# **PURCHASE ORDER**

Order Date 02/23/2024

Page <sup>01</sup>

#### **TEXAS A&M FOREST SERVICE** PURCHASING DEPARTMENT

200 Technology Way, Suite 1120, College Station, TX 77845-3424; Phone 979-458-7380, FAX 979-458-7386

|                |  | ,  |                  |  |
|----------------|--|--|------------------|--|
| Purchase Order | (Include this number on all correspondence and mackanes) |  |                  | INVOICE TO:  |
| P400260        | conespondence and packages)                              | MERCHANDISE DELIVERED ON<br>THIS ORDER WILL MEET OR<br>EXCEED SPECIFICATIONS IN<br>THE BID INVITATION. |                  | TEXAS A&M FOREST SERVICE<br>FRPASSOCIATE DIRECTOR<br>200 TECHNOLOGY WAY, SUITE 1162<br>COLLEGE STATION TX 77845-3424 |
| VENDOR         |  |  | ALL TERMS AND    |  |
| 17524809470    |  |  | FORTH IN OUR BID | SHIP TO:   |
| DBA BEX FIRE   | APPARATUS  |  | A PART OF THIS   | TEXAS A&M FOREST SERVICE   |

DBA BFX FIRE APPARATUS 1810 BANKS DRIVE WEATHERFORD, TX 76086 ORDER. HUDSON OFFICE 155 TEXAS FOREST SERVICE LOOP LUFKIN TX 75904

ANY EXCEPTIONS TO PRICING OR DESCRIPTION CONTAINED HEREIN MUST BE APPROVED BY THE TEXAS A&M FOREST SERVICE PURCHASING DEPARTMENT PRIOR TO SHIPPING.

PLEASE NOTE: IF YOUR INVOICE IS NOT ADDRESSED AS INSTRUCTED PAYMENT WILL BE DELAYED.

| ltern | Description   | Quantity | UOM | Unit Price  | Ext Price   |
|-------|---|----------|-----|-------------|-------------|
| 1     | USER REF: 000000-TCJ<br>Type6 Engine (BFX Body on Ram Chassis Diesel)   | 5        | EA  | 279,183.940 | 1395,919.70 |
|       | per specs on quote# 11423-0004  |          |     | TOTAL       | 1395,919.70 |
|       | **** NET 30 ****  |          |     |             |             |
|       | NOTE TO VENDOR:<br>"SHIP TO" AND "INVOICE TO" ADDRESSES MAY<br>DIFFER. FAILURE TO SUBMIT INVOICE TO PROPER<br>ADDRESS MAY RESULT IN DELAYED PAYMENT.                              |          |     |             |             |
|       | GROUP PURCHASE ~ AS PER TAMUS REGULATION<br>25.99.02 SECTION 3 AND TAMUS PROCUREMENT CODE<br>SECTION 15.  |          |     |             |             |
|       | THE TEXAS A&M FOREST SERVICE REQUIRES<br>COORDINATION OF YOUR VEHICLE DELIVERIES WITH<br>A MINIMUM 24 HOUR PRIOR NOTICE.<br>************************************                  |          |     |             |             |
|       | BY ACCEPTANCE OF THIS PURCHASE ORDER VENDOR<br>AGREES TO ALL TERMS AND CONDITIONS (AS<br>APPLICABLE) LISTED ON ATTACHED "TEXAS A&M<br>FOREST SERVICE PURCHASE ORDERATTACHMENT A". |          |     |             |             |
|       | EXEMPT PURCHASE THRU HGAC COOPERATIVE   |          |     |             |             |
| RTL   |   |          |     |             |             |

Texas A&M Forest Service cannot accept collect freight shipments.

FOB: DESTINATION FRT INCLUDED

FAILURE TO DELIVER - If the vendor fails to deliver these supplies by the promised delivery date or a reasonable time thereafter, without giving acceptable reasons for delay, or it supplies are rejected for failure to meet specifications, the State reserves the right to purchase specified supplies elsewhere, and change the increase in price and cost of handling, if any, to the vendor. No substitutions nor cancellations permitted without prior approval of Purchasing Department.

The State of Texas is exempt from all Federal Excise Taxes.

STATE AND CITY SALES TAX EXEMPTION CERTIFICATE: The undersigned claims an exemption from taxes under Texas Tax Code, Section 151.309 (4), for purchase of tangible personal property described in this numbered order, purchased from contractor and/or shipper listed above, as this property is being secured for the exclusive use of the State of Texas. The Terms and Conditions of the State of Texas shall prevail.



**TEXAS A&M FOREST SERVICE** 

Terms: IN ACCORDANCE WITH YOUR BID, SUPPLIES/EQUIPMENT MUST BE PLACED IN THE DEPARTMENT RECEIVING ROOM BY

# **PURCHASE ORDER**

Order Date 02/23/2024

#### TEXAS A&M FOREST SERVICE PURCHASING DEPARTMENT

PURCHASING DEPARTMENT Page 02 200 Technology Way, Suite 1120, College Station, TX 77845-3424; Phone 979-458-7380, FAX 979-458-7386

|                | <i></i>  |   |   |  |  |  |  |
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| Purchase Order | (Include this number on all correspondence and packages) |   | ABANTEES  | INVOICE TO:  |  |  |  |
| P400260        |  | MERCHAND<br>THIS ORDEF<br>EXCEED SPI<br>THE BID INV | IDISE DELIVERED ON<br>ER WILL MEET OR<br>PECIFICATIONS IN<br>NVITATION. | TEXAS A&M FOREST SERVICE<br>FRPASSOCIATE DIRECTOR<br>200 TECHNOLOGY WAY, SUITE 1162<br>COLLEGE STATION TX 77845-3424 |  |  |  |
| VENDOR         |  | A   |   |  |  |  |  |
| 17524809470    |  |   | ORTH IN OUR BID   | SHIP TO  |  |  |  |

17524809470 SNF INC DBA BFX FIRE APPARATUS 1810 BANKS DRIVE WEATHERFORD, TX 76086 ANY EXCEPTIONS TO PRICING OR DESCRIPTION CONTAINED HEREIN MUST BE APPROVED BY THE TEXAS A&M FOREST SERVICE PURCHASING DEPARTMENT <u>PRIOR</u> TO SHIPPING.

| PLEASE NOTE: IF YOUR INVOICE IS NOT ADDRESSED AS INSTRUCTED |
|---|
| PAYMENT WILL BE DELAYED.                                    |

| ltern | Description  | Quantity | UOM | Unit Price | Ext Price |
|-------|--|----------|-----|------------|-----------|
|       | PRICING PER HGAC CONTRACT FS12-23<br>DELIVERY TO HUDSON OFFICE ATTN: ZACK LOONEY       |          |     |            |           |
|       | AGENCY TERMS AND CONDITIONS SHALL APPLY  |          |     |            |           |
|       | FINAL DESTINATIONS: SMITHVILLE, AMARILLO,<br>MERKEL, MINERAL WELLS, BEEVILLE/BROWNWOOD |          |     |            |           |
|       | VENDOR QUOTE: 11423-0004<br>VENDOR REF: STEVE VOSS 954-355-8292<br>PHONE: 817-490-7877 |          |     |            |           |
|       |  |          |     |            |           |
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| RTL   |  |          |     |            |           |

Texas A&M Forest Service cannot accept collect freight shipments.

#### FOB: DESTINATION FRT INCLUDED

FAILURE TO DELIVER - If the vendor fails to deliver these supplies by the promised delivery date or a reasonable time thereafter, without giving acceptable reasons for delay, or if supplies are rejected for failure to meet specifications, the State reserves the right to purchase specified supplies elsewhere, and charge the increase in price and cost of handling, if any, to the vendor. No substitutions nor cancellations permitted without prior approval of Purchasing Department.

The State of Texas is exempt from all Federal Excise Taxes.

STATE AND CITY SALES TAX EXEMPTION CERTIFICATE: The undersigned claims an exemption from taxes under Texas Tax Code, Section 151.309 (4), for purchase of tanglible personal property described in this numbered order, purchased from contractor and/or shipper listed above, as this property is being secured for the exclusive use of the State of Texas. The Terms and Conditions of the State of Texas shall prevail. THIS OBDER IS NOT VALID UNLESS SIGNED BY THE PURCHASING AGENT

**TEXAS A&M FOREST SERVICE** 

Terms: IN ACCORDANCE WITH YOUR BID, SUPPLIES/EQUIPMENT MUST BE PLACED IN THE DEPARTMENT RECEIVING ROOM BY

Texas A&M Forest Service Mark Fikes College Station, Texas 77845 979 458 9864 Contract H-GAC-FS12-23 mfikes@tfs.tamu.edu

Texas A&M Forest Service Mark Fikes College Station, Texas 77845 979 458 9864 Contract H-GAC-FS12-23 mfikes@tfs.tamu.edu

Exp. Date: 03/04/2024 Quote No: 11423-0004 BODY: 643U

TX A&M Forest Service / Type 6 Model 643U

### 02/07/2024

PART NO S DESCRIPTION QTY ID S == Type 6 Wildland Light Engine == SSF U 00-00-2375 > Warranty Policies 1 1 00-00-5700 U > Payment Terms S SSF 00-00-9600 1 **Pre-Work Conference** 00-00-9900 S 1 SSF **Deliverv** Time U 00-00-9950 1 Documentation 00-18-1100 SSF S Type 6 Wildland Light Engine Configuration 1 S > Step Lights 1 SSF 00-19-0010 S SSF 00-19-0015 < Backup Alarm 1 00-19-0020 S 1 SSF Interior Map Light 00-19-0030 1 SSF S Antenna Leads and Bases S 1 SSF 00-19-0035 Wiring for Radio(s) Installation S 1 SSF 00-19-0105 Electronic Siren S 1 SSF 00-19-0110 Speaker 00-19-0115 S 1 SSF Light Bar S 1 SSF 00-19-0120 Forward Zone B/D Warning Lights 1 SSF 00-19-0125 S Lower Zone A Warning Lights 1 SSF S > Lower Zone C Warning Lights 00-19-0130 1 SSF 00-19-0210 S > "Do Not Move Apparatus" Alarm S 1 SSF 00-19-0215 > Center Console 1 SSF 00-19-0216 S SPS Switch Panel and Programming S 1 SSF 00-19-0220 Front Bumper and Brush Guard S SSF 00-19-0225 1 **Rear Bumper Construction** S 1 SSF 00-19-0245 **Ember Separator Screens** S Apparatus Body Construction 1 SSF 00-19-0315 S 00-19-0320 **Storage Compartments** 1 SSF 00-19-0330 S 1 SSF Apparatus Frame Construction S 1 SSF 00-19-0335 **Flexible Mounting** S SSF 00-19-0346 1 Rear Steps S SSF 00-19-0350 Driver's Side Compartments 1

Page 1

| 02/07/2024 |        |  |     |     | Page 2 |
|------------|--------|--|-----|-----|--------|
| PART NO    | S      | DESCRIPTION  | QTY | ID  |        |
| 00-19-0360 | S      | Passenger's Side Compartments                                | 1   | SSF |        |
| 00-19-0375 | S      | Compartment Door Construction                                | 1   | SSF |        |
| 00-19-0380 | S      | Door Hinges and Retainers                                    | 1   | SSF |        |
| 00-19-0382 | S      | Door Latches   | 1   | SSF |        |
| 00-19-0386 | S      | Composite Adjustable Shelf Channels                          | 1   | SSF |        |
| 00-19-0400 | S      | Shelving Construction and Layout                             | 1   | SSF |        |
| 00-19-0420 | S      | Compartment Venting  | 1   | SSF |        |
| 00-19-0430 | S      | Pump Area Cover (Walk-Over) with Hinged Access               | 1   | SSF |        |
| 00-19-0435 | S      | Wheel Well Area  | 1   | SSF |        |
| 00-19-0438 | S      | Apparatus Body Trim  | 1   | SSF |        |
| 00-19-0440 | S      | Rear Cab Protection  | 1   | SSF |        |
| 00-19-0503 | S      | < Pump Motor   | 1   | SSF |        |
| 00-19-0510 | S      | > Operator's Panel   | 1   | SSF |        |
| 00-19-0513 | S      | Plumbing General   | 1   | SSF |        |
| 00-19-0514 | S      | > Valves   | 1   | SSF |        |
| 00-19-0518 | S      | Plumbing Drains  | 1   | SSF |        |
| 00-19-0521 | S      | Pump Gear Box  | 1   | SSE |        |
| 00-19-0523 | S      | Winterization / Emergency Priming Port                       | 1   | SSE |        |
| 00-19-0540 | S      | Discharge Pressure Gauge                                     | 1   | SSE |        |
| 00-19-0545 | S      | Intake Pressure Gauge  | 1   | SSE |        |
| 00-19-0550 | S      | Pump Cooling / By Pass Lino                                  | 1   | SSE |        |
| 00-19-0566 | S      | Floatronia Water Lovel Indicator(s)                          | 1   | SSE |        |
| 00-19-0500 | 0      | Drimor   | 1   |     |        |
| 00-19-0572 | 0      | Strainer   | 1   | SSI |        |
| 00-19-0573 | 0<br>0 | Strainer<br>Discharge Dlumbing                               | 1   | SOF |        |
| 00-19-0574 | 0      | Discharge Plumbing   | 1   | SOF |        |
| 00-19-0575 | S<br>C | <ul> <li>Suction Plumbing</li> <li>Bud Hass Basis</li> </ul> | 1   | SOF |        |
| 00-19-0580 | S      | Dual Hose Reels  | 1   | SOF |        |
| 00-19-0505 | 0      | Vivaterous Aquis 1.5 Foam System                             | 1   | 00F |        |
| 00-19-0590 | 0      | Pump<br>Mater Tarih  | 1   | 00F |        |
| 00-19-0705 | 5      | vvater Lank  | 1   | 55F |        |
| 00-19-0706 | 5      | Foam Tank  | 1   | 55F |        |
| 00-19-0707 | 5      | Integrated Top Storage                                       | 1   | 55F |        |
| 00-19-0708 | 5      | Ice Chest Storage  |     | 55F |        |
| 00-19-0709 | 5      | Spare Tire Compartment                                       |     | 55F |        |
| 00-19-0710 | 5      |  | 1   | 55F |        |
| 00-19-0801 | S      | Tail Light Assembly  | 1   | SSF |        |
| 00-19-0811 | S      | Rear License Plate Mount / Light                             | 1   | SSF |        |
| 00-19-0812 | S      | DOT/Clearance Lighting                                       | 1   | SSF |        |
| 00-19-0815 | S      | > Traffic Advisor  | 1   | SSF |        |
| 00-19-0820 | S      | > Moveable/Adjustable Work Lights                            | 1   | SSF |        |
| 00-19-0825 | S      | Compartment Lighting   | 1   | SSF |        |
| 00-19-0905 | S      | > NFPA 1900 Electrical Testing                               | 1   | SSF |        |
| 37-00-0600 | S      | > Chassis  | 1   | SSF |        |
| 00-19-1099 | S      | Vehicle Paint, Finish, Striping, Identification              | 1   | SSF |        |
| 00-19-1105 | S      | > Additional Equipment                                       | 1   | SSF |        |
| 00-19-1115 | S      | > Wheel Chocks   | 1   | SSF |        |
| 00-19-1120 | S      | > Hydrant Wrench Holder and Wrenches                         | 1   | SSF |        |

| 02/07/2024 |        |   |     |     | Page 3 |
|------------|--------|---|-----|-----|--------|
| PART NO    | S      | DESCRIPTION                             | QTY | ID  |        |
| 00-19-1130 | S      | Custom Hose Holder Brackets             | 1   | SSF |        |
| 00-24-3500 | S      | Air Compressor                          | 1   | SSF |        |
| 11-22-1360 | S      | Suction Hose Compartment / Access       | 1   | SSF |        |
| 17-50-9900 | S      | > Stainless-Steel Railing System        | 1   | SSF |        |
| 20-10-0200 | S      | Pump Protection Shutdown System         | 1   | SSF |        |
| 22-02-0400 | S      | Battery Charger with Sure Eject Feature | 1   | SSF |        |
| 22-02-3400 | S      | Inverter                                | 1   | SSF |        |
| 22-02-4000 | S      | Back-Up Camera / Monitoring System      | 1   | SSF |        |
| 22-05-0100 | S      | General Wiring Specification            | 1   | SSF |        |
| 22-05-0150 | S      | Electrical Components and Ratings       | 1   | SSF |        |
| 22-05-0250 | S      | Multiplexed Electrical System           | 1   | SSF |        |
| 22-05-0500 | S      | Remote Diagnostics Capabilities         | 1   | SSF |        |
| 22-05-0950 | S      | Indicator / Warning Light(s)            | 1   | SSF |        |
| 22-07-0750 | S      | 12-Volt Power Sources                   | 1   | SSF |        |
| 24-06-9950 | S      | State Specific Compliant                | 1   | SSF |        |
| 24-07-7700 | S      | > Aft Zone B/D warning lights           | 1   | SSF |        |
| 25-04-9950 | S      | Cell Phone Signal Booster Kit           | 1   | SSF |        |
| 30-06-5200 | S      | Strining and Granhics                   | 1   | SSF |        |
| 34-28-0350 | S      | Winch                                   | 1   | SSE |        |
| 35-00-6125 | S      | Electronic Foam Level indicator         | 1   | SSE |        |
| 35-04-1400 | S      | Valve Labeling                          | 1   | SSE |        |
| 35-04-2600 | S      | Front Dischargo                         | 1   | SSE |        |
| 35-06-0800 | S      | Nozzlo Cups / Hoso Clomps               | 1   | SSE |        |
| 35 08 1000 | с<br>С | Roaster Hose                            | 1   | SOF |        |
| 37 01 0050 | 0      |   | 1   |     |        |
| 27 01 4400 | 0      |   | 1   | SOF |        |
| 37-01-4400 | о<br>С | Ceb to Avia                             | 1   | SOF |        |
| 37-01-4500 | С<br>С | Cap-to-Axie                             | 1   | SOF |        |
| 37-01-4000 | 3      | Battery                                 | 1   | 00F |        |
| 37-01-4000 | S      | Suspension / Axies                      | 1   | 00F |        |
| 37-04-0200 | 3      |   | 1   | 00F |        |
| 37-06-0700 | 3      |   |     | 55F |        |
| 37-07-0200 | 5      |   |     | 55F |        |
| 37-10-1000 | 5      | Air Conditioning and Heating            |     | 55F |        |
| 37-10-1200 | S      | Steering Wheel                          | 1   | SSF |        |
| 37-10-1400 | S      | Cruise Control                          | 1   | SSF |        |
| 37-10-2300 | S      | Stereo                                  | 1   | SSF |        |
| 37-10-3500 | S      | > Seating                               | 1   | SSF |        |
| 37-10-9200 | S      | > Transfer Case                         | 1   | SSF |        |
| 37-12-0100 | S      | Dual Rear Wheels on Chassis             | 1   | SSF |        |
| 37-12-0200 | S      | Wheels and Tires                        | 1   | SSF |        |
| 37-14-0300 | S      | > Cab Door Locks and Window Tinting     | 1   | SSF |        |
| 37-14-0750 | S      | Gross Vehicle Weight Rating             | 1   | SSF |        |
| 37-14-0900 | S      | Tow Package                             | 1   | SSF |        |
| 37-14-5100 | S      | Manual DPF Regeneration                 | 1   | SSF |        |
| 37-20-6500 | S      | Rear Receiver Hitch                     | 1   | SSF |        |
| 37-22-0200 | S      | Nerf Bars                               | 1   | SSF |        |
| 37-50-0055 | S      | Tow Points                              | 1   | SSF |        |
|            |        |   |     |     |        |

| 02/07/2024     |         |                                      |                              |     |     | Page 4         |
|----------------|---------|--------------------------------------|------------------------------|-----|-----|----------------|
| PART NO        | S       | DESCRIPTIO                           | N                            | QTY | ID  |                |
| 37-50-0350     | S       | Skid Plates/Impact Protection        |                              | 1   | SSF |                |
| 37-51-0500     | S       | Off-Road Light                       |                              | 1   | SSF |                |
| 50-12-3200     | S       | > Horn/Siren Feature                 |                              | 1   | SSF |                |
| 60-00-0100     | S       | Delivery Location                    |                              | 1   | SSF |                |
| 61-00-0100     | S       | Training                             |                              | 1   | SSF |                |
| ZZ-ZZ-2400     | U       | Multi Unit Discount Included         |                              | 1   |     |                |
| ZZ-ZZ-8000     | U       | H-GAC Competitive Bid Discount & Lot | obying Statement             | 1   |     |                |
|                |         |                                      |                              |     |     |                |
|                |         | Total                                |                              |     |     | 281,683.94     |
|                |         |                                      |                              |     |     |                |
| H-GAC- FS12-2  | 23 / Co | ntract Pricing Applied               |                              |     |     |                |
| Texas A&M Fore | est Ser | vice Multi Unit Discount             | Deduct                       |     |     | (2500.00) ea   |
|                |         | Di                                   | scounted Price Each          |     |     | \$ 279,183.94  |
|                |         | То                                   | tal Extended Price (5) Units |     |     | \$1,395,919.70 |
|                |         |                                      |                              |     |     |                |
|                |         |                                      |                              |     |     |                |
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|                |         |                                      |                              |     |     |                |

# == Type 6 Wildland Light Engine ==

# Payment Terms

The apparatus shall be paid for in full at the time of acceptance of the apparatus. Acceptance shall be made only after specifications have been verified for compliance and any/all deficiencies have been corrected.

The payment shall be made by electronic funds transfer, preferred method, or by check provided at time of inspection and acceptance or delivered by FEDX / UPS or other delivery service in a trackable package.

Payment must be received prior to release of the completed unit. Warranty Policies

The warranty period for the apparatus shall commence at the time of acceptance of the apparatus.

# Chassis Original Equipment Manufacturer (OEM)

Vehicle shall retain the OEM chassis warranty which shall in no way be diminished or voided by the final manufacturer.

### General Warranty

BFX Fire Apparatus shall warrant all services performed under this contract shall, at the time of acceptance, be free from defects in workmanship and materials and conform to the requirements of this contract for a minimum period of twelve (12) months.

### Design Warranty

BFX Fire Apparatus shall warrant the design of the apparatus and all components constructed and/or designed by the contractor to be free from malfunctions due to improper design, manufacturing defects, defects in manufacturer supplied materials, or factory workmanship for a period of ten (10) years.

If multiple units with like construction begin to have similar failures in any system including, wiring, body/frame/structure/mounting components, that is determined to be due to a flaw in the manufactures design, selected materials, or construction of the apparatus, it shall be the responsibility of BFX Fire Apparatus to facilitate correction of the failure upon return to BFX Fire.

Corrosion Warranty

The apparatus, under normal use and with normal maintenance, shall remain free from corrosion for a period of ten (10) years from the date that the apparatus is first placed in service. A body shall be considered to have "corrosion defects" if it is found by the Government to have perforation caused by corrosion under normal use and with normal maintenance.

# Other/Add On Item Warranty

All warranties provided by major component and equipment manufacturers shall be found in the apparatus manual(s). Additionally, BFX Fire Apparatus shall facilitate warranty repairs with add on equipment manufactures whenever deemed necessary.

# Pre-Work Conference

A pre-work conference shall be held prior to construction to review contract specification, materials requirements, delivery schedule, and payment procedures. The conference, which may be accomplished by conference call, shall include the agency representative(s) and BFX Fire Apparatus representative(s), including the primary engineer working on this project. The date and time of the meeting, or conference call, will be scheduled by the agency representative(s) in consultation with BFX Fire Apparatus and any/all other needed parties.

# **Documentation**

Upon delivery, a completed vehicle sticker/label shall be attached to the completed apparatus in the cab on the driver's side of the vehicle. The label shall follow the National Traffic and Motor Vehicle Safety Act, Section 114 and Federal Code of Regulations, Title 49.

The apparatus shall be accompanied with a single container with the following items. The containers shall be organized and contain an inventory list of the items within the container. One (1) electronic file (USB DRIVE) and one (1) hard copy of each item on the list shall be supplied.

All applicable items listed in The National Fire Protection Association (NFPA) 1906 Standard for Wildland Fire Apparatus current edition, *General Requirements/Data Required of the Contractor.* 

- A. Record of construction details
- B. Copy of warranty outlining coverage on the vehicle and apparatus
- C. Copy of the Certificate of Origin for chassis
- D. Detailed engineering as built drawings for the following views:
  - a. Driver side
  - b. Passenger side
  - c. Top
  - d. Rear
- E. Complete wiring diagrams; understandable by the field user
- F. Two (2) additional completed vehicle stickers/labels
- G. Service Protocol and Warranty document

11423-0004

H. Certified weight slip(s) showing the completed vehicle weights with all fixed and portable equipment installed, all tanks full, and all personnel seating positions occupied with 250 pounds. The weight slip shall include tare weight, front axle weight and rear axle weights. Weight documents shall be provided from a certified scale.

### **Delivery Time**

Delivery of the finished apparatus shall occur approx. 330 days from the receipt and acceptance of a purchase order.

Note: Due to recent chassis availability delays the delivery may be extended beyond the stated expected delivery schedule.

# Type 6 Wildland Light Engine Configuration

The apparatus shall be a light brush apparatus on a light duty chassis. The body shall be designed to withstand the rigors of off-road use and Wildland fire fighting. Specific details of the apparatus shall be as described below.

# <u>Chassis</u>

The completed apparatus shall be mounted on a new **<u>RAM 5500 Tradesman Series</u>**, or equal package, 4x4 chassis with four (4) full doors.

The following provided BFX Fire Apparatus specifications details are stated as the most currently available from the chassis manufacuree at time of proposal and are subject to change based on chassis OEM manufacturer availability and/or standard application OEM detail modifications or upgrades at time of chassis production.

# <u>Note</u>

The Included chassis cost is estimated at, **<u>\$80,000.00</u>**, for this proposal as the current model year or newer (Expect Ram 2025) pricing is not available at the time of proposal.

In the event the chassis price is actually more than 2% greater than <u>\$80,000.00</u> (\$1600.00 ea.) the entire additional chassis cost each will be applicable and a modification of the contract price will be required.

A copy of the actual cost quote will be provided when made available and an order has been accepted for the chassis at the factory which supports a chargeable added cost if / when applicable.

# Gross Vehicle Weight Rating

The Gross Vehicle Weight Rating (GVWR) shall be 19,500-pounds.

# **Dual Rear Wheels on Chassis**

The chassis shall be equipped with dual rear wheels. Mud flaps shall be installed on the apparatus body aft of the rear wheels.

# <u>Wheelbase</u>

The wheelbase shall be no greater than approximately 173.40-inches.

# Cab-to-Axle

The cab-to-axle measurement shall be approximately 60.00-inches. **Motor** 

Power to drive the apparatus shall be supplied by a 6.7L Cummins Turbo Diesel engine. The engine shall be rated for 800 ft-lbs. of torque and 360 horsepower. The engine shall be equipped with a variable geometry turbo (VGT) with an integrated exhaust brake.

# Motor Air Intake and Filtration

The chassis shall be equipped with a heavy-duty air cleaner.

# Options on the Motor

The following items shall be equipped by the Original Equipment Manufacturer, aftermarket alternatives will not be accepted.

Motor shall be equipped with dual alternators totaling 440 amps

- Motor shall be equipped with an OEM engine block heater and winter front grille cover (Cold Weather Group XD6) **Battery** 

Two (2), 78-amp, 12-volt maintenance free batteries totaling 730 cold cranking amps. <u>Transmission</u>

The chassis shall be equipped with an AISIN heavy duty six (6) speed automatic transmission. **Transfer Case** 

The chassis shall be equipped with an electric-shift-on-fly transfer case.

# Suspension / Axles

The chassis shall be equipped with a live front axle with a capacity (rating at the ground) of 7,250 pounds. The front springs shall be coil and have respective weight ratings based on the package(s) specified with the chassis.

The rear axle shall have a capacity (rating at the ground) of 13,500 pounds. The rear springs shall be single-stage leaf springs that are constantly rated for the main chassis weight and auxiliary applications.

# Aftermarket Suspension Alteration

The chassis' rear springs shall be re-arched, or additional springs added, to level the rear of the vehicle under a simulated full capacity load.

# Wheels and Tires

The chassis shall be equipped with factory <u>steel</u> 19.5-inch wheels and 225/70R19.5 all-terrain traction tires or equal. A full size matched spare tire with rim, 6-ton hydraulic jack, and <u>aftermarket</u> lug wrench shall be supplied with the completed apparatus. Fuel Tank

The chassis shall be equipped a single fuel tank with a capacity of 52-gallons.

# <u>Cab</u>

The cab shall be configured with a four (4) full sized door crew cab.

# Interior

All interior upholstery/hardware including seating, dashboard, floor coverings, steering wheel, dash components, sun visors and all trim and door panels shall be OEM supplied vinyl and color coordinated.

- Instrument panel mounted auxiliary switches

# Exterior

The following OEM supplied exterior hardware shall be included:

- Black grille
- Black wheel flares
- Halogen Quad headlamps
- Roof clearance lights
- Solar tinted glass
- Fixed rear window
- Black door handles
- Variable intermittent windshield wipers

# Cab Door Locks and Window Tinting

# Cab Door Locks and Windows

Chassis shall be equipped with power windows and door locks.

# Aftermarket Window Tinting

The chassis windows on the driver and passenger sides and rear will be ceramic tinted. The front window tint will not be changed.

# <u>Seating</u>

All seating positions shall have RED OEM certified seat belts. (CGQ)

- Front OEM supplied 40/20/40 vinyl split bench with center portion removed for console
- Rear OEM supplied vinyl bench seat

# **Steering Wheel**

The chassis shall have a tilt steering for maximum comfort and ease of operation by multiple drivers.

# Cruise Control

The chassis shall have cruise control. Air Conditioning and Heating

The chassis shall be equipped with OEM air conditioning and heating.

# <u>Stereo</u>

The chassis shall have an be equipped with the Uconnect® 3 package that includes a 5.00-inch display, AM/FM radio, SiriusXM® Satellite Radio with available service plans, per OEM Tradesman package, Bluetooth® Streaming Audio, Voice Command, Hands-Free Calling and Voice Text Reply (not compatible with iPhone® mobile devices).

# Tow Package

Chassis shall be equipped with an OEM trailer tow package that includes an aftermarket trailer wiring kit. An OEM trailer brake controller shall be optioned on the chassis as well. (AHQ) Manual DPF Regeneration

The RAM chassis cab shall have the Manual DPF Regeneration (XNR) feature which allows the end user to press and hold the Diesel Particulate Filter (DPF) button to manually clear the diesel particulate filter. Center Console

The cab shall be equipped with an angled front, form-fitted control console located between the front driver's and officer's seats. This console shall be sized to accommodate the installation of a switch panel for the control of the emergency and general illumination lighting, siren controller, and customer-mounted radios. The switch panel shall consist of an sixteen (16) switch multiplex module with lighted switches. The switch module shall have back lighted identification plates on a non-glare panel surface. The switch panel shall be illuminated whenever the master switch is in the "ON" position. Panel light brightness shall dim automatically via the multiplexing system when the chassis headlights are turned "ON". The cab console shall be fabricated from steel, and powder coated with a black finish.

The following controls and switches shall be positioned from forward to aft on the center console as follows:

- Two (2) faceplate for customer specified radios
- An Innovative Products, Inc. Magnetic Mic base for each of the agency's radios
- One (1) microphone hanger for the electronic siren microphone
- One (1) switch panel with sixteen (16) switches
- One (1) electronic siren controller
- Two (2) cup holders
- Two (2) 12-volt aftermarket power outlets
- Four (4) 12-volt USB outlets
- One (1) 6.00-inch storage compartment
- Two (2) adjustable arm rests

- One (1) min-water level indicator

The specific console layout shall be discussed/determined during the pre-work conference and a drawing of the layout shall be provided to the end user for approval.

# **<u>12-Volt Power Sources</u>**

The cab shall have four (4) additional 12-volt power sources provide on the center console for recharging cell phones, or other similar battery operated devices. Two (2) of the power sources shall be dual 2.1A USB style ports and two (2) shall be plunger style, flush mounted in the center console and shall have rubber cabs. The power sources shall be wired so they will be "active" when the BODY MASTER switch is in the ON position. **Inverter** 

The vehicle shall be equipped with a 1000-watt inverter. The inverter shall be installed exactly according to the manufacturer's recommendation and have a one (1) year warranty. The inverter shall be securely mounted to the backside of the accessory pocket of the floor mounted center console in a protected, but viewable and accessible location that does not impact seating positions (legroom).

The inverter shall be equipped with the following minimum features:

- Dual GFCI w/ LED indicator
- 1000-watts Output Power continuous
- 120-volts of Alternating Current (VAC) Output
- Frequency of 110-volts, 60Hz
- Automatic Overload/Short circuit protection
- Automatic high battery alarm and shut-down at 15.5-volts of Direct Current (VDC)
- Automatic over temperature alarm and shut-down and automatic restart with normal temperature
- Audible warning device that sounds at 11.2-volts
- Automatic Low Battery Shutdown at 10.5-volts

# Wiring for Radio(s) Installation

The chassis cab interior shall be wired with two (2) wiring bundles for connecting agency mobile radios.

The bundles shall be separate from each other and terminate in a Deutsch brand connectors. The antenna wires shall remain separate from the connector. A pigtail shall be included for each bundle for connecting the agency radio into the wiring harness. Each bundle including antenna wires shall be labeled RADIO 1 or RADIO 2. In addition the individual wires in each pigtail shall be labeled (Battery Power, Ground, PA Input, etc.). The pig tails and antenna wires shall be a minimum of 3-feet or as long as required for installation of the radios.

All connections shall be made to the battery. Blade style fuse holders, using the same size fuses as the chassis, shall be installed in the pigtails for the constant power, but no fuses shall be installed.

The location for the radio installation and radio wiring bundles shall be determined in conjunction with the NFEP, overhead shall not be acceptable.

Wiring bundle for <u>RADIO 1</u> shall consist of:

Harness side connector: DT06-08SA Pigtail side connector: DT04-08PA

- One (1) Red 10-gauge constant power to the battery. This shall split into two (2) 14-gauge wires going into the cavities 1 and 2 on the connector.
- One (1) Red with Black Stripe 12-gauge connected to the body master, supplying power when either the vehicle ignition is in the "Auxiliary" or "Run" position. This shall split into two (2) 14-gauge wires going into the cavities 3 and 4 on the connector.
- One (1) Black 10-gauge ground wired direct to the battery. This shall split into two (2) 14-gauge wires going into the cavities 7 and 8 on the connector.
- One (1) set of 18-gauge wires connected to the radio audio input for the PA system consisting of two (2) Light Blue wires going into the cavities 5 and 6 on the connector. If polarity is needed with the audio input for PA System the positive shall be solid (cavity 5) and the negative shall have a White Stripe (cavity 6)
- One (1) antenna lead which shall be labeled coiled and secured near the RADIO 1 connector

Wiring bundle for <u>RADIO 2</u> shall consist of:

Harness side connector: DTHD Series Pigtail side connector: DTHD Series

- One (1) Red 8-gauge constant power to the battery. This shall terminate into a DTHD06-1-85 connector
- One (1) Red with White Stripe 12-gauge connected to the body master, supplying power when either the vehicle ignition is in the "Auxiliary" or "Run" position. This shall terminate into a DTHD06-1-125 connector
- One (1) Black 8-gauge ground wired direct to the battery. This shall terminate into a DTHD04-1-8P connector
- One (1) antenna lead which shall be labeled coiled and secured near the RADIO 2 connector

# BFX Fire Apparatus shall install the cutomer supplied Bendix King radio with the "RADIO 1" wiring bundle. The programming of the mobile radio shall be the full responsibility of the end user.

# Antenna Leads and Bases

Two (2) antenna mounts with coaxial cable shall be supplied and installed a minimum of 18.00-inches apart and centered on the chassis cab roof. The components shall consist of a brass <sup>3</sup>/<sub>4</sub>-inch New Motorola (NMO) style Antenna Mount and Double Shielded Coaxial Cable soldiered to the base. The coaxial cable shall terminate in the cab console and have a minimum of four (4) feet of additional cable. The cable shall be routed from the chassis/cab headliner to the console in a concealed manner. All cables shall be labeled as to where they are installed on the roof. A protective rain cap shall be installed on each NMO antenna mount. Each cap shall be labeled as to the respective pre-wired set by placing a "#1" or "#2" on the rain cap itself.

# Interior Map Light

A Whelen 6.00-inch round split white/blue interior map light shall be centered between the driver's side and passenger's side front seats. A switch shall be located on the light head that allows the end user to change between the white LEDs and blue LEDs.

# Backup Alarm

One (1) Federal Signal Evacuator series solid state back up alarm shall be provided at the rear of the apparatus, protected from impact and debris. The back-up alarm shall be wired to the reverse circuit of the transmission and shall provide an audible alarm to the rear of the apparatus when reverse gear is selected. The alarm shall have a minimum volume of <u>87</u> decibels while in operation.

# **Skid Plates/Impact Protection**

The chassis shall be equipped with impact protection/skid plates in the following locations: lower radiator skid plate, engine/oil pan skid plate, and water/fuel seperator skid plate. Additional impact protection shall be considered to protect components such as electronic valves, plumbing, primer pumps and discharges depending on mounting locations. The application of the skid plates/impact protection shall be done so with the following requirements below to ensure skid plates/impact protection of components during severe off-road usage.

Skid Pans/Plates shall have the following characteristics;

- All Skid Pans/Plates shall be attached to a heavy duty steel tube framework that is tied to the chassis frame. The plate/pan material shall be 3/16" (minimum) steel with multiple 2-3" diameter holes punched in a pattern approximately 6" on center to prevent the trapping of debris/vegetation or burning embers.
- All Skid Pans/Plates shall be mounted as high as possible to minimize the effect on ground clearance, break-over angles, or any other off-road ability.

- All Skid Pans/Plates shall be provided with turned up front and rear sides/edges to prevent from digging into the ground when the apparatus is high centered in off road conditions.
- All Skid Pans/Plates shall be easily removable with bolts, to provide easy access for repairs.
- All Skid Pans/Plates shall be provided with access holes, wherever necessary to check or drain fluids and access removable filters.
- Skid plates and impact protection shall be capable of supporting the weight of the apparatus without complete failure; a degree of distortion is allowed

# Ember Separator Screens

The chassis engine air intakes shall be equipped with an ember separator screen fabricated from stainless-steel screen. The screen shall be fabricated in a manner that allows it to be easily removable without the use of tools for cleaning/inspection, and provide complete protection from embers from entering the filter area of the air filter box.

The chassis cab air intake shall be equipped with am ember separator fabricated from stainless-steel screen.

The auxiliary pump engine air intake shall be equipped with an ember separator fabricated from stainless-steel screen.

A warning label, stating: "This apparatus is equipped with an air filter ember protection screen; routine inspection is required." shall be provided and installed in the apparatus cab interior. This label shall be located so that it is visible from the driver's seating position.

# Front Bumper and Brush Guard

The chassis shall be equipped with a custom heavy-duty plate style front bumper/grill guard. The front bumper/grill guard shall meet the requirements of NFPA 1906 current edition. The front bumper/grill guard shall be designed so that it does not affect the chassis manufactures warranty. The front bumper/grill guard shall be designed so that it does not negatively affect the chassis approach angle. The front bumper/grill guard shall be equipped with provisions for winch mounting. The front bumper/grill guard shall be equipped with two (2) integrated external tow eyes with a rated capacity enough to extricate the apparatus if necessary. The weight of the front bumper/grill guard shall not exceed 175 lbs. All exterior surfaces of the entire grill guard assembly shall be coated with a minimum 1-2 mm flat black powder coated finish. The front bumper shall contain a license plate mounting position with holes or a bracket for mounting.

# Nerf Bars

Black nerf style tubular running boards shall be provided on each side of the chassis cab below the doors. **Rear Bumper Construction** 

The rear bumper shall be a minimum of 3.00-inches tall by 8.00-inches deep and extend across the entire width of the apparatus body. The bumper shall be fabricated from heavy-duty steel tubing and shall be powder coated black. The top of the bumper shall be a 4F stainless-steel CNC punched and perforated non-skid resistant surface. The bumper shall be designed to protect the apparatus body.

# Rear Receiver Hitch

The chassis shall be equipped with a Class V rear receiver hitch with a 2.50-inch receiver opening and integrated OEM trailer brake controller. The rear bumper shall be designed so that it does not hinder the use of receiver in any way. A seven (7) pin RV style trailer plug shall be located on the vertical rear surface of the apparatus body adjacent to the rear receiver hitch. A 36.00-inch long seven (7) pin trailer plug extender/pigtail, with both male and female ends, shall be included with the completed apparatus.

# Tow Points

Two (2) rear tow eyes shall be attached to the chassis frame to allow towing of the apparatus without damage. The rear tow points shall extended through the rear panel just above the rear bumper and shall not interfere with the bumper during the normal twisting of the apparatus. All tow eyes shall be large enough to attached a threaded clevis but shall not be large enough to pass a tow strap through.

# <u>Winch</u>

One (1) Warn electrically operated 16,500-pound shall be installed within the heavy-duty front bumper described elsewhere in this specification. The winch shall feature 80-feet of 3/8-inch Spydura Pro synthetic rope, an 18,000-pound capacity EPIC hook, and remote control/switch. The ground (-) for the winch is routed and secured to the ground (-) on the chassis' battery. The positive (+)/power for the winch is routed and secured to the positive (+)/power side of one (1) of the 150-amp circuit breakers underneath the chassis' hood. For the winch to "power up" the end user will need to plug the winch remote into the winch otherwise, the winch is not drawing any amperage.

# Apparatus Frame Construction

The apparatus body and compartments shall be supported with a frame of channel or tubular aluminum members. The frame shall extend under the wheel well areas at the front and rear and shall be attached to the compartments. The cross-members in the support system shall be spaced so that there is no more than ¼-inch of vertical deflection per 256 square inches when 250 pounds is evenly distributed over 40 square inches. All tubular aluminum shall have a minimum wall thickness of 3/16-inch and any channel shall be a minimum of ¼-inch thick. The frame shall be constructed to become an integral portion of the apparatus body.

The channel or tubular aluminum deck and compartment support frames shall be strong enough to support 5000 pounds in the bed area and 1000 pounds of equipment in each side compartment (the actual load capability of the completed apparatus may be limited by the GVWR).

# Flexible Mounting

A spring-loaded body mounting system shall be used to mount the body to the chassis. This system shall be designed to allow independent movement between the body frame and the chassis frame protecting the module from the stresses and twisting rendered by the flexing of the chassis frame. As such, the body frame shall not rest on the chassis frame at any point. The mounts shall be pre-engineered for their intended use.

All the mounting hardware (nuts, bolts, washers) required for complete body installation shall be Grade 8 for sizes ½-inch and smaller, and Grade 5 for sizes larger than ½-inch. All nuts shall be self-locking style. All mounting brackets shall be powder coated black.

The body front shall be mounted utilizing fluorescent powder coated pre-engineering springs. The center mount shall consist of an 18-inch-long Delrin spacer mounted mid-length allowing the body frame to rest in a neutral position under full load. The rear body mounts shall be affixed via solid mounts to the chassis frame.

### Apparatus Body Construction

The installation of hardware parts such as hinges, catches, handles, or knobs shall be accomplished to avoid damaging the hardware or the mounting surface. After fabrication, all parts shall be cleaned of the following: smudges; loose, spattered, or excess welding; metal chips or fillings; or any other foreign material which might detract from the intended operation, function, or appearance of the apparatus or its equipment. This would include any particles which could loosen or become dislodged during the normal expected life of the equipment. Whenever possible, this cleaning shall take place before the parts are assembled.

Threaded parts or devices shall show no evidence of cross-threading, mutilation, or detrimental burrs. All screw type and rivet fasteners shall be tight to allow no relative movement between the attached parts. All bolts and screws shall not be tightened more than the SAE torque standard established for the grade, screw, and thread type.

The entire body shall be removable in its entirety without the disassembly of any compartments, flooring, or other structural components.

The body shall be designed to be approximately as wide as the outside wheel track on the rear axle. This will allow the apparatus to maneuver more easily in off-road environments. The body shall be approximately 98-inches-wide form side to side at the rear of the apparatus.

The top of the apparatus shall have a nonskid surface across the entire area. The non-skid shall be consistent along the tops of the body and be free of any dirt, grease, or foreign material. There surface directly under the independent body modules shall be a smooth gel coated finish to allow for a better seal between the bottom of the independent body modules and top of the body. Additionally, the top of the apparatus body shall support, without distortion, a walking person weighing up to 300 lbs.

The entire apparatus body shall be an independent structure fabricated from bonded and molded fiber reinforced composite panels and compartments. The resin shall be thermoset and shall not be subject to distortion or loss of structural integrity at temperatures at minimum of 350° Fahrenheit (176 Celsius). This shall provide a strong, lightweight, corrosion free structure that will withstand extremely high temperatures.

All fiberglass used in the construction of the body shall be grade "E" or "S," and the resin to glass ratio shall be a 30/70 ratio average or higher. The glass reinforced polyester shall not be less than 3/16-inch thick at any point on the body. Additionally, all coring materials shall have a minimum covering of 1/8-inch thick glass and resin on either side. All coring for bulkheads, partitions, floors, compartments, and doors shall be either PVC-based, rigid, closed cell structural foam, or composite material. Wood is not acceptable. The apparatus manufacturer shall determine the proper thickness and foam density for each application.

The fiber composite body shall allow for up to 30° flex off-center without causing body fatigue or component failure. **Wheel Well Area** 

The inside of each wheel well shall be lined with three (3) separate pieces of minimum 18-gauge stainless-steel sheet material to protect the underside of the entire body wheel well area. Each sheet shall be attached with stainless-steel screws or bolted with self-locking nuts. The use of rivets shall not be acceptable.

# **Compartment Door Construction**

All compartment doors shall be integral in design and recessed into the apparatus body sides, sized to provide easy access to all interior areas of the compartment. All doors shall be consistent in fit and finish with the apparatus body. All doors shall be weatherproof and maintain contact with all points of the weather stripping. Weather stripping shall be bulb type, attached to the opening flange of the compartment opening. The interior surface of the compartment door shall be a white gel coat surface of a quality and uniformity equal to that of the exterior surface of the apparatus body. The compartment doors shall be cored with industrial grade closed cell PVC foam, or composite material, of the correct thickness. **Door Hinges and Retainers** 

# Door Hinges

Doors shall be equipped with stainless steel hinges and hardware. Hinge pins shall be non-removable. All side compartment doors shall open to a 90-degree angle without hindering operations of other compartment doors. Doors shall not interfere or make contact with the body or any other open doors. Rubber bumpers and/or stainless steel shields shall be in place to prevent damage wherever the potential exist for doors to come in contact with other apparatus components.

### Retainers

All vertically-hinged, outward-opening compartment doors shall be provided with an over center door check to hold the door in the desired position. The door check shall be attached to the top of the door and fastened to a stainless-steel plate bolted into the body and door. The passenger side front compartment shall utilize a gas shock as the door opening device. This is used due to the full-length shelf pertaining to the hard-suction hose compartment. All vertically-hinged, outward opening compartment doors shall be capable of being closed with one hand, allowing a free hand to hold equipment or supplies.

Each horizontally hinged door shall be equipped with add-a-link style (removable) retainers and small rubber bumpers installed on the body fenders to allow full 180-degree opening for improved access into the compartment. A piece of black heat shrink shall be utilized over the crimp. Any/all measures shall be taken to reinforce the mounting/fastening locations of the retainers to allow the end user to use the door as a "work bench".

All horizontally-hinged, overhead lift-up, outward opening compartment doors shall be provided with two (2) extending, gas cylinder type hold open devices, one (1) mounted vertically on each side of the compartment door opening. The pressure rating of the gas cylinders shall be carefully matched to the size and weight of the compartment door and shall hold the compartment door securely open to a greater than 90° angle without additional support. The gas cylinder hold openers shall dampen the upward movement of the compartment door while opening and shall permit the closing of the compartment door without the need to release any type of manual locking devices. All horizontally-hinged, overhead lift-up compartment doors shall be capable of being closed with one hand, allowing a free hand to hold equipment or supplies.

# **Door Latches**

Unless were noted, all compartment door latch assemblies shall be installed with threaded fasteners, shall not be welded, and shall be easily removable for servicing or replacement. All door latch assemblies shall be of a flush-mount, "D-Handle" design, with all external components fabricated from polished stainless steel. All latches shall be of a two-step slam-type design, with a single-point latching operation. Matching striker bolts shall be utilized with all latch assemblies. All striker bolts shall have slotted mounting holes and shall be attached with bolts to captive steel plates in the body structure for strength and ease of adjustment. The strikers shall be installed on a level axis and shall not be crooked. Welded striker bolts or plates shall not be acceptable.

All hardware shall be corrosion resistant and suitable for its intended use. All nuts and bolts shall be stainless steel. Stainless steel nuts shall be the self-locking type. Each lock shall be configured so that in the vertical position it is "UNLOCKED" and in the horizontal position it is "LOCKED". A minimum of ten (10) keys shall be provided with the apparatus upon delivery.

# Shelving Construction and Layout

Each shelf shall be one-piece pultruded fiberglass with nylon reinforced composite end caps and provision for dividers on 2.00-inch centers. Shelves shall be designed to maximize usable space within the compartment, prevent items from sliding off, and be adjustable. Shelves shall be capable of supporting a minimum 250 pounds unsecured load without being damaged or permanently distorted.

Street Side Front:

- Three (3) adjustable shelves
- Street Side Center:
- One (1) adjustable shelf

Street Side Rear:

- Two (2) adjustable shelves
- One (1) stainless-steel pull-out drawer

# Shelf Dividers and Retention Clips

Curb Side Front: – Three (3) adjustable shelves Curb Side Center: – One (1) adjustable shelf Curb Side Rear: – Open

One (1) package of shelf dividers and retention clips shall be provided for each shelf described elsewhere in this specification.

# Stainless-Steel Pull-Out Drawer

A stainless-steel wall mounted pull-out drawer shall be replace a pultruded fiberglass shelf. The drawer/shelf height shall remain adjustable. The tray shall lock in the extended or retracted position via locking mechanisms incorporated into the slides of the tray. The trays shall have the capabilities of supporting 250 pounds at any point on the tray when fully extended, without flexing or becoming distorted. The dimensions for the pull-out tray shall be approximately equal to the compartment opening and depth, with a 2.00-inch to 3.00-inch depth/outer edge and adjustable dividers.

# **Composite Adjustable Shelf Channels**

Vertically-mounted composite shelving tracks shall be provided and installed in all enclosed body compartments, except passengers side lower rear compartment, for the current or future installation of infinitely-adjustable shelving, slide out trays or equipment brackets. The composite tracks shall allow for the shelves to be adjustable every two inches vertically utilizing nylon reinforced composite shelving standards with embedded stainless lock nuts.

# **Compartment Lighting**

Each compartment shall have three (3) LED light strips. The LEDs and electronics shall be enclosed in a 5/8-inch diameter Lexan tube that is sealed at both ends with rubber caps to create a waterproof environment and be suitable for mounting in a wet location. The tube shall rotate to adjust the beam direction as required. The lighting shall be secured with molded nylon mounting clips. The lighting in all compartments shall start at the bottom of the compartment and extend up the sides and across the top to provide lighting around the perimeter of the compartment. Placement of the light strips shall be such that they are protected from being impacted by compartment contents or during removal/placement of equipment. The

purpose of the LED strip lighting is to provide even lighting throughout the compartment while minimizing shadows and dark zones caused by shelving or equipment stored in the compartment. The lighting shall carry a five (5) year warranty. **Compartment Venting** 

Venting shall aid in air circulation and reduce fumes caused by fuel storage. When placed in doors, these round vents shall compliment fit and finish of the body and not impede door function.

- The driver's side center compartment shall be vented at the upper door face and at the compartment lower rear wall.
- The driver's side aft compartment shall be vented at the door face and compartment rear wall.
- Integrated chainsaw compartment in the water tank

A permanent and compliant red/white placard noting fuel storage shall be in plain view and permanently affixed to the exterior surface of each door.

A permanent warning label shall be affixed to the exterior surface of the passenger side rear compartment. The label shall read "DANGER: Do Not Store Flammable Liquid or Combustible Material in this Compartment". See placard below.



# Storage Compartments

Side compartments with flush doors shall be provided on both the driver and passenger sides for storage of equipment such as long handled hand tools, power tools, hoses, fittings, fuel, camping gear, and other supplies. Compartment interiors shall be completely open except for latch and shelving hardware; obstructions caused by body framework, lighting mounts, or other structural features shall not be accepted. The clear inside depth for each compartment shall be no less than 19.00-inches behind the closed door excluding latch hardware.

Each storage compartment shall be sealed to prevent the entry of water, dust or other foreign matter during operations, there shall be no compartment venting holes except those specified for fuel storage. To prevent water entry, compartment openings shall be equipped with rubber weather stripping door seals. Hardware attachments to any portion of a storage compartment shall be completely sealed with weatherproof silicon. Compartment seams shall be completely sealed with weatherproof silicon.

Compartments shall be able to successfully pass a weatherproof test. In order to pass, the interior of the compartment shall remain dry after water from a typical garden hose has been applied to the exterior of each compartment top and side door area for 2 minutes.

Each compartment shall be equipped with commercially available replaceable pop-out style drain plugs for drainage in the event of moisture entering the compartment. The drain plugs shall be positioned in locations that are least prone to damage. The drain plugs shall be sealing type to prevent dirt and debris from entering the compartment; plugs shall be removable from the inside only.

The bottom of each compartment shall be equipped with 3/4-inch thick Dri-Dek black floor matting. The matting shall provide a solid surface with even support that doesn't allow bending or folding. The matting shall be cut to fit the exact dimension of the compartment. The matting shall be removable without the use of tools. The matting shall provide maximum drainage and traction and feature fungus, mold and chemical resistance.

# Driver's Side Compartments

The driver's side lower module of the apparatus body shall have approximate overall dimensions as specified. It shall consist of three (3) compartments, each with specified approximate clear depth behind the door when the door is shut. Each compartment shall have a "flow through" vent provided to supply air flow and minimize moisture unless designated as fuel storage.

| Lower module dimension: | 106.00-inches wide x 20.50-inches deep |
|-------------------------|--|
| Clear Depth:            | 19.50-inches                           |

One (1) rescue style compartment shall be provided forward of the rear wheels, with approximate inside dimensions as specified. The door shall be vertically hinged and shall have approximate clear door opening as specified.

| Compartment dimension: | 33.00-inches wide x 39.00-inches high x 20.50-inches deep |
|------------------------|---|
| Clear door opening:    | 26.50-inches wide x 32.00-inches high                     |

One (1) compartment shall be provided center above the rear wheels, with approximate inside dimensions as specified. The door shall be a horizontally hinged, drop-down door, and have an approximate clear door opening as specified.

| Compartment dimension: | 44.00-inches wide x 22.00-inches high X 20.50-inches deep |
|------------------------|---|
| Clear door opening:    | 42.00-inches wide x 15.00-inches high                     |

One (1) compartment shall be provided aft of the rear wheels, with approximate inside dimensions as specified. The door shall be vertically hinged and shall have an approximate clear door opening as specified.

A drip torch tray capable of securely holding up to two drip torches upright shall be installed in the driver side lower rear compartment. The tray shall act as a catch pan for spilled fuel and be removable to drain the spilled fuel. There shall be a retention system to allow the tray to be transferred from the designated fuel compartment to the rear bumper, passenger side, to allow the tray to be used temporarily from the bumper position during fire suppression efforts. The tray shall have a retention system to secure the drip torches to the tray, both in the stored configuration and the deployed configuration (i.e. torch wand and wick deployed).

Compartment dimension:28.00-inches wideClear door opening:20.00-inches wide

28.00-inches wide x 39.00-inches high x 20.50-inches deep 20.00-inches wide x 32.00-inches high

# Driver Side Independent Module

Additional hose/gear storage compartment shall be mounted to the top of the driver's side pack, constructed of a minimum 3/16-inch aluminum tread-plate with approximate dimensions of 55.00-inches wide, 20.50-inches deep, and 15.50-inches tall. The compartment shall be mounted on the driver side rear and shall include all necessary changes in order to properly integrate with the pump walk over. All hinges, fasteners, latches and other hardware shall be stainless steel. The cover shall be held shut by two (2) lockable stainless latches hasp. The cover shall be held open by two (2) gas shocks. The lid shall be hinged on the outboard size of the box. The lid of the box shall be NFPA 1906 current edition compliment aluminum tread plate. The compartment bottom shall be lined with tile drain through floor matting. The compartment bottom shall contain a drain.

Compartment Dimension: Passenger's Side Compartments 55.00-inches wide x 15.50-inches high x 20.50-inches deep

The passenger's side lower module of the apparatus body shall have approximate overall dimensions as specified. It shall consist of three (3) compartments, each with specified approximate clear depth behind the door when the door is shut. Each compartment shall have a "flow through" vent provided to supply air flow and minimize moisture unless designated as fuel storage.

| Lower module dimension: | 106.00-inches wide x 20.50-inches deep |
|-------------------------|--|
| Clear Depth:            | 19.50-inches                           |

One (1) rescue style compartment shall be provided forward of the rear wheels, with approximate inside dimensions as specified. The door shall be vertically hinged and shall have approximate clear door opening as specified.

Compartment dimension: Clear door opening: 33.00-inches wide x 39.00-inches high x 20.50-inches deep 26.50-inches wide x 32.00-inches high

One (1) compartment shall be provided center above the rear wheels, with approximate inside dimensions as specified. The compartment shall be accessible from two (2) sides. The passenger's side door shall be a horizontally hinged,

drop-down door, and have an approximate clear door opening as specified. The rear door shall be a horizontally hinged, drop-down door, and have an approximate clear door opening as specified.

Compartment dimension: Passenger side door opening: Rear door opening: 72.00-inches wide x 22.00-inches high x 20.50-inches deep 67.00-inches wide x 15.00-inches high 12.00-inches wide x 9.50-inches high

One (1) compartment shall be provided aft of the rear wheels, below the upper horizontal compartment, with approximate inside dimensions as specified. The door shall be vertically hinged and shall have an approximate clear door opening as specified.

Compartment dimension: Clear door opening: 28.00-inches wide x 16.50-inches high x 20.50-inches deep 20.00-inches wide x 11.50-inches high

# Passenger-Side Independent Module

Additional hose/gear storage compartment shall be mounted to the top of the passenger-side pack, constructed of a minimum 3/16-inch aluminum tread-plate with approximate dimensions of 55.00-inches wide, 20.50-inches deep, and 15.50-inches tall. The compartment shall be mounted on the driver side rear and shall include all necessary changes in order to properly integrate with the pump walk over. All hinges, fasteners, latches and other hardware shall be stainless steel. The cover shall be held shut by two (2) lockable stainless latches hasp. The cover shall be held open by two (2) gas shocks. The lid shall be hinged on the outboard size of the box. The lid of the box shall be NFPA 1906 current edition compliment aluminum tread plate. The compartment bottom shall be lined with tile drain through floor matting. The compartment bottom shall contain a drain.

### Compartment Dimension: Suction Hose Compartment / Access

55.00-inches wide x 15.50-inches high x 20.50-inches deep

A horizontally hinged, drop-down door, shall be located at the upper rear facing portion of the passenger side pack. The door shall be positioned as high as possible and shall have a small rubber bumper placed on the outside of the door to prevent contact with the fold down step when in the "OPEN" position. Three (3) aluminum square tubes shall be mounted as high as possible and transect the passenger side front compartment and passenger side long horizontal compartment. The tubes shall be mounted in a manner that allows each suction hose to be easily remove or stored with the foot valve and strainer attached. **Rear Cab Protection** 

There shall be a permanently mounted aluminum square tube cab window guard mounted at the front of the body directly behind the cab. The purpose of the guard is to protect the rear cab area and rear window, add structural integrity of the

apparatus body, and provide mounting points for the apparatus' light bar and two (2) flood lights. The guard shall contain a means of concealing and protecting the wiring required to supply power to the lights. The mounting point of the apparatus light bar shall extend approximately 2 inches above the roof height of the cab and **shall be removable**. The guard shall be constructed in a manner that allows for clear vision into and out of the cab area by the use of an aluminum mesh window screen. The window screen shall be an integral part of the guard with the tube being slotted for installation of the screen. The window screen shall be welded to the tube to prevent vibration. This design shall protect the user from possible snagging of clothing or equipment on rough edges. There shall be drain holes in the bottom of the tubes to allow for water to exit. The cab shield assembly shall be powder coated black.

# Stainless-Steel Railing System

# Driver's Side

A stainless-steel railing system shall be installed on a to the top of the driver's side of the apparatus body. The railing package shall start at the front of the apparatus body, attached to the rear cab protection, travel along the outboard edge of the apparatus body, and terminate the front face of the specified independent module. The purpose for the railing is to prevent any equipment stored on top of the vehicle from sliding off as well as providing tie-down points for equipment. The rails shall be 1.25-inch diameter tubing. The top of the railing shall be approximately 12.00-inches high. The railing shall have the capabilities up to 300 pounds without distortion and shall be secured to the side packs in such a manner that using them as grab handles/rails shall not tear the uprights out of the side packs.

### Passenger's Side

A stainless-steel railing system shall be installed on a to the top of the passenger's side of the apparatus body. The railing package shall start at the front of the apparatus body, attached to the rear cab protection, travel along the inboard and outboard edges of the apparatus body, and terminate at the rear of the apparatus body with a closed end. The purpose for the railing is to prevent any equipment stored on top of the vehicle from sliding off as well as providing tie-down points for equipment. The rails shall be 1.25-inch diameter tubing. The top of the railing shall be approximately 12.00-inches high. The railing shall have the capabilities up to 300 pounds without distortion and shall be secured to the side packs in such a manner that using them as grab handles/rails shall not tear the uprights out of the side packs.

# Wheel Chocks

Two (2) Zephyr Industries wheel chocks shall be provided with the completed apparatus. The chocks shall be yellow in color and shall be mounted horizontally in a quick release mounting bracket on the outboard corners on the top of the side packs.

The mounting location for wheel chocks will be determined at pre-construction review. Rear License Plate Mount / Light

One (1) TecNiq, Inc. model number L11-WC00-1 clear LED light shall be provided at the rear of the body on the driver's side to illuminate the license plate. Two (2) mounting bolts, washers, and nylon locking nuts shall be properly spaced to accommodate the hole pattern of a Federal Government license plate.

# Apparatus Body Trim

The vertical surface at the <u>front</u> of the body shall be covered with a minimum 3/16-inch-thick polished aluminum tread plate for appearance, wear, and enhanced visibility at night. The tread plate shall be designed so that joints are minimized and shall cover the entire vertical surface area.

The vertical surface at the <u>rear</u> of the body shall be covered with a minimum 3/16-inch-thick smooth aluminum for the application of the rear chevron striping described elsewhere in this specification. The aluminum panel shall be designed so that joints are minimized and shall cover the entire vertical surface area.

### Scuff Guards

Scuff guards shall be provided and installed on the bottom horizontal edges of the body, both forward and aft of the rear wheel well openings. The scuff guards shall be fabricated from 3/16-inch polished aluminum tread plate.

There shall be a minimum 18-gauge stainless-steel liner attached to the underside of the four (4) vertical compartments to protect damage caused by rocks, brush, blown tires, etc. The liners shall be attached with stainless-steel bolts and nylon-locking nuts.

# Drip Rails

A drip rail shall be affixed to the top hoizontal post on each side of the apparatus body. The drip rail shall be rivited and properly sealed.

# Rear Steps

Two (2) Genesis <u>folding step and light module</u> NFPA-compliant fold down steps shall be provided and installed at the rear of the apparatus on the passenger side of the body. The steps shall be fabricated from heavy duty cast aluminum with spring assisted folded hinges. The top of the steps shall be an integral diamond point skid resistant surface that allows water to flow off the step without ice formation in cold weather use.

The lights for the folding steps shall illuminate when a chassis cab door is open, when the "STEP LTS" switch is active, or when the pump panel light switch is ON.

One (1) warning plate shall be affixed to the rear of the apparatus body in a conspicuous location. The warning plate shall read "WARNING: DO NOT RIDE ON REAR STEP WHILE VEHICLE IS IN MOTION. DEATH OR SERIOUS INJURY MAY RESULT".

<u>Air Compressor</u>

A Viair Corporation ultra-duty air compressor system shall be installed in the passenger front compartment forward of the rear wheels. One (1) quick disconnect air outlet shall be installed on the operator's panel and one (1) quick disconnect air outlet shall be installed near the air compressor in the specified compartment. The compressor shall have an "ON/OFF" switch, tire inflation gun with 200 pounds per square inch gauge and 30 feet of coiled hose.

A 2.5-gallon air storage tank shall be supplied and located under the chassis cab in a protected location for off road use. **Nozzle Cups / Hose Clamps** 

Two (2) Ziamatic Corporation durable neoprene rubber cups shall be mounted on the driver side and passenger side front bulkhead, one (1) per side. Two (2) hose clamps shall be installed above each of the rubber cups to aid in securing the nozzle, one (1) per side. The components shall be installed on a piece of aluminum Unistrut to allow the end use to adjust the cup or clamp height.

# **General Wiring Specification**

A single Original Equipment Manufacturer (OEM) battery system shall be installed consisting of matching batteries to operate both the chassis and package electrical system. A single Cole Hersee on/off switch shall be supplied by the body builder. This switch labeled "BODY MASTER ON" shall mount separately or as a part of the master console. When in the "OFF" position, all power to the apparatus shall be "OFF". The batteries shall be installed in an accessible location.

The apparatus electrical system shall remain independent of the OEM system unless there is authorization from the OEM chassis manufacturer.

The apparatus body, modules of the apparatus body (i.e. pump house) and chassis shall be individually wired as independent modules and connected as a completed unit at the final assembly via waterproof electrical connectors located in the electrical compartment. The intent of this is to be able to remove portions of the completed apparatus for major service and repair without requiring the electrical system to be cut. Seals shall be provided on each individual wire and the assembly. All GXL/SXL wiring for the apparatus body shall be within a temperature resistant harness rated at a minimum of 280-degrees. All wires in each harness shall be color and function coded. Wiring shall be run along structural rails and tied in a neat and orderly manner. Wiring passing through compartments shall be protected from tears, abrasions, and cuts caused by loose items moving in the compartment space. Wiring shall comply with OEM / component manufacturers recommendations and standards.

The completed body shall be grounded to the chassis with a minimum "0" gauge wire with crimped and soldered lugs. The lug shall be bolted to the chassis after the removal of all paints, rust, etc. Additionally, a minimum 3/4-inches braided ground strap shall be furnished between the body and chassis. The ground strap shall have soldered tabs on each end and

attached to the chassis as above except that stainless steel star washers shall be used between the ground strap tab and bolt. After attachment, all ground connection points shall be sprayed (soaked) with non-hardening battery terminal sealer. A ground strap shall also be installed from the pump engine to the apparatus body. <u>Electrical Components and Ratings</u>

# **Electrical Components**

All electrical components such as solenoids, speakers, motors, etc. shall be environmentally rated to a minimum of IP67 and shall be MIL-STD 810 compliant for temperature, humidity, vibration, altitude, shock, sand and dust, immersion, contamination by fluids, humidity and solar radiation.

Wire Grade

GXL or SXL Grade Rated from 60-260 F.

Connections Terminations

Connections shall be environmentally sealed to prevent corrosion.

Loom and Ties

All wire loom and wire ties shall be rated to a minimum of 260 F. Indicator / Warning Light(s)

The following indicator lights are described in greater detail elsewhere in this specification:

- Battery On: There shall be a green LED indicator light visible to the driver which illuminates when the master body switch is activated. The light shall be labeled "BODY MASTER". The LED light shall be mounted adjacent to the master switch, in a position that will help reduce glare within the cab during night operations; this light may be programmed to dim when the headlights are on.
- Door Ajar "DO NOT MOVE APPARATUS": Red LED indicator light shall be provided in the cab and shall flash automatically when the ignition switch is "ON", and a lighted compartment door is "OPEN", or a chassis cab door is "OPEN".
- Low Voltage Alarm: Red LED indicator light shall be provided in the cab. The light shall flash when the apparatus 12-volt electrical system voltage drops below 11.90-volts. The LED light shall be mounted in a position that will help reduce glare within the cab during night operations.
- Pump Running: Amber LED indicator light shall be provided in the cab. it shall illuminate whenever the pump is running.

# "Do Not Move Apparatus" Alarm

There shall be an audible alarm that sounds a tone when the door ajar light is flashing and the parking brake is released.

# <u>Light Bar</u>

The front and front side zones shall be covered by one (1) Whelen Justice series 56.00-inch-long LED light bar mounted on the cab guard approximately 2.00-inches above the cab roof to provide good visibility to the front and sides of the vehicle. The light bar shall have approximate dimensions of 56.00-inches-long, 2.25-inches high without mounting feet, and 12.00-inches wide. The LEDs shall be red/white/red. The white section of the light bar shall be wired so that it turns off when the parking brake is set, to meet the NFPA requirements for blocking mode. The light bar wiring shall incorporate a quick disconnect feature to allow for the removal/replacement of the light bar in the event the OEM cab must be removed for repairs.

# Lower Zone A Warning Lights

Two (2) Whelen ION-T Series red LED light head shall be mounted with the OEM chassis front grille, forward facing. Each light head shall have a clear lens and be mounted in a chrome flange. The light heads shall be controlled with the "EMR LIGHTS" switch located on the SPS panel in the chassis cab.

# Forward Zone B/D Warning Lights

One (1) Whelen ION-T Series red LED light head shall be mounted on each side of the chassis within the front fender, side facing. Each light head shall have a clear lens and be mounted in a chrome flange. The light heads shall be controlled with the "EMR LIGHTS" switch located on the SPS panel in the chassis cab. Aft Zone B/D warning lights

Two (2) Whelen red LED flashers, with chrome mounting flanges, shall be provided on the sides of the apparatus body fenders, side facing and one (1) per side. The wiring for the lights shall be routed in a manner that protects it from foreign debris.

# Lower Zone C Warning Lights

Two (2) Whelen 700 Series red LED light heads shall be provided on the lower rear of the apparatus, rear facing, and one (1) each side. The light shall be positioned below the stop/tail lights and turn signal lights. The lights shall be wired to the "EMR LIGHTS" switch located on the cab center console.

# Traffic Advisor

One (1) Whelen model TA Series directional light bar shall be provided at the rear of the apparatus body, mounted to the crossover platform frame with a weatherproof electrical quick disconnect feature. The control head shall be mounted in the cab console and shall offer control of the flash pattern for the traffic directing signal as well as two (2) light intensity settings. The control head shall indicate the current directing signal in use. The directional light bar shall have eight (8) LED lights in rectangular aluminum housing.

# State Specific Compliant

The apparatus shall be fully compliant for the State of Texas.

# **Electronic Siren**

One (1) Whelen 100/200-watt full function siren amplifier with microphone shall be provided. The control head shall be mounted in the floor mounted console in a location readily accessible to the driver/operator. <u>Speaker</u>

One (1) Federal Signal 100-watt speaker shall be mounted behind the heavy-duty front bumper/brush guard. The speaker shall be wired to the electronic siren control head and a customer specified mobile radio.

# DOT/Clearance Lighting

Clearance lights shall be provided and mounted on the vehicle in compliance with FMVSS. Each light shall be LED and sealed from the environment. All lights shall be easily replaceable in the event of failure or damage. Each light shall be constructed from high impact-resistant plastic to prevent damage from gravel and other debris.

# Tail Light Assembly

One (1) four taillight assembly shall be mounted on each side of the rear panel, two (2) assemblies total, as low as possible without affecting the functionality of the rear bumper and bumper skin. Each assembly shall consist of a Whelen 700 Series red LED stop/tail light, a Whelen 700 Series amber LED arrow turn signal light, a Whelen 700 Series emergency flasher described elsewhere in this specification, and a Whelen 700 Series back up light described elsewhere in this specification. Each light shall be approximately 7.00-inches wide by 3.00-inches tall. All four (4) lights shall be mounted together in a polished aluminum four light surface mount vertical bezel.

Taillight Assembly Layout:

Emergency LED Flasher Red LED Stop/Tail Light

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Amber LED Arrow Turn Signal Back Up Light

# Moveable/Adjustable Work Lights

Two (2) Buyers Products LED work lamps shall be mounted on the right and left sides of the rear cab protection. Each lamp shall be controlled independently by a switch located on the SPS panel and with a switch located on the work lamp. The work lamp(s) shall have the capability to rotate a full 360 degrees on both horizontal and vertical axis. The mounting height will be compatible with a person standing on the ground and will not block the view of the light bar. Each work lamp shall be black in color.

# Step Lights

Four (4) 4.00-inch diameter round LED step lights shall be mounted in the following locations with a stainless-steel security flange. The lights shall be programmed to illuminate when any of the cab doors are opened or when the "STEP LTS" switch is in the "ON" position. These lights shall be mounted in the following locations to provide step area lighting around the apparatus:

- One (1) 4.00-inch round diameter, forward facing, flush mounted on the front of the driver apparatus body
- One (1) 4.00-inch round diameter, forward facing, flush mounted on the front of the passenger apparatus body
- Two (2) 4.00-inch round diameter, downward facing, flush mounted in the rear bumper to illuminate the rear step area

The two (2) downward fcaing lights located in the rear bumper shall also illuminate with the pump panel light switch.

# Off-Road Light

One (1) PIAA Quad Series 20.00-inch dual row LED light bar, with combination spot/flood illumination, shall be provided at the front of the vehicle. The light bar shall be mounted on the middle/bottom bar of the heavy-duty front bumper and brush guard to permit maximum illumination coverage. The wiring harness shall be routed in a manner to protect it from being snagged by branches or foreign objects. The light shall be wired to one (1) of the SPS switches and labeled "FRNT SCENE".

# **Battery Charger with Sure Eject Feature**

A Blue Sea System P12 25-amp battery charger shall be installed in the chassis cab and wired to the OEM battery system and Sure Eject. The battery charger shall be a four stage, three output, dry mount design, for use in harsh environments and enclosed in a rugged, finned aluminum case. The battery charger shall have the following features:

- PreFloat<sup>™</sup> stage prevents over charging
- Power factor corrected for efficient use of AC
- Intuitive diagnostic screens
- User defined charge profiles and customizable settings
- Provides charging for up to three battery banks
- Large, bright display
- Charge Coordination with Blue Sea Systems Automatic Charging Relays (ACR) controls ACR state ensuring proper float stage for each battery
- Battery Temperature Compensation adjusts charge voltage based on battery temperature
- AC over and under voltage shut down and automatic restart
- Over and under battery temperature protection charger will not operate if battery temperature rises above or falls below a set value
- DC over voltage and reverse polarity protection
- Surge and short circuit protection

A Blue Sea Systems Sure Eject shall be installed on the driver's side apparatus body fender, forward of the rear wheels. The automatic AC disconnect ejects power cords upon ignition to prevent damage. The motor driven design ensures consistent ejections for years of operation and the ejection piston is self-recessing with no cocking required. The keyed plug design shall allow for easy one-handed insertion in hard to reach places and an AC power indicating LED shall alert the end user if the system is charging successfully.

The EV Battery Charger display provides two (2) options to monitor the OEM battery banks. It can display a graphical representation of voltage for one (1) to three (3) battery banks with or without connection to a P12 battery charger. When connected to a P12 battery charger it can display the charger's summary screen, displaying voltage, current charging stage, and faults from the charger. The display shall be mounted adjacent to the Sure Eject. **Back-Up Camera / Monitoring System** 

One (1) Alliance Wireless Technologies, Inc. (AWTI) heavy duty slim line back up camera shall be installed on the finished apparatus. The installation of the camera shall follow the manufactures recommendations and comply with federal and state laws.

- HD Slim Line 3 Port Monitor, part number AWTSL503M
- 10G shock and vibration rating
- 5.00-inch diagonal screen size
- Supports up to three (3) cameras
- LED panel technology
- Auto / Manual dimmer function

Heavy Duty Camera, part number AWT1020T

- 150 degree lens angle

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- Microphone
- IR for optimal view in total darkness
- 510 x 492 effective pixels

The camera shall have the ability to see the rear of the apparatus without the chassis being placed in the "REVERSE".

The mounting location shall be centered in the rear tail skirt. The hole for the camera lens shall be size appropriately and the camera shall be mounted in a fashion that does not decrease the functionality of the camera lens. The camera shall be protected and easily accessible in the need of repair(s).

# Cell Phone Signal Booster Kit

One (1) weBoost Drive 5G-X cell phone signal booster or equal shall be installed within the interior of the chassis cab. The external antenna shall be centered on the chassis cab roof and the internal antenna shall be mounted within the driver's side front seat. The booster shall be installed within the floor mounted center console. The booster shall be installed in the chassis cab per the manufacturer's recommendation.

# Multiplexed Electrical System

The electrical system shall be equipped with a Class 1 ES-Key multiplex solid state management system. The system shall have capabilities of performing load management functions, system monitoring and reporting, system data recording, remote or at the vehicle diagnostics, and be fully programmable. The system shall be programmed to discontinue functions, by priority, when the apparatus 12-volt electrical system voltage drops below 11.9-volts.

A single enclosed electrical junction compartment for all apparatus modules, connections, relays, circuit breakers, etc., shall be located inside the cab, in a protected location that does not interfere with available floor space. Wire length within the box shall be sufficient to allow a minimum of two (2) inches of slack to allow for secure connections and ease of service. All wire shall be installed in an organized fashion and located so that they cannot be disturbed when loading personnel or equipment.

# Supernode II

The Supernode II shall be installed with data recorder functionality. Shall be mounted in a weather / dust protected compartment. The compartment shall be separate from an equipment storage compartment. <u>Remote Diagnostics Capabilities</u>

Remote diagnostic shall be accomplished by using a supplied USB 2.0 "A" male to "A" male cable. One (1) end of the cable will connect directly to the Class 1 ES-Key Supernode II and one (1) end will connect to a laptop computer. The remote diagnostic feature(s) will be done through Class 1's ES-Key Live software.

# SPS Switch Panel and Programming

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All accessory and emergency lighting shall be controlled by a master electrical control module mounted in a location within the cab that is easily accessible by driver and operator. The module shall consist of a multiplex smart programmable switch (SPS) module of sixteen (16) lighted switches. The module shall have back lighted identification plates on a non-glare panel face illuminated when the master switch is "ON". The bundle of wires visible through the front glass shall be loomed to present a neat and professional appearance.

The function and layout of the sixteen (16) lighted switches are as follows:

| Switch 1 | Switch 2  | Switch 3  | Switch 4  | Switch 5  | Switch 6  | Switch 7  | Switch 8  |
|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Switch 9 | Switch 10 | Switch 11 | Switch 12 | Switch 13 | Switch 14 | Switch 15 | Switch 16 |

# Switch 1: EMR LIGHTS:

- Description: Activates all emergency or hazard lights
- Function: Switch is press on press off
- Indicator: Indicator light is solid when on
- Requires Body Master to be "ON": No

# Switch 2: UNUSED

- Description:
- Function:
- Indicator:
- Requires Body Master to be "ON":

# Switch 3: PUMP MASTER:

- Description: Provides power to the pump, hose reel, operator's panel, foam system, water/foam level indicators
- Function: Switch is press on press off
- Indicator: Indicator light is solid when on
- Requires Body Master to be "ON": Yes

# Switch 4: FRONT SCENE:

- Description: Activates/Deactivates the front LED bar
- Function: Switch is press on press off
- Indicator: Indicator light is solid when on
- Requires Body Master to be "ON": Yes

# Switch 5: DS SCENE:

- Description: Activates/Deactivates the left side swivel flood light
- Function: Switch is press on press off
- Indicator: Indicator light is solid when on
- Requires Body Master to be "ON": Yes

# Switch 6: STEP LIGHTS:

- Description: Activates /Deactivates the step lights on the apparatus body and rear bumper
- Function: Switch is press on press off
- Indicator: Indicator light is solid when on

• Requires Body Master to be "ON": Yes

# Switch 7: UNUSED

- Description:
- Function:
- Indicator:
- Requires Body Master to be "ON":

# Switch 8: DIMMER UP:

- Description: Adjusts the back light of the switch panel to increase intensity of the back light
- Function: Switch is single press to adjust the back light five (5) settings
- Indicator: No indicator
- Requires Body Master to be "ON": Yes

# Switch 9: HOSE REEL:

- Description: Activates the hose reel rewind function
- Function: Switch is momentary
- Indicator: Indicator is solid when pressed
- Requires Body Master to be "ON": Yes
- Switch shall be RED in color

# Switch 10: LOWER CANCEL:

- Description: Deactivates all lower zone emergency or hazard lights
- Function: Switch is press on press off
- Indicator: Indicator flashes when activated
- Requires Body Master to be "ON": No

# Switch 11: ALARM CANCEL:

- Description: Cancels the audible alarm that sounds to alert the driver that a cab or compartment door is "OPEN" when the parking brake is released, or the vehicle has a low voltage condition. This alarm cancel function is reset when any of the following actions happen the chassis ignition is turned "OFF", the parking brake is set, or the switch is pressed again. Cancels the "LOW VOLTAGE ALRAM" as well.
- Function: Switch is press on press off
- Indicator: Indicator flashes when activated
- Requires Body Master to be "ON": no

# Switch 12: REAR SCENE:

- Description: Activates/Deactivates the rear panel flood (backup) lights
- Function: Switch is press on press off
- Indicator: Indicator light is solid when on
- Requires Body Master to be "ON": Yes

# Switch 13: PS SCENE:

- Description: Activates/Deactivates the right-side swivel flood light
- Function: Switch is press on press off
- Indicator: Indicator light is solid when on
- Requires Body Master to be "ON": Yes

# Switch 14: CMPT LIGHT:

• Description: Activates/Deactivates strip lighting in compartments

- Function: Switch is press on press off
- Indicator: Indicator light is solid when on
- Requires Body Master to be "ON": Yes

# Switch 15: HORN / SIREN:

- Description: Designates whether the chassis horn toggles the siren or sounds the electrical horn
- Function: Switch is press on press off
- Indicator: Illuminates solid in siren mode
- Requires Body Master to be "ON": No

# Switch 16: DIMMER DOWN:

- Description: Adjusts the back light of the switch panel to dim of the back light
- Function: Switch is single press to adjust the back light five (5) settings
- Indicator: No indicator
- Requires Body Master to be "ON": Yes

# NFPA 1900 Electrical Testing

Electrical system tests shall be performed in accordance with NFPA 1900 current edition. Al the time of delivery, all documentation outlined in NFPA 1900 current edition shall be provided.

# Vehicle Paint, Finish, Striping, Identification

The chassis shall be painted by the Original Equipment Manufacturer and the apparatus body shall be gel coated to match the chassis paint color.

Paint color and code: Bright White (PW7).

# Paint and Finish General

The finished apparatus and chassis shall be presented in as new condition. Any dents, scratches, rust spots, or blemishes of any kind on the apparatus will not be accepted. All exposed ferrous metal surfaces that are not plated or stainless steel shall be cleaned and prepared and shall be painted or coated. The paint or coating, including primer, shall be applied in accordance with the paint or coating manufacturers' recommendations. The paint shall be applied by individuals who have been certified by the paint manufacturer.

# Apparatus Body Exterior

The exterior of the apparatus body shall be a single color pigmented gel coat.

# Apparatus Body Interior

The apparatus body compartment interiors shall be finished with a marble color Zolatone paint to provide a durable finish.

Other Metal item Finish

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All aluminum and stainless steel shall remain unpainted unless specified otherwise. Metal parts that are powder coated flat black.

# Powder-Coating Standard

Items that are specified to be powder coated shall have a minimum 1-2 mm flat black powder coated finish.

# Anti-Slip Surface

Horizontal walking surfaces specified to have an anti-slip coating shall meet or exceed OSHA and NFPA 1906 (current edition) requirements. Coating shall be durable and last the life of the apparatus. <u>Striping and Graphics</u>

# Body General

All stripes are per NFPA standards and ASTM D 4965, "Standard Specifications for Retro-reflective sheeting for Traffic Control (unless otherwise specified)." Finish of the striping and emblems shall be void of air pockets, and other blemishes, and edges shall be smooth.

Final approval shall be obtained prior to installation based upon a drawing or rendered photograph showing exact placement, color and configuration.

# Sides

A reflective stripe shall be affixed to the perimeter of the apparatus. Striping on the engine sides shall cover at least 50% of the cab and body length, following the natural contour of the equipment.

# Front Chevron Graphics

At least 4.00-inches, not to exceed 8.00-inches, of chevron striping, red and fluorescent yellow in color, shall be provided on the wings of the front bumper. The pattern shall slope downward and away from the centerline of the vehicle at an angle of 45-degrees. The chevron striping shall be placed on smooth aluminum rear plates and attached to the front bumper with stainless-steel hardware.

# Rear Chevron Graphics

At least 4.00-inches, not to exceed 8.00-inches, of chevron striping, red and fluorescent yellow in color, shall be provided on the vertical rear facing surface of the apparatus body and the edge of the bumper shall be included. The pattern shall slope downward and away from the centerline of the vehicle at an angle of 45-degrees. If a single 4-inch-wide vertical

surface is unavailable, multiple strips may be used. Chevron striping shall cover as much of rear surface as practical, not including the top boxes, chainsaw or spare tire door, etc.

# Reflective DOT Red and White Striping for Doors

A 2.00-inch white and red reflective stripe shall be installed on the vertically hinged interior compartment door face near the edge(s). Red reflective stripe(s) shall be installed on the bottom edge of the chassis cab doors. The reflective striping shall meet and/or exceed the current edition of NFPA 1906.

# Agency Striping

The apparatus shall be striped in accordance with the Texas A&M Forest Service's striping standards.

# Agency Lettering and Numbering Graphics Package

All lettering and numbering shall be in Block Bold font. All lettering and numbering shall be reflective in nature and conform to the minimum requirements of ASTM D 4956, Standard Specification for reflective Sheeting for Traffic Control, Type I, Class 1 or Class 3. Finish of the lettering and numbering shall be void of air pockets, and other blemishes, and edges shall be smooth.

Final approval shall be obtained prior to installation based upon a drawing or rendered photograph showing exact placement, color and configuration.

# Compartment Numbering / Lettering

Each compartment shall have a 1.00-inch to 1.50-inch label. The numbering/lettering shall be black in color and match other numbing lettering in this specification. The compartment lettering scheme, for the driver side compartments shall be, D1 through D3 starting from the front of the apparatus body working toward the rear. The compartment lettering scheme for the passenger side compartments shall be, P1 through P3 starting from the front of the apparatus body working toward the rear. The labels shall be in the forward upper corner of the compartment.

# Placards and Labels

All required signs, plates and labels shall be permanent in nature and securely attached and shall meet the requirements of NFPA 1900 current edition, and UL 969, *Standard for Marking and Labeling System*.

All signs, plates and labels shall be similar in appearance, style and design. The following signs, plates and labels shall be installed on the apparatus:

# All applicable signs, plates and labels listed in NFPA 1900 current edition.

Fluids Placard

# 11423-0004

The contractor will affix a permanent placard in the driver's compartment specifying the correct type of the following fluids used in the vehicle:

- Engine Oil
- Engine Coolant
- Chassis Transmission Fluid
- Power Steering Fluid
- Front Drive Axle Lubrication Fluid
- Rear Drive Axle Lubrication Fluid
- Transfer Case Lubrication Fluid
- Pump Gear Box Oil
- Auxiliary Engine Oil
- Auxiliary Engine Coolant
- Foam System Lubricant
- Any other information deemed necessary by the contractor or its subcontractors to prolong the life of the equipment

# Dimension Placard

The contractor shall affix a permanent placard in the driver's compartment specifying the empty/dry vehicle dimensions after constructions. The placard shall include the following minimum information:

- Overall Length
- Overall Height, the highest point on the vehicle excluding antennas when empty
- Overall Width
- Empty Weight

# Air Intake

The Chassis engine air intake (air-box) cover shall be equipped with a Warning label/placard (approved by the COR prior to installation) that depicts the following information: WARNING! Prior to removing cover:

- 1. Remove Ignition Key
- 2. Disconnect Mass Air Flow Sensor
- 3. Reassemble completely prior to Starting

# DO NOT CLEAN FILTER WITH COMPRESSED AIR!

Pump Operation Placard

A permanent placard shall be mounted on the driver side rear panel of the apparatus body, as high as possible and within easy view from the operator's panel, that describes the necessary steps to start the pump and pump water of out the water tank to the discharge(s).

# Winterization Placard

A permanent placard shall be mounted on the inboard side of the operator's panel, as high as possible and within easy view from the operator's panel, that describes the necessary steps to properly winterize the plumbing to prevent freeze damage.

# Pump Test Placard

A permanent placard shall be mounted on the inboard side of the operator's panel, as high as possible and within easy view from the operator's panel, that provides the end user with the gallons per minute (GPM) at 150 pounds per square inch (PSI) and gallons per minute (GPM) at 250 pounds per square inch (PSI) of the pump.

# Seating Capacity

The completed apparatus shall be designed to have a fully enclosed seat with an approved seat belt for each occupant. The term "fully enclosed" shall mean four sides, a top and a bottom, with an appropriate door for easy entrance to and exit from the seating position.

A warning label, listing the seating capacity of the completed apparatus, shall be provided in the apparatus cab interior. This label shall be located so that it is visible from all seating positions.

This apparatus shall have a seating capacity of two (2) personnel in front, and three (3) personnel in the rear for a total seating capacity of five (5).

# Seating

The center portion of the 40/20/40 split bench seat shall be removed to accommodate the installation of the center console.

# Seat Belt Warning

A warning label, stating: "DANGER- Personnel Must Be Seated and Seat Belts Must Be Fastened While Vehicle Is in Motion or DEATH OR SERIOUS INJURY MAY RESULT," shall be provided in the apparatus cab interior. This label shall be located so that it is visible from all seating positions.

Final Stage Manufacturer Vehicle Certification

A Final Stage Manufacturer vehicle certification label shall be provided and installed in the apparatus cab driver's door jamb.

# Noise Hazard Warning

A warning label, stating: **"WARNING: Noise Hazards Occur During Siren Operation"**, shall be provided and installed in the apparatus cab interior. This label shall be located so that it is visible from all seating positions. <u>Pump Motor</u>

The pump shall be driven by a 24.8 horsepower Kubota model D902, four-cycle, water cooled diesel engine that shall be equipped with the following provisions. The pump engine shall be fixed mounted on the water tank.

- <u>Fuel Supply</u> The engine shall be piped to the chassis fuel system with provisions to prevent fuel drain-back to the tank when the engine is shutdown. The pickup tube shall be located 1.00-inch from the bottom of the tank to leave sufficient fuel in the tank for movement of the vehicle.
- <u>Fuel Prime</u> A fuel re-prime pump shall be provided to assist in fuel delivery to the diesel engine from the chassis tank.
- <u>Lubrication</u> Pressure feed with spin-on filter.
- <u>Pump Controls and Starter</u> Controls for the pumping system shall be integrated into a single system that contains monitoring and protection features, and shall be configured with high current key switch, hour meter, voltmeter, oil pressure gauge, temperature gauge, throttle and spare openings for additional 2.00-inch diameter gauges.

The starter and associated 12-volt, 40-amp alternator shall be hardwired to the chassis electrical system and controlled from the operator's panel

- <u>Exhaust</u> A USFS qualified spark arrestor shall be provided on the engine exhaust system. The exhaust shall be
  positioned to provide clear access to the air filter without the use of tools. The exhaust shall be routed away from
  the panel operator position.
- <u>Air Intake</u> An air cleaner is to be provided with easy access to remove the element. An ember screen shall be provided on the inlet to the air cleaner.
- <u>Shielding</u> There shall be custom fabricated polished aluminum tread plate safety shield(s) to prevent damage or injury if the potential exists for loose clothing, hands, or foreign objects to enter the cooling fan area, belts, or any other moving parts of the auxiliary pump. A warning plate shall be permanently affixed to the top of the pump engine cover that shall read "WARNING: NOT A STEP".

- <u>Maintenance</u> All serviceable items such as air filters, oil filters, drains, and fuel pumps shall be accessible for routine maintenance without requiring removal of any plumbing or major engine components such as complete removal of the exhaust system or air filter housing.
- <u>Warranty</u> The auxiliary pump shall carry a minimum two (2) year warranty that covers labor charges from the date the pump is placed into service. The manufacturer of the diesel engine that drives the auxiliary pump shall warrant the product for a minimum of 24 months or 2000 hours.

# Pump Gear Box

The Waterax BB-4 pump shall be built for maximum pressure and the gear box from the pump shall be configured as such with a gear ratio of 1.88:1.

# <u>Pump</u>

Due to the unpredictability of water sources, the Waterax BB-4 shall have a pump body, diffusers, and impellers made of an anodized corrosive resistance aluminum. The impeller must be aluminum to match the pump body and diffusers in order to prevent galvanic corrosion from taking place between pump components. The pump shaft shall be stainless steel supported by two maintenance free bearings and shall not be co-linear to the engine's drive shaft. A sealed roller bearing shall be located externally from the pump and a sintered bronze bushing shall be located within the pump cover. Both bearings must be maintenance free.

As installed on the apparatus, the pump shall be capable of delivering 50 gallons per minute minimum at 250 pounds per square inch output pressure from a 5-foot lift through 24 feet of 2.50-inch suction hose with a strainer and from the apparatus water tank or from an external draft source, i.e. fold-a-tank.

In addition, the pump manufacturer shall certify that the pump can deliver the following capacities as measured at the pump head and at net pump pressure from draft under test conditions listed:

# Capacities:

- 105 gallons per minute @ 150 pounds per square inch net pump pressure
- 70 gallons per minute @ 250 pounds per square inch net pump pressure
- 40 gallons per minute @ 300 pounds per square inch net pump pressure

The pump seal shall be a mechanical rotary seal, shall be externally pressurized and shall incorporate a blister-resistant carbon seal face, silicon carbide seat, and fully integrated drive bushing.

Testing and Certification

Upon completion, the apparatus shall undergo a complete pumping test that conforms to the requirements of NFPA Standard 1900 (latest edition) for the size and type of pump provided. The test shall consist of a continuous one-half hour test pumping at rated capacity and rated net pump pressure, a vacuum test of the primer system and plumbing, a tank discharge flow test, a pressure test of the apparatus piping and a water tank usable water volume test. The chassis engine and transmission, the pump and other components of the apparatus shall show no undue heating, leaks, or other defect. The results of the test shall be documented to establish the performance of the apparatus and to further insure that the unit shall perform satisfactorily when placed into service. The test results shall be certified in writing, with the certification provided to the purchaser for their records at the time of delivery of the completed apparatus. **Waterous Aguis 1.5 Foam System** 

waterous Aquis 1.5 Foarin System

The apparatus shall be equipped with an electronic, fully automatic, variable speed, direct injection, discharge side foam proportioning system. The system shall be capable of handling Class A foam concentrate. The foam proportioning operation shall be based on direct measurement of water flows, and remain consistent within the specified flows and pressures. The system shall be equipped with a control module suitable for installation on the pump panel. Incorporated within the motor driver shall be a microprocessor that receives input from the system flow meter, while also monitoring foam concentrate pump output, comparing values to ensure that the operator preset proportional amount of foam concentrate is injected into the discharge side of the fire pump. A paddlewheel-type flow meter shall be installed in the discharge system specified to be "foam capable." A brass wye strainer with a removable/cleanable screen shall be installed in the foam pump supply line.

The control module shall be mounted to the pump panel and enable the pump operator to:

- Activate the foam proportioning system
- Select proportioning rates from 0.1% to 1.0%. See a "low concentrate" warning light flash when the foam tank runs low and in two minutes, if foam concentrate is not added to the tank, shut the foam concentrate pump down.

A 12-volt electric motor driven positive displacement plunger pump shall be provided. The pump capacity shall be 1.0 GPM at 200 psi with a maximum operating pressure up to 400 psi. The system will draw a maximum of 30 amps @ 12 VDC. The motor shall be controlled by the microprocessor mounted to the base of the pump. It shall receive signals from the control module and power the 1/3 hp (.25 KW) electric motor in a variable speed duty cycle to ensure that the correct proportion of concentrate is injected into the water stream. A full flow check valve shall be provided in the discharge piping to prevent foam contamination of fire pump and water tank. A 5 psi opening pressure check valve shall be provided in concentrate line.

Components of the complete foam proportioning system as described above shall include:

- Operator control module
- Paddlewheel flow meter
- Pump and electric motor/motor driver
- Wiring harnesses
- Low level tank switch

- Foam tank
- Foam injection check valve
- Main waterway check valve
- Brass Wye strainer

An installation and operation manual shall be provided for the unit, along with a one-year limited warranty by the manufacturer. The system shall be installed and calibrated. The system design shall have passed environmental testing which simulates heavy use on off-road mobile apparatus. Testing shall have been conducted in accordance to SAE standards.

All water discharges shall be supplied with foam solution except the pump to tank and fresh water discharge. No foam shall be allowed to enter the water tank.

The Waterous Aquis 1.5 Foam System shall carry a one (1) year warranty. **Plumbing General** 

All plumbing shall be stainless-steel with high pressure flexible hose where appropriate. Sweeping elbows and tees shall be used to improve flow. Victaulic couplings shall be used where appropriate to allow easier disassembly for maintenance. The stainless welds shall be cleaned and polished. Deck mounting of plumbing components shall be maximized to the greatest extent possible to eliminate hanging fixtures and minimize component shifting, loosening, etc. **Pump Area Cover (Walk-Over) with Hinged Access** 

The apparatus shall be equipped with a removable plumbing area cover. All materials used in the construction and mounting of the cover shall be non-corrosive. The cover shall be fabricated of 3/16-inch aluminum CNC punched walking surface with an aluminum 2.00-inch by 2.00-inch by 3/16-inch square tube support frame. The tube frame shall be fully removable for ease of pump system maintenance. The top of the cover shall be designed to provide a walkway access across the rear of the apparatus and provide shielding from the pump and plumbing manifold area. The cover shall open in the center, gull wing style, with stainless steel hinges on the outboard positions to allow easy access to the plumbing area without the use of tools. The cover shall be capable of supporting, without distortion, a walking person weighing up to 300 pounds. The walking surface shall comply with NFPA 1906. The hinged covers shall have hand railing on either side of the covers to aide in climbing and walking on top the vehicle. The cover shall be mounted and attached securely for travel in the off-road environment. There shall be a positive locking pins permanently attached, with stainless steel aircraft cable, to the structure to maintain closure.

# Suction Plumbing

All suction side plumbing shall be 2.00-inch in diameter unless otherwise noted.

One (1) 2.00-inch tank-to-pump line, with an inline valve, shall be installed between the water tank outlet and the pump inlet. The valve shall be locally controlled and easily accessible from the ground.

One (1) 2.00-inch diameter rear suction shall be provided. The suction shall be directed towards the rear of the unit and shall be easily accessible from the rear of the apparatus. It shall have a fire service valve with a 2.00-inch NPSH flange, a polished chrome rocker lug cap, and jacketed stainless-steel aircraft cable retainer.

# Discharge Plumbing

All main discharge plumbing shall be 2.00-inch and reduced to 1.50-inch at the valves.

One (1) 1.50-inch pump-to-tank, or tank fill, labeled "NO. 2 PUMP TO TANK, shall be supplied. The line shall have a fire service valve. The valve shall be accessible from the operator's position and controlled by a direct actuation handle. A check valve shall be positioned in the refill line beyond the valve and adjacent to the tank.

One (1) 1.50-inch discharge, labeled "NO. 3 DISCHARGE", shall be supplied. The discharge shall be directed towards the rear of the unit. The discharge shall have a fire service valve locally controlled by a direct actuation handle. The discharge shall terminate with a 1.50-inch male NH threads with a chrome rocker lug cap and jacketed stainless steel aircraft cable retainer.

One (1) 1.00-inch central single hose reel control with valve shall be provided. The valve shall be easily accessible from the standing position at the rear of the apparatus. For additional details, see the hose reel section of this specification.

One (1) locally controlled 1.50-inch discharge valve and 90-degree swivel with male NH threads shall be provided at the rear of the apparatus adjacent to the plumbing area, passenger side. A hose tray with a minimum capacity of 50-feet of 1.50-inch hose shall be included adjacent to the end of the swivel. This shall serve as a **pre-connected engine protection line**.

# Front Discharge

One (1) 1.50-inch front discharge shall be provided on the **<u>driver's side</u>** of the heavy-duty replacement front bumper. The discharge shall be controlled with a fire service valve near the rear pump operator's panel at the apparatus rear.

A second fire service valve with a swivel head and a polished chrome cap shall be installed on the heavy-duty front bumper. The valve shall be placed inside the brush guard for protection but shall not block the chassis headlight.

There shall be drains installed at the low points in the plumbing. Each drain location, within the stainless-steel piping, shall be equipped with a threaded petcock. A label stating, "LOW POINT DRAIN(S)" shall be affixed to the exterior of the chassis cab or front bumper identifying the location of the drains.

# <u>Valves</u>

All **Elkhart Brass** drop-out discharge and inlet ball valves shall meet all NFPA 1906 current edition standards. All 1.00-inch and larger valves in this specification shall be brass, quarter turn, fire service valves. All valves shall be locally controlled. Valve handles shall be oriented to direction of flow, in line with plumbing when open. All knobs on all valve handles shall have Loctite in place to prevent them from coming loose during off-road operation.

All 1.00-inch and larger valves installed on the apparatus shall be supplied by the same manufacture unless specified otherwise.

All 1.00-inch and larger valves installed on the apparatus shall be warranted to be free from defects in materials and workmanship under normal use and service for a period of five years.

All valves smaller than 1.00-inch shall be Apollo brass with a mechanism to hold them in the OPEN or CLOSED position.

# Valve Labeling

Each valve shall be labeled as to its function immediately adjacent to the valve control. The valves shall be labeled in accordance with the US Forest Service valve numbering system in common use with off-road firefighting agencies. A placard with an identification key shall be affixed at the rear of the apparatus. **Dual Hose Reels** 

The apparatus shall be equipped with Two (2) Hannay polished aluminum super booster hose reel. One hose reeel shall be mounted on the top of the front driver's side compartment and the second hose reel shall be mounted on the front passenger's side compartment. Each hose reel shall be equipped with the following features:

- Hose reel frame and drum shall be fabricated of polished aluminum, with a sprocket being chrome plated to minimize maintenance
- The inlet connection shall be 1.00-inch
- The outlet connection shall be 1.00-inch **NPSH thread**
- Open stainless-steel rollers with aluminum brackets, steel bushings, mounted high on each of the reels. The side
  rollers shall be approximately the width of the reel drum to allow full use of the drum to roll hose onto
- Hose capacity of a minimum of 150 feet of 1.00-inch hard line
- A manual rewind port with removable handle, mounted vertically
- An adjustable brake
- 2/3 horsepower electric motor

The hose reel shall be controlled by a locally controlled valves at the rear of the apparatus. The connection between the valves and each reel shall be with high pressure 1.00-inch flexible hose. Each reel shall have a (1) rewind switch installed, one (1) on each side of the apparatus body, in a location to allow a fire fighter to hold the booster hose while pushing the rewind button. These switches shall be marine style sealed momentary switches with a chrome button protector ring to aide

in the prevention of accidental impact. The switches shall be a momentary in opertion and sealed from the environment. Additionally, there shall be a separate momentary switch on the master electrical control module for the driver to control the rewind of the reel while the apparatus is in pump-and-roll operations.

# **Booster Hose**

One hundred & fifty (150) feet of <sup>3</sup>/<sub>4</sub>-inch red rubber booster hose shall be supplied an installed on each of the specified booster reels. Each booster hose shall be supplied in sections fifty (50) long and shall have 1.00-inch NPSH threaded aluminum pin hole couplings.

# <u>Primer</u>

One (1) Hale Products positive displacement, oil less, rotary vane, electric motor-driven priming pump, conforming to the NFPA requirements, shall be provided and installed on the cross member, above the lower edge of the frame rails, aft of the cab body. The primer pump body shall be fabricated from heat-treated anodized aluminum for wear and corrosion resistance. The priming pump shall be capable of producing a minimum of 17.00-inches Hg of vacuum at 2000 feet above sea level.

The primer pump electric motor shall be of a 12 VDC totally enclosed design. The priming pump shall not require lubrication from an external source. The priming pump shall be operated by a single push-pull control valve mounted on the pump operator's panel. The control valve shall be of all bronze construction and labeled "#6 Primer".

The primer shall be connected to the priming port provided on the top of the pump inlet. <u>Strainer</u>

The pump intake shall be equipped with a stainless steel wye strainer with 3/16-inch mesh to filter out foreign material and keep debris from entering the pump. The strainer will be removable and have a screw-off cap to allow easy cleaning of the filter element in the field. The plumbing shall have two (2) Victaulic couplings between the strainer and the pump for ease of service on the pump.

# Plumbing Drains

# Master Drain

The apparatus shall be equipped with a Waterous master drain valve shall be plumbed to the pump, suction plumbing and discharge plumbing as required to fully drain the piping and pump to prevent damage from freezing. The drain valve and associated plumbing will be designed to withstand pressures of 600 pounds per square inch. The master drain shall be labeled "NO. 11 PUMP AND PLUMBING DRAIN".

# Discharge Manifold Drain

A "DISCHARGE MANIFOLD" drain shall be supplied for those discharges that are "foam capable" to prevent the potential of cross-contamination. The drain shall be located on the operator's panel and controlled by a quarter turn valve. The valve shall be labeled "NO. 11 DISCHARGE MANIFOLD DRAIN".

# Pump Cooling / By-Pass Line

A 3/8-inch pump cooling/by-pass line labeled "NO. 17 PUMP BYPASS" shall be plumbed from the discharge side of the pump to the water tank fill tower to help cool the pump when it is engaged, and water is not being discharged. This line shall be plumbed through a quarter-turn panel-mounted ball valve. The valve shall be labeled "OPEN" and "CLOSED" and a warning label shall be affixed near the valve that states "PUMP DAMAGE CAN OCCUR IF VALVE IS CLOSED". The valve handle position shall be vertical when "OPEN" and horizontal when "CLOSED". Water flow shall be between 1.00 gallons and 1.50 gallons per minute at 150 pounds per square inch pump pressure. A check valve shall be included in the line to facilitate priming.

There shall be a GPM gauge to monitor pump cooling/ by-pass. **Operator's Panel** 

All pump engine controls and indications described elsewhere in these specifications shall be contained in a stainless steel pump panel located at the rear of the apparatus. The pump panel shall be positioned so that the controls are easily operated by a person standing on the ground at the rear of the unit. The panel shall be structurally capable of holding a 300 pound person standing on the top when installed on the unit. The rear of the panel shall be partially enclosed for added protection from the environment. The panel shall be equipped with a swing out access door that opens out, towards the pump operator, fore easy field access to wiring and other components. The panel shall be able to swing open to a minimum of 90-degrees for service and inspection. The panel shall be constructed from 14-gauge 4F "satin" finish stainless steel.

# Panel Lighting

The panel shall be illuminated by one (1) LED light strip under a hood formed by the top of the pump panel. The light strip shall have a quick disconnect so it can be removed from the panel easily for replacement.

One (1) OnScene Solutions 18.00-inch LED light strip shall be installed on the back of the pump operator's panel running vertically and serve as plumbing lights. The LEDs and electronics shall be enclosed in a 5/8-inch diameter Lexan tube that is sealed at both ends with rubber caps to create a waterproof environment and be suitable for mounting in a wet location. The LEDs shall be in a row one inch apart and have a beam angle of 120-degrees. The tube shall rotate to adjust the beam

direction as required. The light shall fit in a 20.00-inch space and be secured with two (2) molded nylon mounting clips. There shall be additional wiring to the light to remove it from the mounting clips and use it as a work light at the rear of the apparatus.

The operator panel lights shall be controlled by the same switch located and labeled on the operator's panel.

The operator's panel shall contain the following controls and gauges:

- I. Discharge pressure gauge
- J. Intake pressure gauge
- K. Electronic water level indicator
- L. Panel light switch
- M. Master drain handle
- N. Discharge manifold drain
- O. Foam system controls
- P. The pump primer control
- Q. Throttle
- R. Winterization air inlet
- S. Low voltage indicator light and alarm
- T. Low fuel indicator light
- U. Discharge water temperature gauge
- V. Pump protection override switch
- W. LOFA panel with the following
  - 4. Tachometer
  - 5. Analog Hour meter (BFX Installed)
  - 6. Oil pressure gauge
  - 7. Water Temperature gauge
  - 8. Voltmeter
  - 9. Glow plug light
  - 10. Engine "ON/OFF/START" and glow plug switch/light
  - 11.Low water pressure override switch, labeled "PRESSURE OVERRIDE"

All gauges, controls, discharges and suctions shall be labeled. All knobs on all valve handles shall have Loctite in place to prevent them from coming loose during off-road operation.

# Discharge Pressure Gauge

One (1) 4.00-inch liquid filled pressure gauge shall be supplied for the pump discharge. It shall be marked in pounds per square inch (PSI) with an indicating range of -30-0-600 pounds per square inch (PSI). The gauge shall be located on the pump operator's panel. The gauge shall be equipped with a freeze protection diaphragm and shall be equipped with a drain cock (vent) at the gauge connection line drain.

# Intake Pressure Gauge

One (1) McDaniel Controls 50/50 4.00-inch diameter -30-0- 300 pounds per square inch (PSI) intake pressure gauge shall be provided on the operator's panel, located in a vertical pattern on the right side of the operator's panel below the discharge pressure gauge. The gauge shall be equipped with a drain cock (vent) at the gauge connection and shall be illuminated by the standard panel lighting.

# Winterization / Emergency Priming Port

# **Operator's Panel Winterization Port**

A brass 1/4-turn valve shall be provided at the operator's panel and fitted with a universal air quick coupling plug to allow for pressurization of the plumbing system for efficient winterization.

# Manifold Winterization / Priming Port

A 1.50-inch winterization / emergency priming port shall be located on the intake side of the manifold(s) to allow the end user that ability to efficiently winterize the plumbing system or prime the plumbing system in the event of an external primer failure. The port shall have a chrome rocker lug cap and be attached to the manifold with a stainless-steel jacketed aircraft cable.

### Electronic Water Level Indicator(s)

One (1) Fire Research TankVision model WLA300-A00 tank indicator kit shall be installed. The kit shall include an electronic indicator module, a pressure sensor, and a 10' sensor cable. The indicator shall show the volume of water in the tank on nine (9) easy to see super bright LEDs. A wide view lens over the LEDs shall provide for a viewing angle of 180 degrees. The indicator case shall be waterproof, manufactured of aluminum, and have a distinctive blue label.

The program features shall be accessed from the front of the indicator module. The program shall support self-diagnostics capabilities, self-calibration, and a data link to connect remote indicators. Low water warnings shall include flashing LEDs at 1/4 tank, down chasing LEDs when the tank is almost empty, and an output for an audio alarm.

The indicator shall receive an input signal from an electronic pressure sensor. The sensor shall be mounted from the outside of the water tank near the bottom. No probe shall place on the interior of the tank. Wiring shall be weather resistant and have automotive type plug-in connectors.

One (1) Fire Research TankVision model WLA305-A00 miniature tank indicator shall be installed in the cab. The indicator shall show the volume of water in the tank on five (5) easy to see super bright LEDs. A wide view lens over the LEDs shall provide for a viewing angle of 180 degrees. The indicator case shall be manufactured of aluminum and have a distinctive blue label. The miniature tank indicator shall be dimmable.

The miniature indicator shall receive input information over a single wire from a Fire Research TankVision model WLA300-A00 tank primary indicator.

The indicator shall be calibrated at the time of inspection. **Electronic Foam Level indicator** 

One (1) Fire Research TankVision model WLA360-A00 tank indicator kit shall be installed. The kit shall include an electronic indicator module, a pressure sensor, a 10' sensor cable and a tank vent. The indicator shall show the volume of Class A foam concentrate in the tank on nine (9) easy to see super bright LEDs. A wide view lens over the LEDs shall provide for a viewing angle of 180 degrees. The indicator case shall be waterproof, manufactured of aluminum, and have a distinctive green label.

The program features shall be accessed from the front of the indicator module. The program shall support self-diagnostics capabilities, self-calibration, and a data link to connect remote indicators. Low foam warnings shall include flashing LEDs at 1/4 tank, down chasing LEDs when the tank is almost empty, and an output for an audio alarm.

The indicator shall receive an input signal from an electronic pressure sensor. The sensor shall be mounted from the outside of the foam tank near the bottom. No probe shall place on the interior of the tank. The foam tank vent shall be installed on the foam fill tower. Wiring shall be weather resistant and have automotive type plug-in connectors. The location of the transducer shall be easily accessible.

# Pump Protection Shutdown System

The pumping system shall be protected from unnecessary damage using a Water Pressure switch, an Oil Pressure switch and a High Temperature switch. The switches shall be integrated into a control panel that contains all of gauges and monitoring devices for the pumping system.

The water pressure switch shall be designed to kill the pump engine when water pressure drops below 15 pounds per square inch.

The oil pressure switch shall be designed to kill the pump engine when oil pressure drops below 10 pounds per square inch. A temporary override shall be a timed function of the control panel during start up procedures and shall not require a manual push button.

The high temperature switch shall be designed to kill the pump engine when engine temperature exceeds manufacturer's maximum operating temperature.

A toggled override switch located on the pump panel with cover shall be incorporated into the system for use during initial startup and drafting operations and shall override all shutdown systems when engaged (up position). The toggle switch

shall have a red safety cover (missile switch cover) that will cover the switch and simultaneously disengage the system when in the down/armed position.

# \*Water temperature/override switch that will kill the pump when water temperature reaches 160F\*

# Horn/Siren Feature

A switch shall be located on the pump panel to activate the chassis horn or the PA system air horn. The switch shall be marine style sealed momentary switch with a chrome button protector ring to aide in the prevention of accidental impact. The switch shall be labeled "HORN". Adjacent to the switch, behind the swing out panel, in an easily identifiable location, the circuit for this switch shall be fused and labeled to disable the horn in the event of a switch failure. Water Tank

The water tank shall be fabricated from ½-inch thick black protection series III copolymer polypropylene. The tank shall be designed to be completely independent of the body structure and compartments. All joints and seams shall be nitrogen-welded inside and out. All exposed edges on the tank and fill tower shall be rounded off to a ¼-inch radius.

The baffles shall be fabricated from ½-inch protection series III polypropylene and be designed for maximum airflow throughout the tank. The baffles shall be internally connected to the top, sides, end and bottom. The tank shall have a manual fill tower with a basket strainer for both the water tank and foam tank. The lid shall be labeled "WATER".

The tank shall have a vent over-flow system that shall extend through the tank and exit under the vehicle, forward of the rear axle. The tank sump shall include provisions to prevent water swirl. There shall be piping inside the tank with a suction tube to the sump. The suction tube shall extend down through the anti-swirl plate and baffles. All fittings in the tank shall be heavy duty polypropylene or stainless steel. Tank inlets shall have flow detectors inside the tank.

A 1.50-inch quarter turn drain valve shall be located at the tank sump for drainage and labeled "TANK DRAIN".

# Clean Out Plug

The bottom of the tank sump shall be equipped with a 3.00-inch NPTF clean out fitting, equipped with a 3.00-inch NPTM PVC pipe plug.

# Tank Capacity

The water tank shall have a usable capacity of 313 U.S. gallons. **Foam Tank** 

One (1) 7-gallon capacity foam concentrate storage tank shall be provided and plumbed to the on-board foam system. the tank shall be fabricated from polypropylene and shall be designed and fabricated as an integral part of the main water tank. The foam tank shall have a separate fill tower and shall be labeled "FOAM".

The foam tank shall have a translucent sight tube incorporated into the tank to indicate the foam level. The sight tube shall be labeled "FOAM LEVEL" and shall be visible from the operator's panel. **Spare Tire Compartment** 

The tank assembly shall include an integrated lockable spare tire storage compartment with dimensions suitable to store the spare tire. The compartment shall be sweep out style to simplify cleaning and removal of gear/tools. All hardware for the compartment shall consist of stainless steel parts. The compartment door shall utilize a stainless steel D-Ring latch and shall be lockable using the same key number described elsewhere in this specification (1250).

A heavy-duty vinyl pouch shall be attached to the inboard of the passenger side wall of the spare tire storage compartment for storage of the OEM tire changing tools. A 1.00-inch lip shall be provided in the back corner of the spare tire compartment, on the passenger side, for storage of the 12-ton hydraulic jack. **Chainsaw Compartment** 

The tank assembly shall include an integrated lockable chainsaw compartment at the rear of the vehicle, below the operator's pump panel. The compartment shall have approximate inside dimensions of 14.00-inches high by 14.00-inches wide by 50.00-inches deep. The compartment interior shall require a means of protecting the poly construction from the teeth of the chain saw, which may cut the poly during placement, removal, and storage. There shall be a retention mechanism to secure the saw into place once the saw has been stowed. The compartment shall be vented on the driver side of the wall of the compartment. The compartment door shall utilize a stainless-steel D-Ring latch and shall be lockable using the same key number described elsewhere in this specification (1250). The door shall <u>seal</u> the compartment from all outside elements. The floor area of the compartment shall be designed to avoid damage to the bar/chain of the saw.

# Integrated Top Storage

A storage compartment fabricated from 1/2-inch protection series III polypropylene shall be a component of the water tank assembly, located at the front of the apparatus. The storage compartment shall have approximate dimensions of 46.00-inches long by 16.00-inches wide by 25.00-inches deep. A drain shall be provided in the bottom of the compartment that vents through to the ground. The compartment shall have a polypropylene overlapping style lid with two (2) adjustable overlapping positive catch style lockable latches, one (1) per side. The storage compartment shall be adequately sealed to prevent water intrusion. The lid shall be equipped with two (2) extending, gas cylinder type hold open devices. The lid shall not make contact with the light bar when "OPEN".

# Ice Chest Storage

The top deck of the tank assembly shall have an integrated ice chest storage space with stailess steel brackets provided to attach tie down straps. Minimum dimensions for the ice chest storage area shall be 30.50-inches long by 16.00-inches wide allowing for storage of varius size coolers. The space shall be designed to allow the user to drain the ice chest without removing the chest from the storage space. The drain shall be provided to allow moisture to drain through the tank to the ground.

This option includes a Yeti Tundra 65 cooler that will be biege in color or similiarly colored as available.

# **Custom Hose Holder Brackets**

A hose holder system shall be fabricated and installed on the rear of the apparatus. Each holder shall be mounted in a location to be determined at the rear of the apparatus but still provides access standing on the ground. The system shall allow the end user to quickly attach/remove the system when desired.

# Hydrant Wrench Holder and Wrenches

One (1) three position captive latching type/hydrant/spanner wrench holder and hydrant wrenches shall be permanently affixed to the apparatus. Placement of this will be determined during the prework conference. <u>Additional Equipment</u>

The following components shall provide with the completed apparatus. These items shall be available for inspection at the final acceptance inspection. The loose equipment shall be presented in an identically organized fashion; small items shall be contained in a high durability reusable container for storage and transport.

Jack

12-ton hydraulic bottle Jack

Fire Extinguisher

5-pound Class B&C fire extinguisher with heavy-duty metal mounting bracket, installed on the plumbing area cover horizontally on the inboard side.

Safety Triangle Reflectors

A set of three (3) reflective safety triangles.

Keys

11423-0004

A minimum of two (2) complete key sets including: chassis ignition and door electronic key fobs and a minimum of four compartment keys.

# Spare Fasteners

A quart size bag of miscellaneous stainless-steel fasteners commonly used in the construction of the apparatus.

# Self-Adhesive Labels

The following list of self-adhesive labels shall be included in the loose equipment box:

- 12. Two (2) "FIRST AID" labels approved
- 13. Two (2) "FIRE EXTINGUISHER" labels
- 14. Two (2) fuel storage compartment labels
- 15. Two (2) additional Fluid Data labels
- 16. Two (2) "Do not exceed MPH' labels

# Chassis Manuals

A minimum of one (1) printed chassis operator manual.

# **Component Manuals**

One (1) set of operating manuals for major components such as pump, Kubota pump motor, hose reels, Aquis 1.5, primer, and light bar, etc.

# Vendor Training

Two (2) digital copies (USB Drives) of the vendor provided training.

# Suction Hose

Three 8-foot x 2.00-inch sections of clear PVC suction hose; the suction hoses shall be fully assembled with all the applicable hardware to connect to the overboard draft, as either an 8-foot section or combined to form a 24-foot section, sized to match the main pump inlet and shall include a foot valve barrel strainer.

Suction hoses may be required to be shortened, approximately six inches each, to allow for hoses with fittings to fit properly within the tubes in the suction hose compartment and allow for easier access.

# Calibration Magnet

A magnet and laminated directions for calibrating the foam and water level gauges.

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# Manual Hose Reel Crank

A manual hose reel crank to operate the hose reel equipped with the apparatus. **Delivery Location** 

The customer shall complete the final inspection and accept the completed apparatus at BFX Fire Apparatus' facility in Weatherford, Texas. **Training** 

An intensive training session shall be conducted by a BFX Fire Apparatus employee with knowledgeable in the operations of all systems on the apparatus, shall provide a thorough orientation and hands on operation of the systems installed on the apparatus, and answer any questions that may arise regarding the operation of the chassis or apparatus. The training session shall be conducted at BFX Fire Apparatus' facility in Weatherford, Texas.

# H-GAC Competitive Bid Discount & Lobbying Statement

Pricing has been applied as per HGAC Contract # FS12-23 Item # FS19CB01. Wildland Brush Truck / Composite Body Package application.

# <u>Note</u>

Values Modified with in HGAC guidlines to meet 2024 approved pricing

The price discount associated with the <u>*H-GAC*</u> contract price for this unit has been applied.

2.4. Certification Regarding Lobbying\*

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement,

the undersigned shall complete and submit Standard Form- LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents of all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub- recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, United States Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure **Multi Unit Discount Included** 

A multi unit discount requires a minimum order of Two (2) or more light engines placed on the same purchase order or on different purchased orders received on the same date.

See HGAC <u>Contractor Pricing Worksheet</u> and matching BFX Fire Price Sheet for discount applied final pricing. <u>Quote # 11423-0004</u> provide per Contract / H-GAC FS12-23

### ATTACHMENT A **TEXAS A&M FOREST SERVICE** PURCHASE ORDER **TERMS AND CONDITIONS**

#### REQUIREMENTS OF AWARDED BID

- Vendor must comply with all rules, regulations and statutes relating to purchasing in the State of Texas in addition to the requirements of this form. 1.1
- Vendor must have price per unit shown. Unit prices shall govern in the event of extension errors. 1.2
- Awarded bid was submitted to the Texas A&M Forest 1.3 Service (TFS) on or before the hour and date specified for the bid opening.
- 1.4 Late and/or unsigned bids were not considered under any Person signing bid must have the circumstances. authority to bind the firm in a contract.
- Awarded bid quoted F.O.B. destination, freight prepaid and allowed unless otherwise stated within the order. 15
- Bid prices are to be firm for TFS acceptance for 60 days from opening date. Cash discounts offered will be taken if 1.6 earned
- Bid cannot be altered or amended after opening time. Any 1.7 alterations made before opening time should be initialed by bidder or his authorized agent. No bid can be withdrawn after opening time without approval by TFS Purchasing Office based on a written acceptable reason.
- 1.8 Purchases made for TFS are exempt from the State Sales tax and Federal Excise tax. Do not include tax in quotation. Excise Tax Exemption Certificate will be . furnished by TFS upon request.
- TFS reserves the right to accept or reject all or any part of any bid, waive minor technicalities and award the bid to 19
- best serve the interests of the TFS. Late, illegible, incomplete, or otherwise non-responsive 1.10 bids will not be considered.
- SPECIFICATIONS
- Vendor shall furnish items as specified by model or catalogue numbers, brand names or manufacture 2.1 referenced on the purchase order.
- Unless otherwise specified, items shall be new and 2.2 unused and of current production.
- All electrical items must meet all applicable OSHA 2.3 standards and regulations, and bear the appropriate listing from UL. FMRC or NEMA.
- TFS will not be bound by any oral statement or 2.4 representation contrary to the written specifications of this purchase order. Manufacturer's standard warranty shall apply unless
- 2.5 otherwise stated in the IFB.
- TIE BIDS 3. Awards will be made in accordance with TAC Rule 20.36 (b) (3) and 20.38 (preferences).
- DELIVERY 41 Delivery shall be within the quoted number of days required to place material in receiving agency's designated location under normal conditions. Delivery days mean calendar days, unless otherwise specified. Failure to state delivery time obligates bidder to deliver in 14 calendar days. Unrealistic delivery promises may cause bid to be disregarded.
- If delay is foreseen, vendor shall give written notice to TFS. Vendor must keep TFS advised at all times of order 4.2 status. Default of promised delivery (without accepted reasons) or failure to meet specifications authorizes TFS to purchase supplies elsewhere and charge full increase, if any, in cost and handling to defaulting vendor. No substitutions permitted without TFS written approval
- 4.3
- 4.4 Delivery shall be made during normal working hours only, unless prior approval has been obtained from TFS. Each shipment must be accompanied by a packing slip
- 4.5 which shows the TFS Purchase Order number and the description, quantity shipped and any back-ordered quantity for each item shipped. Each package must be clearly marked with the destination address and TFS Purchase Order number. 5
- INSPECTION AND TESTS All goods will be subject to inspection and test by TFS. Authorized TFS personnel shall have access to any supplier's place of business for the purpose of inspecting merchandise. Tests shall be performed on samples submitted with the bid or on samples taken from regular shipment. All costs shall be borne by the vendor in the event products tested fail to meet or exceed all conditions and requirements of the specification. Goods delivered and rejected in whole or in part may, at the TFS' option, will be returned to the vendor or held for disposition at vendor's expense. Latent defects may result in revocation of acceptance.

#### AWARD OF CONTRACT AND FORCE MAJURE 6.

A response to this IFB is an offer to contract based upon the terms, conditions and specifications contained herein. Bids do not become contracts until they are accepted through a TFS purchase order. The contract shall be governed, construed and interpreted under the laws of the State of Texas, and as same may be amended. Any legal actions must be filed in Brazos County, Texas. The TFS may grant relief from performance of the contract if the vendor is prevented from compliance and performance by the act of war, order of legal authority, act of God, or other unavoidable causes not attributed to the fault or negligence of the contractor. To obtain release on Force Majure, the vendor must file a written request to the TFS.

#### PAYMENT 7.

Vendor shall submit one (1) copy of an itemized invoice referencing TFS Purchase Order number. TFS will incur no penalty for late payment if made in 30 or fewer days from receipt of goods or services and an uncontested invoice. TFS will not be liable for payment of invoices received six (6) or more months after receipt of goods/services.

#### PATENTS OR COPYRIGHTS

Vendor agrees to protect the TFS from claims involving infringement of patents or copyrights. VENDOR ASSIGNMENTS 9.

Vendor hereby assigns to TFS any and all claims for overcharges associated with this contract arising under the antitrust laws of the United States 15 U.S.C.A. Section 1, et seq. (1973), and the antitrust laws of the State of Texas. TEX. Bus. & Comm. Code Ann. Sec. 15.01, et seq. (1967). Inquiries pertaining to quotation must give the quotation number and opening date.

#### 10. BIDDER AFFIRMATION

Signing a bid with a false statement is a material breach of contract and shall void the submitted bid or any resulting contracts, and the bidder shall be removed from all bid lists. By signature hereon affixed, the bidder hereby certifies that:

- 10.1 The bidder has not given, offered to give, nor intends to give at any time hereafter any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant in connection with the submitted quotation. The bidder is not currently delinquent in the payment of
- 10.2 any franchise tax owed the State of Texas. Neither the bidder nor the firm, corporation, partnership or
- 10.3 institution represented by the bidder, or anyone acting for such firm, corporation or institution has violated the antitrust laws of this State, or the Federal Antitrust Laws, (see Section 9 above) nor communicated directly or indirectly the bid made to any competitor or any other person engaged in such line of business.
- 10.4 Pursuant to Section 2155.004(a) Government Code the bidder has not received compensation for participation in
- the preparation of the specification for this IFB. Pursuant to Section 231.006 (d), Family Code, re: child support, the bidder certifies that the individual or business 10.5 entity named in this bid is not ineligible to receive the specified payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate. Pursuant to Section 2155.004(b) Government Code the
- 10.6 bidder certifies that the individual or business entity name in this bid is not ineligible to receive the specified payment and acknowledges that this contract may be terminated
- and/or payment withheld if this certification is inaccurate. The Contractor shall defend, indemnify, and hold harmless the State of Texas, all of its officers, agents and 10.7 harmless the state of recas, all of its onicers, agents and employees from and against all claims, actions, suits, demands, proceedings, costs, damages, and liabilities, arising out of, connected with, or resulting from any acts or omissions of contractor or any agent, employee, subcontractor, or supplier of contractor in the execution of
- Bibliotitation in supplies contract. Bidder agrees that any payment due under this contract will be applied towards eliminating any debt or delinquency, regardless of when it arises, including but not limited to delinquent taxes and child support that is owed to the Other of Towards 10.8 to the State of Texas.
- Bidder certifies that they are in compliance with section 10.9 669.003 of the Government Code, relating to contracting with executive head of a State agency. If section 669.003 applies, bidder will complete the following information in order for the bid to be evaluated:

Name of Former Executive: Name of State Agency:

Date of Separation from State Agency:

Position with Bidder:

#### Date of Employment with Bidder: \_

- 10.10 Bidder agrees to comply with Government Code 2155.4441, pertaining to service contract use of products in the State of Texas.
- Contractor understands that acceptance of funds under 10.11 this contract acts as acceptance of the authority of the State Auditor's Office, or any successor agency, to conduct an audit or investigation in connection with those funds. Contractor further agrees to cooperate fully with the State Auditor's Office or its successor in the conduct of the audit or investigation, including providing all records requested. Contractor will ensure that this clause concerning the authority to audit funds received indirectly by subcontractors through Contractor and the requirement to cooperate is included in any subcontract it awards. BUSINESS OWNERSHIP Pursuant to Section 231.006 (c), Family Code, quotation
- 11
  - must include name and Social Security Number of each person with at least 25% ownership of the business entity

submitting quotation. Bidders that have pre-registered this information on the TPASS Centralized Master Bidders List have satisfied the requirement. If not pre-registered, attach name & social security number for each person. Otherwise, information must be provided prior to award. NOTE TO BIDDER

12.

Any terms and conditions attached to a bid will not be considered. Such terms and conditions may result in disqualification of the bid.

#### ALTERNATIVE DISPUTE RESOLUTION 13.

The dispute resolution process provided for in Chapter 2260 of the Texas Government Code shall be used, as further described herein, by Texas A&M Forest Service and the Contractor to attempt to resolve any claim for breach of contract made by the contractor:

(a) A contractor's claim for breach of this contract that the parties cannot resolve in the ordinary course of business shall be submitted to the negotiation process provided in Chapter 2260, subchapter B, of the Texas Government Code. To initiate the process, the contractor shall submit written notice, as required by subchapter B, to Robby DeWitt, Associate Director for Finance and Administration. Said notice shall specifically state the provisions of Chapter 2260, subchapter B, are being invoked. A copy of the notice shall be given to all other representatives of Texas A&M Forest Service and the contractor otherwise entitled to notice under the parties' contract. Compliance by the contractor with subchapter B is a condition precedent to the filing of a contested case proceeding under Chapter 2260, subchapter C, Texas Gov't Code.

(b) The contested case process provided in Chapter 2260, subchapter C, of the Texas Government Code is the contractor's sole and exclusive process for seeking a remedy for any and all alleged breaches of contract by Texas A&M Forest Service, if the parties are unable to resolve their disputes under this subparagraph (A).

(c) Compliance with the contested case process provided in subchapter C is a condition precedent to seeking consent to sue from the Legislature under Chapter 107 of the Civil Practices and Remedies Code. Neither the execution of this contract by Texas A&M Forest Service nor any other conduct of any representative of Texas A&M Forest Service relating to the contract shall be considered a waiver of sovereign immunity to suit

(1) The submission, processing, and resolution of the contractor's claim is governed by the published rules adopted by the Office of the Attorney General of the State of Texas pursuant to Chapter 2260, as currently effective, hereafter enacted or subsequently amended. These rules are found under Title 1, Part 3, Chapter 68 of the TAC. (2) Neither the occurrence of an event nor the pendency of

a claim constitutes grounds for the suspension of performance by the contractor, in whole or in part.

(3) The designated individual responsible on behalf of Texas A&M Forest Service for examining any claim or counterclaim and conducting any negotiations related thereto as required under Title 10, Subchapter B, Section 2260.052 of the Texas Government Code shall be Robby DeWitt, Associate Director for Finance and Administration (979) 458-7300.

#### PUBLIC DISCLOSURE

14.

(a) Bidder acknowledges that Texas A&M Forest Service is obligated to strictly comply with the Public Information Act, Chapter 552, *Texas Government Code*, in responding to any request for public information pertaining to this Agreement, as well as any other disclosure of information required by applicable Texas law. (b) Upon Texas A&M Forest Service's written request, bidder will provide specified public information exchanged

or created under this Agreement that is not otherwise excluded from disclosure under chapter 552, Texas Government Code, to Texas A&M Forest Service in a non-proprietary format acceptable to Texas A&M Forest Service. As used in this provision, "public information" has the meaning assigned Section 552.002, Texas Government Code, but only includes information to which Texas A&M Forest Service has a right of access.

(c) Bidder acknowledges that Texas A&M Forest Service may be required to post a copy of the fully executed Agreement on its internet website in compliance with Section 2261.253(a)(1), Texas Government Code.

REHAB ACT, VEVRAA, SECTION 503 This contractor and subcontractor shall abide by the requirements of 41 CFR §§ 60-1.4(a), 60-300.5(a) and 60-741.5(a). These regulations prohibit discrimination against qualified individuals based on their status as protected veterans or individuals with disabilities, and prohibit discrimination against all individuals based on their race, color, religion, sex, or national origin. Moreover, these regulations require that covered prime contractors and subcontractors take affirmative action to employ and advance in employment individuals without regard to race, color, religion, sex, national origin, protected veteran status or disability.

### ATTACHMENT A TEXAS A&M FOREST SERVICE PURCHASE ORDER TERMS AND CONDITIONS

- 16. <u>Conflict of Interest.</u> By executing this Agreement, Contractor and each person signing on behalf of Contractor certifies, and in the case of a sole proprietorship, partnership or corporation, each party thereto certifies as to its own organization, that to the best of their knowledge and belief, no member of The A&M System or The A&M System Board of Regents, nor any employee, or person, whose salary is payable in whole or in part by The A&M System, has direct or indirect financial interest in the award of this Agreement, or in the services to which this Agreement relates, or in any of the profits, real or potential, thereof.
- Prohibition on Contracts with Companies Boycotting Israel. Prohibition on Contracts with Companies Boycotting Israel. To the extent that Texas Government Code, Chapter 2270 applies to this Agreement, PROVIDER certifies that (a) it does not currently boycott Israel; and (b) it will not boycott Israel during the term of this Agreement. PROVIDER acknowledges this Agreement may be terminated and payment withheld if this certification is inaccurate.
- 18. <u>Certification Regarding Business with Certain</u> <u>Countries and Organizations.</u> Pursuant to Subchapter F, Chapter 2252, Texas Government Code, Contractor certifies it is not engaged in business with Iran, Sudan, or a foreign terrorist organization. Contractor acknowledges this Agreement may be terminated if this certification is inaccurate.
- Prohibition on Contracts Related to Persons Involved in Human Trafficking. Government Code, the Contractor certifies that the individual or business entity named in this Agreement is not ineligible to receive the specified contract and acknowledges that this contract may be terminated and payment withheld if this certification is inaccurate.