached to 3" x 1 1/2" x 0.125 extruded aluminum roof bows on 16" centers. Bows are 2" skip welded every 12" Tread plate seams to be continuous welded.
  - Extruded aluminum floor with interlocking planks, 1.88" high x various widths, 0.125" top surface. 6005-T5 alloy and temper. Heavy-duty thick-wall extruded planks fore and aft of all floor cutouts and every 5th plank in all other areas. Planks made of 6005-t5 alloy and temper, 0.250" thick top surface.
- Full width rear bumper painted to match the body.
- Full length skirting. Skirt shall extend 18" down from the bottom of floor extrusions.
- All clearance and side marker lights to be LED.
- Standard structural warranty of 5 years or 50,000 miles and standard component warranty of 12 months or 12,000 miles.

Two (2) 20-inch wide swinging rear doors with interior and exterior latches, exterior latch with key lock. Include one window in each door.

Permanent labels installed on the interior rear doors illustrating handle rotation direction.

12" deep by full body width steel gripstrut surface rear bumper with Class III receiver hitch (receiver and ball not included). Includes:

- Reese Brakeman digital electronic trailer brake control 74643 (or current model).
- 7-pin Cole Hersee trailer connector 12063-01 (or current model).

Note: Trailer hitch is rated for 5,000lb., however, towing capacity is limited to maximum Combined Gross Vehicle Weight Rating (CGVWR).

26.25" x 66" walk through access from cab to load space, flexible accordion boot to connect cab to box, cab roof extension to be fiberglass painted to match chassis, interior to be finished with fabric/carpet that matches cab interior.

Heavy-duty fluted aluminum grab handle with rubber inserts and chrome plated stanchions installed at exterior entry door location.

Heavy-duty fluted aluminum grab handle with rubber inserts and chrome plated stanchions installed inside entry door.

Automatic LED courtesy light at side entry door.

Courtesy light defeat feature to be automatic when night lights are on.

24" Single C manually operated exterior entrance step.

30" wide 0.125" bright aluminum NFPA 1901 tread plate flip-down step on rear bumper. Step shall have cam lock to secure step while vehicle is in motion.

**Maxxima 4" LED (Pair) Stop/Tail/Turn/Backup Light.**

Entire underside of the apparatus shall be undercoated. Includes chassis, floor extrusions, step wells and aluminum compartments.

Rear mud flaps with anti-sail brackets.

PAINT:

Body base color shall be Dark Gray paint.

Note: Color code to be submitted at the time of order.

COLOR PACKAGE:

- Wall Covering: Silver Smooth FRP
- Ceiling Covering: Silver Haze
- Floor Covering: Onyx PVC Flooring
- Office Chairs: Black
- Vinyl Coverings: Whisper Black
- Cabinets: Powder Coated Aluminum
- Counters and Tables: Mystique Night Laminate

DRIVER/PASSENGER CAB AREA:

Zone Defense color back up camera system with 7" LCD monitor with daynight camera.

Custom fabricated powder coated aluminum console in cab.

- Vehicle height sign on dash.
- Vehicle shall have a Final Stage Vehicle Certification and Altered Vehicle Certification as required by Federal Motor Vehicle Safety Standards (FMVSS) 49 CFR Part 567.5 and 567.7
- Payload sticker in cab area with vehicle axle load ratings and available axle payload as built.

WALLS, CEILING AND FLOOR:

Insulate walls with a minimum of 2-1/2" of fiberglass with an R-11 rating. Cover interior body side posts with 1/2" plywood sub wall, ICI 7-2-7-2 G-1 Exposure 1-APA 347 PCUF PS1-95 (or equivalent).

Cover sub wall with smooth finish *Kemlite* 0.075" fiberglass reinforced plastic (FRP) lining. Wall covering shall be a continuous piece front to back, no seams acceptable.

5/8" exterior grade tongue & groove plywood underlayment for floor, ICI 7-2-7-2 G-1 Exposure 1-APA 347 PCUF PS1-95 (or equivalent).

*Lonseal* Loncoin II Flecks 150 Onyx non-skid commercial grade PVC flooring. The flooring shall be continuous, one piece full length, full width, no seams.

2-1/2" vinyl cove molding as required.

Insulate ceiling with a minimum of 2-1/2" of fiberglass with an R-11 rating. Cover interior roof supports with 1/2" plywood, ICI 7-2-7-2 G-1 Exposure 1-APA 347 PCUF PS1-95 (or equivalent).

Cover sub ceiling with Silver Haze ceiling fabric.

2 - 30" FRP covered pocket door installed on heavy-duty aluminum track with two (2) four-wheel roller trucks. Pocket door shall have recessed handles and a key lock. Pocket doors will create private work area, seating area, and wet area.

All bulkheads shall be covered with *Kemlite* 0.075" FRP.

Cover rear load space entry doors with 0.100" bright aluminum tread plate with rubber grab handles. Install gas charged lift/support cylinder on each rear door to hold doors open at 90°.

Cover load space door with black powder coated aluminum panel, install 10" high 0.100" bright aluminum tread plate kick plate at bottom of door and heavy-duty rubber grab handle.

Street side mounted 30" wide x18" high flush mount deep-tint horizontal sliding egress window with mini-blind.

Curb side mounted 30" wide x18" high flush mount deep-tint horizontal sliding egress window with mini-blind.

Window features:

- Black baked aluminum frame construction
- Unique Flush Mount frame offers automotive style frameless appearance
- Hidden water drainage system
- Windows have 2.5" radius comers (3.25" on Egress models)
- Glass is tempered with 31% light transmission
- All glazing materials are DOT approved
- 2-piece clamp ring installation allows for easy replacement in the event of breakage

GALLEY, SHOWER, AND EXTERIOR HOSE SYSTEM:

Hand pump galley water system. Includes:

- Stainless steel sink, 10" x 14" x 5" deep.
- Self priming hand pump faucet.
- Five-gallon fresh water tank installed in cabinet below sink.
- Five-gallon gray water tank installed in cabinet below sink

*Dometic* CDMW12B (or current model) 1.2 Cu. Ft microwave.

- Black
- 1100 watts

*Norcold* model DE0751BB (or current model) 12 / 24 VDC / 120VAC refrigerator with the following features:

- 2.7 cu. ft. capacity.
- Freezer shelf for ice cube tray.
- Two door bins; lower bin holds 2-liter containers.
- Integrated door latch.

Plumbed interior shower system w/ heat, 50gal. fresh water / 59gal. gray tank Includes:

- Fresh water/gray tank level monitor through Multiplex control panel.
- Shower Surround, drain and applicable hardware.
- Install additional drain in floor outside shower.
- Aqua Jet model #5503-AV15-B636 (or current model) 5.3 GPM water pump with accumulator tank.
- Point-of-Use electric tankless water heater, PowerStar AE12 (or current model)
- One (1) Interior 50gal. fresh water supply shall seat in an aluminum box pan with drain. One (1) Exterior 59gal. gray tank.
- Plumbing pressure pipes shall be PEX tubing.
- Fresh water tank to be heated and all plumbing insulated and wrapped with heat tape.
- Winterizing valve mounted in line on the input side of the water pump. Valve allows antifreeze to be pumped throughout the system to winterize plumbing.

Separate plumbed water supply to exterior hose outlet includes:

- One (1) Interior 50gal. fresh water tank, and level monitor through Multiplex control panel.
- Interior 50gal. fresh water supply tank shall seat in an aluminum box pan with drain.
- Aqua Jet model #5503-AV15-B636 (or current model) 5.3 GPM water pump with accumulator tank.
- *Cast Products* aluminum weatherproof box with key lock for hose quick connect.
- 25ft of hose. (stored inside vehicle)
- Plumbing pressure pipes shall be PEX tubing.
- Fresh water tank to be heated and all plumbing insulated and wrapped with heat tape.

SEATING:

*United Ergonomic* Uni-chair NSX-11 black (or current model) with mid back, armrests, five caster spider base, and adjustable height.

Fabricate and install fixed bench seating with removable cushions for eight people. Bench seat cushions shall be covered in heavy-duty vinyl.

Fabricate and install flip-down bench seating for three people. Bench seat cushions shall be covered in heavy-duty vinyl. Bottom seat cushion will be installed on *Zico* Quic-Seat® fold down spring loaded seat brackets.

**BENCH SEAT REQUIREMENTS:**

- Foam for seat backs and bottoms shall be firm density
- All bench seating material must meet Federal Motor Vehicle Safety Standards part 571.302 Flammability of Interior Materials.
- Seam stitching shall be done with 8-oz. bonded nylon thread.
- Material corners shall be squared or angled to fit precise cut of foam.
- Foam shall be bonded to plywood backer with industrial grade adhesive.
- Bottom and sides of plywood backer shall be completely sanded.
- Stapling of fabric/vinyl to backer with industrial grade upholstery staples.

**CABINETS:**

Custom fabricated aluminum cabinets. Cabinet specifications:

- Base cabinets constructed of 0.080" powder coated aluminum with anodized aluminum frames.
- Base cabinet doors are double shell, formed from a single sheet of 0.080" aluminum, with a 0.040" aluminum door back attached.
- Overhead cabinets constructed of 0.064" powder coated aluminum with anodized aluminum frames.
- Overhead cabinet doors are double shell, formed from a single sheet of 0.064" aluminum, with a 0.040" aluminum door back attached.
- Overhead cabinet doors swing up on a full-length aluminum hinge, and are held open with a locking door stay.
- Overhead cabinets to have one adjustable shelf per door (24" high and taller cabinets only) - locked in place to your selected height. Shelves are formed from a single sheet of 0.064" mill finish aluminum, with 1 1/8" hemmed edges.

Key lock on all cabinet doors.

Countertops in galley and work area shall be covered in 0.040" *Wilsonart* laminate. All exposed edges shall be covered with heavy duty flexible PVC T-molding.

Double pedestal removable tables in bench seating area.

Closet shelves shall be infinitely adjustable using mini B-line track and hardware.

7 - Aluminum box pan adjustable shelves with 2" lip. Minimum width 36".

Heavy-duty stainless steel hanger rod in closet to hold eight + wet suits.

Multiplex control center shall be located near entry door.

Mesh cargo netting with thumb-lock fasteners for interior box pan shelving areas.

**HVAC SYSTEM:**

*Fan-tastic Vent* model 4000 R (or current model) 3-speed reversible 12" power roof ventilator.

*Coleman Polar Mach* 9200 series low profile air conditioners to cool and heat each room.

Includes:

- 9223-C876 13,500 nominal BTU air conditioner with condensate pump.
- 9330B3552 Ceiling Assembly
- 9330B755 Heat/Cool control with 5,600 BTU heat strip

*Broan* model 174 wall mount 5,120 Btu/hr electric heaters to heat each room.

## 120/240VAC ELECTRICAL SYSTEM:

Onan Commercial Quiet Diesel 12-kW generator model 12.0HDKCD-2209 (or current model) mounted in custom fabricated all aluminum compartment. Generator features:

- Computer-controlled constant speed operation
  - Unique sound-controlled housing encloses cooling system and muffler (69 dB(A) @ full load measured at 10 feet)
  - Three-point, fully focalized internal mounting system
  - Service and maintenance points accessible through easy-latch side service door
  - High quality, pure sine wave electrical output maximizes sensitive equipment performance
  - Typical Gal/hr fuel consumption: No load = 0.11, Half load = 0.48, Full load = 1.20
- Compartment shall be constructed to the following specifications:
- Compartment shall be constructed from 0.187" aluminum with all welded seams.
  - Compartment shall have 0.125" aluminum 2" box pan doors and 0.125" aluminum frames.
  - Door frames shall be riveted to the body and welded to the compartments.
  - Doors shall have stainless steel hinges attached to the doors and door frames with stainless machine screws.
  - Doors shall have slam latches and flush mounted handles.
  - Doors shall have 0.100" aluminum treadplate panels on interior surfaces.
  - Doors shall be held open in a 90° position with gas charged lift/support cylinders.
  - Doors shall be sealed with industrial grade neoprene gasket.
  - Compartment shall have internal lighting when door is open.

ACData AC2060 Whole House Surge Suppressors protection for entire AC power system.

Product features:

- UL US listed: UL1449 3rd Edition
- NEMA 4 plastic enclosure: 5.14"(H) x 4.00"(W) x 2.45"(D)
- LED Visual verification of status

A multiplex controlled power and data electronics system must be incorporated into a common touch screen with the ability to distribute and control strategic on board systems. It also simultaneously allows distribution of the information to multiple onboard control/monitoring stations. This system is required as it simplifies start up procedures, contains fewer operating components, reduces operational start-up time, reduces the total amount of wiring in the vehicle and has error detection protocols and troubleshooting features

Multiplex system features:

- 7" LCD touch screen with custom graphics for control and monitoring systems
- AC power distribution control and monitoring for the generator with power management
- One touch auto start-up must preheat generator, start generator, and run generator for thirty seconds prior to powering equipment.
- DC power distribution control and monitoring
- Manual or automatic generator control
- HVAC and temperature control.
- Lighting control Day/Night mode
- Automatic power transfer switches
- Automated one touch startup and shutdown
- Seamless control of generators, lighting, awnings and additional devices
- Safety interlocks

The system must be completely upgradeable with power modules located throughout vehicle. Additional components may be added to system with a simple software modification. System capability is not to be achieved with use of multiple monitoring systems designed for specific use i.e. water monitors, battery monitors etc.

*Kussmaul* Auto Eject 20, 20A-120Vac shore power inlet with 25-ft. 20A-120Vac shore power cord.

*Marinco* 50A-125/250Vac waterproof shore power inlet, 50-ft. 50A-125/250Vac shore power cord and 6-ft. 50A-125/250Vac pigtail.

Specification grade 20A-125Vac duplex receptacles in all dry areas were. Receptacle is not dedicated to any installed equipment.

Specification grade 20A-125Vac GFCI duplex receptacles in all wet areas. These receptacles are not dedicated to any installed equipment.

Specification grade 20A-125Vac exterior GFCI duplex receptacles with weatherproof PVC covers - locations to be determined based . GFCI receptacles will be wired in pairs to 20A circuit breakers located in the 120Vac electrical load distribution center.

*Will-Burt* Night Scan Chief NS1.8-1800M (or current model) 240Vac light tower. Includes:

- Two (2) 900 watt *Magnafire* 3000 Halogen I.R. lightheads.
- Pistol grip, full-function remote control.
- Self-contained 12Vdc air system.
- Dash mounted warning light with interlock to prevent vehicle from being moved with light tower raised.
- Additional roof support structure, as required.

#### 120/240VAC WIRING REQUIREMENTS:

- All 120/240Vac main wiring shall be stranded THHN wire and run in non-metallic *Carlton* Carflex liquid tight conduit.
- All 120/240Vac branch circuit wiring shall be stranded THHN wire (AWG 12 minimum) and run in non-metallic *Carlton* Carflex liquid tight and *Carlton* Flex-Plus blue ENT conduit.
- All electrical circuits and appliances shall conform to applicable national electrical codes.

#### 12VDC ELECTRICAL SYSTEM:

- Four (4) 6Vdc Absorbed Glass Mat (AGM) batteries. Batteries shall be installed underbody in slide out weather resistant compartment. Two (2) batteries will be separated for auxiliary equipment and two (2) batteries will be for communications equipment.
- Two (2) electronic converter/chargers, 80 amp minimum output each. Converter/charger features:
  - Charges three banks of batteries at the same time.
  - UL listed for safety.
  - Manual reset circuit breaker.
  - Reverse battery protection.
  - Electronic current limiting.
  - High voltage protection.
- All DC electrical and metering switched and monitored through the multiplexed touch screen.

*Thin-Lite* model 616 18" white 12Vdc fluorescent interior light fixtures.

*Thin-Lite* model 616 18" blue 12Vdc fluorescent interior light fixtures.

*Whelen* scene lights in pairs on sides and rear.

15A-12Vdc power outlet in work area.

*Whelen* 295HFSA5 siren with 9 low current lighting control switches.

*Federal Signal* ES-100 (or current model) 100 watt speaker behind grill.

#### 12VDC EMERGENCY LIGHTING:

*Whelen* Freedom Series LED light bar FL2RRBBF (or current model) mounted on custom fabricated 0.125" aluminum bracket painted to match body. Includes:

- 1 - 9LLTH72 Custom 72" length
- 3 - FLDRB Add 400 Series Linear LED Flashers (Red Street Side/Blue Curb Side)
- 1 - FLDSCBL Cable Exit on Driver Side

1- Whelen TIR3 series Super-LED lighthouse with internal flasher, red LED's with clear outer lens, model RSR03ZCR (or current model). Includes chrome flange RFLANGEC (or current model).

1- Whelen TIR3 series Super-LED lighthouse with internal flasher, blue LED's with clear outer lens, model RSB03ZCR (or current model). Includes chrome flange RFLANGEC (or current model).

3- Whelen 600 series Linear Super-LED lighthouse with internal flasher, red LED's with clear outer lens, model 60R02FCR (or current model). Includes chrome flange 6EFLANGE (or current model).

3- Whelen 600 series Linear Super-LED lighthouse with internal flasher, blue LED's with clear outer lens, model 60B02FCR (or current model). Includes chrome flange 6EFLANGE (or current model).

3- Whelen 900 series Linear Super-LED lighthouse with internal flasher, red LED's with clear outer lens, model 90RR5FCR (or current model). Includes chrome flange 90FLANGC (or current model).

3- Whelen 900 series Linear Super-LED lighthouse with internal flasher, blue LED's with clear outer lens, model 90BB5FCR (or current model). Includes chrome flange 90FLANGC (or current model).

#### 12VDC WIRING REQUIREMENTS:

- 2-gauge minimum copper stranded battery cable shall be used for 12Vdc main supply lines. All cable runs shall be full length, no splices. All cable terminals shall be staked and soldered. All cable shall be enclosed in convoluted polyethylene tubing and the ends of the cable shall be sealed with color-coded shrink-wrap identifying the function of the cable.
- All added electrical circuits shall be protected from over-current by resettable circuit breakers appropriately rated for the load. Only circuit breakers shall be used in the installation of added electrical wiring (plug type fuses are unacceptable).
- Circuit breaker functions shall be identified by engraved or printed labels.
  
- All added wiring for load runs shall be AWG 8, 10, 12, 14 and 18 and must conform to MIL-W-16878F.
- Wire terminals for added circuits must conform to MIL-T-7928. Terminals shall be insulated, insulation grip, TYPE II, CLASS 2 and shall be crimped with tooling recommended by the terminal manufacturer.
- All wiring shall be numbered or lettered on 6" centers minimum.
- Wiring shall be protected from chafing and abrasion with convoluted polyethylene tubing (wire loom) as required.
- Where wire passes through sheet metal, bulkheads and structural supports, plastic grommets shall be used to protect both wiring and wire looms.
- All wiring shall be supported on 12" centers.
- All wire bundles shall be tied with trimmed nylon ties on 6" centers minimum.
- The complete 12Vdc wiring system and electrical appliances shall be to modern automotive standards throughout the installation.
  
- Extreme care shall be exercised to provide for easy serviceability of the system in future years.
- Extreme care must be taken in the installation to avoid the engine manifold, engine exhaust, and muffler, which could expose the wiring to severe overheating during long periods of operation. Proper insulation and heat deflection panels must be installed in such areas.
- A high-current 12Vdc system wiring schematic shall be provided.
- These are the minimum acceptable 12Vdc wiring requirements.

### AUDIO/VIDEO:

*Toshiba* 20" Widescreen HD LCD Monitor/TV 20HLK86 (or current model). Product features:

- 1366 x 768 panel resolution
- 20" High Definition TV Monitor
- Digital Cinema Progressive (3:2 Pulldown)
- JPEG Viewer
- PC Input (15 Pin D-Sub)
- Dimensions: 21"W x 14"H x 3.4"D

Vesa-standard 75 mm wall mount with quick-release.

*Winegard* RoadStar RS-2000 Omni-directional antenna with Built-in, solid-state amplifier that boosts signals an average of 15 dB on VHF and 20 dB on UHF.

All RF cable for DSS antenna systems (when specified) shall be Belden #9116 series 6 broadband coaxial cable. All other video cabling shall be Belden #1505A RG-59/U precision video cable.

### RADIOS:

Primary 12Vdc power leads for communications radios shall be minimum 2-gauge copper stranded wire with soldered crimp-on end connectors (gauge based on radio requirements). Cables shall be enclosed in convoluted tubing and function identified with colored shrink-wrap. Power to radios shall be controlled by a continuous-duty switch actuated by auto start-up feature..

Prewire and make installation provisions for dual head communications radio. Installation includes:

- NMO-style base on the roof or antenna raceway, as applicable.
- LMR195 antenna cable routed to radio transceiver location in *Carlton* Carflex ENT conduit.
- 12Vdc power routed to radio transceiver location.

### EXTERIOR STORAGE COMPARTMENTS:

SCBA compartment with flip down door. Storage compartment shall house a minimum of eighteen bottles and be constructed from 0.1875 " aluminum with all welded seams.

Storage compartment to house fill station to be constructed from 0.1875 " aluminum with all welded seams.

Compartments will be constructed to the following specifications:

- Sweep out type bottoms with 1/2" drain holes.
- 2" box pan doors and door frames fabricated from 0.125" aluminum.
- Door frames shall be riveted to the body and welded to the compartments.
- Compartments shall have Dri-Dek matting with tapered front lip.

Compartment doors will be constructed to the following specifications unless specified with a roll-up door:

- Stainless steel hinges attached with stainless machine screws.
- Slam latches and flush mounted handles.
- 0.100" bright polished aluminum diamond plate on interior surfaces fastened with stainless hardware.
- All doors shall be sealed with industrial grade neoprene gasket.

Aluminum storage rack for eighteen SCBA tanks. Fabricated from 0.125" aluminum.

Aluminum roll up door painted to match body. Includes:

- Manual Lock with 2-sided Key
- Sill Plate
- Pull strap (as required)
- Painted Trim

*Note:* Paint color code to be submitted at time of order.

Install LED strip lights in fill station compartment.

#### AWNING:

*Dometic Weather Pro Awning 18' #4633* linen acrylic fabric electric awning with the following features:

- Solid-state sensor automatically closes awning after detecting sustained winds
- Exclusive Knee-Action Design prevents damage from sudden wind gusts
- Heavy duty motor is fully contained in the roller tube, self-locks awning in travel position
- Unique spring-arm mechanism automatically dumps accumulating rain water

#### MISCELLANEOUS ITEMS:

5 pound dry chemical fire extinguishers as required by DOT.

*First Alert* 9-volt combination Carbon Monoxide and Smoke alarms for each room.

*American Airworks* SCBA Containment Dual Fill Station package Installed includes:

- Spacesaver dual fill station, Red
- Four (4) 6000psi DOT cascade cylinder w/valve and crash collar
- Custom Air Control Panel
- All necessary gauges, hoses and fittings for installation and operation.
- DOT bottle mounting brackets.

*American Airworks* Fast 90H 5000 Compressor, 9CFM, 7.5HP, 230V, 60Hz, includes:

- Magnetic Starter
- 9000 CF Filtration
- Automatic Stop Switch
- Automatic Moisture Drain
- High Temp Shutdown
- Low Oil Shutdown
- Visual Oil Level Site Glass
- Hour Meter
- Fill Assy, 5500, 347, 30Ft Hose - (Compressor - Air Control Panel)
- Ship loose

#### MANUALS:

Complete manual set on CD, including the following:

- As-built specifications with interior and exterior drawings as used for production of the vehicle.
- Chassis and body owner's manuals.
- 12Vdc and 120Vac legends showing wire gauge, color, number and function.
- 12Vdc high current wiring diagram.
- Roof top antenna placement drawing and legend identifying antenna placements and termination points.
- Audio/Video cabling diagram.
- Warranty and Return Authorization procedures.
- Chassis and generator maintenance and service logs.
- Battery maintenance information.

#### MISCELLANEOUS:

At time of delivery a *manufacturer* representative shall provide up to eight (8) hours of orientation on all *manufacturer* provided systems. Training to include instruction on custom programming the auto start-up and shut down procedure.

Inspection/training trip to manufacture facilities for four people shall include roundtrip airfare, car rental, lodging and meals.

**Contract Terms and Conditions**

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**Terms and Conditions**

**BID STANDARD TERMS AND CONDITIONS**

**TERMS AND CONDITIONS FOR THIS BID**

**SURETY REQUIREMENTS**

BIDDER IS REQUIRED TO PROVIDE A BID SURETY IN THE FORM OF A BID BOND, OR A CERTIFIED CHECK PAYABLE TO THE STATE OF RHODE ISLAND, IN THE AMOUNT OF A SUM NOT LESS THAN FIVE PERCENT (5%) OF THE BID PRICE. BID SURETY MUST BE ATTACHED TO THE BID FORM. THE SUCCESSFUL BIDDER WILL ALSO BE REQUIRED TO FURNISH PERFORMANCE AND LABOR AND PAYMENT BONDS AT TIME OF TENTATIVE CONTRACT AWARD.

**VENDOR SPECIFICATIONS**

ALL VENDORS MUST INCLUDE SPECIFICATIONS WITH BID PROPOSAL (EVEN THOSE BIDDING BRAND SPECIFIED). FAILURE TO SUBMIT SPECIFICATIONS WITH BID PROPOSAL MAY RESULT IN DISQUALIFICATION OF BID. ITEMS IN CATALOGS MUST BE CLEARLY MARKED AND PAGES TABBED.