

EASTSIDE FIRE & RESCUE

**175 NEWPORT WAY NW
ISSAQUAH, WASHINGTON 98027**

BID PACKAGE 18-01

FOR

FIRE ENGINE SPECIFICATIONS

**CONSISTING OF ADVERTISEMENT FOR BID,
INSTRUCTIONS TO BIDDERS, SPECIFICATIONS,
PURCHASE AND SALES AGREEMENT, FORM OF
BID, AND ADDENDUM A.**

FIRE CHIEF - JEFF CLARK

LOGISTICS BATTALION CHIEF - CRAIG HOOPER

SHOP SUPERVISOR – JUSTIN KISKE

ADVERTISEMENT FOR BIDS
EASTSIDE FIRE & RESCUE

Sealed bids will be received by the undersigned at the office of EASTSIDE FIRE & RESCUE, 175 Newport Way NW, Issaquah Washington 98027 up to 2:00 p.m. on June 11, 2018, for one or more, new Fire Engine (s), after which time bids will no longer be accepted.

Sealed bids will be publicly opened and read aloud at the office of Eastside Fire & Rescue at 2:15 p.m. on June 11, 2018.

Bids are to be submitted only on the form provided in the Bid Package. Bid documents can be downloaded from our website at www.eastsidefire-rescue.org. Bid documents can also be obtained at our Headquarters office located at 175 Newport Way NW, Issaquah, Washington. The purchase and sale shall be accomplished in accordance with this Advertisement for Bids, Instructions to Bidders, Purchase and Sales Agreement and Specifications as contained in the Bid Package 18-01. Bid packages shall be submitted at the office of Eastside Fire & Rescue in a sealed envelope marked: Sealed Bid for Fire Engine, along with the bid date and time of the bid opening. The Bid form shall contain all the information requested, or the bid may be rejected as unresponsive.

All bids shall be accompanied by a cashiers check or bid bond payable to Eastside Fire & Rescue in an amount not less than five percent of the total bid. Bid forms must not be separated from the Bid Package and the bound document must be submitted intact. A performance bond in the full amount of the bid will be required. The Bidder shall guarantee the total bid price forty five (45) days from the opening of the Bid.

Eastside Fire & Rescue reserves the right to accept or reject any or all bids, to waive minor informalities, and to accept the bid deemed to be in the best interest of Eastside Fire & Rescue and the Citizens residing therein, and it is not bound to accept the lowest bid submitted.

EASTSIDE FIRE & RESCUE
DATED May 7, 2018

By

Justin Kiske
Shop Supervisor

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**BID SPECIFICATIONS AND INSTRUCTIONS TO BIDDERS
FOR ONE (1) OR MORE NEW 1500 GPM TRIPLE COMBINATION RESCUE PUMPER(S)
AND EQUIPMENT**

GENERAL INSTRUCTIONS

Eastside Fire & Rescue, herein referred to as the “Purchaser”, shall receive sealed proposals up to 2:00 PM PDT on June 11, 2018 for supplying one (1) or more, new 1500 GPM Triple Combination Pumper(s) and equipment as outlined in the following specifications. No bid proposal shall be considered except those submitted on the bid proposal form supplied by the Purchaser.

Comply Yes () No ()

The Purchaser reserves the right to accept or reject any or all bids, and to accept the bid deemed to be in the best interest of the Purchaser. The Purchaser is not bound to accept the lowest price submitted. The Bidder whose bid most closely meets the Purchaser’s specifications and demonstrates the qualities desired by the Purchaser shall be chosen as the successful provider.

Comply Yes () No ()

PROJECT OVERVIEW

It is the intent of these specifications to secure competitive bids to provide for the construction and delivery the apparatus described in detail within the following specifications. These bid specifications detail the requirements for general design criteria of the unit desired, the chassis, body, and electrical systems and equipment to be supplied. These bid specifications are not designed to be proprietary or restrictive; however, they are intended to demonstrate the high quality and value desired by the Purchaser. The Purchaser desires an apparatus closely meeting the guidelines and design criteria specified herein for uniformity among our apparatus; however, as noted, exceptions shall be considered, provided proper supporting information is supplied so the Purchaser can compare and evaluate the exceptions to the specifications.

Comply Yes () No ()

In evaluating the proposals, these major items shall be considered: commitment to delivery, length and terms of warranties, manufacturers’ locations and regional track records for performance, location of post-delivery service and parts, compliance with bid specifications, completeness of the bid, price and information supplied, etc.

Comply Yes () No ()

The National Fire Protection Association “Standard for Automotive Fire Apparatus, 2009 Edition”, is hereby adopted and made a part of these specifications, the same as if it were written out in full detail, with the exception of the section dealing with "Equipment Recommended for Various Types of Apparatus". Bidders shall provide the equipment requested herein and the buyer shall supply the rest before the apparatus is put into service. It is the intent of the purchaser to purchase an apparatus that meets 100% of the minimum standards defined and outlined in NFPA 1901-2009 Edition. There are to be no exceptions to this requirement.

Comply Yes () No ()

The units proposed shall closely meet the specific requirements and intent of the requirements as specified herein. All items of the specifications shall conform to the character of the proposed equipment, and the purpose for which it is intended.

Comply Yes () No ()

MATERIAL AND WORKMANSHIP

All equipment provided shall be guaranteed to be new and of current manufacture, and unless specified otherwise, shall meet all requirements of these specifications and prevailing NFPA documents and be in condition at time of delivery for use as specified for this type of apparatus.

Comply Yes () No ()

All workmanship shall be of the highest quality and accomplished in a professional manner so as to insure a functional apparatus with an aesthetic appearance.

Comply Yes () No ()

All materials used shall be of the highest quality available. Second rate or poor quality components are not desired by the Purchaser. The Purchaser shall be the sole judge of quality materials and workmanship.

Comply Yes () No ()

The construction must be rugged, and ample safety factors must be provided to carry the loads specified and to meet both the on and off road requirements and speed conditions as set forth under the "Performance Tests and Requirements" section.

Comply Yes () No ()

All aluminum welding shall follow (American Welding Society) requirements for AWS D1.2/D1.2M:2003 Structural Welding Code for any type structure made from aluminum structural alloys. All sheet metal welding shall follow (American Welding Society) AWS D9.1M/D9.1:2006 Structural Welding code for Arc/Braze requirements of non-structural materials. All pressure pipe welding shall follow (American Society of Mechanical Engineers) ASME IX/ ASME B31:2010 requirements to the qualification of procedures in welding and brazing, in accordance with the ASME Boiler and Pressure Vessel Code and the ASME B31 Code for Pressure Piping. Flux core arc welding to use alloy rods, type 7000, (American Welding Society) AWS standards A5.20-E70T1. The manufacturer shall be required to have an American Welding Society certified welding inspector in plant during testing operations within working hours to monitor weld quality.

Comply Yes () No ()

Employees classified as welders shall be tested and certified to meet American Welding Society and American Society of Mechanical Engineers welding codes.

Comply Yes () No ()

COOPERATIVE PURCHASING

Purchaser allows cooperative purchasing between public agencies (political subdivisions) per Washington State per RCW 39.34. Additionally, other States which allow reciprocal agreements such as ORS 279A.220 within the State of Oregon will be allowed to purchase apparatus off this proposal in accordance with the terms and conditions submitted herein. Public agencies which have filed an Intergovernmental Cooperative Agreement with the Purchaser and which are actively participating may purchase from Purchaser's contracts, provided that the Contractor has agreed to such participation. Each Contractor shall indicate on the proposal submittal form if their organization shall honor other public agency orders in accordance with contract terms and conditions in addition to orders from the Purchaser. The Purchaser does not accept any responsibility for purchase orders issued by other public agencies.

Comply Yes () No ()

EXTENDED OFFER

The Seller agrees to extend their offer to supply the Purchaser, additional units for a period of five (5) years from the award of the contract. The cost of any future orders under this contract will be based on the U.S. Government Producers and Price Index. Eastside Fire & Rescue shall be under no obligation to order additional units under this contract.

Comply Yes () No ()

REFERENCES

List up to five municipalities (cities, counties and other municipalities) for whom your company has most recently manufactured and delivered a unit of the type described in these specifications. Units shall be those which are currently in normal fire service use having no defects causing the apparatus to give unsatisfactory service attributable to workmanship, materials, or construction techniques.

Municipality _____ Contact _____ Phone _____

Municipality _____ Contact _____ Phone _____

Municipality _____ Contact _____ Phone _____

Municipality _____ Contact _____ Phone _____

Municipality _____ Contact _____ Phone _____

Comply Yes () No ()

BID SECURITY

Each Bidder must provide a bid bond or a cashier's check with his or her proposal for the amount of ten percent (10%) of the bid price of the proposal submitted.

Comply Yes () No ()

PERFORMANCE BOND

A 100% Performance Bond shall be supplied within thirty days of bid award if the Purchaser elects to take advantage of any prepayment offerings. The signatures of both buyer and Bidder on the contract shall construe awarding of the bid. The prime apparatus builder shall provide the performance bond. Any bonds supplied by the dealer or representative shall not be acceptable.

Comply Yes () No ()

BIDDING REQUIREMENTS

Any manufacturer submitting a proposal or bid, to these specifications; shall meet the following conditions. Exceptions to these conditions shall not be allowed under any circumstances.

Comply Yes () No ()

Bids shall only be accepted from a single source apparatus manufacturer. The definition of single source manufacturer is company that designs and manufactures their products utilizing an approach that includes complete product integration, including the apparatus chassis, cab and body modules being constructed, assembled, and tested on company premises only. Warranties qualified to the chassis and body design construction (excluding vender component warranties such as engine, axles, transmission, and pumps, etc.) will be from a single source manufacturer and not separated between manufacturers (i.e. body and chassis). The bidder shall provide evidence of maintaining compliance to this requirement.

Comply Yes () No ()

Each Bidder shall provide satisfactory evidence of their ability to construct the unit and supply service, parts, and technical assistance for the equipment bid. Bidder shall state the location of the factory at which the complete apparatus shall be constructed. Bidder shall also state the location where Dealer provided post-delivery service is available.

Comply Yes () No ()

The Purchaser seeks bids from qualified Bidders offering either OEM or Dealer operated and controlled complete service facilities within a reasonable distance from the Purchaser. After delivery support and service is of extreme importance to the Purchaser. Bidder shall include the location, information, photos and capabilities of their local service center and personnel available. Service personnel must be available 24 hours per day, seven (7) days a week to provide emergency service or technical support as required by the Purchaser.

Comply Yes () No ()

Bidder’s local facilities should include mobile service capability for “on site” apparatus service.

Comply Yes () No ()

The Final Stage Manufacturer and or appropriate dealer shall provide authorization to the Purchaser to perform necessary warranty repairs on a case by case basis, if deemed in the best interest of the Purchaser. Under no circumstances shall this preclude any Bidder from compliance of items listed above. The final stage manufacturer or appropriate party shall be invoiced for any materials or labor costs incurred by the Purchaser if approved under warranty. Labor costs shall be invoiced to the appropriate party at the current shop rate at the time of repair.

Comply Yes () No ()

The Manufacturer or Manufacturer's authorized Dealer shall be a licensed and bonded vehicle dealer for the State of Washington. Bidder shall include proof of such certificates in their bid proposal. If the Bidder is a manufacturer bidding direct and not through a dealer or distributor, then they shall submit a copy of the appropriate dealer's license. Bids received from Bidders and or manufacturers not licensed as a vehicle dealer within the State of Washington shall be rejected.

Comply Yes () No ()

Bids shall only be considered from companies that have an established reputation in the field of fire apparatus construction and have been in business for a minimum of twenty-five years.

Comply Yes () No ()

DEMONSTRATOR OR STOCK UNITS

These specifications were carefully researched and developed by the department to provide a unit to serve our unique requirements. Because of this, it is not desired that stock or demonstrator units be bid. Bidders are to bid units meeting our prepared specification only. Proposals for stock or demonstrator units will be rejected as being non-responsive.

Comply Yes () No ()

EXCEPTIONS & CLARIFICATIONS TO SPECIFICATIONS

Each Bidder shall indicate compliance with these specifications by checking the bid compliance question where it appears in each section of the bid. Checking "Yes" in that section shall mean full compliance with all portions of the paragraph. Checking "No" shall mean an exception or clarification is being taken to all or part of that paragraph. Where it is specifically stated "**NO EXCEPTIONS.**" none shall be allowed and may cause rejection of the bid.

Comply Yes () No ()

The buyer is aware that all Bidders shall have to take some exceptions therefore; **BIDDERS THAT TAKE NO EXCEPTIONS shall BE REQUIRED TO MEET EVERY PARAGRAPH TO THE FULLEST EXTENT SHOULD THEIR BID BE ACCEPTED.** It is the intent of the purchaser to receive bids that do not require telephone calls or other communications to ascertain what a Bidder is intending to supply.

Comply Yes () No ()

Upon delivery, the apparatus shall be inspected against THESE specifications and not those supplied by the Bidder with their proposal. Deviations shall not be acceptable unless they were noted, as exceptions at the time of bid and the apparatus shall be rejected until said deviations are corrected to the satisfaction of the Purchaser.

Comply Yes () No ()

Decisions regarding equal to or better than, shall be the sole responsibility of the recipient of the Bids rather than those companies submitting bids. All deviations, regardless of significance must be explained in the "Exceptions to Specifications" section of the bid.

Comply Yes () No ()

When exceptions are not taken but inconsistencies are noted in the submitted detailed specifications, the bid may be subject to rejection.

Comply Yes () No ()

Exceptions shall be referenced to the paragraph, page number and item description of these Specifications where the item appears, and drawings or photographs and technical information about the exception shall be provided with the bid. Any exceptions taken may be considered during the bid evaluation process. The Purchaser shall be the sole judge as to the acceptability of any of the items listed as exceptions, and the decision of the Purchaser shall be final.

NO EXCEPTIONS.

Comply Yes () No ()

Bids with no exceptions may be given preference over those with exceptions regardless of the Cost differential.

Comply Yes () No ()

Bids taking total exception to these specifications shall not be considered. Alternate bids on “like” apparatus shall not be considered.

Comply Yes () No ()

WRITTEN PROPOSAL SPECIFICATIONS

Each bid shall be accompanied by a detailed description (Bidder’s bid) of the work and equipment it proposed to furnish. It is the intent of these specifications to provide for the delivery of a complete and soundly engineered vehicle equipped as specified. Minor details of construction and materials, where not otherwise specified, are left to the discretion of the Bidder who shall be solely responsible for the design and construction of all features.

Comply Yes () No ()

Some items in these specifications have been specified by brand name or model number. These items have been carefully selected because of their quality, reliability, and the availability of local replacement. In order for bids to be considered responsive, equipment specified or Purchaser-approved “equals” shall be contained in bid proposals.

Comply Yes () No ()

The Purchaser shall be the sole judge of the acceptability of any item proposed as an “equal” to any specified item. Supporting technical information, literature, samples, and other support material shall be provided by the Bidder with bid items not in accordance with specifications.

Comply Yes () No ()

PROPOSAL SPECIFICATION SEQUENCE

Bid specifications shall be submitted in the same sequence as these specifications for ease of checking compliance. There shall be **no exceptions** allowed to this requirement. The apparatus committee intends to be thorough during the evaluation of bids process. In order to maximize efficiency and minimize the time it takes to thoroughly evaluate all received bids this requirement must be strictly adhered to.

Comply Yes () No ()

SPECIAL CONDITIONS

No bid shall be considered unless the Bidder can meet the special conditions enumerated below.

Comply Yes () No ()

The Bidder shall be the authorized distributor of the apparatus bid and shall provide a notarized statement declaring such with the bid. Bids not complying with this requirement are not acceptable. **NO EXCEPTIONS.**

Comply Yes () No ()

LIABILITY INSURANCE COVERAGE

In order to protect the department and its personnel, the Bidder shall show proof that it has no less than \$30 million in liability insurance in force. A certificate of coverage shall be included in the bid package. Failure to carry liability insurance of at least this amount or failure to include proof of coverage shall be cause to reject the Bidder's proposal.

Comply Yes () No ()

PRICE, PAYMENT, AND DELIVERY

All bid prices shall be F.O.B. the Purchaser's location in Issaquah, Washington. The apparatus shall be transported under its own power to the location of the Purchaser. A credit may be offered for delivery of each unit as listed on the Bid Proposal Page.

Comply Yes () No ()

All prices quoted shall be valid for a period of not less than Forty Five (45) days after bids are opened.

Comply Yes () No ()

All bids shall be submitted on the enclosed bid form provided with these specifications. The form shall be completely filled out and signed by the company officer with the appropriate authority or the bid shall be rejected as unresponsive. **NO EXCEPTIONS.**

Comply Yes () No ()

All bids shall include the completed Non-Collusion Affidavit found within these specifications.

Comply Yes () No ()

The total price on the specified bid shall include all items and components as listed in these specifications. Listing any items contained in these specifications as an extra cost item, unless otherwise specified, shall automatically be cause for rejection.

Comply Yes () No ()

Bidders shall state the maximum delivery time based on the number of actual calendar days from date of receipt of order from the Purchaser, regardless of the cab and chassis production and delivery date.

Comply Yes () No ()

The Purchaser reserves the right to assess a one-hundred dollar (\$100.00) per day reduction in the bid price for each day that exceeds the maximum delivery time stated by the Bidder.

Comply Yes () No ()

Before final acceptance of the unit it shall be tested in the presence of an authorized representative of the Purchaser. The Purchaser reserves the right to perform actual performance tests to evaluate the unit, prior to acceptance. Testing shall be done with the assistance of the Bidder.

Comply Yes () No ()

In the event the unit fails to meet the test requirements on first trials, second trials may be made within thirty (30) days of the date of the first trials. Housing or storing the unit on the Purchaser's property shall not constitute acceptance of the unit until testing is completed.

Comply Yes () No ()

Payment in full shall occur within 30 days after the completed unit has been evaluated, tested, and accepted at the purchaser's location to the full satisfaction of the Fire Chief or his designee.

Comply Yes () No ()

PREPAYMENT DISCOUNTS

Bidders are encouraged to offer prepayment discounts in their proposals however; the bid price shall not include any requirement of prepayment and any discounts shall be offered as available options and the cost of a 100% Performance Bond shall be added.

Comply Yes () No ()

CONTRACT AWARD

All bids submitted shall be good for a minimum of 45 days during which time bid securities submitted with the proposals shall be held by the purchaser. Criteria for the award shall include, but not be limited to, the following:

- Apparatus Performance And Safety Levels / Considerations
- Completeness of proposal
- Accuracy of accompanying data
- Past performance of Bidder
- Compliance with the detailed specifications
- Compliance with purchasers request(s) for personnel qualifications or certifications
- Exceptions and clarifications
- Financial stability of Bidder
- Local representation of the manufacturer
- Serviceability of the proposed apparatus
- Service capabilities of the Bidder's local representative
- Compliance with NFPA Pamphlet 1901 (newest edition)
- Any other factor the purchaser deems relevant

After the evaluation and award process is complete, all Bidders shall be notified of the results and securities shall be returned.

Comply Yes () No ()

The Purchaser reserves the right to reject any or all proposals deemed by the Purchaser to be

unresponsive. Contract shall be awarded and purchase order issued to the Bidder most closely meeting the Purchaser attached specifications based upon the criteria of the Purchaser.

Comply Yes () No ()

The Purchaser reserves the right to waive any informalities, irregularities and technicalities in procedure. The purchaser is not bound to accept the low bid proposal.

Comply Yes () No ()

Bidders shall submit Bidder's standard purchase contract, if any, with proposal, for review by the Purchaser. The Purchaser reserves the right to utilize its own contract if it desires.

Comply Yes () No ()

LIABILITY

The Bidder, if their bid is accepted, shall defend any and all suits and assume all liability for the use of any patented device or article forming part of the apparatus or any appliance furnished under the contract.

Comply Yes () No ()

MATERIAL AND WORKMANSHIP

All equipment provided shall be guaranteed to be new and of current manufacture, and unless specified otherwise, shall meet all requirements of these specifications and prevailing NFPA documents and be in condition at time of delivery for use as specified for this type of apparatus.

Comply Yes () No ()

All workmanship shall be of the highest quality and accomplished in a professional manner so as to insure a functional apparatus with an aesthetic appearance.

Comply Yes () No ()

All materials used shall be of the highest quality available. Second rate or poor quality components are not desired by the Purchaser. The Purchaser shall be the sole judge of quality materials and workmanship.

Comply Yes () No ()

The construction must be rugged, and ample safety factors must be provided to carry the loads specified and to meet both the on and off road requirements and speed conditions as set forth under the "Performance Tests and Requirements" section.

Comply Yes () No ()

PROPRIETARY PARTS USAGE

This Purchaser requires that the use of consumable or replaceable parts and or materials are not to be utilized in the construction of the apparatus. All parts and materials shall be readily available on the open market through distributors that are not affiliated with the manufacturer allowing for competitive pricing and ease of access for repair and maintenance. At a minimum, the use of proprietary electronic components of any nature, gauges, lights, hinges, handles, foam system and related components and or structural slotted body extrusions shall not be permitted. **No Exceptions.**

Comply Yes () No ()

TECHNICAL INFORMATION

Bidder shall provide free of charge upon request technical information, graphs, charts, photographs, engineering diagrams, steering geometry, instruction guides, or other documentation as requested to show that the equipment offered fully complies with these specifications.

Comply Yes () No ()

Drawings including, but not limited to, the overall dimensions, wheelbase, and overall length of the proposed apparatus shall be required with the bid. The drawing shall include right, left, and rear views of the apparatus. For purposes of evaluation, a drawing illustrating, but not limited to, the overall dimensions, wheelbase, and overall length of the proposed apparatus and other specified equipment, shall be required to be included with the Bidder's proposal package. The drawings shall be large "D" size (minimum 24" x 36"). Smaller size drawings, "similar to" drawings or general sales drawings, shall not be acceptable. Failure to provide a bid evaluation drawing in accordance with these specifications shall be cause for rejection of the bid proposal.

Comply Yes () No ()

After award if the bid, the contractor shall provide detailed colored engineering drawings for use at the pre-construction conference. These drawings shall include, but not limited to, the overall dimensions, wheelbase, and overall length of the proposed apparatus shall be required with the bid. The drawing shall include right, left, and rear views of the apparatus.

Comply Yes () No ()

The apparatus shall be designed and the equipment mounted with due consideration to the distribution of load between the front and rear axles, so all specified equipment with a full complement of personnel can be carried without damage to the apparatus. Weight balance and distribution shall be in accordance with the State of Washington and all Federal laws.

Comply Yes () No ()

The front to rear weight distribution of the fully loaded vehicle will be within the limits set by the chassis manufacturer. The front axle loads will not be less than the maximum axle loads specified by the chassis manufacturer, under full load and all other loading conditions.

Comply Yes () No ()

The difference in weight on the end of each axle, from side to side, when the vehicle is fully loaded and equipped will not exceed 7 percent.

Comply Yes () No ()

WEIGHT & BALANCE REPORT

A full set of weight and balance charts shall be provided with the bid detailing out the projected weight of the fully laden apparatus to determine the appropriate wheelbase, axles, suspension and components for the apparatus as bid.

Comply Yes () No ()

AMP DRAW REPORT

The successful Manufacturer shall at the time of delivery, provide an itemized print out of the expected amp draw of the entire vehicle's electrical system.

A written load analysis, including the following shall be provided:

- 1. The rating of the alternator.
- 2. The minimum continuous load of each component that is specified per: Applicable NFPA 1901.
- 3. Additional loads that, when added to the minimum continuous load, determined the total connected load.
- 4. Each individual intermittent load.

Comply Yes () No ()

FINITE ELEMENT ANALYSIS AND TESTING

Finite Element Analysis shall have been utilized in evaluating and engineering the critical areas of the apparatus body. Prototype bodies shall have been subjected to rigorous testing over varied terrains simulating different environmental conditions. The purpose of such complex engineering methods of analysis shall be to ensure the longevity of the design by analyzing stress levels throughout the body and incorporating the structural supports wherever necessary.

Comply Yes () No ()

There have shall be a minimum of 3 different load cases (per DOT, FHWA, and TTMA recommended practice) applied and analyzed to properly display the different areas and levels of stresses that will be present under the various operating conditions of the apparatus. This is in addition to the static stress analysis. The analysis shall have included the weight of the structure plus an estimate of all the components that exist on a fully loaded apparatus. An Analysis shall also have been conducted on the mounting system for the apparatus body and pump house. Detailed colored drawings shall be supplied with the Bidder's proposal.

Comply Yes () No ()

APPARATUS TEST BY UNDERWRITERS LABORATORIES

The apparatus upon completion will be tested and certified by Underwriters Laboratories, Inc. The certification tests will follow the guide lines outlined in NFPA 1901 "Standard for Fire Apparatus".

Comply Yes () No ()

There shall be multiple tests performed by the contractor and Underwriter's Laboratories when the apparatus has been completed. The manufacturer shall provide the completed Test Certificate(s) to the purchaser at time of delivery. The inspection services of Underwriters Laboratories are available to all bidders on an equal basis; therefore, no third party certification of testing results shall be acceptable.

Comply Yes () No ()

PUMP TEST

The fire pump shall be mounted on the apparatus and shall have a minimum rated capacity of 1500 gpm at 150 psi net pump pressure.

Comply Yes () No ()

The pump shall be capable of delivering the following:

- One hundred percent of rated capacity at 150 psi net pump pressure.
- Seventy percent of rated capacity at 200 psi net pump pressure.
- Fifty percent of rated capacity at 250 psi net pump pressure.

Comply Yes () No ()

The pump shall be tested after the pump and all its associated piping and equipment have been installed on the apparatus.

Comply Yes () No ()

The tests shall include at least the pumping test, the pumping engine overload test, the pressure control system test, the priming device tests, and the vacuum test.

Comply Yes () No ()

A test plate shall be provided at the pump operator's panel that gives the rated discharges and pressures together with the speed of the engine as determined by the certification test for each unit, the position of the parallel/series pump as used, and the governed speed of the engine as stated by the engine manufacturer on a certified brake horsepower curve. The plate shall be completely stamped with all information at the factory and attached to the vehicle prior to shipping.

Comply Yes () No ()

PUMP TEST CRITERIA

The test site shall be adjacent to a supply of clear water at least 4 ft. (1.2 m) deep, with the water level not more than 10 ft. (3 m) below the center of the pump intake, and close enough to allow the suction strainer to be submerged at least 2 ft. (0.6 m) below the surface of the water when connected to the pump by 20 ft. (6 m) of suction hose.

Comply Yes () No ()

Tests shall be performed when conditions are as follows:

- Air temperature: 0°F to 110°F (-18°C to 43°C)
- Water temperature: 35°F to 90°F (2°C to 32°C)
- Barometric pressure: 29 in. Hg (98.2 kPa), minimum (corrected to sea level)

Comply Yes () No ()

Engine-driven accessories shall not be functionally disconnected or otherwise rendered inoperative during the tests.

Comply Yes () No ()

The following devices shall be permitted to be turned off or not operating during the pump test:

- Foam pump
- Hydraulically driven equipment (other than hydraulically driven line voltage generator)
- Windshield wipers
- Four-way hazard flashers

Comply Yes () No ()

All structural enclosures, such as floorboards, gratings, grilles, and heat shields, not provided with a means for opening them in service shall be kept in place during the tests.

Comply Yes () No ()

All test gauges shall meet the requirements for Grade A gauges as defined in ASME B40.100, *Pressure Gauges and Gauge Attachments*, and shall be at least size 3 1/2 per ASME B40.100. The pump intake gauge shall have a range of 30 in. Hg (100 kPa) vacuum to zero for a vacuum gauge, or 30 in. Hg vacuum to a gauge pressure of 150 psi for a compound gauge. The discharge pressure gauge shall have a gauge pressure range of 0 psi to 400 psi. All pilot gauges shall have a gauge pressure range of at least 0 psi to 160 psi. All gauges shall be calibrated in the month preceding the tests using a dead-weight gauge tester or a master gauge meeting the requirements for Grade 3A or 4A gauges, as defined in ASME B40.100, *Pressure Gauges and Gauge Attachments*, that has been calibrated within the preceding year.

Comply Yes () No ()

The engine speed-measuring equipment shall consist of a nonadjustable tachometer supplied from the engine or transmission electronics, a revolution counter on a checking shaft outlet and a stop watch, or other engine speed-measuring means that is accurate to within ± 50 rpm of actual speed.

Comply Yes () No ()

The pump shall be subjected to a 3 hour pumping test from draft consisting of 2 hours of continuous pumping at rated capacity at a minimum of 150 psi net pump pressure, followed by 1/2 hour of continuous pumping at 70 percent of rated capacity at a minimum of 200 psi net pump pressure and 1/2 hour of continuous pumping at 50 percent of rated capacity at a minimum of 250 psi (1700 kPa) net pump pressure and shall not be stopped until after the 2 hour test at rated capacity, unless it becomes necessary to clean the suction strainer.

Comply Yes () No ()

PUMPING ENGINE OVERLOAD TEST

The apparatus shall be subjected to an overload test consisting of pumping rated capacity at 165 psi net pump pressure for at least 10 minutes.

Comply Yes () No ()

This test shall be performed immediately following the pumping test of rated capacity at 150 psi.

Comply Yes () No ()

The capacity, discharge pressure, intake pressure, and engine speed shall be recorded at least three times during the overload test.

Comply Yes () No ()

PRESSURE CONTROL SYSTEM TEST

The pressure control system on the pump shall be tested as follows:

Comply Yes () No ()

The pump shall be operated at draft, delivering rated capacity at a discharge gauge pressure of 150 psi.

Comply Yes () No ()

The pressure control system shall be set in accordance with the manufacturer's instructions to maintain the discharge gauge pressure at 150 psi \pm 5 percent.

Comply Yes () No ()

All discharge valves shall be closed not more rapidly than in 3 seconds and not more slowly than in 10 seconds.

Comply Yes () No ()

The rise in discharge pressure shall not exceed 30 psi and shall be recorded.

Comply Yes () No ()

The original conditions of pumping rated capacity at a discharge gauge pressure of 150 psi shall be reestablished.

Comply Yes () No ()

The discharge pressure gauge shall be reduced to 90 psi by throttling the engine fuel supply, with no change to the discharge valve settings, hose, or nozzles.

Comply Yes () No ()

The pressure control system shall be set according to the manufacturer's instructions to maintain the discharge gauge pressure at 90 psi \pm 5 percent.

Comply Yes () No ()

All discharge valves shall be closed not more rapidly than in 3 seconds and not more slowly than in 10 seconds.

Comply Yes () No ()

The rise in discharge pressure shall not exceed 30 psi and shall be recorded.

Comply Yes () No ()

The pump shall be operated at draft, pumping 50 percent of rated capacity at a discharge gauge pressure of 250 psi.

Comply Yes () No ()

The pressure control system shall be set in accordance with the manufacturer's instructions to maintain the discharge gauge pressure at 250 psi \pm 5 percent.

Comply Yes () No ()

All discharge valves shall be closed not more rapidly than in 3 seconds and not more slowly than in 10 seconds.

Comply Yes () No ()

The rise in discharge pressure shall not exceed 30 psi and shall be recorded.

Comply Yes () No ()

PUMP PRIMING SYSTEM TEST

With the apparatus set up for the pumping test, the primer shall be operated in accordance with the manufacturer’s instructions until the pump has been primed and is discharging water. This test shall be permitted to be performed in connection with priming the pump for the pumping test.

Comply Yes () No ()

The interval from the time the primer is started until the time the pump is discharging water shall be noted. The time required to prime the pump shall not exceed 45 seconds if the rated capacity is 1500 GPM or more.

Comply Yes () No ()

An additional 15 seconds shall be permitted in order to meet the requirements of 16.13.5.3 and 16.13.5.4 when the pump system includes an auxiliary 4 in. or larger intake pipe having a volume of 1 ft³ or more.

Comply Yes () No ()

PUMP VACUUM TEST

The vacuum test shall consist of subjecting the interior of the pump, with all intake valves open, all intakes capped or plugged, and all discharge caps removed, to a vacuum of 22 in. Hg by means of the pump priming system.

Comply Yes () No ()

At altitudes above 2000 ft., the vacuum attained shall be permitted to be less than 22 in. Hg by 1 in. Hg for each 1000 ft. of altitude above 2000 ft.

Comply Yes () No ()

The vacuum shall not drop more than 10 in. Hg in 5 minutes.

Comply Yes () No ()

The primer shall not be used after the 5-minute test period has begun and the engine shall not be operated at any speed greater than the governed speed during this test.

Comply Yes () No ()

WATER TANK TO PUMP FLOW TEST

A water tank-to-pump flow test shall be conducted as follows:

The water tank shall be filled until it overflows.

Comply Yes () No ()

All intakes to the pump shall be closed.

Comply Yes () No ()

The tank fill line and bypass cooling line shall be closed.

Comply Yes () No ()

Hose lines and nozzles for discharging water at the rated tank-to-pump flow rate shall be connected to one or more discharge outlets.

Comply Yes () No ()

The tank-to-pump valve(s) and the discharge valves leading to the hose lines and nozzles shall be fully opened.

Comply Yes () No ()

The engine throttle shall be adjusted until the required flow rate $-0/+5$ percent is established.

Comply Yes () No ()

The discharge pressure shall be recorded.

Comply Yes () No ()

The discharge valves shall be closed and the water tank refilled.

Comply Yes () No ()

The bypass line shall be permitted to be opened temporarily, if needed, to keep the water temperature in the pump within acceptable limits.

Comply Yes () No ()

The discharge valves shall be reopened fully and the time noted.

Comply Yes () No ()

If necessary, the engine throttle shall be adjusted to maintain the discharge pressure recorded as noted in 16.13.7.1(7).

Comply Yes () No ()

When the discharge pressure drops by 10 psi or more, the time shall be noted and the elapsed time from the opening of the discharge valves shall be calculated and recorded.

Comply Yes () No ()

VOLUME DISCHARGE CALCULATION

The volume discharged shall be calculated by multiplying the rate of discharge in gallons per minute (liters per minute) by the time in minutes elapsed from the opening of the discharge valves until the discharge pressure drops by at least 10 psi.

Comply Yes () No ()

Other means shall be permitted to be used to determine the volume of water pumped from the tank such as a totalizing flowmeter, weighing the truck before and after, or refilling the tank using a totalizing flowmeter.

Comply Yes () No ()

The rated tank-to-pump flow rate shall be maintained until 80 percent of the rated capacity of the tank has been discharge.

Comply Yes () No ()

ENGINE SPEED ADVANCEMENT INTERLOCK TEST

The engine speed advancement interlock system shall be tested to verify that engine speed cannot be increased at the pump operator's panel unless there is throttle-ready indication.

Comply Yes () No ()

If the apparatus is equipped with a stationary pump driven through split-shaft PTO, the test shall verify that the engine speed control at pump operator's panel cannot be advanced when either of the following conditions exists:

- The chassis transmission is in neutral, the parking brake is off, and the pump shift in the driving compartment is in the road position.
- The chassis transmission has been placed in the position for pumping as indicated on the label provided in the driving compartment, the parking brake is on, and the pump shift in the driving compartment is in the road position.

Comply Yes () No ()

LOW-VOLTAGE ELECTRICAL SYSTEM PERFORMANCE TESTING

The apparatus low-voltage electrical system will be tested and certified. Tests shall be performed when the air temperature is between 0°F and 110°F. The three tests defined in NFPA shall be performed in the order in which they appear. Before each test, the batteries shall be fully charged until the voltage stabilizes at the voltage regulator set point and the lowest charge current is maintained for 10 minutes. Failure of any of these tests shall require a repeat of the sequence.

Comply Yes () No ()

RESERVE CAPACITY TEST

The engine shall be started and kept running until the engine and engine compartment temperatures are stabilized at normal operating temperatures and the battery system is fully charged.

Comply Yes () No ()

The engine shall be shut off and the minimum continuous electrical load shall be activated for 10 minutes.

Comply Yes () No ()

All electrical loads shall be turned off prior to attempting to restart the engine. The battery system shall then be capable of restarting the engine. Failure to restart the engine shall be considered a test failure of the battery system.

Comply Yes () No ()

ALTERNATOR PERFORMANCE TEST AT IDLE

The minimum continuous electrical load shall be activated with the engine running at idle speed.

Comply Yes () No ()

The engine temperature shall be stabilized at normal operating temperature.

Comply Yes () No ()

The battery system shall be tested to detect the presence of battery discharge current. The detection of battery discharge current shall be considered a test failure.

Comply Yes () No ()

ALTERNATOR PERFORMANCE TEST AT FULL LOAD

The total continuous electrical load shall be activated with the engine running up to the engine manufacturer's governed speed.

Comply Yes () No ()

The test duration shall be a minimum of 2 hours.

Comply Yes () No ()

Activation of the load management system shall be permitted during this test.

Comply Yes () No ()

An alarm sounded by excessive battery discharge, as detected by the system required in NFPA 13.3.4, or a system voltage of less than 11.8 V dc for a 12 V nominal system or 23.6 V dc for a 24 V nominal system, for more than 120 seconds, shall be considered a test failure.

Comply Yes () No ()

LOW VOLTAGE ALARM TEST

Following the above test, a Low Voltage Alarm Test will be performed in the manner prescribed.

Comply Yes () No ()

With the engine shut off, the total continuous electrical load shall be activated and shall continue to be applied until the excessive battery discharge alarm activates.

Comply Yes () No ()

The battery voltage shall be measured at the battery terminals.

Comply Yes () No ()

The test shall be considered a failure if the alarm has not yet sounded 140 seconds after the voltage drops to 11.70V for a 12 V nominal system or 23.4 V for a 24 V nominal system.

Comply Yes () No ()

The battery system shall then be able to restart the engine. Failure to restart the engine shall be considered a test failure.

Comply Yes () No ()

CERTIFICATION DOCUMENTATION

At the time of delivery, the OEM shall provide the following documentation:

Documentation of the electrical system performance tests.

- A written electrical load analysis, including the following:
- The nameplate rating of the alternator.
- The alternator rating under the conditions specified above.
- Each of the component loads specified that make up the minimum continuous electrical load.
- Additional electrical loads that, when added to the minimum continuous electrical load, determine the total continuous electrical load.
- Each individual intermittent electrical load.

Comply Yes () No ()

WARRANTIES

The Purchaser requires that the below listed warranties shall have a single source warranty provided by the successful manufacturer in which all warranties on the entire apparatus shall be administered and coordinated through the apparatus manufacturer. Each Bidder shall submit a copy of the warranty to be supplied with the completed apparatus. The warranty shall be reviewed for exceptions and limitations. It must meet or exceed the minimum warranties specified below:

Comply Yes () No ()

GENERAL WARRANTY

A bumper to bumper warranty shall be offered for each new fire apparatus manufactured for a period of two (2) year from the date of delivery. **No Exceptions.**

Comply Yes () No ()

CAB GENERAL WARRANTY

The chassis shall be provided a limited parts and labor warranty to the original purchaser of the custom-built cab and chassis for a period of twenty-four (24) months, or the first 36,000 miles, whichever occurs first. The warranty period shall commence on the date the vehicle is delivered to the end user. The warranty shall include conditional items listed in the detailed warranty document. A copy of the Bidder's warranty shall be provided in their proposal for review by the Purchaser.

Comply Yes () No ()

CAB STRUCTURAL WARRANTY

The cab structure shall be warranted for a period of ten (10) years or one hundred thousand (100,000) miles which ever may occur first. Warranty conditions may apply and shall be listed in the detailed warranty document. A copy of the Bidder's warranty shall be provided in their proposal for review by the Purchaser.

Comply Yes () No ()

CAB PAINT WARRANTY

The cab and chassis shall be covered by a limited manufacturer paint warranty which shall be in effect for ten (10) years from the first owner's date of purchase or in service or the first 100,000 actual miles, whichever occurs first. A copy of the Bidder's warranty shall be provided in their proposal for review by the Purchaser.

Comply Yes () No ()

CHASSIS FRAME WARRANTY

The frame and cross members shall carry a limited lifetime warranty to the original purchaser. The warranty shall include conditional items listed in the detailed warranty document which shall be

provided upon request. A copy of the Bidder's warranty shall be provided in their proposal for review by the Purchaser.

Comply Yes () No ()

FRONT AXLE WARRANTY

The front axle shall be warranted by Meritor for two (2) years with unlimited miles under the general service application. A copy of the Bidder's warranty shall be provided in their proposal for review by the Purchaser.

Comply Yes () No ()

REAR AXLE WARRANTY

The rear axle shall be warranted by Meritor for two (2) years with unlimited miles under the general service application. A copy of the Bidder's warranty shall be provided in their proposal for review by the Purchaser.

Comply Yes () No ()

ENGINE WARRANTY

The Cummins or Detroit engine shall be warranted for a period of five (5) years or 100,000 miles, whichever occurs first. A copy of the Bidder's warranty shall be provided in their proposal for review by the Purchaser.

Comply Yes () No ()

TRANSMISSION WARRANTY

The Allison EVS series transmission shall be warranted for a period of five (5) years with unlimited mileage. Parts and labor shall be included in the warranty. A copy of the Bidder's warranty shall be provided in their proposal for review by the Purchaser.

Comply Yes () No ()

STRUCTURAL WARRANTY

A structural warranty shall be provided by the apparatus manufacturer for products of its manufacture to be free from defects in material and workmanship, under normal use and service, for a period of ten (10) years. A copy of the Bidder's warranty shall be provided in their proposal for review by the Purchaser.

Comply Yes () No ()

PUMP MODULE MOUNTING WARRANTY-LIFETIME

The mounting system will be warranted for a **LIFETIME** warranty. A copy of the Bidder's warranty shall be provided in their proposal for review by the Purchaser. **No Exceptions.**

Comply Yes () No ()

APPARATUS BODY MOUNTING WARRANTY-LIFETIME

The mounting system will be warranted for a **LIFETIME** warranty. A copy of the Bidder's warranty shall be provided in their proposal for review by the Purchaser. **No Exceptions.**

Comply Yes () No ()

PAINT WARRANTY

A ten (10) year Paint Warranty shall be included with the apparatus. A copy of the Bidder's warranty shall be provided in their proposal for review by the Purchaser.

Comply Yes () No ()

PUMP WARRANTY

Waterous Co. shall provide a limited manufacturer's pump warranty to be free from defects in material and workmanship, under normal use and service, for a period of five (5) years from the date placed into service. A copy of the Bidder's warranty shall be provided in their proposal for review by the Purchaser.

Comply Yes () No ()

PLUMBING WARRANTY

A Stainless-Steel Plumbing/Piping warranty will be provided for a period of ten (10) years. A copy of the Bidder's warranty shall be provided in their proposal for review by the Purchaser.

Comply Yes () No ()

AKRON VALVE WARRANTY

Akron Brass warrants Heavy Duty Swing-Out Valves for a period of ten (10) years after purchase against defects in material or workmanship. Akron Brass will repair or replace any Heavy Duty Swing-Out Valve which fails to satisfy this warranty. Repair or replacement shall be at the discretion of Akron Brass. Electrical components shall carry our standard five (5) year warranty. A copy of the Bidder's warranty shall be provided in their proposal for review by the Purchaser.

Comply Yes () No ()

TANK WARRANTY

A lifetime tank warranty will be provided by the tank manufacturer. A copy of the warranty shall be provided with each Bidders proposal for the review and evaluation of the Purchaser.

Comply Yes () No ()

MULTI-PLEXED ELECTRICAL WARRANTY

A four (4) year limited multiplex system warranty shall be provided by the apparatus manufacture for parts and labor, while under normal use and service; against mechanical, electrical and physical defects from the date of installation. A copy of the proposed body mount system is provided in the Bidder's proposal package.

Comply Yes () No ()

The warranty shall exclude; sensors, shunt interface modules, serial or USB kits, transceivers, cameras, GPS, and electrical display screens, which shall be limited to a period of one (1) year repair parts and labor from the date of installation. A copy of the Bidder's warranty shall be provided in their proposal for review by the Purchaser.

Comply Yes () No ()

SALES ENGINEER

The successful Bidder shall designate a competent individual acceptable to the Purchaser, to perform the Bidder’s Sales Engineer function. The Sales Engineer shall provide a single point interface between the Purchaser and the Bidder on all matters concerning the successful delivery and completion of the apparatus. The Sales Engineer shall attend all construction meetings and inspection trips, at no additional expense to the Purchaser, throughout the entire construction process, to maintain the continuity of the sales process.

Comply Yes () No ()

PRE-CONSTRUCTION TRIP

The successful Bidder shall provide a Pre-Construction Trip at the location of the successful Builder for three (3) representatives from Eastside Fire & Rescue. This provision includes round trip airfare from Seattle, WA. and will include all associated hotel, transportation and meal expenses. A representative from the successful Bidder will also attend this meeting with all associated costs being the responsibility of that Bidder.

Comply Yes () No ()

CHASSIS FINAL INSPECTION

The successful Bidder shall provide a Cab and Chassis Post Inspection Trip at the location of the successful Builder for three (3) representatives from Eastside Fire & Rescue. This provision includes round trip airfare from Seattle, WA. and will include all associated hotel, transportation and meal expenses. A representative from the successful Bidder will also attend this meeting with all associated costs being the responsibility of that Bidder.

Comply Yes () No ()

MID-POINT INSPECTION

The successful Bidder shall provide a Mid-Point Inspection Trip prior to the pump plumbing and panel construction begins, at the location of the successful Builder for three (3) representatives from Eastside Fire & Rescue. This provision includes round trip airfare from Seattle, WA. and will include all associated hotel, transportation and meal expenses. A representative from the successful Bidder will also attend this meeting with all associated costs being the responsibility of that Bidder.

Comply Yes () No ()

FINAL INSPECTION TRIP

The successful Bidder shall provide a Final Inspection Trip at the location of the successful Builder for three (3) representatives from Eastside Fire & Rescue. This provision includes round trip airfare from Seattle, WA. and will include all associated hotel, transportation and meal expenses. A representative from the successful Bidder will also attend this meeting with all associated costs being the responsibility of that Bidder.

Comply Yes () No ()

ON-LINE CUSTOMER INTERACTION

The successful Builder shall provide the capability for online access through their website. The customer shall be able to view digital photos of their apparatus in the specified phases of construction. The following phases will be captured and displayed on this website:

- Chassis

- Body – Prior to Paint
- Body – Painted
- Pump and Plumbing
- Assembly – 80% Complete

Due to the complex nature of fire apparatus and the importance of communication between the Purchaser and the manufacturer there shall be no exceptions allowed to this requirement.

Comply Yes () No ()

PUMP AND APPARATUS TRAINING

The successful Bidder shall provide a factory-trained technician to provide the following training:

Comply Yes () No ()

A structured training course for the fire apparatus mechanics of the department, covering the repair and maintenance of all components of the apparatus called for in the specifications.

Comply Yes () No ()

The successful Bidder will provide a structured training course for personnel assigned to operate the apparatus, covering nomenclature of components, proper operation of the apparatus, daily operational maintenance checks, and other information necessary for a firefighter/driver/engineer to properly operate and maintain the apparatus.

Comply Yes () No ()

It is intended that this training be organized in such a manner that both the mechanics and fire personnel receive full benefit of the aforementioned structured training. The firefighter/operator training shall be conducted at a time mutually agreed upon by the "Purchaser" and "Supplier".

Comply Yes () No ()

SUPPLIED INFORMATION & EXTRAS

The successful Builder will supply two (2) copies of apparatus manuals with all manufactured apparatus. The manuals shall include, but not be limited to: all component warranties, users' manuals and information for supplied products, apparatus engineering information including drawings and build prints, and whatever other pertinent information the successful Builder can supply to its customer regarding the said apparatus.

Comply Yes () No ()

Included in the delivery of the unit, the Builder will also include spare hardware and extra fasteners, paint for touch-up, information regarding washing and care procedures, as well as other recommendations for care and upkeep of the general apparatus.

Comply Yes () No ()

The successful Builder will also supply a manufacturer's record of apparatus construction details, including the following information:

- Owner name and address;
- Manufacturer, model, and serial number;

- Chassis make, model, and serial number;
- GAWR of front and rear axles;
- Front tire size and total rated capacity in pounds;
- Rear tire size and total rated capacity in pounds;
- Chassis weight distribution in pounds with water (if applicable) and Manufacturer mounted equipment (front and rear);
- Engine make, model, serial number, rated horsepower, related speed and no load governed speed;
- Type of fuel and fuel tank capacity;
- Electrical system voltage and alternator output in amps;
- Battery make and model, capacity in CCA;
- Paint numbers;
- Weight documents from a certified scale showing actual loading on the front axle, rear axle(s), and overall vehicle (with the water tank full (if applicable) but without personnel, equipment, and hose);
- Written load analysis and results of the electrical system performance tests;
- Transmission make, model, and type;
- Pump to drive through the transmission (yes or no);
- Engine to pump gear ratio and transmission gear ratio used;
- Pump make, model, rated capacity in gallons per minute, serial number, and number of stages,
- Pump manufacturer's certification of suction capability;
- Pump manufacturer's certification of hydrostatic test;
- Pump manufacturer's certification of inspection and test for the fire pump;
- Copy of the apparatus manufacturer's approval for stationary pumping applications;
- Pump transmission make, model and serial number;
- Priming device type;
- Type of pump pressure control system;
- Certification of water tank capacity;

Comply Yes () No ()

The engine manufacturer's certified brake horsepower curve for the engine furnished, showing the maximum no load governed speed;

Comply Yes () No ()

COLOR CODED ELECTRICAL SCHEMATICS

The apparatus manufacturer shall supply two (2) set(s) color coded as-built wiring schematics, to include all line voltage schematics with each apparatus.

Comply Yes () No ()

MAXIMUM OVERALL WIDTH OF ONE HUNDRED (100) INCHES

The apparatus specified shall be constructed as detailed and shall NOT exceed a Maximum Overall Width of One Hundred (100") inches.

Comply Yes () No ()

This dimension shall include the primary construction of the apparatus body and chassis cab. Any peripherals that are 'removable' shall not be incorporated into this measurement.

Comply Yes () No ()

Items that are considered 'removable' are: Rub Rails, Fenderettes, Mirrors, Lights, Handrails, Front Bumpers, Etc.

Comply Yes () No ()

Due to the complex nature of fire apparatus and the importance of communication between the Purchaser and the manufacturer there shall be no exceptions allowed to this requirement.

Comply Yes () No ()

SPECIFICATION ADDENDA

All specification addenda shall be issued by the Purchaser in written format, neither verbal forms of addenda or otherwise shall not be issued or considered part of this specification no matter how minor. The Bidder shall acknowledge receipt of all written addenda on the provided price form and in the spaces provided in these documents.

Comply Yes () No ()

REGISTRATION

All necessary paperwork to register the apparatus with the Washington State Department of Licensing as a motor vehicle shall be furnished at the time of delivery. This includes a "Manufacturer's Statement of Origin" (MSO) and Washington State title application.

Comply Yes () No ()

CONTRACT EXTENSION PROVISION

The Purchaser reserves the right to exercise the purchaser of additional apparatus from the final Contract for a period of up to Five (5) years if in the best interest of the Purchaser. Additional purchases shall based upon negotiated price adjustments following the Consumer Price Index and annual adjusted rate of inflation for emergency vehicles.

Comply Yes () No ()

PURCHASER AUTHORIZED CONTACT

For questions regarding these specifications, Bidder's may contact Logistics Battalion Chief, Craig Hooper at 425-313-3281 or Shop Supervisor, Justin Kiske as 425-864-6523 during normal office hours, Monday through Friday.

Comply Yes () No ()

SUBMISSION OF BID PROPOSALS

Bidders shall submit their bid proposal in a sealed envelope or box clearly marked “BID FOR PUMPER” on all visible sides addressed to:

**Eastside Fire & Rescue
175 Newport Way NW
Issaquah, WA. 98027**

The Purchaser is not responsible for proposals that are delivered late. It is the responsibility of the Bidder to be sure the proposals are sent sufficiently ahead of time to be **RECEIVED NO LATER THAN 2:00 PM PDT on June 11, 2018.**

Comply Yes () No ()

At any time prior to the scheduled closing time for receipt of bids, any Bidder may withdraw such Bidder’s proposal by providing written notice to the Purchaser at the addresses set forth above.

Comply Yes () No ()

Bids shall only be accepted in hard copies only. Proposals submitted either by facsimile or electronic documents shall not be accepted and shall be not be considered however; support information requested by the Purchaser may be accepted at the Purchaser’s discretion when required after the bid opening.

Comply Yes () No ()

BID PROPOSAL OPENING

Bid proposals received shall be publicly opened immediately afterwards.

MANDATORY PROPOSAL FORM

**Eastside Fire & Rescue
175 Newport Way NW
Issaquah, Washington**

Bidder's Name and Address

Manufacturer's Name and Address

Person to Contact

Person to Contact

After reviewing the attached specifications and information, we the above listed Bidder, hereby submit the following Bid Proposal to Eastside Fire & Rescue for the furnishing of one (1) or more, new 1500 GPM Triple Combination Pumper Apparatus and equipment as specified in the attached specifications.

Complete Pumper apparatus cost: \$ _____

Delivery time shall be _____ days from time of agreement (in calendar days).

Factory Inspection trip cost per specification:	\$ _____
Are there any exceptions to the specifications	Yes () No ()
Proof of insurance included	Comply Yes () No ()
F.O.B. to the Purchaser	Comply Yes () No ()
Added cost to proposal for delivery	\$ _____
Prepayment Discounts Provided	Yes () No ()
100% Performance Bond Included	Yes () No ()
100 % Performance Bond Cost:	\$ _____

Service Center distance from Issaquah, Wa. in miles _____

Signature of Authorized Officer of Bidder:

Signature _____ Date _____

Printed Name _____ Date _____

THIS FORM IS TO BE PLACED IN THE FRONT OF THE BIDDERS PROPOSAL

SERVICE CENTER LOCATION

Name & Location (Address) of Authorized Service Center:

Contact: _____

Phone #: _____

RECEIPT OF ADDENDA

The Bidder shall acknowledge receipt of all written addenda below:

Addenda # _____ Date Received: _____ Authorized

Signature: _____

Addenda # _____ Date Received: _____ Authorized

Signature: _____

Addenda # _____ Date Received: _____ Authorized

Signature: _____

Addenda # _____ Date Received: _____ Authorized

Signature: _____

THIS FORM IS TO BE PLACED IN THE FRONT OF THE BIDDERS PROPOSAL

NON-COLLUSION AFFIDAVIT

STATE OF WASHINGTON

COUNTY OF KING

The undersigned, being duly sworn, on oath deposes and says that the person, firm, association, co-partnership or corporation herein named has not either directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in the preparation and submission of a proposal to the Owner for consideration in the award of a contract on the improvements described as follows for _____:

Supply One (1) or more, new, 1500 GPM Triple Combination Pumper Apparatus & Equipment per plans and specifications

Firm Name

Authorized Signature

Type Name

Title

Sworn to before me, this _____ day of _____, 2014.

Notary Public
in and for the State of _____
Residing at _____
My Commission Expires ____

THIS FORM IS TO BE PLACED IN THE FRONT OF THE BIDDERS PROPOSAL

EXCEPTIONS TO SPECIFICATIONS:

Exceptions to these specifications shall be noted below. All exceptions taken shall be recorded per the guidelines defined above. Each exception shall be noted by page number and item header. If additional space is required for exceptions, then the Bidder shall use additional paper as necessary, however the same format shall be used.

Page #: _____
Header: _____
Exception: _____

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Exception: _____

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CUSTOM CAB OVER CAB AND CHASSIS

The cab and chassis shall include design considerations for multiple emergency vehicle applications, rapid transit and maneuverability. The chassis shall be manufactured for heavy duty service with the strength and capacity to support a fully laden apparatus, one hundred (100) percent of the time.

Bidder Complies as Written: Yes: _____ No: _____

The cab and chassis shall be produced entirely by a single source manufacturer that designs and manufactures their products utilizing an approach that includes complete product integration, including the apparatus chassis, cab and body modules being constructed, assembled, and tested on company premises only. This requirement shall completely eliminate split responsibility of engineering and warranty responsibilities between multiple manufacturers. The cab and chassis shall be a current model and design which has been proven and field tested within the Fire Service for no less than 3 years.

Bidder Complies as Written: Yes: _____ No: _____

MODEL YEAR

The chassis shall have a vehicle identification number that reflects the newest available model year.

Bidder Complies as Written: Yes: _____ No: _____

COUNTRY OF SERVICE

The chassis shall be put in service in the country of United States of America (USA).

The chassis will meet applicable U.S.A. federal motor vehicle safety standards per CFR Title 49 Chapter V Part 571 as clarified in the incomplete vehicle book per CFR Title 49 Chapter V Part 568 Section 4 which accompanies each chassis.

Bidder Complies as Written: Yes: _____ No: _____

APPARATUS TYPE

The apparatus shall be a pumper vehicle designed for emergency service use which shall be equipped with a permanently mounted fire pump which has a minimum rated capacity of 1500 gallons per minute. The apparatus shall include a water tank and hose body whose primary purpose is to combat structural and associated fires.

Bidder Complies as Written: Yes: _____ No: _____

VEHICLE TYPE

The chassis shall be manufactured for use as a straight truck type vehicle and designed for the installation of a permanently mounted apparatus behind the cab. The apparatus of the vehicle shall be supplied and installed by the apparatus manufacturer.

Bidder Complies as Written: Yes: _____ No: _____

AXLE CONFIGURATION

The chassis shall feature a 4 x 2 axle configuration consisting of a single rear drive axle with a single front steer axle.

Bidder Complies as Written: Yes: _____ No: _____

GROSS AXLE WEIGHT RATINGS FRONT

The front gross axle weight rating (GAWR) of the chassis shall be 21,500 pounds.

Bidder Complies as Written: Yes: _____ No: _____

This front gross axle weight rating shall be adequate to carry the weight of the completed apparatus including all equipment and personnel.

Bidder Complies as Written: **Yes:** _____ **No:** _____

GROSS AXLE WEIGHT RATINGS REAR

The rear gross axle weight rating (GAWR) of the chassis shall be 24,000 pounds.

Bidder Complies as Written: **Yes:** _____ **No:** _____

This rear gross axle weight rating shall be adequate to carry the weight of the completed apparatus including all equipment and personnel.

Bidder Complies as Written: **Yes:** _____ **No:** _____

PUMP PROVISION

The chassis shall include provisions to mount a drive line pump in the middle of the chassis, behind the cab, more commonly known as the midship location.

Bidder Complies as Written: **Yes:** _____ **No:** _____

CAB STYLE

The four-door cab shall be a custom extended medium cab measuring 60 inches from the center of the front axle to the rear of the cab, fully enclosed, raised roof over crew area, designed and built specifically for use as an emergency response vehicle by a company specializing in cab and chassis design for all emergency response applications. The cab shall be designed for heavy-duty service utilizing superior strength and capacity for the application of protecting the occupants of the vehicle. This style of cab shall offer up to eight (8) seating positions, positions to be specified by the purchaser. The builder shall provide all measurements for interior and exterior cab to include the doors and door openings.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The cab shall incorporate a fully enclosed design with side wall roof supports, allowing for a spacious cab area with no partition between the front and rear sections of the cab. To provide a superior finish by reducing welds that fatigue cab metal; the roof, the rear wall and side wall panels shall be assembled using a combination of welds and proven industrial adhesives designed specifically for aluminum fabrication for construction.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The cab shall be constructed using multiple aluminum extrusions in conjunction with aluminum plate, which shall provide proven strength and the truest, flattest body surfaces ensuring less expensive paint repairs if needed. All aluminum welding shall be completed to the American Welding Society and ANSI D1.2-96 requirements for structural welding of aluminum.

Bidder Complies as Written: **Yes:** _____ **No:** _____

All interior and exterior seams shall be sealed for optimum noise reduction and to provide the most favorable efficiency for heating and cooling retention.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The cab shall be constructed of corrosion resistant aluminum plate. The cab shall incorporate tongue and groove fitted aluminum extrusions for extreme duty situations. A single formed, one (1) piece extrusion

shall be used for the “A” pillar, adding strength and rigidity to the cab as well as additional roll-over protection.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The exterior width of the cab shall be a maximum of 102 inches wide.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The cab interior shall be designed to afford the maximum usable interior space and attention to ergonomics with hip and legroom while seated which exceeds industry standards. The crew cab floor shall be flat across the entire walking area for ease of movement inside the cab.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The cab shall offer a minimum interior height of 56 inches from the front floor to the headliner and a rear floor to headliner height of 65.00 inches in the raised roof area. The cab shall offer an interior measurement at the floor level from the rear of the engine tunnel to the rear wall of the cab of no less than 55.00 inches. All interior measurements shall include the area within the interior trimmed surfaces and not to any unfinished surface.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The cab shall include a driver and officer area with two (2) cab doors large enough for personnel in full firefighting gear.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The cab shall also include a crew area with up to two (2) cab doors, also large enough for personnel in full firefighting gear.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The cab shall incorporate a progressive two (2) step configuration from the ground to the cab floor at each door opening. The progressive steps are vertically staggered and extend the full width of each step well allowing personnel in full firefighting gear to enter and exit the cab easily and safely. All steps shall be NFPA compliant.

Bidder Complies as Written: **Yes:** _____ **No:** _____

OCCUPANT PROTECTION

The vehicle shall include an Occupant Protection System (OPS) which shall secure belted occupants and increase the survivable space within the cab. The OPS shall selectively deploy integrated systems to protect against injuries in qualifying frontal impact, side impact, and rollover events. The increase in survivable space and security of the OPS shall also provide ejection mitigation protection.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The system components shall include:

- Driver steering wheel airbag
- Driver dual knee air bags with energy management mounting and officer knee airbag.

- Large driver, officer, and crew area side curtain airbags
- OPS advanced seat belt system - retractor pre-tensioners tighten the seat belts around the occupants, securing the occupants in seats and load limiters play out some of the seat belt webbing to reduce seat belt to chest and torso force upon impact as well as mitigate head and neck injuries
- Heavy truck Restraints Control Module (RCM) - receives inputs from the outboard sensors, selectively deploys OPS systems, and records sensory inputs immediately before and during a detected qualifying event
- Integrated outboard crash sensors mounted at the perimeter of the vehicle - detects a qualifying front or side impact event and monitors and communicates vehicle status and real time diagnostics of all critical subsystems to the RCM
- Fault-indicating Supplemental Restraint System (SRS) light on the driver's instrument panel
Bidder Complies as Written: Yes: _____ No: _____

Frontal impact protection shall be provided by the outboard sensors and the RCM. In a qualifying front impact event the outboard sensors provide inputs to the RCM. The RCM activates the steering wheel airbag, driver side dual knee airbags (patent pending), officer side knee airbag, and advanced seat belts for each occupant in the cab.

Bidder Complies as Written: Yes: _____ No: _____

The OPS frontal impact system shall be independently tested to ensure occupant injury criteria does not exceed injury criteria defined in Federal Motor Vehicle Safety Standard (FMVSS) 208. Frontal impact into a rigid barrier at 25 mph shall be conducted by an independent third party test facility using belted 95th percentile Hybrid II test dummies.

Bidder Complies as Written: Yes: _____ No: _____

Rollover, side impact, and ejection mitigation shall be provided by the outboard sensors and the RCM. In qualifying rollover or side impact events the outboard sensors provide inputs to the RCM. The RCM activates the side curtain airbags and advanced seat belts for each occupant in the cab. The RCM measures roll angle, lateral acceleration, and roll rate to determine if a rollover event or side impact event is imminent or occurring.

Bidder Complies as Written: Yes: _____ No: _____

In the event of a qualifying offset or other non-frontal impact, the RCM shall determine and intelligently deploy the front impact protection system, the side impact protection system, or both front and side impact protection systems based on the inputs received from the outboard crash sensors.

Bidder Complies as Written: Yes: _____ No: _____

The OPS side impact system shall be independently tested to ensure occupant injury criteria does not exceed injury criteria defined in Federal Motor Vehicle Safety Standard (FMVSS) 214. Side impact

from a moving barrier at 17 mph shall be conducted by an independent third party test facility using belted 50th percentile ES-2re test dummies.

Bidder Complies as Written: Yes: _____ No: _____

CAB FRONT FASCIA

The front cab fascia shall be constructed of aluminum plate which shall be an integral part of the cab.

Bidder Complies as Written: Yes: _____ No: _____

The cab fascia will encompass the entire front of the aluminum cab structure from the bottom of the windshield to the bottom of the cab.

Bidder Complies as Written: Yes: _____ No: _____

The front cab fascia shall accommodate a total of up to four (4) Hi/Low beam headlights and two (2) turn signal lights or up to four (4) warning lights. A chrome plated molded plastic bezel shall be provided on each side around each set of four lamps.

Bidder Complies as Written: Yes: _____ No: _____

FRONT GRILLE

The front cab fascia shall include a grill of sufficient size to accommodate necessary airflow and cooling.

Bidder Complies as Written: Yes: _____ No: _____

CAB UNDERCOAT

There shall be a rubberized undercoating applied to the underside of the cab that provides abrasion protection, sound deadening and corrosion protection.

Bidder Complies as Written: Yes: _____ No: _____

CAB SIDE DRIP RAIL

There shall be a drip rail along the top radius of each cab side from rear wall of cab to the front vertical hinge seam of the front doors. The drip rails shall help prevent water from the cab roof running down the cab side and into the open doors.

Bidder Complies as Written: Yes: _____ No: _____

CAB PAINT EXTERIOR

The cab shall be painted prior to the installation of glass accessories and all other cab trim to ensure complete paint coverage and the maximum in corrosion protection of all metal surfaces.

Bidder Complies as Written: Yes: _____ No: _____

All metal surfaces on the entire cab shall be ground by disc to remove any surface oxidation or surface debris which may hinder the paint adhesion. Once the surface is machine ground a high quality acid etching of base primer shall be applied. Upon the application of body fillers and their preparation, the cab shall be primed with a coating designed for corrosion resistance and surface paint adhesion.

Bidder Complies as Written: Yes: _____ No: _____

The entire cab shall then be coated with an intermediate solid or epoxy surfacing agent that is designed to fill any minor surface defects, provide an adhesive bond between the primer and the paint and improve the color and gloss retention of the color.

Bidder Complies as Written: Yes: _____ No: _____

The cab shall then be painted the specific color designated by the customer with an acrylic urethane type system designed to retain color and resist acid rain and most atmospheric chemicals found on the fire ground or emergency scene.

Bidder Complies as Written: Yes: _____ No: _____

CAB PAINT MANUFACTURER

The cab shall be painted with high quality commercially available automotive paint.

Bidder Complies as Written: Yes: _____ No: _____

CAB PAINT PRIMARY/UPPER COLOR

The upper paint color shall be Sikkins, FLNA 4006 or approved equivalent.

Bidder Complies as Written: Yes: _____ No: _____

CAB/BODY PAINT PRIMARY/LOWER COLOR

The lower paint color shall be Sikkins FLNA 3225 or approved equivalent.

Bidder Complies as Written: Yes: _____ No: _____

CAB PAINT WARRANTY

The cab and chassis shall be covered by a limited manufacturer paint warranty which shall be in effect for ten (10) years from the first owner's date of purchase or in service or the first 100,000 actual miles, whichever occurs first.

Bidder Complies as Written: Yes: _____ No: _____

CAB PAINT/COATING INTERIOR

The visible interior cab structure surfaces shall be painted or coated with a high quality commercially available automotive Speedliner coating, color matched to the interior trim coverings.

Bidder Complies as Written: Yes: _____ No: _____

CAB ENTRY DOORS

The cab shall include four (4) entry doors, two (2) front doors and two (2) crew doors designed for ease of entering and egress when outfitted with an SCBA. The doors shall be constructed of extruded aluminum. The exterior skins shall be constructed of aluminum plate.

Bidder Complies as Written: Yes: _____ No: _____

The doors shall include a double rolled style automotive rubber seal around the perimeter of each door frame and door edge which ensures a weather tight fit.

Bidder Complies as Written: Yes: _____ No: _____

All door hinges shall be hidden within flush mounted cab doors for a pleasing smooth appearance and perfect fit along each side of the cab. Each door hinge shall be piano style and shall be constructed of stainless steel.

Bidder Complies as Written: Yes: _____ No: _____

CAB ENTRY DOOR TYPE

The bidder or builder shall provide cab entry door type options of full length and barrier style.

Bidder Complies as Written: Yes: _____ No: _____

CAB INSULATION

The cab ceiling and walls shall include 1.00 inch thick foam insulation. The insulation shall act as a barrier absorbing noise as well as assisting in sustaining the desired climate within the cab interior.

Bidder Complies as Written: Yes: _____ No: _____

LH EXTERIOR MID EMS COMPARTMENT

The cab shall include an interior clear area provision for the side curtain crew airbag mounting to account for a compartment located in the middle of the wall as later described. The clear area shall extend from the cab 'B' pillar to the standard rear door location above the left side wheel well. The provision allows appropriate airbag selection for clear airbag deployment and adequate protection and ejection mitigation.

Bidder Complies as Written: Yes: _____ No: _____

RH EXTERIOR MID EMS COMPARTMENT

The cab shall include an interior clear area provision for the side curtain crew airbag mounting to account for a compartment located in the middle of the wall to be installed as later described. The clear area shall extend from the cab 'B' pillar to the standard rear door location above the right-side wheel well. The provision allows appropriate airbag selection for clear airbag deployment and adequate protection and ejection mitigation.

Bidder Complies as Written: Yes: _____ No: _____

CAB EMS STORAGE CABINET(S)

There shall be two (2) compartment(s) fabricated out of 1/8" smooth aluminum installed in the chassis cab.

Bidder Complies as Written: Yes: _____ No: _____

The compartment(s) shall store an aid kit box 21"W x 18"L x 9"H, and a vent kit bag 24"W x 15"L x 12"H.

Bidder Complies as Written: Yes: _____ No: _____

There shall be two (2) exterior weather proof doors, one for each compartment that will allow access to the compartment. These doors shall have an electric lock system integrated into the cab door locking system. The latches shall be a large paddle type latch.

Bidder Complies as Written: Yes: _____ No: _____

The compartment(s) shall have two (2) shelves and adjustable shelf tracking installed. The track system shall be low profile with an approximate depth of 1/2" in order to retain as much storage space as possible. Each shelf shall be fabricated of 1/8" smooth aluminum and shall have 1" formed lips to retain its contents and provide rigidity except on the exterior door side which will be folded down.

Bidder Complies as Written: Yes: _____ No: _____

The interior of the cabinet(s) including the shelves shall be coated with black Speedliner.

Bidder Complies as Written: Yes: _____ No: _____

There shall be 2" black cargo netting with two (2) clips installed on the bottom of each compartment.

Bidder Complies as Written: Yes: _____ No: _____

The battery conditioner shall not be located inside the EMS compartments.

Bidder Complies as Written: Yes: _____ No: _____

Two (2) WHELEN Super LED Strip-Lite compartment light shall be installed in two (2) EMS full height cabinet(s). The lights in each compartment shall be on a separate circuit, turning on when the rear cab doors are open and turning off when the rear cab doors are closed. These lights shall also be activated through a rocker switch on the exterior wall (inboard facing) of each respective cabinet.

Bidder Complies as Written: Yes: _____ No: _____

CAB STRUCTURAL WARRANTY

The cab structure shall be warranted for a period of ten (10) years or one hundred thousand (100,000) miles which ever may occur first. The warranty period shall commence on the date the vehicle is delivered to the first end user.

Bidder Complies as Written: Yes: _____ No: _____

CAB TEST INFORMATION

The cab shall have successfully completed the preload side impact, static roof load application and frontal impact without encroachment to the occupant survival space when tested in accordance with Section 4 of SAE J2420 COE Frontal Strength Evaluation Dynamic Loading Heavy Trucks, Section 5 of SAE J2422 Cab Roof Strength Evaluation Quasi –Static Loading Heavy Trucks and ECE R29 Uniform Provisions Concerning the Approval of Vehicles with regard to the Protection of the Occupants of the Cab of a Commercial Vehicles Annex 3 Paragraph 5.

Bidder Complies as Written: Yes: _____ No: _____

The above tests have been witnessed by and attested to by an independent third party. The test results were recorded using cameras, high speed imagers, accelerometers and strain gauges. Documentation of the testing shall be provided upon request.

Bidder Complies as Written: Yes: _____ No: _____

ELECTRICAL SYSTEM

The chassis shall include a single starting electrical system which shall include a 12-volt direct current multiplexing system, suppressed per SAE J551. The wiring shall be appropriate gauge cross link with 311 degree Fahrenheit insulation. All SAE wires in the chassis shall be color coded and shall include the circuit number and function where possible. The wiring shall be protected by 275 degree Fahrenheit minimum high temperature flame retardant loom. All nodes and sealed Deutsch connectors shall be waterproof.

Bidder Complies as Written: Yes: _____ No: _____

APPARATUS WIRING PROVISION

An apparatus wiring panel shall be installed in the center dash area behind the rocker switch panel which shall include eight (8) open circuits consisting of three (3) 20 amp, one (1) 30 amp, three (3) 10 amp, and one (1) 15 amp circuit, with relays and breakers with trigger wires which shall be routed to the rocker switch panel.

Bidder Complies as Written: Yes: _____ No: _____

MULTIPLEX DISPLAY

The multiplex electrical system shall include (2) displays with interactive screens. The displays shall be located one (1) on the right side of the dash in the switch panel and one (1) on the left side of the dash in the switch panel. The two displays shall be programmed the same. The displays shall feature full color LCD screens. The display shall include a message bar displaying the time of day and important messages requiring acknowledgement by the user on the top of the screen in the order they are received. The screen shall default to the main lighting switch screen, have a sleep mode function for night operations, and display open door type sensors, and outside temperature. There shall be eight (8) push button virtual controls, four (4) on each side of the display in addition to the screen virtual controls, and seven (7) across the bottom. All buttons shall be programmable. Programming shall be determined by the purchaser switch plan to be discussed and finalized at the pre-construction meeting. The display shall also be used for the on-board diagnostics. The display screens shall be video ready for back-up cameras, thermal cameras, and DVD.

Bidder Complies as Written: Yes: _____ No: _____

The displays shall offer varying fonts and background colors. The displays shall be fully programmable to the needs of the customer and shall offer virtually infinite flexibility for screen configuration options.

Bidder Complies as Written: Yes: _____ No: _____

DATA RECORDING SYSTEM

The chassis shall have a Vehicle Data Recorder (VDR) system installed. The system shall be designed to meet NFPA 1901 and shall be integrated with the Multiplex electrical system.

The following information shall be recorded:

- Vehicle Speed
- Acceleration
- Deceleration
- Engine Speed
- Engine Throttle Position
- ABS Event
- Seat Occupied Status
- Seat Belt Status
- Master Optical Warning Device Switch Position
- Time
- Date

Bidder Complies as Written: Yes: _____ No: _____

Each portion of the data shall be recorded at the specified intervals and stored for the specified length of time to meet NFPA 1901 guidelines and shall be retrievable by connecting a laptop computer to the VDR system. The laptop connection shall be a panel mounted female type B USB connection point, remotely mounted in the left side foot well.

Bidder Complies as Written: **Yes:** _____ **No:** _____

ACCESSORY POWER

The electrical distribution panel shall include two (2) power studs. The studs shall be size #10 and each of the power studs shall be circuit protected with a fuse of the specified amperage. One (1) power stud shall be capable of carrying up to a 40 amp battery direct load. One (1) power stud shall be capable of carrying up to a 15 amp ignition switched load. The two (2) power studs shall share one (1) #10 ground stud.

Bidder Complies as Written: **Yes:** _____ **No:** _____

AUXILIARY ACCESSORY POWER

An auxiliary set of power and ground studs shall be provided and installed in the rear crew area forward facing seat pedestal. . The power and ground stud shall be circuit protected with a 40 amp breaker. The studs shall be 0.38 inch diameter and capable of carrying up to a 40 amp battery direct load.

Bidder Complies as Written: **Yes:** _____ **No:** _____

EXTERIOR ELECTRICAL TERMINAL COATING

All terminals exposed to the elements will be sprayed with a high visibility protective rubberized coating to prevent corrosion.

Bidder Complies as Written: **Yes:** _____ **No:** _____

ENGINE

The chassis engine shall be a Cummins engine. The engine shall be an in-line six (6) cylinder, 12 liter, four cycle diesel powered engine. The engine shall offer a minimum rating of 450 horse power.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The engine shall feature a turbocharger, a high pressure common rail fuel system, fully integrated electronic controls with an electronic governor, and shall be EPA certified to meet the current emissions standards using cooled exhaust gas recirculation and selective catalytic reduction technology.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The engine shall include an engine mounted combination full flow/by-pass oil filter with replaceable spin on cartridge for use with the engine lubrication system.

Bidder Complies as Written: **Yes:** _____ **No:** _____

A wiring harness shall be supplied ending at the back of the cab. The harness shall include a connector which shall allow an optional harness for the pump panel. The included circuits shall be provided for a tachometer, oil pressure, engine temperature, hand throttle, high idle and a PSG system. A circuit for J1939 data link shall also be provided at the back of the cab.

Bidder Complies as Written: **Yes:** _____ **No:** _____

CAB ENGINE TUNNEL

The cab interior shall include an integrated engine tunnel constructed of aluminum alloy plate. Tunnel shall be the lowest profile as possible while providing for ergonomic comfort for use of cab functions. A mounting platform shall be installed covering the top of the tunnel in order to easily mount the mapbox and accessories. The platform shape shall be specified at the mid-point inspection, it shall be full painted with a speedliner type coating and protected edges. The platform shall have a rolled one inch lip to keep items contained within.

Bidder Complies as Written: Yes: _____ No: _____

DIESEL PARTICULATE FILTER CONTROLS

There shall be two (2) controls for the diesel particulate filter. One (1) control shall be for regeneration and one (1) control shall be for regeneration inhibit. Each switch shall include a guard.

Bidder Complies as Written: Yes: _____ No: _____

ENGINE PROGRAMMING HIGH IDLE SPEED

The engine high idle control shall maintain the engine idle at approximately 1250 RPM when engaged.

Bidder Complies as Written: Yes: _____ No: _____

ENGINE HIGH IDLE CONTROL

The vehicle shall be equipped with an automatic high-idle speed control. It shall be pre-set so when activated, it will operate the engine at the appropriate RPM to increase alternator output. This device shall operate only when the master switch is activated and the transmission is in neutral with the parking brake set. The device shall disengage when the operator depresses the brake pedal, or the transmission is placed in gear, and shall be available to manually or automatically re-engage when the brake is released, or when the transmission is placed in neutral. There shall be an indicator on the dash display and control screen for the high idle speed control.

Bidder Complies as Written: Yes: _____ No: _____

ENGINE PROGRAMMING ROAD SPEED GOVERNOR

The maximum road speed of the vehicle shall be set to 68 mph as per NFPA 1901

Bidder Complies as Written: Yes: _____ No: _____

AUXILIARY ENGINE BRAKE

A compression brake, for the six (6) cylinder engine shall be provided. A cutout relay shall be installed to disable the compression brake when in pump mode or when an ABS event occurs. The engine compression brake shall activate upon 0% accelerator when in operation mode and actuate the vehicle's brake lights.

Bidder Complies as Written: Yes: _____ No: _____

The engine shall utilize a variable geometry turbo (VGT) as an integrated auxiliary engine brake to offer a variable rate of exhaust flow, which when activated in conjunction with the compression brake shall enhance the engine's compression braking capabilities.

Bidder Complies as Written: Yes: _____ No: _____

AUXILIARY ENGINE BRAKE CONTROL

An engine compression brake control device shall be included. The electronic control device shall monitor various conditions and shall activate the engine brake only if all of the following conditions are simultaneously detected:

- A valid gear ratio is detected.
- The driver has requested or enabled engine compression brake operation.
- The throttle is at a minimum engine speed position.
- The electronic controller is not presently attempting to execute an electronically controlled final drive gear shift.

The compression brake shall be controlled through an on/off switch and a low/medium/high selector switch.

Switch to be located near the shift selector.

Bidder Complies as Written: Yes: _____ No: _____

ELECTRONIC ENGINE OIL LEVEL INDICATOR

The engine oil shall be monitored electronically and shall send a signal to activate a warning in the instrument panel when levels fall below normal. The warning shall activate in a low oil situation upon turning on the master battery and ignition switches without the engine running.

Bidder Complies as Written: Yes: _____ No: _____

ENGINE DRAIN PLUG

The engine shall include an original equipment manufacturer installed oil drain plug.

Bidder Complies as Written: Yes: _____ No: _____

ENGINE WARRANTY

The engine shall be warranted for a period of five (5) years or 100,000 miles, whichever occurs first.

Bidder Complies as Written: Yes: _____ No: _____

REMOTE THROTTLE CONTROL

A remote throttle control shall be provided with dual pressure sensors shall be provided for the electronic engine. It shall include a remote mountable control head.

Bidder Complies as Written: Yes: _____ No: _____

The remote throttle control shall regulate the pump pressure and monitor all essential engine parameters.

Bidder Complies as Written: Yes: _____ No: _____

LED readouts shall display RPM, PSI, pump discharge and intake pressure, engine oil pressure, engine temperature, transmission temperature, and battery voltage. An audible alarm shall also be part of the system.

Bidder Complies as Written: Yes: _____ No: _____

REMOTE THROTTLE HARNESS

An apparatus interface wiring harness for the engine shall be supplied with the chassis. The harness shall include a connector for connection to the chassis harness which shall terminate in the left frame rail

behind the cab for reconnection by the builder. The harness shall contain connectors for a pressure governor and a multiplexed gauge.

Bidder Complies as Written: Yes: _____ No: _____

Separate circuits shall be included for pump controls, "Pump Engaged" and "OK to Pump" indicator lights, open compartment ground, start signal, park brake ground, ignition signal, master power, customer ignition, air horn solenoid switch, high idle switch and high idle indication light. The harness shall be designed for a side mount pump panel.

Bidder Complies as Written: Yes: _____ No: _____

An apparatus interface wiring harness shall also be included which shall be wired to the cab harness interface connectors and shall incorporate circuits with relays to control pump functions. This harness shall control the inputs for the transmission lock up circuits, governor/hand throttle controls and dash display which shall incorporate "Pump Engaged" and "OK to Pump" indicator lights. The harness shall contain circuits for the builder to wire in a pump switch.

Bidder Complies as Written: Yes: _____ No: _____

ENGINE PROGRAMMING REMOTE THROTTLE

The engine ECM (Electronic Control Module) discreet wire remote throttle circuit shall be turned off for use with a based pump controller or when the discreet wire remote throttle controls are not required.

Bidder Complies as Written: Yes: _____ No: _____

ENGINE PROGRAMMING IDLE SPEED

The engine low idle speed will be programmed at 750 rpm.

Bidder Complies as Written: Yes: _____ No: _____

ENGINE FAN DRIVE

The engine cooling system fan shall incorporate a thermostatically controlled, Horton clutched type fan drive.

Bidder Complies as Written: Yes: _____ No: _____

When the clutched fan is disengaged it shall facilitate improved vehicle performance, cab heating in cold climates, and fuel economy. The fan clutch design shall be fail safe so that if the clutch drive fails the fan shall engage to prevent engine overheating due to the fan clutch failure.

Bidder Complies as Written: Yes: _____ No: _____

ENGINE COOLING SYSTEM

There shall be a heavy-duty aluminum cooling system designed to meet the demands of the emergency response industry. The cooling system shall have the capacity to keep the engine properly cooled under all conditions of road and pumping operations. The cooling system shall be designed and tested to meet or exceed the requirements specified by the engine and transmission manufacturer and all EPA requirements. The complete cooling system shall be mounted to isolate the entire system from vibration or stress. The individual cores of the cooling system shall be mounted in a manner to allow expansion and contraction at various rates without inducing stress into the adjoining cores.

Bidder Complies as Written: Yes: _____ No: _____

The cooling system shall be comprised of a charge air cooler to radiator serial flow package that provides the maximum cooling capacity for the specified engine as well as serviceability. The main components shall include a surge tank, a charge air cooler bolted to the front of the radiator, recirculation shields, a shroud, a fan, and required tubing.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The radiator shall be a down-flow design constructed with aluminum cores, plastic end tanks, and a steel frame. The radiator shall be equipped with a drain cock to drain the coolant for serviceability.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The cooling system shall include a one piece injected molded polymer blade fan with a fiberglass fan shroud.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The cooling system shall be equipped with a surge tank that is capable of removing entrained air from the system. The surge tank shall be equipped with a low coolant probe and sight glass to monitor the level of the coolant. The surge tank shall have a dual seal cap that meets the engine manufacturer's pressure requirements, and allows for expansion and recovery of coolant into a separate integral expansion chamber.

Bidder Complies as Written: **Yes:** _____ **No:** _____

All radiator tubes shall be formed from aluminized steel tubing. Recirculation shields shall be installed where required to prevent heated air from reentering the cooling package and affecting performance.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The charge air cooler shall be a cross-flow design constructed completely of aluminum with cast tanks. All charge air cooler tubes shall be formed from aluminized steel tubing and installed with silicone hump hoses and stainless steel "constant torque" style clamps meeting the engine manufacturer's requirements.

Bidder Complies as Written: **Yes:** _____ **No:** _____

ENGINE COOLING SYSTEM PROTECTION

The engine cooling system shall include a recirculation shield designed to act as a light duty skid plate below the radiator to provide additional protection for the engine cooling system from light impacts, stones, and road debris.

Bidder Complies as Written: **Yes:** _____ **No:** _____

ENGINE COOLANT

The cooling package shall include Extended Life Coolant (ELC). The use of ELC provides longer intervals between coolant changes over standard coolants providing improved performance. The coolant shall contain a 50/50 mix of ethylene glycol and de-ionized water to keep the coolant from freezing to a temperature of -34 degrees Fahrenheit.

Bidder Complies as Written: **Yes:** _____ **No:** _____

Proposals offering supplemental coolant additives (SCA) shall not be considered, as this is part of the extended life coolant makeup.

Bidder Complies as Written: **Yes:** _____ **No:** _____

ENGINE COOLANT FILTER

An engine coolant filter with a shut-off valve for the inlet and outlet shall be installed on the chassis. The location of the filter shall allow for easy maintenance.

Bidder Complies as Written: **Yes:** _____ **No:** _____

Proposals offering engines equipped with coolant filters shall be supplied with standard non-chemical type particulate filters.

Bidder Complies as Written: **Yes:** _____ **No:** _____

ELECTRONIC COOLANT LEVEL INDICATOR

The instrument panel shall feature a low engine coolant indicator light which shall be located in the center of the instrument panel. An audible tone alarm shall also be provided to warn of a low coolant incident.

Bidder Complies as Written: **Yes:** _____ **No:** _____

ENGINE PUMP HEAT EXCHANGER

A single bundle type coolant to water heat exchanger shall be installed between the engine and the radiator. The heat exchanger shall be designed to prohibit water from the pump from coming in contact with the engine coolant. This shall allow the use of water from the discharge side of the pump to assist in cooling the engine.

Bidder Complies as Written: **Yes:** _____ **No:** _____

COOLANT HOSES

The cooling systems coolant hoses shall be silicone heater hose and shall include silicone hoses for all radiator coolant plumbing including the surge tank hoses. The radiator coolant hoses shall be formed silicone with formed aluminized steel tubing. All radiator silicone coolant hose and tubing, heater hose, and surge tank plumbing shall be secured with stainless steel constant torque band clamps.

Bidder Complies as Written: **Yes:** _____ **No:** _____

ENGINE AIR INTAKE FILTER AND RESTRICTION W/REPLACEABLE ELEMENT

The engine air intake system shall include an ember separator air intake filter. This filter shall protect the downstream air filter from embers using a combination of unique flat and crimped metal screens constructed into a corrosion resistant steel frame. This multilayered screen shall be designed to trap embers or allow them to burn out before passing through the pack, while creating only minimal air flow restriction through the system. Periodic cleaning or replacement of the screen shall be all that is required after installation.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The engine shall also include an air intake filter which shall be bolted to the frame and located under the front of the cab. The system shall utilize a replaceable dry type filter which ensures dust and debris remains safely contained inside the housing during operation via leak-tight seals. The service cover shall be located on the bottom of the housing, eliminating the chance of contaminating the air intake system during air filter service.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The air flow distribution and dust loading shall be uniform throughout the high-performance filter element, which shall result in pressure differential for improved horsepower and fuel economy. The air intake ember separator shall be mounted within easy access. The air intake system shall include a restriction indicator light in the warning light cluster on the instrument panel, which shall activate when the air cleaner element requires replacement.

Bidder Complies as Written: **Yes:** _____ **No:** _____

AIR INTAKE PROTECTION

A light duty skid plate shall be supplied for the engine air intake system. The skid plate shall provide protection for the air intake system from light impacts, stones, and road debris.

Bidder Complies as Written: **Yes:** _____ **No:** _____

ENGINE EXHAUST SYSTEM

The exhaust system shall be mounted below the frame in the outboard position with the SCR canister in line rearward of the DPF. The exhaust system shall utilize a 90-degree bend in the exhaust tubing from the turbo into a side inlet DPF canister that allows the entire system to be pulled forward. The discharge shall terminate horizontally, perpendicular to the side of the body, on the right side of the vehicle ahead of the rear tires. Top of the exhaust pipe where it exits on the right side shall be mounted no closer than 2" from the bottom of the body, in front of the rear axle as close as possible, to facilitate the connection to a Nederman Station Exhaust system. A Nederman Exhaust anchor plate connection shall be installed on the vertical frame post between R1 and R2 compartments at a height of 24.5" from the center of the exhaust pipe to the center of the anchor plate.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The exhaust system shall meet current EPA standards.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The system shall utilize thick stainless steel exhaust tubing between the engine turbo and the DPF. Zero leak clamps seal all system joints between the turbo and DPF.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The DPF, the decomposition tube, and the SCR canister through the end of the tailpipe shall be connected with zero leak clamps.

Bidder Complies as Written: **Yes:** _____ **No:** _____

DIESEL EXHAUST FLUID TANK

The exhaust system shall include a molded cross linked polyethylene tank for Diesel Exhaust Fluid (DEF). The tank shall have a capacity of six (6) usable gallons.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The DEF tank shall be designed with capacity for expansion and protected from freezing.

Bidder Complies as Written: **Yes:** _____ **No:** _____

ENGINE EXHAUST ACCESSORIES

The temperature mitigation device shall lower the temperature of the exhaust by combining ambient air with the exhaust gasses at the exhaust outlet. The Exhaust System outlet shall conform to the Purchaser’s Nederman exhaust extraction system.

Bidder Complies as Written: Yes: _____ No: _____

ENGINE EXHAUST WRAP

The exhaust tubing between the engine turbo and the diesel particulate filter (DPF) shall be wrapped with a thermal cover in order to retain the necessary heat for DPF regeneration. The exhaust wrap shall also help protect surrounding components from radiant heat which can be transferred from the exhaust.

Bidder Complies as Written: Yes: _____ No: _____

TRANSMISSION

The drive train shall include an Allison model EVS 4000 torque converting, automatic transmission which shall include electronic controls. The transmission shall feature two (2) 10-bolt PTO pads located on the converter housing.

Bidder Complies as Written: Yes: _____ No: _____

The transmission shall include two (2) internal oil filters which shall offer Castrol TranSynd™ synthetic TES 295 transmission fluid which shall be utilized in the lubrication of the EVS transmission. An electronic oil level sensor shall be included with the readout located in the shift selector.

Bidder Complies as Written: Yes: _____ No: _____

The transmission gear ratios shall be:

- 1st 3.51:1
- 2nd 1.91:1
- 3rd 1.43:1
- 4th 1.00:1
- 5th 0.74:1
- Rev 4.80:1

Bidder Complies as Written: Yes: _____ No: _____

TRANSMISSION MODE PROGRAMMING

The transmission, upon start-up, will automatically select a four (4) speed operation. The fifth speed over drive shall be available with the activation of the mode button on the shifting pad.

Bidder Complies as Written: Yes: _____ No: _____

TRANSMISSION FEATURE PROGRAMMING

The Allison Gen V-E transmission EVS group package number 127 shall contain the 198 vocational package in consideration of the duty of this apparatus as a pumper. This package shall incorporate an automatic neutral with selector override. This feature commands the transmission to neutral when the park brake is applied, regardless of drive range requested on the shift selector. This requires re-selecting drive range to shift out of neutral for the override.

Bidder Complies as Written: Yes: _____ No: _____

This package shall be coupled with the use of a split shaft PTO and incorporate pumping circuits. These circuits shall be used allowing the vehicle to operate in the fourth range lockup while operating the pump mode due to the 1 to 1 ratio through the transmission, therefore the output speed of the engine is the input speed to the pump. The pump output can be easily calculated by using this input speed and the drive ratio of the pump itself to rate the gallons of water the pump can provide.

Bidder Complies as Written: **Yes:** _____ **No:** _____

A transmission interface connector shall be provided in the cab. This package shall contain the following input/output circuits to the transmission control module. The Gen V-E transmission shall include prognostic diagnostic capabilities. These capabilities shall include the monitoring of the fluid life, filter change indication, and transmission clutch maintenance.

<u>Function ID</u>	<u>Description</u>	<u>Wire assignment</u>
Inputs		
C	PTO Request	142
J	Fire Truck Pump Mode (4th Lockup)	122 / 123
Outputs		
C	Range Indicator	145 (4th)
G	PTO Enable Output	130
	Signal Return	103

Bidder Complies as Written: **Yes:** _____ **No:** _____

TRANSMISSION SHIFT SELECTOR

An Allison pressure sensitive range selector touch pad shall be provided and located to the right of the driver within clear view and easy reach. The shift selector shall have a graphical Vacuum Florescent Display (VFD) capable of displaying two lines of text. The shift selector shall provide mode indication and a prognostic indicator (wrench symbol) on the digital display. The prognostics monitor various operating parameters and shall alert you when a specific maintenance function is required.

Bidder Complies as Written: **Yes:** _____ **No:** _____

ELECTRONIC TRANSMISSION OIL LEVEL INDICATOR

The transmission fluid shall be monitored electronically and shall send a signal to activate a warning in the instrument panel when levels fall below normal.

Bidder Complies as Written: **Yes:** _____ **No:** _____

TRANSMISSION PRE-SELECT WITH AUXILIARY BRAKE

When the auxiliary brake is engaged, the transmission shall automatically engage to decrease the rate of speed assisting the secondary braking system and slowing the vehicle.

Bidder Complies as Written: **Yes:** _____ **No:** _____

TRANSMISSION COOLING SYSTEM

The transmission shall include a water to oil cooler system located in the cooling loop between the radiator and the engine. The transmission cooling system shall meet all transmission manufacturer requirements. The transmission cooling system shall feature continuous flow of engine bypass water to maintain uninterrupted transmission cooling.

Bidder Complies as Written: Yes: _____ No: _____

TRANSMISSION DRAIN PLUG

The transmission shall include an original equipment manufacturer installed oil drain plug.

Bidder Complies as Written: Yes: _____ No: _____

TRANSMISSION WARRANTY

The Allison EVS series transmission shall be warranted for a period of five (5) years with unlimited mileage. Parts and labor shall be included in the warranty.

Bidder Complies as Written: Yes: _____ No: _____

DRIVELINE

All drivelines shall be heavy duty metal tube and equipped with Spicer 1810 series universal joints. The shafts shall be dynamically balanced prior to installation to alleviate future vibration. In areas of the driveline where a slip shaft is required, the splined slip joint shall be coated with Glide Coat® or equal.

Bidder Complies as Written: Yes: _____ No: _____

FUEL FILTER/WATER SEPARATOR

The fuel system shall have a Fleetguard FS1003 fuel filter/water separator as a primary filter. The filter shall be removable from underneath with no obstruction. The fuel filter shall have a drain valve that drains unobstructed to the ground.

Bidder Complies as Written: Yes: _____ No: _____

A water in fuel sensor shall be provided and wired to an instrument panel lamp and audible alarm to indicate when water is present in the fuel/water separator.

Bidder Complies as Written: Yes: _____ No: _____

A secondary fuel filter shall be included as approved by the engine manufacturer.

Bidder Complies as Written: Yes: _____ No: _____

FUEL LINES

The fuel system supply and return lines installed from the fuel tank to the engine shall be black textile braided lines which are reinforced with braided high tensile steel wire. The fuel lines shall be connected with reusable steel fittings.

Bidder Complies as Written: Yes: _____ No: _____

FUEL SHUTOFF VALVE

There shall be two (2) fuel shutoff valves which shall be installed, one (1) in the fuel draw line at the primary fuel filter and one (1) in the fuel outlet line at the primary fuel filter to allow the fuel filters to be changed without loss of fuel to the fuel pump.

Bidder Complies as Written: Yes: _____ No: _____

A third fuel shutoff valve shall be installed in the fuel draw line, near the fuel tank to allow maintenance to be performed with minimal loss of fuel.

Bidder Complies as Written: Yes: _____ No: _____

ELECTRIC FUEL PRIMER

Integral to the engine assembly is an electric lift pump that serves the purpose of pre-filter fuel priming.

Bidder Complies as Written: Yes: _____ No: _____

FUEL COOLER

An aluminum cross flow air to fuel cooler shall be provided to lower fuel temperature allowing the vehicle to operate at higher ambient temperatures. The fuel cooler shall be located in protected position.

Bidder Complies as Written: Yes: _____ No: _____

FUEL TANK

The fuel tank shall have a minimum capacity of fifty (50) gallons. The baffled tank shall be made of 14 gauge aluminized steel. The exterior of the tank shall be painted with a black anti-corrosive exterior metal treatment finish. This results in a tank which offers the internal and external corrosion resistance.

Bidder Complies as Written: Yes: _____ No: _____

The tank shall have a vent port to facilitate venting to the top of the fill neck for rapid filling without "blow-back" and a roll over ball check vent for temperature related fuel expansion and draw.

Bidder Complies as Written: Yes: _____ No: _____

The tank is designed with dual draw tubes and sender flanges. The tank shall have 2.00 inch NPT fill port for left hand fill. A 0.50 inch NPT drain plug shall be centered in the bottom of the tank.

Bidder Complies as Written: Yes: _____ No: _____

The fuel tank shall be mounted below the frame, behind the rear axle. Two (2) three-piece strap hanger assemblies with "U" straps bolted midway on the fuel tank front and rear shall be utilized to allow the tank to be easily lowered and removed for service purposes. Rubber isolating pads shall be provided between the tank and the upper tank mounting brackets. Strap mounting studs through the rail, hidden behind the body shall not be acceptable. The fuel tank as mounted shall not interfere with the angle of departure.

Bidder Complies as Written: Yes: _____ No: _____

There shall be two (2) fuel gauge senders installed in the tank. One (1) shall be for the dash gauge and one (1) shall be provided for customer use. The fuel gauge shall be accurate.

Bidder Complies as Written: Yes: _____ No: _____

FUEL TANK FILL PORT

The fuel tank fill ports shall be offset with the left fill port located in the rearward position.

Bidder Complies as Written: Yes: _____ No: _____

A 1.50 inch diameter hole shall be provided in the left and right frame rails for vent hose routing provisions. The holes shall be located adjacent to the fuel tank and 5.13 inches up from the bottom of each rail.

Bidder Complies as Written: Yes: _____ No: _____

FUEL TANK MAGNETIC DRAIN PLUG

A 0.5 inch NPT magnetic drain plug shall be centered in the bottom of the fuel tank.

Bidder Complies as Written: Yes: _____ No: _____

FUEL TANK SERVICEABILITY PROVISIONS

The chassis fuel lines shall have additional length provided so the tank can be easily lowered and removed for service purposes. The additional 8.00 feet of length shall be located above the fuel tank and shall be coiled and secured. The fuel line fittings shall be pointed towards the right side (curbside) of the chassis.

Bidder Complies as Written: Yes: _____ No: _____

FRONT AXLE

The front axle shall be a Hendrickson SteerTek front axle. The axle shall include a conventional style hub with a standard knuckle. The weight capacity for the axle shall be rated to 21,500 pounds FAWR. The completed unit shall be designed as to have no more than 90% of the rated capacity on the front axle, with water, when delivered.

Bidder Complies as Written: Yes: _____ No: _____

FRONT AXLE WARRANTY

The front axle/independent suspension shall be warranted by the manufacturer two (2) years with unlimited miles under the general service application. Details of the warranty are provided on the PDF document attached to this option.

Bidder Complies as Written: Yes: _____ No: _____

FRONT WHEEL BEARING LUBRICATION

The front axle wheel bearings shall be lubricated with oil.

Bidder Complies as Written: Yes: _____ No: _____

FRONT SHOCK ABSORBERS

Two (2) inert, nitrogen gas filled shock absorbers shall be provided and installed as part of the front suspension system. The shocks shall be a monotubular design and fabricated using a special extrusion method, utilizing a single blank of steel without a welded seam, achieving an extremely tight peak-to-valley tolerance and maintains consistent wall thickness. The monotubular design shall provide superior strength while maximizing heat dissipation and shock life.

Bidder Complies as Written: Yes: _____ No: _____

The ride afforded through the use of a gas shock is more consistent and shall not deteriorate with heat, the same way a conventional oil filled hydraulic shock would.

Bidder Complies as Written: Yes: _____ No: _____

The front shocks shall include a digressive working piston assembly allowing independent tuning of the compression and rebound damping forces to provide optimum ride and comfort without compromise. The working piston design shall feature fewer parts than most conventional twin tube and “road sensing” shock designs and shall contribute to the durability and long life of the shock absorbers.

Bidder Complies as Written: Yes: _____ No: _____

Proposals offering the use of conventional twin tube or “road sensing” designed shocks shall not be considered.

Bidder Complies as Written: Yes: _____ No: _____

FRONT SUSPENSION

The front suspension shall be the Hendrickson SteerTek NXT rated at 21,500 pounds.

STEERING COLUMN/ WHEEL

The cab shall include a steering column which shall tilt and telescope. The steering wheel located at the center of the driver’s position. The steering wheel shall be covered with black polyurethane foam padding.

Bidder Complies as Written: Yes: _____ No: _____

The Smart Wheel design and programming shall be determined by the Purchaser during the pre-construction meeting. The steering column shall contain a horn button, self-canceling turn signal switch, four-way hazard switch and headlamp dimmer switch.

Bidder Complies as Written: Yes: _____ No: _____

POWER STEERING PUMP

The hydraulic power steering pump shall be a TRW PS or equivalent and shall be gear driven from the engine. The pump shall be a balanced, positive displacement, sliding vane type.

Bidder Complies as Written: Yes: _____ No: _____

ELECTRONIC POWER STEERING FLUID LEVEL INDICATOR

The power steering fluid shall be monitored electronically and shall send a signal to activate an audible alarm and visual warning in the instrument panel when fluid level falls below normal.

Bidder Complies as Written: Yes: _____ No: _____

FRONT AXLE CRAMP ANGLE

The builder shall provide the cramp angle.

Bidder Complies as Written: Yes: _____ No: _____

POWER STEERING GEAR

The power steering gear shall be a TRW model TAS 85 or equivalent with an assist cylinder.

Bidder Complies as Written: Yes: _____ No: _____

CHASSIS ALIGNMENT

The chassis frame rails shall be measured to insure the length is correct and cross checked to make sure they run parallel and are square to each other. The front and rear axles shall be laser aligned. The front tires and wheels shall be aligned and toe-in set on the front tires by the chassis manufacturer.

Bidder Complies as Written: Yes: _____ No: _____

REAR AXLE

The rear axle shall be a Meritor model RS-24-160 single drive axle. The axle shall include precision forged, single reduction differential gearing, and shall have a rated capacity of 24,000 pounds.

The axle shall be built of superior construction and quality components to provide the rugged dependability needed to stand up to the fire industry's demands. The axle shall include rectangular shaped, hot-formed housing with a standard wall thickness of 0.50 of an inch for extra strength and rigidity and a rigid differential case for high axle strength and reduced maintenance.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The axle shall have heavy-duty Hypoid gearing for longer life, greater strength and quieter operation. Industry-standard wheel ends for compatibility with both disc and drum brakes, and unitized oil seal technology to keep lubricant in and help prevent contaminant damage will be used.

Bidder Complies as Written: **Yes:** _____ **No:** _____

REAR AXLE WARRANTY

The rear axle shall be warranted by Meritor for two (2) years with unlimited miles under the general service application. Details of the Meritor warranty are provided on the PDF document attached to this option.

Bidder Complies as Written: **Yes:** _____ **No:** _____

REAR AXLE DIFFERENTIAL LUBRICATION

The rear axle differential shall be lubricated with synthetic oil.

Bidder Complies as Written: **Yes:** _____ **No:** _____

REAR WHEEL BEARING LUBRICATION

The rear axle wheel bearings shall be lubricated with synthetic oil.

Bidder Complies as Written: **Yes:** _____ **No:** _____

VEHICLE TOP SPEED

The top speed of the vehicle shall be approximately 68 MPH +/-2 MPH at governed engine RPM.

Bidder Complies as Written: **Yes:** _____ **No:** _____

REAR SUSPENSION

The single rear axle shall feature Hendrickson HTS mechanical suspension system.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The rear suspension capacity shall be rated from 21,000 to 31,500 pounds based on anticipated load and customer direction.

Bidder Complies as Written: **Yes:** _____ **No:** _____

FRONT TIRES

The front tires shall be Michelin 425/65R22.5 "L" tubeless radial XZY (3) regional tread.

OPTION: Alternate dimension of width appropriate to the weight applied to the front axle.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The front tire stamped load capacity shall be 22,800 pounds per axle with a speed rating of 65 miles per hour when properly inflated to 120 pounds per square inch.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The Michelin Tire Intermittent Service Rating load capacity shall be 24,400 pounds per axle with a speed rating of up to 75 miles per hour when properly inflated to 120 pounds per square inch. The Michelin Intermittent Service Rating limits the operation of the emergency vehicle to one (1) hour of loaded travel with a one (1) hour cool down prior to another loaded run.

Bidder Complies as Written: **Yes:** _____ **No:** _____

REAR TIRES

The rear tires shall be Michelin 11R-22.5 16PR "H" tubeless radial XDN2 all-weather tread designed for exceptional traction and mileage.

The rear tire stamped load capacity shall be 24,020 pounds per axle with a speed rating of 75 miles per hour when properly inflated to 120 pounds per square inch.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The Michelin Tire Intermittent Service Rating load capacity shall be 24,820 pounds per axle with a speed rating of 75 miles per hour when properly inflated to 120 pounds per square inch. The Michelin Intermittent Service Rating limits the operation of the emergency vehicle to one (1) hour of loaded travel with a one (1) hour cool down prior to another loaded run.

Bidder Complies as Written: **Yes:** _____ **No:** _____

REAR AXLE RATIO

The rear axle ratio shall be 4.89:1.

Bidder Complies as Written: **Yes:** _____ **No:** _____

TIRE PRESSURE EQUALIZATION SYSTEM

There shall be a voucher provided with the chassis for Crossfire dual tire equalization system provided on both sets of dual tires on the rear axle. The Crossfire pressure system shall equalize and monitor tire pressure through the valve which is mounted between the dual tires. This shall bolt easily to the drive axle end allowing air to flow freely from one tire to the other, maintaining equal tire pressure and load distribution.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The Crossfire dual tire equalization system shall be redeemed upon the vehicle manufacture's receipt of the voucher along with the vehicle in-service weight for each axle.

Bidder Complies as Written: **Yes:** _____ **No:** _____

TIRE PRESSURE INDICATOR

There shall be a voucher provided with the chassis for a pop up style tire pressure indicator at the front tire valve stem. The indicator shall provide visual indication of pressure in the specific tire.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The tire pressure indicators shall be redeemed upon the vehicle manufacturer's receipt of the voucher for installation by the customer.

Bidder Complies as Written: **Yes:** _____ **No:** _____

FRONT WHEELS

The front wheels shall be Alcoa hub piloted, 22.50 inch X 12.25 inch LvL One™ polished aluminum wheels. The hub piloted mounting system shall provide easy installation and shall include two-piece flange nuts. The wheels shall feature one-piece forged strength and a polished finish that lasts.

Bidder Complies as Written: Yes: _____ No: _____

REAR WHEELS

The outer rear wheels shall be Alcoa hub piloted, 22.50 inch X 8.25 inch LvL One™ aluminum wheels with a polished outer surface. The inner rear wheels shall be Alcoa hub piloted, 22.50 inch X 8.25 inch aluminum wheels with LvL One™ bright machine finish. The hub piloted mounting system shall provide easy installation and shall include two-piece flange nuts.

Bidder Complies as Written: Yes: _____ No: _____

WHEEL TRIM

The front wheels shall include stainless steel lug nut covers and stainless steel baby moons shipped loose with the chassis for installation by the builder. The baby moons shall have cutouts for oil seal viewing when applicable.

Bidder Complies as Written: Yes: _____ No: _____

The rear wheels shall include stainless steel lug nut covers and band mounted spring clip stainless steel high hats shipped loose with the chassis for installation by the builder.

Bidder Complies as Written: Yes: _____ No: _____

The lug nut covers, baby moons, and high hats shall be RealWheels® brand constructed of 304L grade, non-corrosive stainless steel with a mirror finish. Each wheel trim component shall meet D.O.T. certification.

Bidder Complies as Written: Yes: _____ No: _____

AUTOMATIC TIRE CHAINS

On Spot brand automatic tire chains shall be installed on the rear axle. Chains shall be activated by a switch on the lower dash or dash switch cluster as specified by the purchaser during the preconstruction meeting.

Bidder Complies as Written: Yes: _____ No: _____

BRAKE SYSTEM

A rapid build-up air brake system shall be provided. The air brakes shall include a two (2) air tank with a reservoir system with a minimum capacity of 4100 cu/in. A floor mounted treadle valve shall be mounted inside the cab for graduated control of applying and releasing the brakes. An inversion valve shall be installed to provide a service brake application in the unlikely event of primary air supply loss. All air reservoirs provided on the chassis shall be labeled for identification.

Bidder Complies as Written: Yes: _____ No: _____

The rear axle spring brakes shall automatically apply in any situation when the air pressure falls below 25 PSI and shall include a mechanical means for releasing the spring brakes when necessary. An audible alarm shall designate when the system air pressure is below 60 PSI.

Bidder Complies as Written: Yes: _____ No: _____

A four (4) sensor, four (4) modulator anti-lock braking system (ABS) shall be installed on the front and rear axles in order to prevent the brakes from locking or skidding while braking during hard stops or on icy or wet surfaces. This in turn shall allow the driver to maintain steering control under heavy braking and in most instances, shorten the braking distance. The electronic monitoring system shall incorporate diagonal circuitry which shall monitor wheel speed during braking through a sensor and tone ring on each wheel. A dash mounted ABS lamp shall be provided to notify the driver of a system malfunction. The ABS system shall automatically disengage the auxiliary braking system device when required. The speedometer screen shall be capable of reporting all active defaults using PID/SID and FMI standards.

Bidder Complies as Written: **Yes:** _____ **No:** _____

Additional safety shall be accommodated through Automatic Traction Control (ATC) which shall be installed on the single rear axle. The ATC system shall apply the ABS when the drive wheels loose traction. The system shall scale the electronic engine throttle back to prevent wheel spin while accelerating on ice or wet surfaces.

Bidder Complies as Written: **Yes:** _____ **No:** _____

A momentary rocker style switch shall be provided and properly labeled “mud/snow”. When the switch is pressed once, the system shall allow a momentary wheel slip to obtain traction under extreme mud and snow conditions. During this condition the ATC light and the light on the rocker switch shall blink continuously notifying the driver of activation. Pressing the switch again shall deactivate the mud/snow feature. ATC shall have a lock out switch to deactivate the system.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The Electronic Stability Control (ESC) unit is a functional extension of the electronic braking system. It is able to detect any skidding of the vehicle about its vertical axis as well as any rollover tendency. The control unit comprises an angular-speed sensor that measures the vehicle’s motion about the vertical axis, caused, for instance, by cornering or by skidding on a slippery road surface. An acceleration sensor measures the vehicle’s lateral acceleration. The Controller Area Network (CAN) bus provides information on the steering angle. On the basis of lateral acceleration and steering angle, an integrated microcontroller calculates a theoretical angular speed for the stable vehicle condition.

Bidder Complies as Written: **Yes:** _____ **No:** _____

FRONT BRAKES

The front brakes shall be Meritor 16.50 inch x 6.00 inch S-cam drum type.

Bidder Complies as Written: **Yes:** _____ **No:** _____

REAR BRAKES

The rear brakes shall be Meritor 16.50 inch X 7.00 inch S-cam drum type.

Bidder Complies as Written: **Yes:** _____ **No:** _____

PARK BRAKE

Upon application of the push-pull valve in the cab, the rear brakes will engage via mechanical spring force. This is accomplished by dual chamber rear brakes, satisfying the FMVSS parking brake requirements.

Bidder Complies as Written: **Yes:** _____ **No:** _____

In addition to the mechanical rear brake engagement, the front service brakes will also engage via air pressure, providing additional braking capability.

Bidder Complies as Written: **Yes:** _____ **No:** _____

PARK BRAKE CONTROL

A Meritor-Wabco manual hand control push-pull style valve shall operate the parking brake. The parking brake actuation valve shall be mounted to the left side of the engine tunnel integrated into the transmission shift pod console within easy access of the driver.

Bidder Complies as Written: **Yes:** _____ **No:** _____

FRONT BRAKE SLACK ADJUSTERS

The front brakes shall include Meritor automatic slack adjusters installed on the chassis which features a simple, durable design offering reduced weight. The automatic slack adjusters shall feature a manual adjusting nut which cannot inadvertently be backed off and threaded grease fittings for easy serviceability.

Bidder Complies as Written: **Yes:** _____ **No:** _____

REAR BRAKE SLACK ADJUSTERS

The rear brakes shall include Meritor automatic slack adjusters installed on the axle which features a simple, durable design offering reduced weight. The automatic slack adjusters shall feature a manual adjusting nut which cannot inadvertently be backed off and threaded grease fittings for easy serviceability.

Bidder Complies as Written: **Yes:** _____ **No:** _____

AIR DRYER

The brake system shall include a Wabco System Saver 1200 air dryer with an integral heater with a Metri-Pack sealed connector. The air dryer incorporates an internal turbo cutoff valve that closes the path between the air compressor and air dryer purge valve during the compressor "unload" cycle. The turbo cutoff valve allows purging of moisture and contaminants without the loss of turbo boost pressure. The air dryer shall be mounted behind the battery box on the left hand side.

Bidder Complies as Written: **Yes:** _____ **No:** _____

FRONT BRAKE CHAMBERS

The front brakes shall be provided with MGM type 30 brake chambers or equal per customer direction.

Bidder Complies as Written: **Yes:** _____ **No:** _____

REAR BRAKE CHAMBERS

The rear axle shall include MGM 30/36 brake chambers shall convert the energy of compressed air into mechanical force and motion. This shall actuate the brake camshaft, which in turn shall operate the foundational brake mechanism forcing the brake shoes against the brake drum

Bidder Complies as Written: **Yes:** _____ **No:** _____

AIR COMPRESSOR

The air compressor provided for the engine shall be a Wabco® SS318 single cylinder pass-through drive type compressor which shall be capable of producing 18.7 CFM at 1200 engine RPMs. The air

compressor shall feature a higher delivery efficiency translating to more air delivery per horsepower absorbed.

Bidder Complies as Written: Yes: _____ No: _____

The compressor shall include an aluminum cylinder head which shall improve cooling, reduce weight and decrease carbon formation. Superior piston and bore finishing technology shall reduce oil consumption and significantly increasing the system component life.

Bidder Complies as Written: Yes: _____ No: _____

AIR GOVERNOR

An air governor shall be provided to control the cut-in and cut-out pressures of the engine mounted air compressor. The governor shall be calibrated to meet FMVSS requirements. The air governor shall be located on the air dryer bracket on the left frame rail behind the battery box.

Bidder Complies as Written: Yes: _____ No: _____

MOISTURE EJECTORS

Manual ¼ turn petcock valves shall be installed on all reservoirs of the air supply system.

Bidder Complies as Written: Yes: _____ No: _____

AIR SUPPLY LINES

The air system on the chassis shall be plumbed with color coded reinforced nylon tubing air lines. The primary (rear) brake line shall be green, the secondary (front) brake line red, the parking brake line orange and the auxiliary (outlet) will be blue.

Bidder Complies as Written: Yes: _____ No: _____

Brass compression type fittings shall be used on the nylon tubing. All fitting shall be solid fixed brass, No swivel type fittings will be accepted. All drop hoses shall include fiber reinforced neoprene covered hoses.

Bidder Complies as Written: Yes: _____ No: _____

KUSSMAUL AIR AUTO EJECT

A Kussmaul air auto eject shall be installed on the lower front corner of the cab, just forward of the front door. The airline shall feed air directly into the wet tank.

Bidder Complies as Written: Yes: _____ No: _____

FRAME

As part of the bid manufacturer will provide construction details of the frame materials including resistive bending moment, section modulus and yield strength. The proposal will include whether the manufacturer will utilize a frame liner. The chassis frame shall be built with two steel channels bolted to the required number of cross members as designed to carry the specified load. Bidder shall provide anticipated vehicle weight, axle weights and payload.

Any proposals not including additional reinforcement for each cross member shall not be considered.

Bidder Complies as Written: Yes: _____ No: _____

The frame and cross members shall carry a lifetime warranty to the original purchaser. A copy of the frame warranty shall be made available upon request.

Bidder Complies as Written: Yes: _____ No: _____

Proposals offering warranties for frames not including cross members shall not be considered.

Bidder Complies as Written: Yes: _____ No: _____

FRAME WARRANTY

The frame and cross members shall carry a limited lifetime warranty to the original purchaser. The warranty period shall commence on the date the vehicle is delivered to the first end user.

Bidder Complies as Written: Yes: _____ No: _____

FRAME PAINT

The frame shall be powder coated white prior to any attachment of components.

Bidder Complies as Written: Yes: _____ No: _____

All powder coatings, primers and paint shall be compatible with all metals, pretreatments and primers used. The cross hatch adhesion test per ASTM D3359 shall not have a fail of more than ten (10) squares. The pencil hardness test per ASTM D3363 shall have a final post-curved pencil hardness of H-2H. The direct impact resistance test per ASTM D2794 shall have an impact resistance of 120.00 inches per pound at 2 mils.

Bidder Complies as Written: Yes: _____ No: _____

Any proposals offering painted frame with variations from the above process shall not be accepted. The film thickness of vendor supplied parts shall also be sufficient to meet the performance standards as stated above.

Bidder Complies as Written: Yes: _____ No: _____

FRONT BUMPER HEAVY DUTY EXTENSION LENGTH

The Severe Duty/ Heavy Duty front bumper shall be extended approximately 12.00 inches ahead of the cab, painted to match the body color and wrapped with matching chevron reflective striping.

Bidder Complies as Written: Yes: _____ No: _____

FRONT BUMPER EXTENSION FRAME WIDTH

The front bumper extension frame shall feature an overall width of 48.25 inches.

Bidder Complies as Written: Yes: _____ No: _____

FRONT BUMPER APRON

The 12.00 inch extended front bumper shall include an apron constructed of heavy duty embossed aluminum tread plate. The apron shall be installed between the bumper and the front face of the cab affixed using stainless steel bolts attaching the apron to the top bumper flange.

Bidder Complies as Written: Yes: _____ No: _____

ELECTRIC -MECHANICAL SIREN

A Federal Signal model EQ2B solid state electronic siren with attached noise-canceling microphone shall be installed. The operating modes shall include Q Siren Wail, Q-Yelp, Q-Brake PA/Radio re-broadcast and digitally recorded air horn. The siren shall be operated from a flush mounted control head/key pad

centrally located on the driver's side of the center console, reachable from both front seated positions, and a foot switch located on the driver's side floor towards the hinge seam of the door in a position away from the natural foot placement of the driver. Power to the EQ2B siren shall be controlled by the Master Warning Lights Switch in order to prevent the accidental activation of the siren outside of the emergency mode operations.

Bidder Complies as Written: Yes: _____ No: _____

ELECTRIC -MECHANICAL SIREN SPEAKER

The unit shall include a single high power 200 watt 122 dBA speaker system to achieve a sound output level that meets Class "A" requirements with square stainless steel "EF" style grill.

Bidder Complies as Written: Yes: _____ No: _____

ELECTRIC -MECHANICAL SIREN SPEAKER LOCATION

The speaker shall be recess mounted in the center position of the front bumper face.

Bidder Complies as Written: Yes: _____ No: _____

AIR HORNS

The chassis shall include two (2) Grover brand Stutter Tone air horns which shall measure 21.00 inches long with a 6.00 inch round flare. The air horns shall be trumpet style with a chrome finish.

Bidder Complies as Written: Yes: _____ No: _____

AIR HORN ACTIVATION

The air horn activation shall be accomplished by the center steering wheel horn button for the driver and a push button type rubber momentary switch located on the officers side control panel. An air horn activation circuit shall be provided to the chassis harness pump panel harness connector for a third activation weatherproof push button on the pump panel.

Bidder Complies as Written: Yes: _____ No: _____

AIR HORN LOCATION

The air horns shall be recess mounted in the front bumper face on the outboard right and left corners of the bumper.

Bidder Complies as Written: Yes: _____ No: _____

AIR HORN RESERVOIR

Option: One (1) air reservoir, with a 1200 cubic inch capacity, shall be installed on the chassis to act as a supply tank for operating air horns. The reservoir shall be isolated with a 90 PSI pressure protection valve on the reservoir supply side to prevent depletion of the air to the air brake system.

Bidder Complies as Written: Yes: _____ No: _____

ELECTRONIC SIREN

A Whelen 295SLSA1 Series electric siren with attached noise-canceling microphone shall be installed with a Public Address (PA) function. The siren shall be operated from a flush mounted control head/key pad centrally located on the driver's side of the center console, reachable from both front seated positions. The siren shall broadcast over two (2) 100 watt speakers.

Bidder Complies as Written: Yes: _____ No: _____

ELECTRONIC SIREN SPEAKER

The bumper shall include two (2) Cast Products Inc. model SA4301, 100 watt speakers which shall be recess mounted within the bumper fascia. The speaker shall measure 6.20 inches tall X 7.36 inches wide X 3.06 inches deep. The speaker shall include a flat mounting flange which shall be polished aluminum.

Bidder Complies as Written: Yes: _____ No: _____

ELECTRONIC SIREN SPEAKER LOCATION

The electronic siren speakers shall be located on the front bumper face to the outboard side of the front tow eyes connections and inboard of the airhorns .

Bidder Complies as Written: Yes: _____ No: _____

FRONT BUMPER TOW EYES

The bumper shall include two (2) chrome plated tow eyes shall be installed within the front bumper. The eyes shall be fabricated from 0.75 inch thick #1020 ASTM-A36 hot rolled steel. The inside diameter of the eye shall be 2.00 inches and include a chamfered edge. Tow eyes shall have a NFPA rated capacity for rope rescue. The location of rated tow eyes to be specified by the purchaser.

Bidder Complies as Written: Yes: _____ No: _____

CAB TILT SYSTEM

The cab tilt system shall provide clear access to the under cab components. A discription of the system shall be provided.

Bidder Complies as Written: Yes: _____ No: _____

CAB TILT AUXILIARY PUMP

A manual cab tilt pump module shall be attached to the cab tilt pump housing.

Bidder Complies as Written: Yes: _____ No: _____

CAB TILT LIMIT SWITCH

A cab tilt limit switch shall be installed. The switch will effectively limit the travel of the cab when being tilted. The limit adjustment of the switch shall be preset by the chassis manufacturer to prevent damage to the cab or any bumper mounted option mounted in the cab tilt arc. Further adjustment to the limit by the OEM shall be available to accommodate additional equipment.

Bidder Complies as Written: Yes: _____ No: _____

The cab tilt control cable shall include a receptacle which shall be temporarily located on the right hand chassis rail rear of the cab to provide a place to plug in the cab tilt remote control pendant. The tilt pump shall include 8.00 feet of cable with a six (6) pin Deutsch receptacle with a cap.

Bidder Complies as Written: Yes: _____ No: _____

The remote control pendant shall include 20.00 feet of cable with a mating Deutsch connector. The remote control pendant shall be shipped loose with the chassis.

Bidder Complies as Written: Yes: _____ No: _____

CAB WINDSHIELD

The cab windshield shall have a one (1) or two (2) piece wraparound design for maximum visibility. The windshield panel(s) shall not be of a proprietary design and can be easily sourced and generally available.

Bidder Complies as Written: Yes: _____ No: _____

The glass utilized for the windshield shall include standard automotive tint. The windshield shall be fully interchangeable thereby minimizing stocking and replacement costs.

Bidder Complies as Written: Yes: _____ No: _____

Each windshield shall be installed using black self-locking window rubber.

Bidder Complies as Written: Yes: _____ No: _____

GLASS FRONT DOOR

These windows shall have the capability to roll down completely into the door housing. This shall be accomplished using electric actuation. The left and right front door windows shall be controlled using a switch on each respective side inner door panel. The driver's door shall include a switch for each powered door window in the cab.

Bidder Complies as Written: Yes: _____ No: _____

GLASS TINT FRONT DOOR

The windows located in the left and right front doors shall have a standard green automotive tint which shall allow seventy-five percent (75%) light transmittance.

Bidder Complies as Written: Yes: _____ No: _____

GLASS REAR DOOR RH

The window shall be a powered type and shall be controlled by a switch on the inner door panel and on the driver's control panel.

Bidder Complies as Written: Yes: _____ No: _____

GLASS TINT REAR DOOR RIGHT HAND

The window located in the right hand side rear window shall include a dark gray automotive tint which shall allow forty-five percent (45%) light transmittance. The dark tint shall aid in cab cooling and help protect passengers from radiant solar energy.

Bidder Complies as Written: Yes: _____ No: _____

GLASS REAR DOOR LH

The window shall be a powered type and shall be controlled by a switch on the inner door panel and on the driver's control panel.

Bidder Complies as Written: Yes: _____ No: _____

GLASS TINT REAR DOOR LEFT HAND

The window located in the left hand side rear door shall include a dark gray automotive tint which shall allow forty-five percent (45%) light transmittance. The dark tint shall aid in cab cooling and help protect passengers from radiant solar energy.

Bidder Complies as Written: Yes: _____ No: _____

CLIMATE CONTROL

The cab shall be equipped with a ceiling mounted combination defrost / heating and air-conditioning system mounted above the engine tunnel in a central location. The climate control output performance specifications shall be provided.

Bidder Complies as Written: **Yes:** _____ **No:** _____

All defrost/heating systems shall be plumbed with two (2) shut-off valves easily accessible.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The air conditioner lines shall be a mixture of custom bent zinc coated steel fittings and Aero-quip GH 134 flexible hose with Aero-Quip EZ-Clip fittings.

Bidder Complies as Written: **Yes:** _____ **No:** _____

CLIMATE CONTROL DRAIN

The climate control system shall include a gravity drain for water management. The gravity drain shall remove condensation from the air conditioning system without additional mechanical assistance.

Bidder Complies as Written: **Yes:** _____ **No:** _____

CLIMATE CONTROL ACTIVATION

The heating, defrosting and air conditioning controls shall be located on the dashboard area within reach of the driver.

Bidder Complies as Written: **Yes:** _____ **No:** _____

A/C CONDENSER LOCATION

A roof mounted A/C condenser shall be installed centered on the cab forward of the raised roof against the slope rise.

Bidder Complies as Written: **Yes:** _____ **No:** _____

A/C COMPRESSOR

The air-conditioning compressor shall be a belt driven, engine mounted, open type compressor that shall be capable of producing a minimum of 32,000 BTU at 1500 engine RPMs. The compressor shall utilize R-134A refrigerant and PAG oil.

Bidder Complies as Written: **Yes:** _____ **No:** _____

UNDER CAB INSULATION

The underside of the cab tunnel surrounding the engine shall be lined with multi-layer insulation, engineered for application inside diesel engine compartments.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The insulation shall act as a noise barrier, absorbing noise thus keeping the decibel level in the cab well within NFPA recommendations. As an additional benefit, the insulation shall assist in sustaining the desired temperature within the cab interior.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The insulation shall meet or exceed FMVSS 302 flammability test.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The insulation shall be cut precisely to fit each section and sealed for additional heat and sound deflection. The insulation shall be held in place by 3 mils of acrylic pressure sensitive adhesive and aluminum pins with hard hat, hold in place fastening heads.

Bidder Complies as Written: Yes: _____ No: _____

INTERIOR TRIM FLOOR

The floor of the cab shall be covered with a multi-layer mat consisting of 0.25 inch thick sound absorbing closed cell foam with a 0.06 inch thick non-slip vinyl surface with a pebble grain finish. The covering shall be held in place by a pressure sensitive adhesive and aluminum trim molding. All exposed seams shall be sealed with silicone caulk matching the color of the floor mat to reduce the chance of moisture and debris retention.

Bidder Complies as Written: Yes: _____ No: _____

INTERIOR TRIM VINYL

The cab interior shall include trim on the front ceiling, rear crew ceiling, and the cab walls. It shall be easily removable to assist in maintenance. The trim shall be constructed of insulated vinyl over a hard board backing.

Bidder Complies as Written: Yes: _____ No: _____

REAR WALL INTERIOR TRIM

The rear wall of the cab shall be trimmed with vinyl.

Bidder Complies as Written: Yes: _____ No: _____

POWER PORT DASH MOUNT

The cab shall include four (4) 12 volt cigarette lighter type receptacles in the cab dash to provide a power source for 12 volt electrical equipment. The cab shall also include two (2) universal serial bus (USB) charging receptacles in the cab dash and two (2) located at the rear of the engine cowling (to be located at mid-point inspection), to provide a power source for USB chargeable electrical equipment. Each USB port shall be capable of a 5 Volt-500 milliampere output. The receptacles shall be wired to be live with the battery master switch.

Bidder Complies as Written: Yes: _____ No: _____

UNDER CAB ACCESS DOOR

The cab shall include an aluminum access door in the left crew step riser painted to match the cab interior paint with a push and turn latch. The under cab access door shall provide access to the diesel exhaust fluid fill.

OPTION: Or defined by the builder to meet the intent of this section.

Bidder Complies as Written: Yes: _____ No: _____

INTERIOR DOOR TRIM

The interior trim on the doors of the cab shall consist of an aluminum panel constructed of Marine Grade aluminum plate. The door panels shall include a Speedliner type coating.

Bidder Complies as Written: Yes: _____ No: _____

DOOR TRIM KICKPLATE

The inner door panels shall include an aluminum tread kick plate which shall be fastened to the lower portion of the door panels.

Bidder Complies as Written: Yes: _____ No: _____

DOOR TRIM CUSTOMER NAMEPLATE

The interior door trim on the front doors shall include a customer nameplate which states the vehicle was custom built for their Department.

Bidder Complies as Written: Yes: _____ No: _____

CAB DOOR TRIM REFLECTIVE

The interior of each door shall include high visibility reflective tape. A white reflective tape shall be provided vertically along the outer rear edge of the door, on the latch side of the door frame, to reflect light from oncoming traffic when the door is partially cracked open. The lowest portion of each door skin shall include a reflective tape chevron with red and yellow stripes. The chevron tape shall measure 6.00 inches in height.

Bidder Complies as Written: Yes: _____ No: _____

INTERIOR GRAB HANDLE "A" PILLAR

There shall be two (2) rubber covered grab handles installed inside the cab, one on each "A" post at the left and right door openings. The handles shall assist personnel in entering and exiting the cab. The handles shall be placed just below the side curtain air bac.

Bidder Complies as Written: Yes: _____ No: _____

INTERIOR GRAB HANDLE FRONT DOOR

The right hand front door shall also include one (1) 9.00 inch vertical grab handle which shall be located forward of the paddle latch at the upper most part of the door. The handle shall feature a textured, black powder coated finish and shall be used to assist entering and exiting the cab.

Bidder Complies as Written: Yes: _____ No: _____

INTERIOR GRAB HANDLE REAR DOOR

A black powder coated cast aluminum assist handle shall be provided on the inside of each rear crew door. A 30.00 inch long handle shall extend horizontally the width of the window just below the window sill. The handle shall assist personnel in exiting and entering the cab. A second 24" grab handle shall be installed diagonally just under the door latch handle, not to impede opening the door (latch handle), with the forward connection point approximately 8" higher than the rear connection point, exact location shall be specified by the purchaser prior to install at the mid-point inspection.

Bidder Complies as Written: Yes: _____ No: _____

INTERIOR TRIM VINYL COLOR

The cab interior vinyl trim surfaces shall be coordinated to match seat color.

Bidder Complies as Written: Yes: _____ No: _____

INTERIOR TRIM SUNVISOR

The header shall include two (2) sun visors, one each side forward of the driver and officer seating positions above the windshield.

Bidder Complies as Written: Yes: _____ No: _____

INTERIOR FLOOR MAT COLOR

The cab interior floor mat shall be black in color.

Bidder Complies as Written: Yes: _____ No: _____

DASH PANEL GROUP

The main center dash area shall have access panels that will allow easy access to any component that may need maintenance, replacement or inspection and shall include three (3) removable panels located one (1) to the right of the driver position, one (1) in the center of the dash and one (1) to the left of the officer position. The center panel shall be within comfortable reach of both the driver and officer.

Bidder Complies as Written: Yes: _____ No: _____

PANEL SWITCHES

The dash area shall have switch panels laid out as agreed to by the manufacturer and department at the pre-construction meeting. A dash lights dimmer switch shall be located on the dash console.

Bidder Complies as Written: Yes: _____ No: _____

EXTERIOR TEMPERATURE SENSOR

An external temperature sensor shall be installed on the outside of the cab that will read the outside temperature, in fahrenheit, without distortion from radiant sunlight heat or engine/apparatus heat. A digital display shall be located on the dash center console or integrated into the multiplex display.

Bidder Complies as Written: Yes: _____ No: _____

SEAT BELT WARNING

A seat belt warning system, integrated with the Vehicle Data Recorder system, shall be installed for each seat within the cab. The system shall provide a visual warning indicator in the vehicle information display and control screen(s), an indicator light in the instrument panel, and an audible alarm.

Bidder Complies as Written: Yes: _____ No: _____

The warning system shall activate when any seat is occupied with a minimum of 60 pounds, the corresponding seat belt remains unfastened, and the park brake is released. The warning system shall also activate when any seat is occupied, the corresponding seat belt was fastened in an incorrect sequence, and the park brake is released. Once activated, the visual indicators and audible alarm shall remain active until all occupied seats have the seat belts fastened.

Bidder Complies as Written: Yes: _____ No: _____

SEAT BELT ORIENTATION

The seat belts shall follow the standard orientation which extends from the outboard shoulder extending to the inboard hip.

Bidder Complies as Written: Yes: _____ No: _____

SEAT MATERIAL

The seats shall include a covering of high strength, wear resistant fabric made of Durawear Plus 1800 or equivalent as agreed upon during pre-construction.

Bidder Complies as Written: **Yes:** _____ **No:** _____

SEAT COLOR

All seats supplied with the chassis shall be black in color, as designated by the purchaser. All seats shall include red seat belts.

Bidder Complies as Written: **Yes:** _____ **No:** _____

SEAT DESIGN AND CERTIFICATION CRITERIA

The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a three-point shoulder harness with the lap belt, automatic retractor and buckle as an integral part of the seat assembly.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The vertical dimension from the seat to the ceiling for each belted seating position shall be provided with the seat height adjusted to the lowest position of travel.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The seat shall have successfully completed the static load tests set forth by FMVSS 207, 209, and 210 in effect at the time of manufacture. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The model of seat installed in the cab model, as specified, shall have successfully completed the dynamic sled testing using FMVSS 208 as a guide with the following accommodations. In order to reflect the larger size outfitted firefighters, the test dummy used shall be a 95th percentile hybrid III male weighing 225 pounds rather than the 50th percentile male dummy weighing 165 pounds as referenced in FMVSS 208.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The materials used in construction of each seat shall also have successfully completed testing with regard to the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which dictates the allowable burning rate of materials in the occupant compartments of motor vehicles.

Bidder Complies as Written: **Yes:** _____ **No:** _____

4-FRONT AIRBAGS AND ROLLTEK

4-FRONT AIRBAGS

The Apparatus shall be equipped with a safety system designed to protect occupants in the event of a rollover or frontal impact and shall include IMMI’s RollTek and 4-Front.

The 4-Front system shall provide protection during a frontal or oblique impact event. The system shall activate when the vehicle decelerates at a predetermined G force known to cause injury to the occupants. The frontal sensor that will make this determination has been calibrated through extensive testing to optimize the timing for firing the 4-Front system.

The 4-Front system shall deploy the following components in the event of a frontal or oblique impact event:

- Driver side front air bag
- Officer side knee air bag
- Seat Belt Buckle pre-tensioners

Bidder Complies as Written: **Yes:** _____ **No:** _____

ROLLTEK

The Apparatus shall be equipped with the IMMI RollTek system which will provide protection during a slow or fast 90 degree rollover. The system shall analyze the vehicle's angle and rate of roll to determine the exact time for optimal protection.

This system shall include the following:

- Driver and Officer Inflatable Tubular Structure (ITS)
- Crew seats shall be equipped with an (SRA) Side Rollover Airbag on all outboard seating positions which are located within 6" of the outer wall.
- All seat belts shall also have a buckle pre-tensioner to tighten the belts down to maximize protection of the occupant (no exception)

The driver side air bag shall be mounted inside the steering wheel and shall be designed to protect the head and upper torso of the Driver, when used in combination with the 3-point seat belt, in the event of a frontal or oblique impact. The officer side knee bolster air bag shall be mounted in the panel below the officer dash and will be designed to protect the legs of the Officer, when used in combination with the 3-point seat belt, in the event of a frontal or oblique impact.

In the event of a frontal or oblique impact, the system shall deploy the front driver and officer air bags, and activate the seat belt pre-tensioners on suspension seats to restrain the seat in the lowest travel position. Seat belts will firmly hold both occupants in place.

The cab and chassis design shall have been subjected to a 21 MPH crash impact during frontal and oblique impact testing. Testing shall include all major chassis and cab components such as mounting straps for fuel and air tanks, suspension mounts, front suspension components, rear suspension components, frame rail cross members, engine and transmission and their mounts, frame extensions and body mounts. The testing shall provide configuration specific information used to optimize the timing for firing the air bags.

Bidder Complies as Written: **Yes:** _____ **No:** _____

ELECTRIC DRIVER SEAT-RollTek

The driver's seat shall be a Valor ABTS LH I-Back bucket seat. The seat shall have a contoured and padded seat cushion with lumbar support. The seat shall have a six-inch fore and aft adjustment, a 2 inch height adjustment, front of seat tilt, rear of seat tilt and a reclining seat back. All seat movements shall be electrically controlled from a control panel on the forward lower edge of the seat

The seat shall be equipped with a red integrated 3-point shoulder harness with lap belt and DUAL automatic retractors and Ready Reach built into the seat assembly.

An integrated belt pretension system {will/shall} be included. When activated the system shall pretension the seat belt.

Bidder Complies as Written: **Yes:** _____ **No:** _____

SEAT MATERIAL

The seats shall include a military grade covering of high strength, wear resistant fabric made of durable ballistic polyester.

Bidder Complies as Written: **Yes:** _____ **No:** _____

OFFICER SEAT-RollTek

The officer's seat shall be a Valor fixed base ABTS RH seat. The seat shall have a contoured and padded seat cushion. The seat shall include an SCBA storage area with integrated headrest and magnetic SCBA strap holders which secure the SCBA straps. The seat shall be installed 3.00 inches away from the outer wall in order to accommodate the storage of the SCBA pass device. The seat will be equipped with a Dynamic SCBA back frame which adjusts rearward to each individual occupant in order to properly seat them against the bolster and headrest area. The seat shall be equipped with a red integrated 3-point shoulder harness with lap belt and DUAL automatic retractors and Ready Reach built into the seat assembly.

An integrated belt pretension system shall be included. When activated the system shall pretension the seat belt. The Side Air Curtain shall be mounted inside the outer bolster of the seat back. The air curtain shall be covered by a panel when in the stored position.

Bidder Complies as Written: **Yes:** _____ **No:** _____

SEAT BELT ORIENTATION CREW

The crew position seat belts shall follow the standard orientation which extends from the outboard shoulder extending to the inboard hip.

Bidder Complies as Written: **Yes:** _____ **No:** _____

SEAT CREW AREA SEATING

The crew area shall include two (2) forward facing center crew seats that incorporate SCBA packs, and two (2) forward facing outboard folding jump seats.

Bidder Complies as Written: **Yes:** _____ **No:** _____

SEAT CREW FORWARD FACING CENTER

The crew area shall include (2) two forward facing center position seats which shall be a H.O. Bostrom Tanker 500CT ABTS Flip-Up SLS.

Bidder Complies as Written: Yes: _____ No: _____

SEAT BACK FORWARD FACING CENTER

The forward facing center seat shall feature a SecureALL self-contained breathing apparatus (SCBA) locking system which shall be one bracket model and store most U.S. and International SCBA brands and sizes while in transit or for storage within the seat back. The bracket shall be easily adjustable for all SCBA brands and cylinder diameters. All adjustment points shall utilize similar hardware and adjustments shall be made with one tool.

Bidder Complies as Written: Yes: _____ No: _____

The bracket shall be adjustable to compensate for different cylinder lengths without the use of tools. The adjustment shall be made by raising a lever and moving the top clamp vertically.

Bidder Complies as Written: Yes: _____ No: _____

The bracket system shall be free of straps and clamps that may interfere with auxiliary equipment on SCBA units. The center guide fork shall keep the SCBA tank in place for a safe and comfortable fit in the seat back cavity. The SCBA unit simply needs to be pushed against the pivot arm to engage the patented auto- locking system. Once the lock is engaged, the top clamp shall surround the top of the SCBA tank for a secure fit in all directions.

Bidder Complies as Written: Yes: _____ No: _____

The SCBA release system shall include a release handle which shall be integrated into the seat cushion for quick and easy release. This shall eliminate the need for straps or pull cords to interfere with other SCBA equipment.

Bidder Complies as Written: Yes: _____ No: _____

The seat back shall include a removable padded cover which shall be provided over the SCBA cavity.

Bidder Complies as Written: Yes: _____ No: _____

OCCUPANT PROTECTION FFC

The forward facing center seat position(s) shall be equipped with the occupant protection system (OPS). The OPS shall selectively deploy integrated systems to protect against injuries in qualifying frontal impact, side impact, and rollover events. The increase in survivable space and security of the OPS shall also provide ejection mitigation protection.

Bidder Complies as Written: Yes: _____ No: _____

Each forward facing center seating position OPS shall include:

- OPS advanced seatbelt system - retractor pre-tensioners tighten the seat belts around each occupant, securing the occupants in seats and load limiters play out some of the seat belt

webbing to reduce seat belt to chest and torso force upon impact as well as mitigate head and neck injuries.

Bidder Complies as Written: **Yes:** _____ **No:** _____

Side curtain airbag - provides ejection mitigation protection to each occupant in a qualifying event by covering the windows and walls adjacent to crew seating with an airbag custom designed for each cab configuration.

Bidder Complies as Written: **Yes:** _____ **No:** _____

SEAT FRAME FORWARD FACING

The forward facing center seating positions shall include an enclosed seat frame located and installed on the rear wall. The seat box shall have the same interior point coating to match.

Bidder Complies as Written: **Yes:** _____ **No:** _____

SEAT MOUNTING FORWARD FACING CENTER

The seats shall be installed a minimum of 8 inches apart offering the most available room for each occupant with the final spacing to be verified at pre-build for uniform spacing between the four(4) rear seating positions.

Bidder Complies as Written: **Yes:** _____ **No:** _____

SEAT FRAME FORWARD FACING STORAGE ACCESS

There shall be three (3) access points to the storage area one (1) each side of the seat frame and one (1) on the front face of the seat frame.

Bidder Complies as Written: **Yes:** _____ **No:** _____

CAB FRONT UNDERSEAT STORAGE ACCESS

The under seat storage areas shall have as large of openings as possible to allow access to equipment storage. No electronics or apparatus mechanical features shall be installed within or blocking the storage area.

Bidder Complies as Written: **Yes:** _____ **No:** _____

SEAT CREW AREA JUMP SEAT

The crew area shall include one (1) forward facing outboard folding jump seats H.O. Bostrom model 3010-5000 or equivalent. This seat shall be located to the outboard side of the right SCBA seating position in an ergonomic location aspect relative to the door. Seat belts shall be installed and located from the outboard side of the seat, attached to the rear wall. The receiver shall be installed on the inboard side of the seats with a length to reach the front side of the hip of a person in the seated position.

Bidder Complies as Written: **Yes:** _____ **No:** _____

IN-CAB POWERED TOOL BOARD

The cab shall include a powered tool board for mounting and charging equipment and electronics, to be located near the left rear door, above the floor, not to obstruct the rear SCBA seat mount storage opening, the rear wall cab window or operation of the door and SCBA seats. The powered tool board shall have a fused junction block Blue Sea Systems P/N 5026 for easy connection of accessories. No apparatus components shall be mounted to this board.

Bidder Complies as Written: **Yes:** _____ **No:** _____

WINDSHIELD WIPER SYSTEM

The cab shall include a wiper system which shall clear the windshield of water, ice and debris. The wipers shall be affixed to a radial wet arm. The wiper pattern shall fully clear the windshield in front of both front seated positions. The wiper motor shall be activated by an intermittent wiper control located within easy reach of the driver’s position.

Bidder Complies as Written: Yes: _____ No: _____

ELECTRONIC WINDSHIELD FLUID LEVEL INDICATOR

The windshield washer fluid level shall be monitored electronically. When the washer fluid level becomes low the yellow “Check Message Center” indicator light on the instrument panel shall illuminate and the message center in the dual air pressure gauge shall display a “Check Washer Fluid Level” message.

Bidder Complies as Written: Yes: _____ No: _____

CAB DOOR HARDWARE

The cab entry doors shall be equipped with exterior pull handles, suitable for use while wearing firefighter gloves. The handles shall be made of aluminum with a chrome plated finish.

Bidder Complies as Written: Yes: _____ No: _____

The interior exit door handles shall be flush paddle type with a black, chrome, stainless steel or aluminum finish, to be specified by the purchaser, which are incorporated into the upper door panel.

Bidder Complies as Written: Yes: _____ No: _____

All cab entry doors shall include locks which are keyed alike. The door locks shall be designed to prevent accidental lockout.

Bidder Complies as Written: Yes: _____ No: _____

The exterior pull handles shall include a scuff plate behind the handle constructed of polished stainless steel. Exterior door handle options to be provided by the bidder.

Bidder Complies as Written: Yes: _____ No: _____

DOOR LOCKS

Electric locks to be controlled by protected switches, sufficient to prevent accidental operation, on the driver’s and officer’s door. Each door shall have a manual lock/unlock lever and shall automatically unlock upon actuating the interior door latch. An external key pad/keyless entry shall be provided on both driver’s and officer’s door. Two (2) keyless entry key fobs shall also be included.

Bidder Complies as Written: Yes: _____ No: _____

GRAB HANDLES – CAB EXTERIOR

The cab shall include four (4) approximately 18.00 inch three-piece extruded aluminum anti-slip exterior grab handles with rubber inserts, or machined rough surface, one (1) mounted behind each cab door. The Hansen number 4000 Series Lit Anti-Slip Rails shall be mounted in bright anodized aluminum 4000 Series II stanchions, complete with weep holes to prevent the buildup of moisture.

Bidder Complies as Written: Yes: _____ No: _____

The grab rails shall include a 12 volt, approximately 17.00 inch long clear LED light to provide an increased margin of safety for night time cab entry and egress. The lights shall only be activated when the parking brake is set and the marker lights are on.

Bidder Complies as Written: **Yes:** _____ **No:** _____

REARVIEW MIRRORS

The cab exterior shall include Ramco bus style mirrors, one (1) mounted on the Drivers' door and one (1) mounted on the Officer's side front cab corner radius below the windshield.

The driver's side mirror shall be model CRM-1350-PCHR bus style mirror. The mirror head shall be injection molded chrome plated ABS plastic that measures 9.5" wide x 13.5" high and is mounted with a polished die-cast aluminum arm.

The officer's side mirror shall be model CRM-1352-A18-PHCHR. The mirror head shall be injection molded chrome plated ABS plastic that measures 9.5" wide x 13.5" high and is mounted with a 18" long polished cast aluminum arm.

The mirrors shall feature a lower heated remote controlled convex glass with an upper heated remote controlled flat glass. The mirror control switches shall be located within easy reach of the driver. The mirrors shall be manufactured using the finest quality non-glare glass and shall feature a rigid mounting thereby reducing vibration. The mirrors shall be corrosion free under all weather conditions.

Bidder Complies as Written: **Yes:** _____ **No:** _____

REARVIEW MIRROR HEAT SWITCH

The heat for the rearview mirrors shall be controlled through a virtual button on the Vista display and control screen and shall automatically turn on when the defroster is activated.

Bidder Complies as Written: **Yes:** _____ **No:** _____

EXTERIOR TRIM REAR CORNER

There shall be mirror finish stainless steel scuff plates on the outside corners at the back of the cab. The scuff plate shall be wide enough to mount the rear cab wall turn signals on the scuff plate. The stainless steel plate shall be affixed to the cab using two sided adhesive tape.

Bidder Complies as Written: **Yes:** _____ **No:** _____

CAB FENDER

Full width wheel well liners shall be installed on the extruded cab to limit road splash and enable easier cleaning.

Bidder Complies as Written: **Yes:** _____ **No:** _____

MUD FLAPS FRONT AND REAR

The front and rear wheel wells shall have mud flaps installed on them.

Bidder Complies as Written: **Yes:** _____ **No:** _____

IGNITION

A master battery system with a keyless start ignition system shall be provided. Each system shall be controlled by a master battery rocker switch, both of which shall be mounted to the left of the steering wheel on the dash.

Bidder Complies as Written: Yes: _____ No: _____

Each rocker switch shall illuminate a green LED indicator light on the dash when the respective switch is placed in the “ON” position.

Bidder Complies as Written: Yes: _____ No: _____

The starter button shall only operate when both the master battery and ignition switches are in the “ON” position.

Bidder Complies as Written: Yes: _____ No: _____

BATTERIES

The single start electrical system shall include four (4) Group 31 AGM 950 CCA batteries with a 210 minute reserve capacity and 4/0 welding type dual path starter cables per SAE J541. The cables shall have encapsulated ends with heat shrink and sealant.

Bidder Complies as Written: Yes: _____ No: _____

BATTERY TRAYS

The batteries shall be installed within two (2) steel battery trays located on the left side and right side of the chassis, securely bolted to the frame rails. The battery trays shall be coated with the same material as the frame.

Bidder Complies as Written: Yes: _____ No: _____

The battery trays shall include drain holes in the bottom for sufficient drainage of water. A durable, non-conducting, interlocking mat made by Dri-Dek or equivalent shall be installed in the bottom of the trays to allow for air flow and help prevent moisture build up. The batteries shall be held in place by non-conducting phenolic resin hold down boards.

Bidder Complies as Written: Yes: _____ No: _____

BATTERY BOX COVERS

Each battery box shall include a steel cover which protects the top of the batteries. Each cover shall include flush latches which shall keep the cover secure as well as a black powder coated handle for convenience when opening.

Bidder Complies as Written: Yes: _____ No: _____

BATTERY CABLES

The starting system shall include cables which shall be protected by 275 degree F. minimum high temperature flame retardant loom, sealed and encapsulated at the ends with heat shrink and sealant.

Bidder Complies as Written: Yes: _____ No: _____

The battery terminals shall not be utilized for auxiliary connections. The only acceptable auxiliary connections shall be for the cross over link from the left bank to the right bank, power for jumper studs and starter cables. All other auxiliary connections will use remote studs mounted in the battery box area.

There shall be four (4) remote studs labeled as Common Power, Common Ground, Clean Power, and Clean Ground.

Bidder Complies as Written: **Yes:** _____ **No:** _____

BATTERY JUMPER STUDS

The starting system shall include battery jumper studs. These studs shall be located in the forward most portion of the driver's side lower step. The studs shall allow the vehicle to be jump started, charged, or the cab to be raised in an emergency in the event of battery failure.

Bidder Complies as Written: **Yes:** _____ **No:** _____

ALTERNATOR

The charging system shall include a 270 amp Leece Neville 12 volt alternator. The alternator shall include a self-excited integral regulator.

Bidder Complies as Written: **Yes:** _____ **No:** _____

BATTERY CONDITIONER

A Kussmaul 35/10 battery conditioner shall be supplied. The battery conditioner shall provide a 35 amp output for the chassis batteries and a 10 amp battery saver output. The battery conditioner shall be mounted in the cab on the top of the left side EMS compartment.

Bidder Complies as Written: **Yes:** _____ **No:** _____

BATTERY CONDITIONER DISPLAY

A Kussmaul battery conditioner display shall be supplied. The battery conditioner display shall be mounted inside the driver's door stepwell as far forward as possible flush with the outward facing interior wall.

Bidder Complies as Written: **Yes:** _____ **No:** _____

ELECTRICAL INLET

A Kussmaul 20 amp super auto-eject electrical receptacle shall be supplied. It shall automatically eject the plug when the starter button is depressed.

Bidder Complies as Written: **Yes:** _____ **No:** _____

ELECTRICAL INLET LOCATION

An electrical inlet shall be installed on the left hand side of cab in the lower front cab corner.

Bidder Complies as Written: **Yes:** _____ **No:** _____

ELECTRICAL INLET CONNECTION

The electrical inlet shall be connected to the battery conditioner.

Bidder Complies as Written: **Yes:** _____ **No:** _____

ELECTRICAL INLET COLOR

The electrical inlet connection shall include a red cover.

Bidder Complies as Written: **Yes:** _____ **No:** _____

LED HEADLIGHTS

The cab front shall include four (4) rectangular LED headlamps with separate high and low beams mounted in bright chrome bezels.

Bidder Complies as Written: Yes: _____ No: _____

HEADLIGHT FLASHER

An alternating high beam headlight flashing system shall be installed into the high beam headlight circuit which shall allow the high beams to flash alternately from left to right.

Bidder Complies as Written: Yes: _____ No: _____

Deliberate operator selection of high beams will override the flashing function until low beams are again selected. Per NFPA, these clear flashing lights will also be disabled "On Scene" when the park brake is applied.

Bidder Complies as Written: Yes: _____ No: _____

HEADLIGHT FLASHER SWITCH

The flashing headlights shall be prewired to the area behind the rocker switch panel and be deactivated with the white light cut-off switch or by the manual activation of the high beams, or by the parking brake being activated.

Bidder Complies as Written: Yes: _____ No: _____

HEADLIGHT LOCATION

The headlights shall be located on the front fascia of the cab directly below the front warning lights.

Bidder Complies as Written: Yes: _____ No: _____

LED FRONT TURN SIGNALS

The front fascia shall include two (2) Whelen model M6 4.00 inch X 6.00 inch amber LED turn signals which shall be installed in a chrome housing above and outboard of the front warning and head lamps.

Bidder Complies as Written: Yes: _____ No: _____

LED SIDE TURN/MARKER LIGHTS

The sides of the cab shall include two (2) LED side marker lights which shall be provided just behind the front cab radius corners.

Bidder Complies as Written: Yes: _____ No: _____

LED MARKER AND ICC LIGHTS

In accordance with FMVSS, there shall be five (5) Whelen Series OS LED cab marker lamps designating identification, center and clearance provided. These lights shall be installed on the face of the cab within full view of other vehicles from ground level.

Bidder Complies as Written: Yes: _____ No: _____

HEADLIGHT AND MARKER LIGHT ACTIVATION

The headlights and marker lights shall be controlled via a rocker type switch to be located on the dash to the left of the steering wheel. The headlamps shall be equipped with the "Daytime Running" light feature, which shall illuminate the headlights to 80% brilliance when the battery master switch is in the "On" position and the parking brake is released. The headlights shall be turned off when the master warning switch is on and the parking brake is set. The headlights shall be able to be turned back on

manually by activating a virtual switch in the multiplex display. The headlights shall also turn back on automatically once the parking break is released.

Bidder Complies as Written: Yes: _____ No: _____

DASH ELECTRICAL CONTROLS

There shall be a dimmer control to adjust the brightness of the dash lights. There shall be a mirror adjustment and heat control located on the Havis Dash system adjacent to the driver or on a mounting area designated for those controls.

Bidder Complies as Written: Yes: _____ No: _____

LED GROUND LIGHTS - CAB

Each door shall include an NFPA compliant LED ground light mounted to the underside of the cab step below each door. The lights shall include a polycarbonate lens, a housing which is vibration welded and LEDs which shall be shock mounted for extended life.

Bidder Complies as Written: Yes: _____ No: _____

The ground lighting shall be activated by the opening of the door on the respective cab side when the parking brake is set and a rocker switch located on the in-cab switch cluster or in the multiplex display and control screen.

Bidder Complies as Written: Yes: _____ No: _____

LED STEP LIGHTS

The middle step located at each door shall include a recess mounted 4.00 inch round LED light which shall activate with the opening of the respective door.

Bidder Complies as Written: Yes: _____ No: _____

LED ENGINE COMPARTMENT LIGHT

There shall be an LED NFPA compliant light mounted under the engine tunnel for area work lighting on the engine. The light shall include a polycarbonate lens, a housing which is vibration welded and a bulb which shall be shock mounted for extended life. The light shall activate automatically when the cab is tilted.

Bidder Complies as Written: Yes: _____ No: _____

LED FRONT WORK LIGHTS

The front of the cab shall include one (1) Whelen Pioneer model PCP2.

The lamp head shall have two (2) 12 volt high intensity LED panels. One side of each lamp head shall include a flood light and the other side shall include an 8-degree spotlight. Each lamp head shall draw 12.0 amps and generate 14,000 lumens total. Each lamp head shall measure 4.25 inches in height X 14.00 inches in width. The lamp head and bracket shall be powder coated white.

Bidder Complies as Written: Yes: _____ No: _____

FRONT WORK LIGHT ACTIVATION

The front scene lighting shall be activated by a rocker switch located on the pump panel switch cluster and via the Multiplex Displays.

Bidder Complies as Written: Yes: _____ No: _____

FRONT WORK LIGHT LOCATION

The scene lights shall be mounted with a contour roof mount bracket, centerline on the brow of the cab.

Bidder Complies as Written: Yes: _____ No: _____

FRONT EMERGENCY OVERHEAD LIGHTBAR

There shall be a Whelen model FN81QLED 81" Ultra Freedom lightbar provided and installed with the apparatus. Base Lightbar to include eight (8) Linear (six front/two side). In addition three pairs of model FLDRR shall be installed adding six more Linear LED's in the front of the lightbar. Lightbar to be approximately 81" inches. Lightbar LED's to be all red except two LED's shall be white. Lightbar to have clear outer lenses. The lightbar shall have the ability to have the Golight to be mounted on top of the center of the bar.

Bidder Complies as Written: Yes: _____ No: _____

GTT Model 795H Opticom Emitter shall be installed in the center section of the Whelen lightbar. The Opticom shall automatically come on with the operation of the Master Emergency lights switch. Opticom shall be switched off when the parking brake is set. A manual rocker switch shall be install on the in-cab switch cluster or the multiplex display, location to be determined at the mid-point inspection.

Bidder Complies as Written: Yes: _____ No: _____

SEARCHLIGHT

One (1) Permanently mounted search light, shall be hard wired and mounted on top of the lightbar.

Bidder Complies as Written: Yes: _____ No: _____

The light(s) shall be manufactured by Golight model #20204 (white) with a hardwired dash mount remote control. The control shall be located in the cab as directed by the Fire Department at the mid-point inspection.

Bidder Complies as Written: Yes: _____ No: _____

WHELEN PIONEER LED TELESCOPING POLE LIGHTS

Two (2) Whelen Pioneer Plus Super LED model PCP2 dual lamp light assembly shall be provided. The bulb shall be accessible through the front. The lamphead shall be approximately 3" deep by 4-5/8" high by 14" wide. Lamphead and brackets shall be powder coated white. A 60" Whelen 3000 series bottom raise telescopic pole should be used. The wiring should exit on the light head not the bottom of the pole. The pole should have the short standoffs and the 12" body.

Bidder Complies as Written: Yes: _____ No: _____

There shall be a total quantity of two (2).

Bidder Complies as Written: Yes: _____ No: _____

The pole light(s) shall have a Whelen Integrated Switch "up" indicator sensor to indicate that the light is in a raised position.

Bidder Complies as Written: Yes: _____ No: _____

When the light pole is extended and the park brake is released it shall activate the main cab warning light and indicate on the cab display or multiplex display.

Bidder Complies as Written: Yes: _____ No: _____

A mirrored stainless steel protector shall be installed behind each light head to protect the surface behind the light(s) from being scratched.

Bidder Complies as Written: Yes: _____ No: _____

Two (2) light(s) shall be mounted on the rear face of the custom chassis cab and in a manner that does not interfere with the pump panel operations.

Bidder Complies as Written: Yes: _____ No: _____

The Telescoping Pole lights shall be activated by a virtual switch in the “scene lighting” menu of the multiplex display and by switches on the pump panel. Labeled right pole light and left pole light.

Bidder Complies as Written: Yes: _____ No: _____

LED SIDE SCENE LIGHTS - CAB

The side of the cab shall include two (2) Whelen M9 scene lights, one (1) each side which shall be surface mounted. The Whelen lights shall offer LED directional lighting from 2 to 40-degrees with internal and external optics.

Bidder Complies as Written: Yes: _____ No: _____

SIDE SCENE LIGHT LOCATION - CAB

The scene lighting located on the left and right sides of the cab shall be mounted rearward of the cab “B” pillar in the 10.00 inch raised roof portion of the cab between the front and rear crew doors, below the red M9 warning lights, above the side EMS compartments.

Bidder Complies as Written: Yes: _____ No: _____

SIDE SCENE ACTIVATION - CAB

The scene lights shall be activated by rocker switches located on the pump panel switch cluster & the in-cab multiplex display for their respective zones, Left Scene Lights, Right Scene Lights, All Scene Lights and by opening the respective side cab doors which shall only activate the cab scene lights.

Bidder Complies as Written: Yes: _____ No: _____

LED INTERIOR OVERHEAD LIGHTS

The cab shall include a two-section, red and clear Weldon LED dome lamp located over each door. The dome lamps shall be rectangular in shape and shall measure approximately 7.00 inches in length X 3.00 inches in width with a black colored bezel. The clear portion of each lamp shall be activated by opening the respective door and via the multiplex display and both the red and clear portion can be activated by individual push lenses on each lamp.

Bidder Complies as Written: Yes: _____ No: _____

An additional two-section, red and clear Weldon LED dome lamp shall be provided over the engine tunnel which can be activated by individual switches on the lamp.

Bidder Complies as Written: Yes: _____ No: _____

AUXILLIARY LED DOME LIGHT REAR CREW

The cab shall include two (2) 7.00 inch LED auxiliary dome lights on the headliner centered above the forward facing SCBA seat positions to be reached from the seated position. One (1) light shall include a clear lens and one (1) light shall include a red lens. The clear light shall be on the left side and the red light shall be on the right side. These lights shall be activated by the rear doors, as well as an individual switch located on the side of each light

Bidder Complies as Written: Yes: _____ No: _____

LED DO NOT MOVE APPARATUS LIGHT

The front headliner of the cab shall include a flashing red Whelen 500 Series 5mm LED light clearly labeled "Do Not Move Apparatus".

Bidder Complies as Written: Yes: _____ No: _____

The flashing red light shall be 5.40 inches long X 1.70 inches wide X 0.90 inches high and shall be located centered left to right for greatest visibility

Bidder Complies as Written: Yes: _____ No: _____

The light and alarm shall be interlocked for activation when either a cab door is not firmly closed or an apparatus compartment door is not closed, and the parking brake is released.

Bidder Complies as Written: Yes: _____ No: _____

EMERGENCY/WARNING/SCENE LIGHT CONTROLS

All Emergency/Warning lights shall be controlled from the multiplex control system. The multiplex system shall allow for manual control of all Emergency/Warning/Scene lights. All emergency warning lights shall be switched through the Multiplex Display and have the ability to be sequenced & programmed together for lighting patterns throughout lighting Zones and 50% light output night mode. Lighting switch plan shall be finalized by the purchaser at the pre-construction meeting.

MANUAL WARNING/LIGHTING SWITCHES

A multiplex display integrating all lighting zone circuits shall be installed with programing to be determined by the purchaser at the pre-construction meeting. A Master Warning light switch shall be integrated into the multiplex display, location to be specified during the preconstruction meeting. All warning lights, worklights, and scene lights shall be integrated into the multiplex control system as specified during the preconstruction switch layout. A separate rocker switch shall be located on the dash that will turn off all white emergency lights labeled white light cut-off. This switch shall be integrated into the multiplex control system. The lighting switches shall be labeled appropriately and location/layout as specified during the pre-construction meeting. An eight (8) lighted momentary rocker switch cluster shall be installed on the driver’s side pump panel. The lighted momentary rocker switches shall indicate when the lighting circuit is activated.

Bidder Complies as Written: Yes: _____ No: _____

GENERAL LIGHTING FLASH PATTERN PROGRAMMING

The intent of the purchaser is to have slower solid flashing patterns in the upper zones, excluding the front light bar, and multiple flash faster patterns in the lower zones. When the parking brake is activated, all upper emergency light zones will switch to a “SignalAlert Steady” pattern that is a solid glow with a periodic quick blink.

Front: Excluding the overhead front light bar, the upper and lower M6 grill lights will flash in a synchronized up and down alternating “SignalAlert Solid 75fpm” pattern. Lower left and right together, upper left and right together. Not left side the right side.

Rear: The upper red and amber lights will flash in a synchronized up and down alternating “SingleFlash 60 Solid” pattern. The lower red M6 lights will flash in a synchronized “SignalAlert Solid 75fpm” pattern.

Left and Right sides: The upper zone red lights will flash in a synchronized “SingleFlash 60 Solid” pattern. The lower zone red lights will flash in a synchronized “SignalAlert Solid 75fpm” pattern.

Bidder Complies as Written: Yes: _____ No: _____

GENERAL EMERGENCY LIGHTING SWITCH PROGRAMMING

Emergency lighting Zones A, B, C, and D shall have multiple switching capabilities, Split into upper and lower zones, as well as individual Zone A (front), Zone B (Right, officer side), Zone C (rear), and Zone D (Left, driver). This capability is required to be able to turn all ground level emergency lights off, or individual sides dependent on which side the incident is on in order to prevent firefighters from having their vision obscured. The multiplex display shall have a control for each of the designated control zones/areas. A full lighting plan and switch programming shall be provided by the Purchaser at the pre-construction meeting.

Bidder Complies as Written: Yes: _____ No: _____

GENERAL WORKLIGHT & SCENE LIGHTING SWITCH PROGRAMMING

Scene lighting Zones A, B, C, and D shall have multiple switching capabilities, split into individual Zone Zone B (Right, officer side), Zone C (rear), and Zone D (Left, driver). An “All Scene Lights” multiplex display switch shall be programmed on the main screen and a lighted rocker switch shall be located on the pump panel switch cluster that shall activate all upper zone Whelen M Series clear scene lights. Individual rocker switches for each zone shall be located on the multiplex display under the scene lighting menu and Left and Right zones on the pump panel switch cluster. Whelen Pioneer Worklights shall have a rocker switch on the multiplex display under the scene lighting menu and on the pump panel switch cluster, to include Front and Rear Worklight & Left and Right Pole Light, and labeled to match. An eight (8) lighted momentary rocker switch cluster shall be installed on the driver’s side pump panel. The lighted momentary rocker switches shall indicate when the lighting circuit is activated.

Bidder Complies as Written: Yes: _____ No: _____

LED INBOARD FRONT WARNING LIGHTS

The cab front fascia shall include two (2) Whelen M6 Super LED front warning lights in the left and right inboard positions. The lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors. The lights shall be mounted to the front fascia of the cab within a chrome bezel.

Bidder Complies as Written: Yes: _____ No: _____

INBOARD FRONT WARNING LIGHTS COLOR

The warning lights mounted on the cab front fascia in the inboard positions shall be red with a red lens.

Bidder Complies as Written: Yes: _____ No: _____

LED OUTBOARD FRONT WARNING LIGHTS

The cab front fascia shall include two (2) Whelen M6 Super LED front warning lights in the left and right outboard positions. The lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors. The lights shall be mounted to the front fascia of the cab within a chrome bezel.

Bidder Complies as Written: Yes: _____ No: _____

OUTBOARD FRONT WARNING LIGHTS COLOR

The warning lights mounted on the cab front fascia in the outboard position shall be red with a red lens.

Bidder Complies as Written: Yes: _____ No: _____

FRONT WARNING SWITCH

The front warning lights shall be individually prewired to the area behind the switch panel or multiplex system, and shall be controlled via one (1) rocker switch or in the multiplex display. Lights are part of Switch Lower Zone A

Bidder Complies as Written: Yes: _____ No: _____

LED INTERSECTION WARNING LIGHTS

The chassis shall include two (2) Whelen M6 series Super LED intersection warning lights, one (1) each side. The lights shall feature multiple flash patterns including steady burn.

Bidder Complies as Written: Yes: _____ No: _____

INTERSECTION WARNING LIGHTS COLOR

The intersection lights shall be red with a red lens.

Bidder Complies as Written: Yes: _____ No: _____

INTERSECTION WARNING LIGHTS LOCATION

The intersection lights shall be mounted on the side of the bumper.

Bidder Complies as Written: Yes: _____ No: _____

INTERSECTION WARNING LIGHTS SWITCH

The intersection warning lights shall be individually prewired to the area behind the multiplex system, and shall be controlled via multiplex display. Lights are part of switch Lower Zone B or D respective to their location.

Bidder Complies as Written: Yes: _____ No: _____

LED SIDE WARNING LIGHTS

The cab sides shall include two (2) Whelen M6 Super LED warning lights, one (1) on each side. The lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors. The lights shall be mounted to the sides of the cab within a chrome bezel.

Bidder Complies as Written: Yes: _____ No: _____

SIDE WARNING LIGHTS COLOR

The warning lights located on the side of the cab shall be red with red lens.

Bidder Complies as Written: Yes: _____ No: _____

SIDE WARNING LIGHTS LOCATION

The warning lights on the side of the cab shall be mounted over the front wheel well forward from the center of the front axle. The center line of the warning lights shall be 5.00 inches above the wheel well apex.

Bidder Complies as Written: Yes: _____ No: _____

SIDE WARNING LIGHTS SWITCH

The side warning lights shall be individually prewired to the area behind the multiplex system, and shall be controlled via the multiplex display. Lights are part of switch Lower Zone B or D respective to their location.

Bidder Complies as Written: Yes: _____ No: _____

LED AUXILIARY SIDE WARNING LIGHTS

The cab shall include an auxiliary set of Whelen M9 6.50 inch tall X 10.38 inch wide Super LED warning lights, one (1) on each side. Each light shall feature multiple flash patterns including steady burn.

Bidder Complies as Written: Yes: _____ No: _____

AUXILIARY SIDE WARNING LIGHTS COLOR

The auxiliary warning lights located on the side of the cab shall be red with red lens.

Bidder Complies as Written: Yes: _____ No: _____

AUXILIARY SIDE WARNING LIGHTS LOCATION

The auxiliary warning lights on the side of the cab shall be mounted above the “B” pillar in the highest available position.

Bidder Complies as Written: Yes: _____ No: _____

AUXILIARY SIDE WARNING LIGHTS SWITCH

The auxiliary side warning lights shall be individually prewired to the area behind the multiplex system, and shall be controlled via the multiplex display. Lights are part of switch Upper Zone B or D respective to their location.

Bidder Complies as Written: Yes: _____ No: _____

LED INTERIOR DOOR OPEN WARNING LIGHTS

The interior of each door shall include one (1) red Whelen 500 Series TIR6™ Super-LED® warning light located on the door panel. Each light shall activate with a flashing pattern when the door is in the open position to serve as a warning to oncoming traffic.

Bidder Complies as Written: Yes: _____ No: _____

BACK-UP ALARM

A Preco-Matic model 1059 dual function, dual sound backup alarm shall be installed at the rear of the chassis with an auto-adjusting output level of 87 dB to 112 dB. The alarm shall automatically activate when the transmission is placed in reverse.

Bidder Complies as Written: Yes: _____ No: _____

INSTRUMENTATION

An ergonomically designed instrument panel shall be provided. Each gauge shall be backlit with LED lamps. Stepper motor movements shall drive all gauges. The instrumentation system shall be multiplexed and shall receive ABS, engine, and transmission information over the J1939 data bus to reduce redundant sensors and wiring.

Bidder Complies as Written: Yes: _____ No: _____

The instrument panel shall contain the following gauges:

One (1) electronic speedometer shall be included. The primary scale on the speedometer shall read from 0 to 100 MPH.

Bidder Complies as Written: Yes: _____ No: _____

One (1) electronic tachometer shall be included. The scale on the tachometer shall read from 0 to 3000 RPM.

Bidder Complies as Written: Yes: _____ No: _____

One (1) two-movement gauge displaying primary system, and secondary system air volumes and integral LCD odometer/trip odometer shall be included on the lower portion of the LCD. The scale on the air pressure gauges shall read from 0 to 150 pounds per square inch (PSI). The air pressure scales shall be linear to operate with an accuracy of 1 degree of the measured data with a red indication zone on the gauge showing critical levels of air pressure. A red indicator light in the gauge shall indicate a low air pressure, as well as a message on the LCD screen. The odometer shall display up to 9,999,999.9 miles. The trip odometer shall display 9,999.9 miles. The LCD shall display Transmission Temperature in degrees Fahrenheit on the upper portion of the LCD. The LCD screen shall also be capable of displaying certain diagnostic functions.

Bidder Complies as Written: Yes: _____ No: _____

One (1) four-movement gauge displaying engine oil pressure, coolant temperature, fuel level, voltmeter, and an indicator bar displaying Diesel Exhaust Fluid (DEF) LED bar shall be included. The scale on the engine oil pressure gauge shall read from 0 to 120 pounds per square inch (PSI). The engine oil pressure scale shall be linear to operate with an accuracy of 1 degree of the measured data. A red indicator light in the gauge shall indicate a low engine oil pressure, as well as a message on the LCD screen. The scale on the coolant temperature gauge shall read from 100 to 250 degrees Fahrenheit (F). The coolant temperature scale shall be linear to operate with an accuracy of 1 degree of the measured data with a red indication zone on the gauge showing critical levels of air pressure. A red indicator light in the gauge shall indicate high coolant temperature, as well as a message on the LCD screen. The scale on the fuel level gauge shall read from empty to full as a percentage of fuel remaining. An amber indicator light shall indicate low fuel at 25% tank level. The scale on the voltmeter shall read from 10 to 16 volts with a red indication zone on the gauge showing critical levels of battery voltage. A red indicator light shall indicate high or low system voltage, as well as a message on the LCD screen. The scale on the DEF LED bar will consist of four (4) LEDs displaying levels in increments of 25% of useable DEF in green. Upon decreasing levels, the indicator bar will change colors to notify the driver of decreasing levels of DEF and action will be required. An amber indicator light shall indicate low levels of DEF, as well as a message on the LCD screen and an audible alarm.

Bidder Complies as Written: Yes: _____ No: _____

The instrument panel shall include a light bar that contains the following LED indicator lights and produce the following audible alarms in applicable configurations:

Bidder Complies as Written: Yes: _____ No: _____

RED LED LAMPS

Stop Engine-indicates critical engine fault

Air Filter Restricted-indicates excessive engine air intake restriction

Park Brake-indicates parking brake is set

Seat Belt Indicator-indicates when a seat is occupied and corresponding seat belt remains unfastened

Low Coolant-indicates engine coolant is required

Bidder Complies as Written: Yes: _____ No: _____

AMBER LED LAMPS

MIL-indicates an engine emission control system fault

Check Engine-indicates engine fault

Check Trans-indicates transmission fault

High Transmission Temperature-indicates excessive transmission oil temperature

ABS-indicates anti-lock brake system fault

HEST-indicates a high exhaust system temperature

Water in Fuel-indicates presence of water in fuel filter

DPF-indicates a restriction of the diesel particulate filter

Regen Inhibit-indicates regeneration has been postponed due to user interaction

Range Inhibit-indicates a transmission operation is prevented and requested shift request may not occur.

SRS-indicates a problem in the RollTek supplemental restraint system

Check Message-Turn Signal On

Check Message-Door Ajar

Check Message-Cab Ajar

Check Message-ESC Active

Check Message-DPF Regen Active

Check Message-No Engine Data

Check Message-No Transmission Data

Check Message-No ABS Data

Check Message-No Data All Communication With Vehicle Systems Has Been Lost

Check Message-Check Engine Oil Level

Check Message-Check Washer Fluid Level

Check Message-Check Power Steering Fluid Level

Check Message-Low Transmission Fluid Level

Check Message-Check Coolant Level

Bidder Complies as Written: Yes: _____ No: _____

GREEN LED LAMPS

Left and Right turn signal indicators

ATC-indicates low wheel traction for automatic traction control equipped vehicles, also indicates mud/snow mode is active for ATC system

High Idle-indicates engine high idle is active.

Cruise Control-indicates cruise control is active
OK to Pump-indicates the pump engage conditions have been met
Pump Engaged-indicates the pump is currently in use
Auxiliary Brake-indicates secondary braking device is active

Bidder Complies as Written: Yes: _____ No: _____

BLUE LED LAMPS

High Beam Indicator

Bidder Complies as Written: Yes: _____ No: _____

WHITE LED LAMP

Wait to Start-indicates active engine air preheat cycle

Bidder Complies as Written: Yes: _____ No: _____

AUDIBLE ALARMS FROM GAUGE PACKAGE

High Trans Temp
High or Low Voltage
Seatbelt
Check Engine
Check Transmission
Stop Engine
Low Air Pressure
Fuel Low
Water in Fuel
ESC
High Coolant Temperature
Low Engine Oil Pressure
Low Coolant Level
Low DEF Level
Air Filter Restricted
Extended Left and Right Turn Remaining On
ABS System Fault
Seatbelt Indicator

Bidder Complies as Written: Yes: _____ No: _____

EXTERNAL AUDIBLE ALARM

Air Filter
Check Engine
Stop Engine
Low Air Pressure
Water in Fuel
Low DEF
ABS System Fault
Seatbelt Indicator

Bidder Complies as Written: Yes: _____ No: _____

BACKLIGHTING COLOR

The instrumentation gauges and the switch panel legends shall be backlit using red LED backlighting.

Bidder Complies as Written: Yes: _____ No: _____

CAMERA

An Audiovox Voyager heavy duty rearview camera system shall be supplied. One (1) box shaped camera shall be provided and installed on the body to afford the driver a clear view to the rear of the vehicle and one (1) camera in each rear view cab mirror.

Bidder Complies as Written: Yes: _____ No: _____

The cameras shall be wired to the multiplex displays. The rear camera shall activate when the transmission is placed in reverse, the right camera shall activate with the right side turn signal and the left camera shall activate with the left turn signal. Each camera shall also be activated by a button on the display.

Bidder Complies as Written: Yes: _____ No: _____

A Safety Vision RouteRecorder Model SVR-4100 shall be installed. The route recorder shall record views from a camera to be mounted on the top of the cab viewing forward. This camera shall be activated by releasing the parking brake. The Safety Vision Route Recorder shall also record all views from the rear camera whenever activated

Bidder Complies as Written: Yes: _____ No: _____

RADIO INTEGRATED DAVID CLARK HEADSET INTERCOM SYSTEM

A David Clark Intercom System shall be installed with four (4) headset positions, two (2) PTT boxes, one with an auxiliary PTT button on the officer side, mounting location to be determined by the purchaser at the mid-point inspection.

Bidder Complies as Written: Yes: _____ No: _____

The vehicle shall be equipped with a 3800 David Clark four (4) position intercom system. The driver's and officer's positions along with the three (2) crew positions shall be wired.

Along with the required wiring, junction boxes, power cords, etc, the intercom system shall include the following:

- One (1) U3800 master station shall be supplied with the system. The U3800 is the heart of the intercom system, providing power to the complete intercom system.
- One (1) H3442 Under-The-Helmet Headset shall be supplied for the driver's position. The mic has "ON-OFF" button. When "ON" the mic is always live for intercom communication. A U3811 radio interface / headset station shall be supplied with the headset with a PTT button located on the box.
- One (1) H3442 Under-The-Helmet Headset shall be supplied for the officer's position. If possible, this headset shall not have the ability to turn the mic off. A U3815 radio interface / headset station shall be supplied with the headset with an auxiliary PTT button located on the Officer's side

dash.

- Two(2) H3442 Under-The-Helmet Headset shall be supplied for the crew members. The mic has "ON-OFF" button. When "ON" the mic is always live for intercom communication.

INTERCOM INTERFACE CABLE

One (1) intercom interface cable shall be provided to connect the David Clark intercom to the customer supplied/installed radio. The cable shall have the ability to connect to a single radio: Motorola APK 6500

Bidder Complies as Written: Yes: _____ No: _____

COMMUNICATION ANTENNA

An antenna base, for use with an NMO type antenna, shall be installed on the cab. The antenna base shall be an Antenex model MABVT8 and shall include 17.00 feet of RG58 A/U cable with no connector at the radio end of the cable. The antenna base shall be mounted on the forward outboard portion of the raised roof of the cab on the right hand side approximately 12.00 inches from the front of the raised roof portion of the cab and 12.00 inches inboard from the right hand side of the cab. The antenna base shall be provided by the OEM.

Bidder Complies as Written: Yes: _____ No: _____

COMMUNICATION ANTENNA CABLE ROUTING

The antenna cable shall be routed from the antenna base mounted on the roof to the area underneath the right hand front seat.

Bidder Complies as Written: Yes: _____ No: _____

AUXILIARY COMMUNICATION ANTENNA

An antenna base, for use with an NMO type antenna, shall be installed on the cab. The antenna base shall be an Antenex model MABVT8 and shall include 17.00 feet of RG58 A/U cable with no connector at the radio end of the cable. The antenna base shall be mounted in the center of the cab approximately 12.00 inches rearward from front of the raised roof portion of the cab so not to interfere with light bars or other roof mounted equipment installed by the manufacturer. The antenna base shall be provided by the OEM.

Bidder Complies as Written: Yes: _____ No: _____

AUXILIARY COMMUNICATION ANTENNA CABLE ROUTING

The auxiliary antenna cable shall be routed from the antenna base mounted on the roof to the area underneath the right hand front seat.

Bidder Complies as Written: Yes: _____ No: _____

FIRE EXTINGUISHER

A 2.50 pound D.O.T approved fire extinguisher with BC rating shall be shipped loose with the cab.

Bidder Complies as Written: Yes: _____ No: _____

DOOR KEYS

The cab and chassis shall include a total of four (4) door keys and two key fobs.

Bidder Complies as Written: Yes: _____ No: _____

DIAGNOSTIC SOFTWARE

The cab and chassis shall include diagnostic software for the multiplex system shipped loose with the vehicle.

The system shall support PDF and USB diagnostic kits for Windows 2000, XP, Vista, and Windows 7.

Bidder Complies as Written: Yes: _____ No: _____

DIAGNOSTIC SOFTWARE OCCUPANT PROTECTION

Diagnostic software for the Occupant Protection System shall be available for free download from the OEM website to authorized dealers and service centers, as well as the vehicle owner.

Bidder Complies as Written: Yes: _____ No: _____

The software and adapter utilize the SAE J1939-13 heavy duty nine (9) pin connector which is located below the driver’s side dash to the left of the steering column.

Bidder Complies as Written: Yes: _____ No: _____

WARRANTY

The chassis manufacturer shall provide a limited parts and labor warranty to the original purchaser of the custom built cab and chassis for a period of twenty-four (24) months, or the first 36,000 miles, whichever occurs first. The warranty period shall commence on the date the vehicle is delivered to the first end user.

Bidder Complies as Written: Yes: _____ No: _____

CHASSIS OPERATION MANUAL

There shall be two (2) digital copies of the chassis operation manual provided with the chassis. The digital data shall include a parts list specific to the chassis model.

Bidder Complies as Written: Yes: _____ No: _____

ENGINE AND TRANSMISSION OPERATION MANUALS

The following manuals specific to the engine and transmission models ordered will be included with the chassis in the ship loose items:

- (2) Digital copies of the Engine Owner’s manual
- (2) Digital copies of the Transmission Operator’s manual
- (2) Hard copies of the Engine Operation and Maintenance manual with CD

Bidder Complies as Written: Yes: _____ No: _____

CAB/CHASSIS AS BUILT WIRING DIAGRAMS

The cab and chassis shall include two (2) digital copies of wiring schematics and option wiring diagrams.

Bidder Complies as Written: Yes: _____ No: _____

CHASSIS REQUIRED LABELING

Signs that state "Occupants must be seated and belted when apparatus is in motion" shall be provided and installed in the cab and be visible from all seating positions.

Bidder Complies as Written: **Yes:** _____ **No:** _____

There shall be a lubrication plate mounted inside cab listing the type and grade of lubrication used in the following areas on the apparatus and chassis:

- Engine oil
- Engine Coolant
- Transmission Fluid
- Pump Transmission Lubrication Fluid (if applicable)
- Drive Axle Lubrication Fluid
- Generator Lubrication Fluid (if applicable)
- Tire Pressures

Bidder Complies as Written: **Yes:** _____ **No:** _____

APPARATUS INFORMATION LABEL

A high-visibility label shall be provided and installed in a location clearly detectable to the driver while in the seated position indicating the following:

The label shall indicate the following specified information.

- Overall Height listed in feet and inches.
- Overall Length listed in feet and inches.
- Overall GVWR listed in tons.

Bidder Complies as Written: **Yes:** _____ **No:** _____

CAB HELMET WARNING LABEL

A high-visibility label shall be installed in a location clearly detectable from each seating position. The label shall indicate the following specified information.

“DO NOT WEAR HELMET WHILE SEATED”

Bidder Complies as Written: **Yes:** _____ **No:** _____

HELMET RESTRAINTS

Four (4) Ziamatic UHH-1 Universal Helmet Holders shall be provided and and shipped loose with the apparatus.

Bidder Complies as Written: **Yes:** _____ **No:** _____

CAB TILT CONTROL

There shall be a cab tilt control shall be installed on the right side of the apparatus.

Bidder Complies as Written: **Yes:** _____ **No:** _____

There shall also be a cab tilt instruction plate located as close as possible to the control device pendant for ease of operation.

Bidder Complies as Written: **Yes:** _____ **No:** _____

SHORELINE CONNECTED TO DUPLEX RECEPTACLE

The shoreline shall be connected to the duplex receptacle(s) as specified. The receptacle(s) may then be used to charge flashlights, radios, and other miscellaneous 120 v components.

Two (2) NEMA 5-15 120V/15A shoreline powered duplex receptacle with weather resistant cover shall be located in the interior of the cab, to the exterior of the EMS Compartment, near the mid-line of the cab.

Bidder Complies as Written: Yes: _____ No: _____

MAP & BINDER STORAGE

An aluminum mounting plate shall be installed over the engine tunnel with a 1/2" lip. The mounting plate shall be approx. 1/2" off the tunnel surface and finished to match the cab interior.

Bidder Complies as Written: Yes: _____ No: _____

A map box shall have ten (10) storage slots across the back and three across the front. shall be black with trim lock across the top edges. The approximate dimension shall be 42 5/8" W x 28" deep with a 1/2" lip.

Bidder Complies as Written: Yes: _____ No: _____

The top of the surface shall have a low pile carpet or fabric.

Bidder Complies as Written: Yes: _____ No: _____

The front of the map box assembly shall have two (2) cup holders installed on the front edge near the outer edge. The middle section shall incorporate an additional storage area.

Bidder Complies as Written: Yes: _____ No: _____

OPTION: Vendor to provide options and pricing for pre-fab units

PUMP MODULE

The complete apparatus pump compartment shall be constructed of a combination of structural tubing and formed sheet metal. These processes shall ensure the quality of structural stability of the pump compartment module. The finished height of the pump module above the preconnected crosslay, rear section of the module, shall be approximately 78.5" from the top of the rub rail. The finished height of the pump module above the pump controls, to the top of the open dunnage area, front section of the module, shall be approximately 65" from the top of the rub rail.

Bidder Complies as Written: Yes: _____ No: _____

The pump compartment module shall be separated from the apparatus body with a gap. This gap is necessary to accommodate the flexing of the chassis frame rails that is encountered while the vehicle is in transit so that harmful torsional forces are not transmitted into the structural framework.

Bidder Complies as Written: Yes: _____ No: _____

AIR CHUCK OUTLET

There shall be a quick disconnect air chuck outlet furnished and installed on the apparatus. The air chuck outlet shall be plumbed to the chassis air system and have on/off valve and label on the left side lower pump compartment sill.

Bidder Complies as Written: Yes: _____ No: _____

PUMP MODULE MOUNTING SYSTEM

The entire pump module assembly shall be mounted above the chassis frame rails exclusively with torsion isolator assemblies to reduce the vibration and stress providing an extremely durable pump module mounting system.

Bidder Complies as Written: Yes: _____ No: _____

There shall be no welding to the chassis frame rail sides, web or flanges, or drilling of holes in the top or bottom frame flanges between axles. All body to chassis connections shall be bolted so that in the event of an accident, the body shall be easily removable from the truck chassis for repair or replacement.

Bidder Complies as Written: Yes: _____ No: _____

Because of the constant vibration and twisting action that occurs in chassis frame rails and suspension, the torsion mounting system is required to minimize the possibility of premature body structural failures.

Bidder Complies as Written: Yes: _____ No: _____

The body mounting system shall have a lifetime warranty.

Bidder Complies as Written: Yes: _____ No: _____

SIDE OPERATOR’S PANEL

A pump panel design shall be approved by the purchaser before construction of this section.

The pump operator's panel shall be located on the left, upper side of the apparatus pump compartment. The panel shall be split into an upper and lower section. The upper panel shall house all gauges and controls and be hinged on the rearward side to allow easy access to those components. The door shall have a stainless steel hinge, dual point chrome push button latches on the front side and a rubber seal provided to prevent excessive moisture from entering or leaving the pump house. The lower panel shall be a removable panel attached with mechanical fasteners.

Bidder Complies as Written: Yes: _____ No: _____

Valve controls shall be immediately adjacent to its respective gauge. The valve controls shall be properly labeled and color coded for ease of use. All markings shall be permanent in nature. The purchaser will provide a pump panel design for both sides of the pump module at the chassis inspection trip. At that time the manufacturers engineers/cad designers will confirm design while at the manufacturers facility. The manufacturer will not begin construction of the pump module until the final pump panel designs are confirmed by the purchaser.

Bidder Complies as Written: Yes: _____ No: _____

The pump house shall have an "engineers" compartment (1) each side that is rear of the pump controls and below the preconnect hose connections. The compartments shall be approx. 24" wide, 21" tall and 25" deep with outside door flush with the outside of the body. The preconnect bulk head shall be recessed approximately 8" from the outer edge of the compartment. The outer edge of the compartment shall be 14" from the face of the pump panel. A full opening and box dimension shall be throughout the compartment with no indentations or offsets. The box shall be fully welded to prevent water intrusion and include drain holes on the bottom corners.

Bidder Complies as Written: Yes: _____ No: _____

The door for the engineer's compartment shall be a weatherproof design with a cam over gas strut to hold the door open at 90 degrees. The top and forward diamond plate of the compartment shall fold partly down and across, acting as a drip edge so that water does not enter the doors gasket.

Bidder Complies as Written: Yes: _____ No: _____

The engineering compartment doors shall have a gas shock hold open device and shall be secured with a paddle style latch. The rear edge of the door shall be the hinge side. One (1) slide out tray shall be installed in the engineer's compartment on the driver's side for maximum capacity within the space, with low profile slides, and a 3" lip for the storage of adapter fittings and brass.

Bidder Complies as Written: Yes: _____ No: _____

LED PUMP PANEL LIGHTS

Adequate illumination shall be provided for all gauges and controls by means of a brushed stainless steel shielded light assembly on the left and right pump panel. The left pump panel shall have two (2) Whelen Super LED Strip-Lite strip lights on the left side or an adequate amount of lights space permitting and one (1) Whelen Super LED Strip-Lite 18" on the right side panel.

Bidder Complies as Written: Yes: _____ No: _____

There shall be a switch located on the operator's pump panel to turn two (2) of the pump panel lights and the directional light on or off. This switch shall also activate any area step lighting. The third light on the pump panel shall illuminate when the pump is engaged and it is "OK TO PUMP".

Bidder Complies as Written: Yes: _____ No: _____

PUMP COMPARTMENT FRONT OVERLAY

The front wall of the pump compartment module shall be overlaid entirely with tread plate aluminum fastened with mechanical fasteners. A removable center access hatch shall be provided in the front of the module (as large as possible) which shall be secured with no less than eight (8) push button type latches.

Bidder Complies as Written: Yes: _____ No: _____

APPARATUS LABELING

The apparatus shall be descriptively tagged with color coded metal labels. The labels shall be applied near the apparatus features that require a user function description. Wherever necessary, the labels shall be color coded to differentiate controls and their respective functions to simplify and clarify complex configurations.

Bidder Complies as Written: Yes: _____ No: _____

The colors and verbiage shall be provided to the successful Bidder.

Bidder Complies as Written: Yes: _____ No: _____

BEZELS FOR VALVE CONTROL HANDLES

Mirrored stainless steel bezels shall be supplied around the openings in the pump panels for all valve control handles.

Bidder Complies as Written: Yes: _____ No: _____

BEZELS FOR DISCHARGES AND INLETS

Mirrored stainless steel bezels shall be supplied around the openings in the pump panels for all discharge and suction inlet fittings.

Bidder Complies as Written: Yes: _____ No: _____

BLACK SPEEDLINER TYPE COATED ALUMINUM SIDE PANELS

There shall be two (2) pump panels on the right side of the pump compartment, one (1) upper and one (1) lower. Both panels shall be vertically hinged on the rearward or body side of the panel. Both openings shall be accessible by quick-release mechanical type latches closing against a door seal.

Bidder Complies as Written: Yes: _____ No: _____

When opened the panels shall provide a large access opening to the pump for ease of serviceability.

Bidder Complies as Written: Yes: _____ No: _____

All panels shall be made from heavy duty Black Bed liner or approved equal covered aluminum, capable of withstanding the conditions of effects of extreme weather and temperature changes.

Bidder Complies as Written: Yes: _____ No: _____

The tubular structure shall be overlaid on each side of the pump compartment underneath the access panels and shall be made of heavy duty "Black Bed liner" or approved equal covered aluminum.

Bidder Complies as Written: Yes: _____ No: _____

All hinged access panels shall have horizontal aluminum hat channels tig welded on the inside to provide additional rigidity and to reduce flex in the panel when operating valve controls.

Bidder Complies as Written: Yes: _____ No: _____

RUNNING BOARDS

The running boards shall be made of a structural tubular framework. The tubular frame supports all loads by transmitting the loads through the pump compartment structure directly to the chassis frame rails.

Bidder Complies as Written: Yes: _____ No: _____

The running boards shall be independent of the apparatus body and shall be integrated to the pump compartment structure only, eliminating any pump compartment to body interference. This is essential in keeping a truly 'modular' configuration. Slip-resistant abrasive adhesive materials shall be applied to the top surface of the running board framework to provide a suitable stepping surface.

Bidder Complies as Written: Yes: _____ No: _____

RIGHT & LEFT FLOATING HOSE WELLS

The left side running board area shall have a floating hose well with compartment matting and drain holes.

Bidder Complies as Written: Yes: _____ No: _____

The hose well shall be fabricated of 1/8" aluminum and be formed so that it rests in the framework of the running board with no fasteners installed. The front and rear ends of the hose well shall be slightly tapered, to allow the well to float up instead of being damaged in cases where extreme break over angles or impact from road debris are encountered.

Bidder Complies as Written: Yes: _____ No: _____

The hose well shall be approximately 9" deep (measured from the top of the running board) x 8.25" wide x 24" long. Hose well shall accommodate 50' of 5" hose with Storz couplings.

Bidder Complies as Written: Yes: _____ No: _____

There shall be one (1) seat belt buckle type straps with 24" of overall length, with chrome footman loops installed on the top side of the flange lip, front and back, of the floating hose well.

Bidder Complies as Written: Yes: _____ No: _____

MASTER GAUGES-LED BACKLIT

The master intake and master discharge gauges shall be manufactured by Thuemling or approved equal and shall be installed on the pump operator's panel. They shall be liquid filled to keep the dial from pulsating and also to prevent condensation from forming inside the gauges. The master gauges shall be 4 1/2 inches in diameter.

Bidder Complies as Written: Yes: _____ No: _____

The master intake gauge shall read from -30 to 400 psi with the master discharge gauge reading from 0 to 400 psi.

Bidder Complies as Written: Yes: _____ No: _____

The gauges shall be Thuemling model FA-LFP-410, or approved equal with a black face and white lettering.

Bidder Complies as Written: Yes: _____ No: _____

The master pressure gauge shall have RED LED backlighting.

Bidder Complies as Written: Yes: _____ No: _____

The master intake gauge shall have GREEN LED backlighting.

Bidder Complies as Written: Yes: _____ No: _____

PRESSURE GOVERNOR and ENGINE MONITORING DISPLAY

REMOTE THROTTLE CONTROL

A Class 1 "TPG+" pressure governor pump panel control module and a pressure transducer shall be provided. Class 1 Total Pressure Governor Plus is designed to control the engine fuel to maintain a desired pump pressure or engine speed setting along with displaying diagnostic information. The "TPG+" has a pre-set button for selecting a predetermined pressure or RPM and an emergency return to idle button.

LED readouts shall display RPM, engine oil pressure and oil temperature, engine temperature, transmission temperature, pump hours, total engine hours, fuel rate, and battery voltage. An audible alarm output shall also be part of the system.

Bidder Complies as Written: Yes: _____ No: _____

REMOTE THROTTLE HARNESS

An apparatus interface wiring harness for the engine shall be supplied with the chassis. The harness shall include a connector for connection to the chassis harness which shall terminate in the left frame rail behind the cab for reconnection by the apparatus builder. The harness shall contain connectors for a Class 1 Total Pressure Governor Plus and a multiplexed gauge. Separate circuits shall be included for pump controls, "Pump Engaged" and "OK to Pump" indicator lights, open compartment ground, start signal, park brake ground, ignition signal, master power, customer ignition, air horn solenoid switch, high idle switch and high idle indication light. The harness shall be designed for a side mount pump panel.

An apparatus interface wiring harness shall also be included which shall be wired to the cab harness interface connectors and shall incorporate circuits with relays to control pump functions. This harness shall control the inputs for the transmission lock up circuits, governor/hand throttle controls and dash display which shall incorporate "Pump Engaged" and "OK to Pump" indicator lights. The harness shall contain circuits for the apparatus builder to wire in a pump switch.

Bidder Complies as Written: Yes: _____ No: _____

TESTING PORTS

Test port connections for pressure and vacuum shall be provided at the pump operator's panel. One shall be connected to the intake side of the pump, and the other to the discharge manifold side of the pump. They shall have 0.25 in. standard pipe thread connections and be manufactured of non-corrosive polished stainless steel or brass plugs.

Bidder Complies as Written: Yes: _____ No: _____

INTAKE PRESSURE RELIEF VALVE

An Elkhart pressure relief valve with a range of adjustment from 75 to 250 PSI (5.1 to 17.2 kPa) shall be installed inside pump compartment piped to the suction side of the pump.

Bidder Complies as Written: Yes: _____ No: _____

The valve shall be preset at 125 PSI (860 kPa) suction inlet pressure. The valve shall be installed inside the pump compartment where it will be easily accessible for future adjustment. The excess water shall be plumbed to the atmosphere via the unloader pipe and shall dump on the opposite side of the pump operator.

Bidder Complies as Written: Yes: _____ No: _____

For normal pumping operations, the relief valve shall not be capped and there shall be a placard stating, "DO NOT CAP" installed.

Bidder Complies as Written: Yes: _____ No: _____

HEAT EXCHANGER

The supplementary heat exchanger cooling system provided on the chassis, it shall be complete to the discharge side of the fire pump through to the engine compartment, without intermixing, for absorption of excess heat.

Bidder Complies as Written: Yes: _____ No: _____

The heat exchanger shall be adequate in size to maintain safe operating temperature of the coolant in the pump drive engine and not in excess of the engine manufacturer's temperature rating, under all pumping

conditions. Appropriate drains shall be provided to allow draining the heat exchanger to prevent damage from freezing.

Bidder Complies as Written: Yes: _____ No: _____

HEAT EXCHANGER DRAIN VALVE

A Class One model #120381, with ¾” J-style lift-up handle shall be provided for the heat exchanger. The drain valve shall be installed at the pump operator's position.

Bidder Complies as Written: Yes: _____ No: _____

HEAT EXCHANGER WARM WATER DECON LINE CONNECTION

The heat exchanger shall have a tee installed in order to provide warm water to the officer side pump panel for the purpose of deconning fire personnel. It shall have a surface mounted quarter turn valve above a male garden hose connection both finished with a stainless steel flange. Location to be determined with the pump panel designs.

Bidder Complies as Written: Yes: _____ No: _____

AIR HORN BUTTON

There shall be a weatherproof red air horn activation push button installed on the pump operator's pump panel as specified on the purchaser’s pump panel design. The air horn button shall be of weather resistance type and labeled “AIR HORN”.

Bidder Complies as Written: Yes: _____ No: _____

PUMP COMPARTMENT TOP OVERLAY

The top of the pump compartment shall be overlaid with materials of a non slip 3/16" embossed aluminum diamond plate, meeting the minimum NFPA standard requirements for slip resistance.

Bidder Complies as Written: Yes: _____ No: _____

FORWARD OPEN DUNNAGE AREA – FLOWER BOX

A single wall 3/16" aluminum diamond plate dunnage area shall be provided above the pump house compartment for the booster reel, master stream and storage space. The dunnage area shall be as wide as possible from side to side, and front to back. The depth of the compartment shall be 16” from the top of the finished section and designed to be removed for access to the pump housing, designed for standing personnel, with drain holes in the corners.

Bidder Complies as Written: Yes: _____ No: _____

ENCLOSED STORAGE AREA OVER CROSSLAYS

There shall be an enclosed compartment located above the crosslay area approximately the width of the rear section above the crosslays with 14” tall x 20” wide openings on both sides and coffin style lid over a large upper opening which shall be provided with have a hinged 1/8" embossed aluminum diamond plate doors. The coffin door shall be installed to provide a solid surface and have a mechanical butterfly latched holding the cover in the closed position. The cover shall be hinged on the rearward edge of the compartment. The door shall have an aluminum hat section stiffener attached to the door for extra support. The side doors shall be mounted with piano style hinges, rotating up, supported by light duty gas struts, and latched using two (2) push button latches on both doors. The doors shall have a weather tight seal.

Bidder Complies as Written: Yes: _____ No: _____

An adhesive backed bulb seal shall be applied to the underside perimeter of the lid, excluding the hinge side, to ensure a positive seal.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The formed door incorporating broken edges of 45 degrees or less shall extend over the compartment edge approximately 1” to minimize water penetration. The door shall be secured by dual push button weather resistant (C2) South Co Brand style latches; the door shall be fabricated of NFPA compliant, slip resistant embossed aluminum diamond plate and be secured by an aluminum hinge. If deemed necessary due to width, the doors shall be reinforced to act as a suitable walking or standing surface.

Bidder Complies as Written: **Yes:** _____ **No:** _____

Each door shall be held open by a gas charged strut on each side and permit full access to the compartment along its length. The struts shall be concealed inside the compartment when the door is in the closed position. The compartments shall be constructed as part of the body and be accessible from the hose bed area.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The upper compartments shall not be vented. There shall be plastic tubing installed for adequate drainage that is routed from corners of the upper compartment floors down to below the lower compartment floor level.

Bidder Complies as Written: **Yes:** _____ **No:** _____

One (1) full length Whelen Super LED Strip-lite shall be mounted to the full length upper inside wall (rearward portion) of the compartment. The lights shall be on a circuit and turning on only when the covers are opened. The lights shall include a protective shroud over the lights.

Bidder Complies as Written: **Yes:** _____ **No:** _____

If the compartment is not properly closed and the transmission is placed into drive or reverse mode with the parking brake released, it shall activate the “Door Open” indicator light in the cab to warn the crew.

Bidder Complies as Written: **Yes:** _____ **No:** _____

MIDSHIP PUMP

The pump shall have the capacity of 1500 gallons per minute, measured in U.S. Gallons. The pump shall be a Waterous Fire Pump, CSUC20 , single stage.

The entire pump shall be manufactured at the pump manufacturer's factory. The pump body and related parts shall be of fine grain alloy cast iron, with a minimum tensile strength of 30,000 PSI. All moving parts in contact with water shall be of high quality bronze or stainless steel. Pump utilizing castings made of lower tensile strength cast iron not acceptable.

Pump body shall be horizontally, on a single plane, in two sections, for easy removal of entire impeller assembly including wear rings and bearings from beneath the pump without disturbing piping or the mounting of the pump on the chassis. The pump body shall have two opposed discharge volute cut waters to eliminate radial unbalance

The pump shall have one (1) double suction impeller made of hard, fine grain bronze of the mixed flow design; accurately machined, hand-ground and individually balanced. The vanes of the impeller intake eyes shall be hand ground and polished to a sharp edge, and be of sufficient size and design to provide ample reserve capacity utilizing minimum horsepower. The pump shaft is to be rigidly supported by three bearings for minimum deflection. One high lead bronze sleeve bearing to be located immediately adjacent to the impeller (on side opposite the gearbox). The sleeve bearing is to be lubricated by a force fed, automatic oil lubricated design, pressure balanced to exclude foreign material. The gearbox bearings shall be heavy-duty, deep groove ball bearings and they shall be splash lubricated. All gears both drive and pump, shall be of highest quality electric furnace chrome nickel steel. Bores shall be ground to size and teeth integrated and hardened, to give an extremely accurate gear for long life, smooth, quiet running, and higher load carrying capability. An accurately cut spur design shall be provided to eliminate all possible end thrust. All gears, both drive and pump, shall be of highest quality electric furnace chrome nickel steel. The bores shall be ground to size and teeth integrated, crown shaved and hardened, to give an extremely accurate gear for long life, smooth, quiet running and higher load carrying capability. An accurately cut spur design shall be provided to eliminate all possible end thrust.

Impeller clearance rings shall be removable and made of non-corrosive material. The pump shaft shall be heat-treated, electric furnace, corrosion resistant, stainless steel. The pump shaft must be sealed with double lip oil seal to keep road dirt and water out of the drive unit.

The pump drive unit shall be of sufficient size to withstand up to 16,000 lbs. / ft. of torque of the engine in both road and pump operating conditions. The drive unit shall be designed of ample capacity for lubrication reserve and to maintain the proper operating temperature. The drive unit shall be cast and completely manufactured and tested at the pump manufacturer factory.

The gearbox drive shafts shall be of heat treated chrome nickel steel and at least 2 3/4" in diameter, on both the input and output drive shafts. They shall withstand the full torque of the engine in both road and pump operating conditions.

The pump, both suction and discharge passages, shall be hydrostatically tested to a pressure of 600 PSI. The pump shall be fully tested at the pump manufacturer's factory to the performance spots as outlined by the latest NFPA Pamphlet No. 1901. The pump shall be free from objectionable pulsation and vibration.

The pump ratio shall be selected by the apparatus manufacturer to give maximum performance with the engine and transmission selected. The pump shall be driven by a drive line from the truck transmission. The engine shall provide sufficient horsepower and RPM to enable pump to meet and exceed its rated performance.

The pump must deliver the percentages of rated capacity at these pressures:
100% of rated capacity at 150 pounds net pressure,
100% of rated capacity at 165 pounds net pressure,
70% of rated capacity at 200 pounds net pressure,
50% of rated capacity at 250 pounds net pressure.

Since this pump is available to all bidders on an equal basis, there shall be no exception to the Waterous CSUC20 pump specifications.

Bidder Complies as Written: **Yes:** _____ **No:** _____

MASTER DRAIN VALVE

A manifold type drain valve shall be installed in the pump compartment. All pump drains shall be connected to the master drain valve. The drain valve shall be controlled from the left side lower pump house sill. The control shall be a hand wheel knob marked "open" and "closed".

The drain shall be located such that it shall not interfere with pumping operations or function such as soft suction hoses, etc. nor shall it protrude past the outer edge of the apparatus, to prevent damage to the valve.

In some cases, it is necessary to locate the master drain in a secondary location to ensure proper function, such as draining, or if no lower or vertical sill exists. In this event, the drain shall be located below the bottom outside edge of the hose body near the forward most corner on the driver's side hose body. The drain shall not protrude past the outer edge of the body, thus preventing damage to the valve.

Bidder Complies as Written: **Yes:** _____ **No:** _____

PUMP SEAL

A mechanical seal shall be supplied on the inboard side of the pump. The mechanical seal must be two (2) inches in diameter and shall be spring-loaded, maintenance-free and self-adjusting. Mechanical seal construction shall be a carbon sealing ring, stainless steel coil spring, Viton rubber cup, and a tungsten carbide seat.

Bidder Complies as Written: **Yes:** _____ **No:** _____

PUMP SHIFT

The drive unit shall be provided with an electric rocker switch over air pump shift system. The control valve shall be a spring loaded guard lever that locks in "Road" or "Pump" mode.

To the left of the pump shift control, there shall be two indicator lights to show the position of the pump when the control is moved to "Pump" position. A green light shall be energized when the pump shift has been completed and shall be labeled "PUMP ENGAGED"; a second green light shall be labeled "OK TO PUMP" energized when both the pump shift has been completed and the chassis automatic transmission is engaged.

In addition to this indicator light, an additional indication shall be provided to the pump operator at the panel when the pump is ready to pump. This additional indication shall be that one (1) of the operator's panel illumination lights will only activate when the "OK TO PUMP" indicator is lit. The remaining panel lights shall be controlled via push button switch.

The pump shift location shall be determined at the pre-construction meeting.

Bidder Complies as Written: **Yes:** _____ **No:** _____

AUTOMATIC FIRE PUMP PRIMING SYSTEM

A Trident Model #31.001.3 automatic air operated priming system shall be installed. The unit shall be of all brass and stainless steel construction and designed for fire pumps of 1,250 GPM (4,690 LPM) or more. Due to corrosion exposure no aluminum or vanes shall be used in the primer design. The primer shall be three-barrel design with ¾" NPT connection to the fire pump.

The primer shall be mounted above the pump impeller so that the priming line will automatically drain back to the pump. The primer shall also automatically drain when the panel control actuator is not in operation. The inlet side of the primer shall include a brass 'wye' type strainer with removable stainless steel fine mesh strainer to prevent entry of debris into the primer body.

Performance, Safety, and NFPA Compliance

The priming system shall be capable to a vertical lift to 22 inches of mercury and shall be fully compliant to applicable NFPA standards for vertical lift. The system shall create vacuum by using air from the chassis air brake system through a three-barrel multi-stage internal "venturi nozzles" within the primer body. The noise level during operation of the primer shall not exceed 75 Db.

Air Flow Requirements

The primer shall require a minimum of 15.6 cubic foot per minute air compressor and shall be capable of meeting drafting requirements at high idle engine speed. The air supply shall be from a chassis supplied 'protected' air storage tank with a pressure protection valve. The air supply line shall have a pressure protection valve set between 70 to 80 PSIG.

Automatic Primer Control

The 12 volt primer control shall be an "automatic" type, with a pump panel three-way switch to operate an air solenoid valve. The air valve shall direct air pressure from the air brake system to the primer. To prevent freezing, no water shall enter the primer valve control.

The automatic priming switch shall have three positions as follows:

"Prime" – the lower position shall be a momentary "push to prime". The "Prime" position also allows the operator to "ramp" test the primer without the fire pump being engaged.

"Off" -- center position

"Auto-Prime" – in the upper position, a "green" LED pilot light shall be illuminated when the switch is the auto-prime position. The "Auto-Prime" operates automatically when the pump pressure drops below 20 PSIG. The primer shuts "off" automatically when the pump pressure is re-established and exceeds 20 PSIG. The "Auto" mode only operates when the fire pump is engaged.

Power Requirements

To reduce the electrical power requirements on the fire apparatus the priming system shall be air powered. The system shall not require annual tear-down and maintenance, an electric motor, lubrication, belt drive, or clutch assembly. The maximum current draw shall not exceed 0.5amps during operation.

Warranty

The primer shall be covered by a five (5) year parts warranty.

Bidder Complies as Written: **Yes:** _____ **No:** _____

THERMAL RELIEF VALVE

A Waterous thermal protection device shall be installed on the apparatus pump to monitor pump water temperature and open to relieve water to cool the pump.

The thermal protection devices shall be set to relieve water when the temperature of the pump exceeds 120° F (49° C).

The components of the thermal protection device shall be manufactured of brass and stainless steel and be compatible with most foam concentrates. The thermal protection device shall have 1-1/4 inch NPT threads for easy adaptability to existing pump discharge openings. The discharge line shall be 3/8 inch diameter tubing vented to atmosphere or back to the booster tank. The thermal protection device shall have a hydrostatic test rating of 600 PSI (41.3 bar).

A warning light and audible alarm shall be installed on the pump panel to alert the operator that the relief valve is open. The relief valve shall discharge out below the running board.

Bidder Complies as Written: **Yes:** _____ **No:** _____

MAIN PUMP INLETS

A 6.00 inch (152mm) pump manifold inlet shall be provided on each side of the pump. The shorter style inlets shall protrude less than 2 inches (50mm) away from the side panels, allowing an external valve to be connected and not protrude past the apparatus body sides while maintaining a low connection height.

The main pump inlets shall have National Standard Threads and include removable screens designed to provide cathodic protection for reducing deterioration in the pump.

INTAKE WATERWAY VALVES

There shall be two (2) full flowing Master Intake Butterfly Valves (MIV) installed with the apparatus on the right and left side steamer inlets. The valves shall be electrically controlled and installed between the main pump body casting and the steamer inlet casting.

The control shall include status lights that indicate valve positioning; open, closed, or traversing from one position to another. The valve shall have a manual override control provided and installed in an easily accessible location.

The valve shall be rated at 1500 PSI and be capable of withstanding the same pressures as the pump.

The MIV shall have a built-in adjustable pressure relief valve, with a quarter turn air bleeder valve. The bleeder valve shall be plumbed to the water supply side of the intake valve (by a 3/4" NPT port), to help evacuate air from the system and avoid cavitation of the pump.

AUTOMATIC INTAKE VALVE CONTROL

Left and Right side Auto MIV control shall be wired that automatically opens the electric valve when hydrant pressure is applied at (15) psi, and closed at (5) psi. A two position control switch shall be installed (auto, manual), for each intake valve. This control shall be integrated with the Automatic Tank To Pump Control.

Bidder Complies as Written: Yes: _____ No: _____

VALVE MANUAL OVER RIDE FOR LDH INTAKES

Two (2) manual over ride crank control(s), one (1) for each electric LDH intake shall be installed at the pump panel to facilitate operation of the valve in case of a failure in the valve's electrical wiring and/or motor. The manual over ride provisions shall protrude thru the panel.

Bidder Complies as Written: Yes: _____ No: _____

5" STORZ ELBOW & CAP(S)

There shall be two (2) 30 degree 6"NST Female Swivel x 5" Storz aluminum elbow(s) and one (1) 5" Storz cap(s) installed shall be provided on the right & left side steamer inlets.

Bidder Complies as Written: Yes: _____ No: _____

6" CHROME PLATED BRONZE CAP(S)

There shall be two (2) 6" long handled chrome plated self-venting lug cap(s) shipped loose. The cap(s) shall be National Standard Thread.

Bidder Complies as Written: Yes: _____ No: _____

PUMP COOLING LINE

There shall be a 3/8 inch (9.5 mm) line running from the pump to the water tank to assist in keeping the pump water from overheating. A quarter turn on/off valve shall be installed on the operator's panel.

Bidder Complies as Written: Yes: _____ No: _____

PUMP ANODE(S)

Two (2) pump anode(s) shall be installed in plumping system of the apparatus, to prevent damage from galvanic corrosion within the pump system.

One (1) shall be installed in the intake side of the pump and one (1) shall be installed in the discharge side of the pump.

Bidder Complies as Written: Yes: _____ No: _____

STAINLESS STEEL PLUMBING

All auxiliary suction and discharge plumbing related fittings, and manifolds shall be fabricated with schedule 10 stainless steel pipe; brass or high pressure flexible piping with stainless steel couplings. Galvanized components and/or iron pipe shall NOT be accepted to ensure long life of the plumbing system without corrosion or deterioration of the waterway system. Where waterway transitions are critical (elbows, tees, etc.), no threaded fittings shall be allowed to promote the smooth transition of water flow to minimize friction loss and turbulence. All piping components and valves shall be non-painted, unless otherwise specified.

Bidder Complies as Written: Yes: _____ No: _____

All piping welds shall be wire brushed and cleaned for inspection and appearance.

Bidder Complies as Written: Yes: _____ No: _____

The high pressure flexible piping shall be black SBR synthetic rubber hose with 300 PSI working pressure and 1200 PSI burst pressure for flexible piping sizes 1.5" through 4". Sizes 3/4", 1" and 5" are rated at 250 PSI working pressure and 1000 PSI burst pressure. All sizes are rated at 30 in HG vacuum. Reinforcement consists of two plies of high tensile strength tire cord for all sizes and helix wire installed in sizes 1" through 5" for maximum performance in tight bend applications. The material has a temperature rating of -40° F to +210° F.

Bidder Complies as Written: Yes: _____ No: _____

The stainless steel full flow couplings are precision machined from high tensile strength stainless steel. All female couplings are brass. Mechanical grooved and male 3/4" and 1" couplings are brass. A high tensile strength stainless steel ferrule with serrations on the I. D. is utilized to assure maximum holding power when fastening couplings to hose.

Bidder Complies as Written: Yes: _____ No: _____

All cable restraints for all plugs and caps shall be stainless steel cable with a plastic/vinyl type coating.

Bidder Complies as Written: Yes: _____ No: _____

PUMP HOUSE LINE PROTECTION

All drain lines for the discharges, suctions, ABS discharge gauge lines and any other connections in the pump house area shall have a protective cover provided on the lines in the required areas of the lines to prevent the lines from rubbing on any other components in the pump house area.

Bidder Complies as Written: Yes: _____ No: _____

All drain lines, ABS lines, high pressure discharge lines and electrical wiring in the pump house area shall be properly and neatly routed, wire tied and rubber coated "P" clamped, to keep the items secured.

Bidder Complies as Written: Yes: _____ No: _____

DRAIN VALVES

All manual drains shall be a 3/4" drain with a quarter turn valve. Preconnect drains shall be located on the respective discharge sides, mounted below the rub rail under the pump compartment.

Bidder Complies as Written: Yes: _____ No: _____

2.5" LEFT SIDE INLET

There shall be a gated suction inlet with .75 inch (19mm) bleeder installed on the left side of the apparatus. A total quantity of one (1) shall be provided with the following specified components:

Bidder Complies as Written: Yes: _____ No: _____

A 2.5" Akron Brass 8800 series swing-out valve with stainless steel ball.

Bidder Complies as Written: Yes: _____ No: _____

The control valve shall be a 'swing out type' direct operation manual lever actuator.

Bidder Complies as Written: Yes: _____ No: _____

The plumbing shall consist of 2.5" piping, and shall incorporate a manual drain control installed below the pump area for ease of access.

Bidder Complies as Written: Yes: _____ No: _____

The suction termination shall include the following components:

- One (1) 2.5" NST swivel female adapter with screen
- One (1) 2.5" male self-venting plug, secured by a vinyl coated stainless steel cable.

Bidder Complies as Written: Yes: _____ No: _____

2.5" RIGHT SIDE INLET

There shall be a gated suction inlet with .75 inch (19mm) bleeder installed on the left side of the apparatus. A total quantity of one (1) shall be provided with the following specified components:

Bidder Complies as Written: Yes: _____ No: _____

A 2.5" Akron Brass 8800 series swing-out valve with stainless steel ball.

Bidder Complies as Written: Yes: _____ No: _____

The control valve shall be a 'swing out type' direct operation manual lever actuator.

Bidder Complies as Written: Yes: _____ No: _____

The plumbing shall consist of 2.5" piping, and shall incorporate a manual drain control installed below the pump area for ease of access.

Bidder Complies as Written: Yes: _____ No: _____

The suction termination shall include the following components:

- One (1) 2.5" NST swivel female adapter with screen
- One (1) 2.5" male self-venting plug, secured by a vinyl coated stainless steel cable.

Bidder Complies as Written: Yes: _____ No: _____

2 1/2" RIGHT SIDE DISCHARGE

There shall be a gated discharge installed on the right side of the apparatus. A total quantity of one (1) shall be provided with the following specified components:

Bidder Complies as Written: Yes: _____ No: _____

A 2 1/2" Akron Brass 8800 series swing-out valve with a stainless steel ball.

Bidder Complies as Written: Yes: _____ No: _____

The discharge shall be controlled with a Waterous Rack and Sector control with a push/pull handle, for direct operation through the panel.

Bidder Complies as Written: Yes: _____ No: _____

The plumbing shall consist of 2 1/2" piping, and shall incorporate a manual drain control installed below the pump area for ease of access.

Bidder Complies as Written: Yes: _____ No: _____

The discharge termination shall include the following components:

- One (1) 2.5" Male NST adapter
- One (1) 2.5" NST female by male swivel w/45 degree elbow
- One (1) 2.5" female self-venting cap, secured by a vinyl coated stainless steel cable.

Bidder Complies as Written: Yes: _____ No: _____

A Thuemling 2.5" (63mm) gauge or approved equal shall be supplied for the discharge pressure reading of 0-400 psi. The gauge shall be a model FA-LFP-210 with a black face and white lettering. A (red) LED backlight shall be installed in the gauge.

Bidder Complies as Written: Yes: _____ No: _____

2 1/2" LEFT SIDE DISCHARGES

There shall be a gated discharge installed on the left side of the apparatus. A total quantity of two (2) shall be provided with the following specified components:

Bidder Complies as Written: Yes: _____ No: _____

A 2 1/2" Akron Brass 8800 series swing-out valve with a stainless steel ball.

Bidder Complies as Written: Yes: _____ No: _____

The control valve shall be a Waterous Rack and Sector control assembly controlled at the left side pump panel.

Bidder Complies as Written: Yes: _____ No: _____

The plumbing shall consist of 2 1/2" piping, and shall incorporate a manual drain control installed below the pump area for ease of access.

Bidder Complies as Written: Yes: _____ No: _____

The discharge termination shall include the following components:

- One (1) 2.5" Male NST adapter
- One (1) 2.5" NST female by male swivel w/45 degree elbow
- One (1) 2.5" female self-venting cap, secured by a vinyl coated stainless steel cable.

Bidder Complies as Written: Yes: _____ No: _____

A Thuemling 2.5" (63mm) gauge shall be supplied for the discharge pressure reading of 0-400 psi. The gauge shall be a model FA-LFP-210 with a black face and white lettering. A (red) LED backlight shall be installed in the gauge.

Bidder Complies as Written: Yes: _____ No: _____

RIGHT LDH MASTER DISCHARGE

There shall be a master discharge installed on the right side of the apparatus. A total quantity of one (1) shall be provided with the following specified components:

Bidder Complies as Written: Yes: _____ No: _____

A 1/2 4" Waterous valve with electric control. A bright LED display shall be provided on the valve control panel to show valve position.

Bidder Complies as Written: Yes: _____ No: _____

The plumbing shall consist of 4" piping, and shall incorporate a manual drain control installed below the pump area for ease of access. There shall be approximately 8" of distance between the bottom of the 2.5" discharge elbow adapter and the top of the 5" Storz LDH discharge adapter to allow for ample space to make hose connections.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The discharge termination shall include the following components:

- One (1) 4" NST adapter
- One (1) 4" NST female swivel by 5" Storz cast aluminum 30 degree elbow
- One (1) 5" female Storz self-venting cap, secured by a vinyl coated stainless steel cable.

Bidder Complies as Written: **Yes:** _____ **No:** _____

A Thuemling 2.5" (63mm) gauge shall be supplied for the discharge pressure reading of 0-400 psi. The gauge shall be a model FA-LFP-210 with a black face and white lettering. A (red) LED backlight shall be installed in the gauge.

Bidder Complies as Written: **Yes:** _____ **No:** _____

CROSS LAYS: SINGLE STACK

SINGLE STACK DEFINED AS FOLLOWS:

The crosslay hose beds shall be located in the upper portion of the pump module rearward of the pump operators panel. The crosslay openings shall be 20" tall x 20.5" wide on both sides. The crosslays shall be constructed with twenty (20") inch approximate depth for laying a 200' single stack of each hose size specified below. The crosslay area shall span the entire width of the pump module apparatus less the 8" recess step which is the top of the pump module compartment. Drainage holes shall be installed across the bottom of this compartment to facilitate drainage from the crosslay trays.

Bidder Complies as Written: **Yes:** _____ **No:** _____

Removable crosslay trays with hand holes and slotted aluminum flooring shall be provided for the hose area. The ends of each tray shall have a recess cutout to facilitate nozzle storage approximately five (5) inches from the bottom, and back towards the center twelve (12) inches. Each crosslay tray shall have a black nylon lift strap on each end approximately 4" long to facilitate tray removal from over the retention lip

Bidder Complies as Written: **Yes:** _____ **No:** _____

The crosslays are single stack, 20" deep with removable trays. The edge of the crosslays/pump house will be in 8" from edge of the side of the body. The trays shall be shorter than the opening to allow for their removal from the compartment and a 1/2" nylon retention lip.

Bidder Complies as Written: **Yes:** _____ **No:** _____

Two (2) 2.5" hose and nozzle crosslay trays shall have a minimum inside dimensions of 5" inside width (no exception). Two (2) 1.75" hose and nozzle crosslay trays shall have a minimum of 4" inside width, slightly wider is preferable. All trays shall have large holes for drainage on the bottom and sides for ventilation. The Fire Department shall confirm the dimensions at the Pre-Construction Meeting.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The crosslays shall be configured as follows (front to back):

Bidder Complies as Written: Yes: _____ No: _____

#1 Slot: 1 3/4" Crosslay terminated on driver's side, valve control to be located below the upper gauge and lower discharge bulkhead fitting. Valve control to be color coded RED.

Bidder Complies as Written: Yes: _____ No: _____

#2 Slot: 1 3/4" Crosslay terminated on officer's side, valve control to be located below the upper gauge. Valve control to be color coded BLUE.

Bidder Complies as Written: Yes: _____ No: _____

#3 Slot: 2 1/2" Crosslay terminated on driver's side, valve control to be located below the upper gauge and lower discharge bulkhead fitting. Valve control to be color coded Orange.

Bidder Complies as Written: Yes: _____ No: _____

#4 Slot: 2 1/2" Crosslay terminated on officer's side, valve control to be located below the upper gauge. Valve control to be color coded Green.

Bidder Complies as Written: Yes: _____ No: _____

The doors on the ends of the crosslays will have two (2) thumb latches on each of the bottom corners and shall have stiffeners added for support on the latch edge.

Bidder Complies as Written: Yes: _____ No: _____

There shall be (4) "bulkhead" plumbing connections (2) each side located just above the engineer's compartment for pre-connected hose and shall have enough space to easily attach and remove female hose fittings.

Bidder Complies as Written: Yes: _____ No: _____

The floors of the crosslays/speedlays will not exceed 65" from the ground, no exceptions.

Bidder Complies as Written: Yes: _____ No: _____

There shall be approximately 2" of space above and below the 2-1/2" discharge ports to facilitate the connection of a gated wye valve. The clearance is needed above the lower pump panel/engineer's compartment and below the crosslay valve handle depending on which side of the apparatus.

Bidder Complies as Written: Yes: _____ No: _____

All crosslay gauges, valve handles, and ports shall be evenly spaced top to bottom, lined up directly beneath their perspective crosslay slot.

Bidder Complies as Written: Yes: _____ No: _____

1 3/4" CROSSLAYS

Two (2) crosslay(s) shall be provided for up to 200 feet (60m) of 1.75 inch (44.4mm) hose.

Bidder Complies as Written: Yes: _____ No: _____

A 2" Akron Brass 8800 series swing-out valve with a stainless steel ball.

Bidder Complies as Written: Yes: _____ No: _____

The discharge shall be controlled from the side operator's panel.

Bidder Complies as Written: Yes: _____ No: _____

The plumbing shall consist of 2" piping, and shall incorporate a manual drain control installed below the pump area for ease of access.

Bidder Complies as Written: Yes: _____ No: _____

The discharge termination shall include the following components:

- One (1) 2" NPT x 1.5" NST chrome plated fixed bulkhead fitting for each crosslay.

Bidder Complies as Written: Yes: _____ No: _____

A Thuemling 2.5" (63mm) gauge shall be supplied for the discharge pressure reading of 0-400 psi. The gauge shall be a model FA-LFP-210 with a black face and white lettering. A (red) LED backlight shall be installed in the gauge.

Bidder Complies as Written: Yes: _____ No: _____

2 1/2" CROSSLAY

Two (2) crosslay(s) shall be provided for up to 200 feet (60m) of 2.5 inch (63.5mm) hose.

Bidder Complies as Written: Yes: _____ No: _____

A 2 1/2" Akron Brass 8800 series swing-out valve with a stainless steel ball.

Bidder Complies as Written: Yes: _____ No: _____

The discharge shall be controlled from the side operator's panel.

Bidder Complies as Written: Yes: _____ No: _____

The plumbing shall consist of 2 1/2" piping, and shall incorporate a manual drain control installed below the pump area for ease of access.

Bidder Complies as Written: Yes: _____ No: _____

The discharge terminations shall include the following components:

- One (1) 2.5" NPT x 2.5" NST chrome plated fixed bulkhead fitting for each crosslay.

Bidder Complies as Written: Yes: _____ No: _____

A Thuemling 2.5" (63mm) gauge shall be supplied for the discharge pressure reading of 0-400 psi. The gauge shall be a model FA-LFP-210 with a black face and white lettering. A (red) LED backlight shall be installed in the gauge.

Bidder Complies as Written: Yes: _____ No: _____

CROSSLAY TRIM

Brushed stainless steel trim shall be installed at the openings on each side of the crosslay hose bed area. The trim shall reduce the chaffing of the hose jacket on the edges of the bay area.

Bidder Complies as Written: Yes: _____ No: _____

CROSSLAY COVER

The crosslay hose bed area shall have a hinged 1/8" embossed aluminum diamond plate cover installed. The cover shall have a horizontal hinge mounted on the top side of the cover, (1) each side, that is provided over the outside of the crosslay area to keep the hose contained. The door shall open up with a two (2) light struts holding it up at a horizontal position. The door shall be left 7" short at the bottom to allow for hose to be left preconnected to the discharge plumbing. The cover shall latch into holes in the tube structure. The door shall include a one (1) webbing tether connected with a footman loop to the middle of inside of the door to allow for lowering the door to be latched.

Bidder Complies as Written: Yes: _____ No: _____

BOOSTER HOSE REEL

There shall be one (1) Hannay series electric rewind booster reel with automatic brake installed on the apparatus. The rewind motor shall be mounted/located internally to the reel frame in order to provide the widest drum for the open dunnage area front to back depth. The reel shall have a capacity of 200' of 1" Reeltex 800 psi booster hose. The hose shall deploy from the top of the drum to the guide rollers. The reel shall be plumbed to the pump with a 1.5" quarter turn Akron 8810 ball valve and 1.5" high pressure hose, couplings, and plumbing from the foam discharge manifold. The valve shall be controlled from the operator's panel. The Valve shall be labeled "Booster Reel" with a red outlined plate. There shall be a manual rewind device provided. A manual crank shall be mounted adjacent to booster reel. The hose reel specified shall be polished aluminum. The hose reel shall be mounted above the pump house on the officer's side.

An electric rewind switch shall be located on the officer's side lower pump panel. A second rewind switch shall be located near the booster reel in the dunnage area to facilitate loading from the top. The switches shall have a weather resistant rubber cover and label denoting its function.

There will be two sets of stainless steel hose roller guides installed on each side of the upper pump house to allow hose payout to either side of the apparatus, the same width of the hose reel, with upper, lower and side rollers for hose retention. The top roller shall be easily removable to facilitate operation from the driver's side of the apparatus.

BOOSTER HOSE

The reel shall come equipped with 200 feet of 1" diameter Neidner ReelTex booster reel hose (red). The hose shall be provided in one (1) 200 foot length with hardcoat aluminum couplings.

Bidder Complies as Written: Yes: _____ No: _____

BOOSTER HOSE NOZZLE AND MOUNT

There shall be an Elkhart Brass model SM3FG 1" booster reel nozzle supplied. The Elkhart SM3FG nozzle shall be configured with a pistol grip, free-swivel base, tab valve handle, and RED nozzle bumper. The nozzle shall be connected to the booster reel line and stored in a nozzle mount attached to the right pump panel per the direction of the Fire Department at the Mid-Inspection.

Bidder Complies as Written: Yes: _____ No: _____

BOOSTER HOSE CLASS A FOAM

The Booster Reel/Hose shall be plumbed with Class A Foam from the FoamPro System.

Bidder Complies as Written: Yes: _____ No: _____

BOOSTER HOSE DRAIN

There shall be a booster line drain located on the driver’s side pump panel as indicated by the Purchaser’s pump panel design.

Bidder Complies as Written: Yes: _____ No: _____

DECK GUN MONITOR WATERWAY

There shall be one (1) deck gun monitor waterway(s) installed on the apparatus.

Bidder Complies as Written: Yes: _____ No: _____

A 3" Akron Brass 8000 series 'electric valve' with stainless steel ball.

Bidder Complies as Written: Yes: _____ No: _____

The control valve at the pump panel shall be an electric Akron Brass model#9313.

Bidder Complies as Written: Yes: _____ No: _____

The electric controls shall be of current limiting design, requiring no clutches in the motor. The unit shall have booted switches with momentary open close as well as an optional one touch full open feature to operate the actuator. The unit shall be capable of connecting to an auxiliary controller for operation at a location away from the master. The unit shall provide position indication through 10 LED light indicators, providing maximum visibility.

Bidder Complies as Written: Yes: _____ No: _____

A second matching slave control actuator shall be provided adjacent to the deck gun appliance allowing the monitor operator to control the discharge. Said control will be mounted adjacent to the masterstream discharge in a protected location and not to interfere with dunnage storage or walking surface.

Bidder Complies as Written: Yes: _____ No: _____

The waterway shall be plumbed with 3" piping that terminates 3" above the top of the pump compartment unless otherwise specified or required by a specific deck gun selection as noted.

The plumbing shall be drained with an auto-drain located at the lowest point of the waterway plumbing if required.

Bidder Complies as Written: Yes: _____ No: _____

There will be a Task Force Tips 18" Extenda-Gun installed on the deluge pipe. The Extenda-Gun will be wired to one of the four LED cab "Door Open" indicator lights noted earlier within this specification that will notify occupants the gun is not in the stowed position.

Bidder Complies as Written: Yes: _____ No: _____

A Thuemling 2.5" (63mm) gauge shall be supplied for the discharge pressure reading of 0-400 psi. The gauge shall be a model FA-LFP-210 with a black face and white lettering. A (red) LED backlight shall be installed in the gauge.

Bidder Complies as Written: Yes: _____ No: _____

The deluge pipe shall be located up through the pump compartment, offset to the left 1/3 of the dunnage area not to impede the booster line reel or operation.

Bidder Complies as Written: **Yes:** _____ **No:** _____

MONITOR APPLIANCE

There shall be one (1) Elkhart Stinger 2.0 series portable monitor with discharge pipe, provided and installed on the apparatus.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The deck gun shall be mounted to the deluge waterway via a top mount adapter and include the following components:

- One (1) 282-A- stream shaper.
- One (1) ST-194 Stacked Tips.
- One (1) standard controls.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The ground base shall have a 5.0" storz inlet. Included will be the #81204 ground base kit.

Bidder Complies as Written: **Yes:** _____ **No:** _____

There shall be one (1) Elkhart model # SM-1250, 300-1250 GPM nozzle provided with the apparatus.

Bidder Complies as Written: **Yes:** _____ **No:** _____

FOAMPRO 2002

There shall be a fully automatic electronic direct injection foam proportioning system furnished and installed on the apparatus. The proportioning operation shall be based on an accurate direct measurement of water flows by a paddle wheel flow meter with no water flow restriction.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The foam system shall have a 12 volt, 3/4 horsepower "TENV" electric motor, designed for high humidity environments, coupled to a positive displacement piston type foam concentrate pump. It shall have a rated capacity of .01 to 5.0 GPM with operating pressures up to 400 psi. The system shall be model FoamPro 2002, manufactured by the Hypro Corporation installed in accordance with the manufacturers recommendations.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The system shall be equipped with a digital electronic control display. It shall be installed on the pump operators panel and enable the pump operator to perform the following functions:

- Activate the foam system
- Change foam concentrate proportioning rates from .1% to 6% in .1% increments.
- Display current flow in GPM
- Display total flow in GPM
- Display total amounts of foam concentrates used
- Provide simulated flow for manual operation
- Perform setup and diagnostic functions

Bidder Complies as Written: **Yes:** _____ **No:** _____

The foam system shall supply a total quantity of five (5) discharge(s) as specified and shall be labeled "FOAM":

- Two (2) 1 1/2" crosslays.
- Two (2) 2 1/2" crosslays.
- One (1) 1" Booster Reel line

Bidder Complies as Written: Yes: _____ No: _____

The system shall be supplied by a single foam tank that shall be monitored by the control display. The display shall flash a "low concentrate" warning for two minutes when the foam tank runs low. In the event that no additional concentrate is added to the tank, the foam concentrate pump shall be deactivated.

Bidder Complies as Written: Yes: _____ No: _____

FOAM SYSTEM TESTING

The apparatus foam system shall be tested and certified.

Bidder Complies as Written: Yes: _____ No: _____

POWER FILL REFILL SYSTEM

Foam Pro Power-Fill Refill System shall be installed to allow for ground level refilling of the foam tank and a foam concentrate pickup tube shall be provided.

Bidder Complies as Written: Yes: _____ No: _____

FOAM TANK

A 20 gallon foam tank with square hinged lid, equipped with a hold down device shall be installed and plumbed with non-corrosive piping to the foam system. The fill tower shall be approximately 10" x 10".

Bidder Complies as Written: Yes: _____ No: _____

A label shall be affixed to the foam tank fill indicating: "WARNING" Class A foam tank fill, do not mix brands or types of foam.

Bidder Complies as Written: Yes: _____ No: _____

The foam tank(s) shall be integral with the booster water tank provided.

Bidder Complies as Written: Yes: _____ No: _____

There shall be a 1" quarter turn drain valve installed to drain the foam tank. The valve shall be installed in the pump house with a drain line extended to the side running board.

Bidder Complies as Written: Yes: _____ No: _____

The drain line shall be labeled "FOAM DRAIN".

Bidder Complies as Written: Yes: _____ No: _____

There shall be a ¼ turn foam system service shut off valve at the base of the tank in the line to the foam pump.

Bidder Complies as Written: Yes: _____ No: _____

FOAM TANK LEVEL GAUGE

There shall be one (1) Fire Research TankVision LED electronic foam level gauge located on the operator's control panel. This level gauge utilizes ultra bright LEDs for sunlight readability, and two wide-viewing lenses for 180 degrees of clear viewing. A chrome bezel shall be provided.

Bidder Complies as Written: Yes: _____ No: _____

4" TANK TO PUMP LINE

The connection between the tank and the pump shall be capable of the flow recommendations as set forth in NFPA Pamphlet 1901, latest revision and shall be tested to those standards when the pump is being certified. One (1) non-collapsible flexible hose(s) and valve(s) shall be incorporated into the tank to pump plumbing to allow movement in the line as the chassis flexes to avoid damage during normal road operation. Four (4) inch stainless steel schedule 10 or Poly-Vinyl Chloride schedule 40 piping may be used to complete the connection from the tank to pump valve to the water tank.

Bidder Complies as Written: Yes: _____ No: _____

AUTOMATIC TANK TO PUMP CONTROL

A. The booster tank shall be connected to the intake side of the pump with four (4) inch piping and a quarter turn valve. The control will be located at the operator's panel with an air-actuated valve. A rubber coupling shall be included in this line to prevent damage from vibration or chassis flexing.

B. An automatic tank to pump control system shall be supplied. A three way switch for "Auto", "Open, and "Closed" functions shall be provided on the operator's panel

C. The automatic control system will operate when switched to automatic mode. Auto tank to pump valve will close when suction pressure reaches 15 psi and open when suction pressure below 15 psi.

D. A check valve shall be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank. The valve control shall be located at the pump operator's panel and shall visually indicate the position of the valve at all times.

E. The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position and water is flowing through it.

F. The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

G. All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance, and decreased friction loss.

A control shall be installed that automatically opens the tank to pump valve when there is no hydrant pressure and closes the tank to pump valve when there is hydrant pressure. This control shall be integrated with the Automatic Intake Valve Control. A three position switch shall control the functions (Auto, Closed, Open).

Bidder Complies as Written: Yes: _____ No: _____

TANK TO PUMP CHECK VALVE

There shall be a tank to pump check valve, conforming to NFPA standard requirements, which shall be of bronze construction. The check valve shall be mounted as an integral part of the pump suction extension.

Bidder Complies as Written: Yes: _____ No: _____

2" TANK FILL LINE

One (1) 2" tank fill/recirculating line shall be installed from the pump directly to the booster tank.

Bidder Complies as Written: **Yes:** _____ **No:** _____

A 2" Akron Brass 8000 series swing-out valve with a stainless steel ball.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The valve shall be controlled from the side operator's panel.

Bidder Complies as Written: **Yes:** _____ **No:** _____

HOSEBODY - ALUMINUM

The apparatus body shall be a design which serves as an incredibly durable, structural body framework. This framework acts as a series of beams and columns that support and protect the body and its contents. The space frame design provides maximum torsional resistance and load capabilities. The entire space frame structure shall be welded together utilizing an A.W.S. Certified welding procedure.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The frame design shall also be required because it provides energy absorbing impact zones in the structure, thus providing increased safety to the rest of the apparatus and personnel on board. Documented proof of this extra safety shall be required upon request.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The body structure shall consist entirely of closed section members, except where the body is mounted to the chassis. Closed section members (such as square, rectangular, triangular, or round tubes) are required because they provide maximum strength and torsion rigidity. This solid tubular structural style of design ultimately adds longevity to the body structure by eliminating flex and twists in material, creating less stress and fatigue. Body designs that use independent sub-frames will not be acceptable.

Bidder Complies as Written: **Yes:** _____ **No:** _____

BODY STRUCTURE MEMBERS

The space frame body shall have triangular shaped structural members in certain areas of the body. This shape is required to prevent loss of useable compartment space. Other body structure members shall be square or rectangular. The body shall be designed for maximum strength to weight ratio, therefore the gauge of sheet metal and structural members varies from .125 to .250 throughout, dependent on the design requirement.

Bidder Complies as Written: **Yes:** _____ **No:** _____

BODY MATERIAL TYPE

All body structural members shall be aluminum

Bidder Complies as Written: **Yes:** _____ **No:** _____

Absolutely no dissimilar metals shall be used in the body and its supporting substructure without being separated by a sufficient corrosion and electrolysis inhibitor.

Bidder Complies as Written: **Yes:** _____ **No:** _____

FRONT BODY COMPARTMENT WALLS

The front compartment walls of both forward most compartments shall be sheet finished. No overlay material shall be visible from the interior of the compartments.

Bidder Complies as Written: Yes: _____ No: _____

REAR BODY COMPARTMENT WALLS

The rear compartment walls of both rearward most compartments shall be sheet finished. No overlay material shall be visible from the interior of the compartments. Access panels from the rear walls shall be strategically placed to ensure access to the rear taillight clusters for any servicing that may be completed.

Bidder Complies as Written: Yes: _____ No: _____

COMPARTMENT TOP

The top of the compartments shall be an integral portion of the body. No overlay material shall be visible from the interior of the compartments.

Bidder Complies as Written: Yes: _____ No: _____

COMPARTMENT FLOORS

The body compartments shall be enclosed with aluminum sheet metal as specified above. The compartment floors shall have a 1” lip downward at the door opening side of the compartment. This lip shall integrate with a structural member on the bottom edge and form a “sweep-out” compartment. This design shall also allow for a structural flush fitting door frame and a complete door/weather seal.

Bidder Complies as Written: Yes: _____ No: _____

COMPARTMENT LOAD CAPACITY

Each compartment shall have a minimum of one additional structural compartment floor support centered on the underside of the compartment floor. This additional member shall be integral with the rest of the body structure. Each compartment must be designed, and 3rd party analyzed to carry a working load of:

Full depth side compartment: 1,000 lbs. per compartment

Half depth side compartment: 750 lbs. per compartment

Rear center compartment: 1,500 lbs. per compartment

EXTERIOR HOSE BED WALLS

The exterior hose bed walls shall be an integral portion of the body. The wall shall give a smooth exterior look and finish with no vertical supports tubing visible from the exterior of the truck.

Bidder Complies as Written: Yes: _____ No: _____

FINITE ELEMENT ANALYSIS

The proposed body design must have completed a review and analysis by a legitimate 3rd party engineering firm. At a minimum, the 3rd party must have conducted a computer model finite element analysis of the proposed design. The analysis is to include real world working load scenarios. Analysis to cover both static and dynamic situations must be completed. The purpose of the finite element analysis is to ensure proper design of the apparatus body, and that it is capable of carrying the typical fire apparatus loads and those specified by NFPA for equipment. The analysis process must conclude that the body structure is properly designed and manufactured to provide longevity under normal

conditions. The 3rd party must also validate the manufacturing processes are consistent with the design and analysis performed. Proof of having completed this testing must be submitted with the bid.

Bidder Complies as Written: Yes: _____ No: _____

PAINT SPECIFICATIONS

All bright metal fittings, if unavailable in stainless steel, shall be heavily chrome plated.

Bidder Complies as Written: Yes: _____ No: _____

Critical body and sub-frame area which cannot be primed after assembly shall be pre-painted.

Bidder Complies as Written: Yes: _____ No: _____

All welded metal surfaces shall be ground to a smooth surface prior to a degreasing and high pressure, high temperature phosphatizing process. The entire surface shall be sprayed with a non-chromate sealing compound to prevent formulation of stains or flash rust on previously phosphatized parts.

Bidder Complies as Written: Yes: _____ No: _____

The paint applied to the apparatus shall be high quality automotive paint applied throughout a multi-step process including at least two coats of each color and clear coat finish.

Bidder Complies as Written: Yes: _____ No: _____

The coating shall be an infra-red, baked air dried. The coatings shall provide full gloss finished suitable for application by high-pressure airless or conventional low pressure air atomizing spray.

Bidder Complies as Written: Yes: _____ No: _____

The coatings shall not contain lead, cadmium or arsenic. The polyisocyanate component shall consist of only aliphatic isocyanates, with no portion being aromatic isocyanates in character. The solvents used in all components and products shall not contain ethylene glycol mono-ethyl ethers or their acetates (commercially recognized as cello solves), nor shall they contain any chlorinated hydrocarbons. The products shall have no adverse effects on the health or nor present any unusual hazard to personnel when used according to manufacturer's recommendations for handling and proper protective safety equipment, and for its intended use.

Bidder Complies as Written: Yes: _____ No: _____

The coating system, as supplied and recommended for application, shall meet all applicable federal, state and local laws and regulations now in force or at any time during the courses of the bid.

Bidder Complies as Written: Yes: _____ No: _____

The manufacturer shall supply (upon request) for each product and component of the system, a properly complete OSHA "Material Data Safety Sheet".

Bidder Complies as Written: Yes: _____ No: _____

The following documents of the issue in effect on the date of the invitation to quote form a part of this document to the extent specified herein:

- Federal Standards: Number 141A and 141B paint, varnish, lacquer and related material: methods of inspection, sampling, and testing.

- Military Standard: MIL-C 83486B Coating, Urethane, Aliphatic Isocyanates, for Aerospace applications.
- Industry Methods and Standards: ASTM Method of Analysis (American Society for testing and Materials). BMS 10-72A (Boeing Material Specifications).

Bidder Complies as Written: Yes: _____ No: _____

The entire exterior body structure (excluding roll-up doors) shall receive the primer coats and the finish coats. The apparatus body, will be painted in a down draft type paint booth to reduce dust, dirt or impurities in the finish paint. The painted surfaces shall have a finish with no runs, sags, craters, pinholes or other defects.

Bidder Complies as Written: Yes: _____ No: _____

COMPARTMENT FINISH

The compartment interiors shall be painted white with black splatter. Floors of the compartments shall be sprayed with black Speedliner coating.

Bidder Complies as Written: Yes: _____ No: _____

The coating shall be an Industrial polymer coating with a low VOC content offering good resistance to U. V. and common chemical solvents including fuels and corrosive materials. The coating shall provide a tough 4600 psi tensile strength protective coating that is tear and abrasion resistant. The coating shall be approved in accordance with the Federal Motor Vehicle Safety Standard FMVSS 302 to provide an acceptable flammability and flame propagation rate for coatings applied to motor vehicles. It requires no special maintenance and is washable.

Bidder Complies as Written: Yes: _____ No: _____

INSET REAR TAILBOARD DESIGN

The rear tailboard shall be fabricated of the same structural materials used in manufacturing the apparatus body.

Bidder Complies as Written: Yes: _____ No: _____

The rearmost body side compartmentation shall be extended rearward and be flush with the rearmost edge of the tailboard. The compartment extension shall provide a larger door opening and increase compartment storage space. The rear inset tailboard (O/A) depth dimension will be provided in the specifications.

Bidder Complies as Written: Yes: _____ No: _____

The rear inset side compartmentation w/o compartments thru the tank shall be of a vertically split depth design and shall have full depth lower compartment(s). All horizontal surfaces shall be overlaid with embossed treadplate meeting minimum NFPA slip resistant requirements.

Bidder Complies as Written: Yes: _____ No: _____

The rear lower portion of the L3 compartment shall not be full depth rearward of the B1 compartment making the wall a straight vertical surface on the tailboard side. The lower portion of the R3 compartment

shall be inset into the tailboard area however; no horizontal step shall be provided due to the ladder compartment which shall be over this area which will also form an even straight vertical surface.

Bidder Complies as Written: **Yes:** _____ **No:** _____

There shall be a warning sign installed on the rear body surface area indicating: "DO NOT RIDE ON REAR STEP, DEATH OR SERIOUS INJURY MAY RESULT."

Bidder Complies as Written: **Yes:** _____ **No:** _____

The rear tailboard and body shall be constructed as such that the angle of departure shall not be less than 8 degrees at the rear of the apparatus when fully loaded to meet NFPA requirements.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The rear tailboard shall be approximately thirteen and one-half (13.5) inches deep and shall incorporate an 1/8" embossed aluminum diamond plate overlay.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The stepping area shall span the width of the apparatus, overlapping the perimeter of the structural tailboard framework. The embossed aluminum diamond plate material shall meet the latest NFPA minimum requirements for "slip resistance" on stepping, standing and walking areas.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The center section of the step below the B1 compartment shall have a non-removable drop step the width of the B1 compartment.

Bidder Complies as Written: **Yes:** _____ **No:** _____

GENERAL BODY DETAILS

All compartmentation shall be constructed in a sweep out design to be water and dust resistant, and manufactured to the maximum possible storage capacity. The Body height from the top of the rub rail shall be 85" tall.

Bidder Complies as Written: **Yes:** _____ **No:** _____

FASTENERS

All bolts and nuts used in the finish construction of the apparatus shall be coated stainless steel which helps prevent dissimilar metal electrolytic reaction and corrosion. The Manufacturer may be requested to supply evidence of fastener coating and results of salt spray testing when dissimilar metals are used. Any bolt extending into a compartment or into the hose bed area shall have an acorn nut attached or be protected in such manner where sharp edges are avoided.

Bidder Complies as Written: **Yes:** _____ **No:** _____

WHEEL WELLS

Wheel wells shall have composite inner liners that are bolted to the wheel well panel and supported inboard by brackets that are connected to the body framework. Each wheel well shall be a continuous piece with no breaks or ledges where road grime or debris may accumulate. This liner shall be removable for access to suspension assembly for repairs. There shall be no exception to the bolted wheel well inner liner requirement.

Bidder Complies as Written: **Yes:** _____ **No:** _____

WHEEL CHOCKS AND HOLDERS

There shall be a set of folding wheel chocks and holders provided and mounted below the L1 compartment in front of the rear axle and L3 behind the rear axle.

Bidder Complies as Written: Yes: _____ No: _____

LEFT FRONT SCBA COMPARTMENT

There shall be a compartment located in the wheel well to hold two (2) 6.75" Diameter x 24" long SCBA bottles with 1" nylon safety loops installed.

The compartment module shall be located in front of the axle on the left side. The compartment shall be finished with a brushed stainless steel flange on the outside of the apparatus body with a hinged compartment door of the same material and finish.

Bidder Complies as Written: Yes: _____ No: _____

RIGHT FRONT SCBA COMPARTMENT

There shall be a compartment located in the wheel well to hold two (2) 6.75" Diameter x 24" long SCBA bottles with 1" nylon safety loops installed.

Bidder Complies as Written: Yes: _____ No: _____

The compartment module shall be located in front of the axle on the right side. The compartment shall be finished with a brushed stainless steel flange on the outside of the apparatus body with a hinged compartment door of the same material and finish.

Bidder Complies as Written: Yes: _____ No: _____

RIGHT REAR EXTINGUISHER COMPARTMENT

There shall be a compartment located in the wheel well to hold one (1) 20A:120B:C Dry Chem Extinguisher and one (1) 2.5 gallon P.W. Extinguisher, both with 1" nylon safety loops installed. The approximate dimension shall be 9" diameter by 25" long.

Bidder Complies as Written: Yes: _____ No: _____

The compartment module shall be located behind the axle on the right side. The compartment shall be finished with a brushed stainless steel flange on the outside of the apparatus body with a hinged compartment door of the same material and finish.

Bidder Complies as Written: Yes: _____ No: _____

LEFT REAR DIVIDED STORAGE COMPARTMENT

There shall be a compartment located in the wheel well for the fuel fill and storage.

Bidder Complies as Written: Yes: _____ No: _____

The compartment module shall be located behind the axle on the left side.

Bidder Complies as Written: Yes: _____ No: _____

BODY MOUNTING SYSTEM

The body mounting system shall be of sound construction.

Bidder Complies as Written: Yes: _____ No: _____

There shall be no welding to the chassis frame rail sides, web or flanges, or drilling of holes in the top or bottom frame flanges between axles. All body to chassis connections shall be bolted so that in the event of an accident, the body shall be easily removable from the truck chassis for repair or replacement.

Bidder Complies as Written: Yes: _____ No: _____

The body mounting system shall have a lifetime warranty.

Bidder Complies as Written: Yes: _____ No: _____

BODY STRUCTURE WIDTH & HEIGHT

The width of the apparatus body from the outside of the left compartments to the outside of the right compartments shall be 99-100" excluding any attached peripherals such as rub rails, fenderettes, grab handles, etc. The body height with hose bed cover shall not exceed the cab height.

Bidder Complies as Written: Yes: _____ No: _____

COMPARTMENT VENTILATION

To allow for proper air circulation & flow, each compartment shall have a venting route. Each compartment shall have an individual vent or vents installed appropriately on the compartment interior wall in a discreet location away from prime storage or mounting areas, preferably in the upper portion of the compartment near the rollup door drum.

Bidder Complies as Written: Yes: _____ No: _____

SIDE COMPARTMENT UNISTRUT

Vertically mounted Unistrut shall be installed in all apparatus body "SIDE" compartments, to accommodate the installation of shelves, trays, and or other miscellaneous equipment. A single unistrut shall be installed on the inside side walls and the shelving shall have a recess for the unistrut to maximize storage area. A single bracket with a multipoint fastener connection shall be mounted under each end of the shelf and fastened to the unistrut. Storage shall maximize the available space and no apparatus electrical components shall interfere with internal storage space. Shelving shall be notch for the recessing of the Unistrut into the shelving.

Bidder Complies as Written: Yes: _____ No: _____

RIGHT OVERWHEEL COMPARTMENT UNISTRUT

Vertical mounted Unistrut shall be installed on the side walls of the right over wheel compartment(s) to accommodate mounting of shelves, trays, tool boards and or other miscellaneous equipment. A tool & bracket mounting shall be installed across the back of this compartment.

Bidder Complies as Written: Yes: _____ No: _____

COMPARTMENTATION

The following compartments shall be supplied on the apparatus:

Compartment "L1": There shall be one (1) full height compartment ahead of the rear wheels on the left side of the apparatus. The approximate interior dimensions of this compartment shall be a minimum of 35.5" wide by 69" high with a lower depth of 25.5" and an upper depth of 14". The framed opening shall measure 33.0" wide by 65" high.

Bidder Complies as Written: Yes: _____ No: _____

Compartment "L2": There shall be one (1) compartment located directly over the rear wheels on the left side of the apparatus. The approximate interior dimensions of this compartment shall be a minimum of 62" wide by 35" high with a depth of 14". The framed opening shall measure approximately 62" wide by 31" high. The rear lower portion of the L3 shall not be full depth rear ward of the B1 compartment making the wall straight up on the tailboard side.

Bidder Complies as Written: **Yes:** _____ **No:** _____

Compartment "L3": There shall be one (1) full height compartment located behind the rear wheels on the left side of the apparatus. The approximate interior dimensions of this compartment shall be a minimum of 53.5" wide by 69" high with an upper depth of 14" and the lower portion being transverse into the rear compartment, unless partitions are installed. The framed opening shall measure approximately 51.0" wide by 65" high.

Bidder Complies as Written: **Yes:** _____ **No:** _____

Compartment "R1": There shall be one (1) full height compartment located ahead of the rear wheels on the right side of the apparatus. The approximate interior dimensions of this compartment shall be a minimum of 35.5" wide by 69" high with a lower depth of 25.5" and an upper depth of 14". The framed opening shall measure approximately 33.0" wide by 65" high.

Bidder Complies as Written: **Yes:** _____ **No:** _____

Compartment "R2": There shall be one (1) compartment located directly over the rear wheels on the right side of the apparatus. The approximate interior dimensions of this compartment shall be a minimum of 62" wide by 35" high with a depth of 14". The framed opening shall measure approximately 62" wide by 31" high.

Bidder Complies as Written: **Yes:** _____ **No:** _____

Compartment "R3": There shall be one (1) full height compartment located behind the rear wheels on the right side of the apparatus. The approximate interior dimensions of this compartment shall be a minimum of 53.5" wide by 69" high with an upper depth of 14" and the lower portion being transverse into the rear compartment, unless partitions are installed. The framed opening shall measure approximately 51.0" wide by 65" high.

Bidder Complies as Written: **Yes:** _____ **No:** _____

Compartment "R3" rescue strut shelf: A transverse shelf shall be installed for the purpose of storing Rescue 42 struts. The shelf shall be accessed from R3 and shall be 16" wide from front of apparatus to rear of apparatus. It shall contain a positive lock to ensure the tools do not slide into the compartment door. The shelf shall reduce to 12.5" x 12.5" into the shelf. The shelf shall be a total of 48" deep, and the bottom of the shelf shall be lined with 1/2" high density polyethylene. The shelf shall be 6" deep from the top of the compartment to the bottom of the shelf.

Bidder Complies as Written: **Yes:** _____ **No:** _____

SIDE ROLL-UP DOOR CONSTRUCTION

All horizontal and vertical side compartment doors shall be roll-up style doors.

Bidder Complies as Written: **Yes:** _____ **No:** _____

SIDE R.O.M ROLL-UP DOORS

R.O.M Corporation brand roll-up doors shall be provided and installed on the apparatus. The door slats shall be of a double wall box frame extrusion. Exterior surface shall be flat and the interior surface shall be concave to prevent loose equipment from jamming the door. The slats will be anodized to prevent oxidation and there shall be inner-locking end shoes on every slat, secured by a punch and dimple process. The slats shall have interlocking joints with a folding locking flange. There shall be a PVC/Vinyl inner seal between each slat to prevent metal to metal contact.

Bidder Complies as Written: Yes: _____ No: _____

The track shall be of a one-piece aluminum design with an attaching flange and finishing flange incorporated into its design to facilitate installation and provide a pleasing finished look without additional trim or caulking. The track shall have a replaceable side seal to resist water and dust intrusion into the compartment. The edges of the roll-up doors shall have a clear plastic covering that prevent the gaskets from wearing on the painted door surface.

Bidder Complies as Written: Yes: _____ No: _____

The drip rail shall be fabricated of aluminum and have a built in replaceable wiper seal. The Roll-up door shall have a 4" diameter counterbalance, to assist in lifting while eliminating the risk of accidental closing. The door shall be secured by a full width lift bar, operational by one hand with heavy gloves. The securing method will be of a positive latch device design.

Bidder Complies as Written: Yes: _____ No: _____

SIDE COMPARTMENT DOORS/TRACK/TRIM/WET PAINTED

The side compartment roll-up doors, track and trim shall be painted to color match the apparatus body.

Bidder Complies as Written: Yes: _____ No: _____

SIDE ROLL-UP DOOR PROTECTORS

There shall be a protective cover installed under each body compartment door roll to protect the door in the rolled-up position.

Bidder Complies as Written: Yes: _____ No: _____

Each cover shall be fabricated of smooth aluminum and of natural finish.

Bidder Complies as Written: Yes: _____ No: _____

All door protectors shall be installed within 1/2" of the door roll when in the "open" position to allow for maximum interior height.

Bidder Complies as Written: Yes: _____ No: _____

SIDE DOOR ASSIST STRAPS

There shall be nylon straps installed on both the left and right body side 'high side' compartment doors to assist in closing the door. The strap shall be attached to each door and permanently mounted to the rearward wall with footman loops using nutzerts, half way between the top and bottom of the compartment.

Bidder Complies as Written: Yes: _____ No: _____

SIDE DOOR OPEN INDICATOR

Each roll up door shall be equipped with a mechanical switch which shall activate the “Door Open” indicator light in the cab to warn the crew.

Bidder Complies as Written: Yes: _____ No: _____

REAR CENTER COMPT W/ LOW HOSEBED

“B1” Compartment: There shall be one (1) compartment located at the rear of the apparatus, directly below the hose bed access area.

Bidder Complies as Written: Yes: _____ No: _____

The approximate interior dimensions of this compartment shall be 43" wide and 33" high or as high as possible as determined by water tank shelf with a depth of 31" dependent on suspension, with the sides of the compartment being open to the side compartments for maximum storage area.

Bidder Complies as Written: Yes: _____ No: _____

The compartment shall have a roll-up door installed. The framed opening shall be approximately 34" wide and 22.5" high. The compartment will have approximately 25 cubic feet of usable storage space.

Bidder Complies as Written: Yes: _____ No: _____

REAR R.O.M ROLL-UP DOOR

R.O.M Corporation brand roll-up doors shall be provided and installed on the apparatus. The door slats shall be of a double wall box frame extrusion. Exterior surface shall be flat and the interior surface shall be concave to prevent loose equipment from jamming the door. The slats will be anodized to prevent oxidation and there shall be inner-locking end shoes on every slat, secured by a punch and dimple process. The slats shall have interlocking joints with a folding locking flange. There shall be a PVC/Vinyl inner seal between each slat to prevent metal to metal contact.

Bidder Complies as Written: Yes: _____ No: _____

The track shall be of a one-piece aluminum design with an attaching flange and finishing flange incorporated into its design to facilitate installation and provide a pleasing finished look without additional trim or caulking. The track shall have a replaceable side seal to resist water and dust intrusion into the compartment.

Bidder Complies as Written: Yes: _____ No: _____

The drip rail shall be fabricated of aluminum and have a built in replaceable wiper seal. The Roll-up door shall have a 4" diameter counterbalance, to assist in lifting while eliminating the risk of accidental closing. The door shall be secured by a full width lift bar, operational by one hand with heavy gloves. The securing method will be of a positive latch device design.

Bidder Complies as Written: Yes: _____ No: _____

REAR COMPARTMENT DOOR ALUMINUM SATIN FINISH

The rear center compartment door shall be satin aluminum finish.

Bidder Complies as Written: Yes: _____ No: _____

REAR ROLL-UP DOOR PROTECTOR

There shall be a protective cover installed under the rear compartment door roll to protect the door in the rolled up position.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The cover shall be fabricated of smooth aluminum and of natural finish.

Bidder Complies as Written: **Yes:** _____ **No:** _____

All door protectors shall be installed within 1/2" of the door roll when in the "open" position to allow for maximum interior height.

Bidder Complies as Written: **Yes:** _____ **No:** _____

REAR DOOR OPEN INDICATOR

Each roll up door shall be equipped with a mechanical switch which shall activate the "Door Open" indicator light in the cab to warn the crew.

Bidder Complies as Written: **Yes:** _____ **No:** _____

REAR FUEL TANK ACCESS-HINGED DOOR

There shall be a horizontally bottom hinged access door located on the interior back wall of the rear center compartment for maintenance access to the chassis fuel tank. The door shall have mechanical push type locks with a heavy duty gasket.

Bidder Complies as Written: **Yes:** _____ **No:** _____

LEFT UPPER "CLOSE OUT" ABOVE COMPARTMENTS

The upper left catwalk area shall be "closed out" above the side compartments to the same height of the top of the hosebed without storage compartment to allow for side scene lighting to be brought out to outboard edge. This area will have a painted finish. The embossed treadplate walking area will be the same height as the top of the hosebed. Access panels shall be installed in order to allow for the installation and maintenance of apparatus electronic. Electrics that may normally be located within a compartment shall be located in this enclosed area.

Bidder Complies as Written: **Yes:** _____ **No:** _____

RIGHT UPPER STORAGE COMPARTMENTS

One (1) full body length compartment shall be provided that can be divided into two (2) storage compartments and installed on the upper right side of the apparatus body. The approximate length of each compartment shall be approximately 74" long and approximately 25.5" wide. The depth of the compartments shall be determined by the hose bed wall height. The compartment shall extend beyond the apparatus body roof and walking surface approximately 1" and provide a vertical edge to prevent water intrusion. An adhesive backed bulb seal shall be applied to the underside perimeter of the lid, excluding the hinge side, to ensure a positive seal.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The formed door incorporating broken edges of 45 degrees or less shall extend over the compartment edge approximately 1" to minimize water penetration. Each door shall be secured by dual push button weather resistant (C2) South Co Brand style latches; the door shall be fabricated of NFPA compliant, slip resistant embossed aluminum diamond plate and be secured by an aluminum hinge. If deemed necessary due to

width, the doors shall be reinforced to act as a suitable walking or standing surface. Each door shall be held open by a gas charged strut on each side and permit full access to the compartment along its length. The struts shall be concealed inside the compartment when the door is in the closed position. The compartments shall be constructed as part of the body and be accessible from the hose bed area.

Bidder Complies as Written: Yes: _____ No: _____

The upper compartments shall not be vented. There shall be plastic tubing installed for adequate drainage that is routed from corners of the upper compartment floors down to below the lower compartment floor level.

Bidder Complies as Written: Yes: _____ No: _____

UPPER STORAGE FLOORING TILES

Colored Turtle Tile floor matting shall be installed in the right side upper storage compartment floor(s). The tile shall be custom fitted to the interior compartment floor construction to protect the entire floor surface from equipment damage.

The floor tiles shall be red.

Bidder Complies as Written: Yes: _____ No: _____

LED UPPER STORAGE COMPARTMENT LIGHTING

One (1) full length Whelen Super LED Stripe-Lite shall be mounted to the full length upper inside wall of each compartment, two (2) total. The lights shall be on a circuit and turning on only when the covers are opened. The lights shall include a protective shroud over the lights.

Bidder Complies as Written: Yes: _____ No: _____

COMPARTMENT SILL PLATES

Mirrored stainless steel sill plates shall be installed at the bottom of each body compartment door opening.

Bidder Complies as Written: Yes: _____ No: _____

HOSE BED STORAGE

A hose bed shall be provided and installed with a minimum of thirty (30) cubic feet of storage space available. The hose bed shall have a slotted 1/4" aluminum flooring installed to allow drainage through the tank cavity to the ground below. The longest possible hose bed is preferred up to 84". The minimum length of the hose bed shall be 72".

Bidder Complies as Written: Yes: _____ No: _____

The aluminum flooring shall be manufactured in discrete sections to allow for ease of removal and stability. The area shall be free of sharp edges to protect the hose when loading and unloading.

Bidder Complies as Written: Yes: _____ No: _____

The hosebed floor height shall not exceed 55" from the ground.

Bidder Complies as Written: Yes: _____ No: _____

HOSE BED AREA

The hose bed wall area of the apparatus shall be overlaid with brushed stainless steel material. The walls of the hose bed shall be 85" tall or full height of the apparatus body, measured from the bottom edge of the compartments to the top flange, giving at total ground to top of body, excluding hose bed cover, height

of 110”, with the hose bed cover approximately 116”. The total body height including the hosebed cover shall not exceed the top of the cab height. The floor shall be constructed of aluminum slotted hose bed material with a divider rail system for mounting and adjusting hose bed dividers.

Bidder Complies as Written: Yes: _____ No: _____

HOSE BED COVER WITH FIXED CENTER DIVIDER

There shall be a single door aluminum plate cover for the hose bed furnished and installed. The cover shall be reinforced and be capable of supporting 400 lbs while standing on cover. The cover shall be capable of being opened independently of the hydraulic lift mechanism in case of failure.

Bidder Complies as Written: Yes: _____ No: _____

An electric over hydraulic piston shall be installed as an opening device, control by a rocker switch located on the rear of the apparatus. The mechanism shall be installed in the upper left side forward area of the hosebed, in the covered dunnage area as per the customer supplied hose bed design. The mechanism shall be boxed in to protect it from loose material and equipment stored within the same area. The hydraulic lift system shall hold the cover in the open position.

Bidder Complies as Written: Yes: _____ No: _____

The hose bed covers lift mechanism shall be controlled by a weatherproof three position momentary rocker switch to control the electric over hydraulic actuator to lifting and lowering the cover.

Bidder Complies as Written: Yes: _____ No: _____

The door shall be fabricated of 1/8" aluminum tread plate with stainless steel hinges. The hinge shall be a stainless steel heavy duty piano style approximately the full length of the aluminum cover, mounted in a vertical spine orientation to the inside side wall of the left side of the hosebed.

Bidder Complies as Written: Yes: _____ No: _____

The hose bed covers shall be fabricated of aluminum tread plate finished with Black Bed liner material.

Bidder Complies as Written: Yes: _____ No: _____

The hose bed cover shall be wired to the “Open Door” warning light in chassis cab so as to warn crew when the cover is open when the transmission is placed into drive or reverse movement mode.

Bidder Complies as Written: Yes: _____ No: _____

The operating control switch for the cover shall be located in a CPI (Cast Products) enclosure with a hinged door. The switch location shall be above the left rear taillight assembly. Noted: Also located in this box is a remote weatherproof momentary rocker switch that controls the rear scene and reverse lights.

Bidder Complies as Written: Yes: _____ No: _____

CUSTOM COVERS HOSE BED REAR FLAP

There shall be a custom rear hosebed flap provided and installed with the apparatus. The cover shall be manufactured from 22oz hypalon material with a grab tensile strength of 500lbs.

Bidder Complies as Written: Yes: _____ No: _____

The hose bed cover shall be red in color as close to the body color as possible.

Bidder Complies as Written: Yes: _____ No: _____

The rear flap shall have a reflective engine designation number sewn onto the rear flap. The material color of the number shall match as close as possible the Amber color of the rear chevron striping. The number shall be approximately 24" tall x 3" wide & centered left to right on the cover, the two digit number shall be determined at the Preconstruction Conference by the Fire Department.

Bidder Complies as Written: Yes: _____ No: _____

LED HOSE BED COVER LIGHTING

Two (2) Whelen Super LED Stripe-Lite shall be mounted to the underside of each hose bed cover.

Bidder Complies as Written: Yes: _____ No: _____

The lights shall be on a circuit and turning on only when the cover is opened.

Bidder Complies as Written: Yes: _____ No: _____

The light shall be manufactured by Whelen.

Bidder Complies as Written: Yes: _____ No: _____

HOSE BED AREA TRIMMED W/ MIRRORED SST

The vertical corners along the back of the hose bed shall be trimmed with mirrored stainless steel. The trim shall extend from the hose floor level up to the top edge of the body side and from the tailboard up to the hose bed surrounding B1 and the sides of the tailboard area from the tailboard to the top of the rear body. The trim shall be sealed to the painted body and affixed with multiple stainless steel fasteners.

Bidder Complies as Written: Yes: _____ No: _____

HOSE LOADS

The hosebed shall contain three main sections: upper dunnage area over the small handlines, LDH storage, and small handline storage. The area for hose storage shall have large ventilation holes throughout the dividers and large drain holes to remove water. Grip tape or friction tape shall be applied to the first 18" of each handline slot. A ½ nylon retention lip shall be affixed to the rear edge of the handline area of the hosebed and each elevated slot. From Left to Right of the Hosebed, there shall be storage for the following hose loads:

- Two (2) 100' x 1-3/4" coil hose load, with an Elkhart SM-20 tab handle nozzles, one with a 5" wide gated wye attached. These loads will be stored side by side in separate storage slots, in a single vertical stack orientation. A minimum inside width of 5.25" is required by 16" tall. Designated as number one (1) and two (2) slots.
- Two (2) 50' x 2.5" bundle loads, with 5" wide nozzle . These loads will be stored side by side above the coil loads, in a separate storage slots, in a single vertical stack orientation. A minimum inside width of 5.25" is required by 10" tall. Designated as upper number one (1) and two (2) slots.
- One (1) 150' x 1-3/4" bundle load, with an Elkhart SM-20 tab handle nozzle and a gated wye attached. This Load will be stored to the right of the coils in a separate storage slot, in a single vertical stack orientation. A minimum inside width of 5.25" is required by 26" tall. Designated as the number three (3) slot.

- An adjustable support divider shall be installed between slots to allow for support of the horizontal storage above.
- One (1) 600' x 2-1/2" bulk hose bed with a 2.5" nozzle. This load will be stored in three vertical single stacks side by side in a 3 sided roll out tray with a minimum weight rating of 400 pounds. The tray shell have sides on the left, right, and rear extending up below the horizontal dunnage area above giving ample clearance for the rolling out of the tray. The rolling tray mechanizim shall be as low profile as possible and fulling extend horizontally from the hose bed to facilitate loading of the hose from the top. The tray shall allow for drainage and ventilation throught the load. A minimum inside width of 15.5" is required.
- A fixed support divider shall be located the full length and height of the hose bed as define in the next section, seperating the supply LDH section.
- The right portion of the hosebed shall store 1000' of 5" LDH, a minimum inside width of 27, 3 sections wide in a vertical stack orientation.

Bidder Complies as Written: Yes: _____ No: _____

ABOVE HOSE LOADS EQUIPMENT STORAGE AREA

An aluminum plate storage structure shall be fabricated on the left side of the hose bed as specified by the purchaser.

The horizontal divider/shelf shall be attached to the side of the left hosebed wall and the main center support hose bed divider. A hinged folding 2" lip shall be installed on the horizontal divider on the tailboard side to facilitate retention of equipment. This lip shall be secured on both sides with a removable pin.

The top of the vertical handline hose dividers shall be affixed to the bottom of the horizontal shelf.

Located within this storage area, aluminum bracket or tunnel shall be attached to store a Little Giant folding ladder on the left side and One (1) backboard on the right side. Both in a vertical on edge orientation.

Bidder Complies as Written: Yes: _____ No: _____

HOSE BED DIVIDER(S)

There shall be a divider provided and installed in the hose bed area of the apparatus body as per the hosebed design provided by the purchaser at the pre-construction meeting.

Bidder Complies as Written: Yes: _____ No: _____

The handline dividers shall be constructed of 1/8" smooth aluminum and attached to the bottom hosebed adjustable slide rail. The main divider shall be fabricated of 1/4" thick aluminum plate with a double-sided reinforcement and attached to the adjustable slide rails and support the center of the hosebed cover. The rear of the divider shall have a radius to provide a smooth corner. Hose payout shall be unobstructed by the divider.

Bidder Complies as Written: Yes: _____ No: _____

OPEN HOSE BED DUNNAGE AREA

This open storage area is located on the top of the apparatus between the rear of the pump module and the front of the hosebed area, above the booster tank, as part of the apparatus body section. A vertical bulkhead shall be provided and installed at the front of the hose bed area, forming a storage area that is separated from the hose bed. Drainage tube(s) shall be provided that will direct water from the tank fill and rain beneath the apparatus. The bulk head wall shall provide a sealed front wall to the hose bed not allowing water intrusion. The approximate dimension of this inside area shall be 68” front to back, 60” side to side, and approximately 17” deep.

Bidder Complies as Written: Yes: _____ No: _____

The rear face of the bulkhead shall serve as a mounting surface for the hose bed dividers, resulting in the ability to move any hose bed divider across the entire width of the hose bed.

Bidder Complies as Written: Yes: _____ No: _____

The floor and interior walls of the dunnage area shall utilize 1/8" polished embossed aluminum diamond plate.

Bidder Complies as Written: Yes: _____ No: _____

FENDERETTES

Two (2) polished stainless steel fenderettes shall be provided and installed on body rear wheel well openings, one (1) each side. Rubber welting shall be provided between the body and the crown to seal the seam and restrict moisture from entering. A dielectric barrier shall be provided between the fender crown fasteners (screws) and the fender sheet metal to resist deterioration.

Bidder Complies as Written: Yes: _____ No: _____

BOOSTER TANK CAPACITY

The tank shall be 700 gallons in capacity and have a "Tower Tank" configuration with the majority of the water being located at the front of the body creating a low hose bed. The tank shall not extend below the hose bed decking.

Bidder Complies as Written: Yes: _____ No: _____

POLY TANK

The booster tank shall be constructed of polypropylene material. This material shall be a non-corrosive stress relieved thermoplastic and UV stabilized for maximum protection.

Bidder Complies as Written: Yes: _____ No: _____

The booster and/or foam tank shall be of a specific configuration and is so designed to be completely independent of the body and compartments.

Bidder Complies as Written: Yes: _____ No: _____

All joints and seams shall be fused using nitrogen gas as required and tested for maximum strength and integrity. The tank construction shall technology wherein a sealant shall be installed between the plastic components prior to being fusion welded. This sealing method will provide a liquid barrier offering leak protection in the event of a weld compromise. The top of the booster tank is fitted with removable lifting assembly designed to facilitate tank removal. The transverse and longitudinal swash partitions shall be manufactured of a minimum of 3/8" polypropylene.

Bidder Complies as Written: Yes: _____ No: _____

All partitions shall be equipped with vent and air holes to permit movement of air and water between compartments. The partitions shall be designed to provide maximum water flow. All swash partitions interlock with one another and are completely fused to each other as well as to the walls of the tank. All partitions and spacing shall comply with NFPA 1901.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The walls shall be welded to the floor of the tank providing maximum strength as part of the tank's unique Full Floor Design™. Tolerances in design allow for a maximum variation of 1/8" on all dimensions.

Bidder Complies as Written: **Yes:** _____ **No:** _____

BOOSTER TANK WATER FILL TOWER AND COVER

The tank shall have a combination vent and manual fill tower. The fill tower shall be constructed of 1/2" polypropylene and shall be a minimum dimension of 8" x 8" outer perimeter. The fill tower shall be blue in color indicating that it is a water-only fill tower. The tower shall be located in the left front corner of the tank unless otherwise specified by the tank manufacturer to the purchaser. The tower shall have a 1/4" thick removable polypropylene screen and a polypropylene hinged cover. The capacity of the tank shall be engraved on the top of the fill tower lid. Inside the fill tower there shall be a combination vent/overflow pipe. The vent overflow shall be a minimum of schedule 40 polypropylene pipe with a minimum I.D. of 4" that is designed to run through the tank, and shall be piped to discharge water behind the rear wheels as required in NFPA 1901 so as to not interfere with rear tire traction.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The tank cover shall be constructed of 1/2" thick polypropylene and UV stabilized, to incorporate a multi-piece locking design, which allows for individual removal and inspection if necessary.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The tank cover(s) shall be flush or recessed 3/8" from the top of the tank and shall be fused to the tank walls and longitudinal partitions for maximum integrity. Each one of the covers shall have hold downs consisting of 2" minimum polypropylene dowels spaced a maximum of 40" apart. These dowels shall extend through the covers and will assist in keeping the covers rigid under fast filling conditions. A minimum of two lifting dowels shall accommodate the necessary lifting hardware.

Bidder Complies as Written: **Yes:** _____ **No:** _____

BOOSTER TANK MOUNTING

The Poly-Tank shall rest on the body cross members in conjunction with such additional cross members, spaced at a distance that would not allow for more than 530 square inches of unsupported area under the tank floor. In cases where overall height of the tank exceeds 40 inches, cross member spacing must be decreased to allow for not more than 400 square inches of unsupported area. The tank must be isolated from the cross members through the use of hard rubber strips with a minimum thickness and width dimension of 1/4" x 1" and a Shore A Hardness of approximately 60 durometer. The rubber must be installed so it will not become dislodged during normal operation of the vehicle. Additionally, the tank must be supported around the entire bottom outside perimeter and captured both in the front and rear as well as side to side to prevent tank from shifting during vehicle operation.

Bidder Complies as Written: **Yes:** _____ **No:** _____

A picture frame type cradle mount with a minimum of 2" x 2" x 1/4" aluminum angle shall be provided or the use of corner angles having a minimum dimension of 4" x 4" x 1/4" by 6" high are permitted for the purpose of capturing the tank.

Bidder Complies as Written: **Yes:** _____ **No:** _____

Although the tank is designed on a free-floating suspension principle, it is required that the tank have adequate vertical hold down restraints to minimize movement during vehicle operation. If proper retention has not been incorporated into the apparatus hose floor structure, an optional mounting restraint system shall be located on top of the tank, half way between the front and the rear on each side of the tank. These stops can be constructed of aluminum angle having minimum dimensions of 3" x 3" x 1/4" and shall be approximately 6" to 12" long. These brackets must incorporate rubber isolating pads with a minimum thickness of 1/4" inch and a hardness of 60 durometer affixed on the underside of the angle. The angle should then be bolted to the body side walls of the vehicle while extending down to rest on the top outside edge of the upper side wall of the tank. Hose beds floors must be so designed that the floor slat supports extend full width from side wall to side wall and are not permitted to drop off the edge of the tank or in any way come in contact with the individual covers where a puncture could occur. Tank top must be capable of supporting loads up to 200 lbs. per sq. foot when evenly distributed. Other equipment such as generators, portable pumps, etc. must not be mounted directly to the tank top unless provisions have been designed into the Poly-Tank for that purpose. The tank shall be completely removable without disturbing or dismantling the apparatus structure. The tank must be designed and fabricated by a tank manufacturer that is ISO 9001:2008 certified. The ISO certification must be to the current standard in effect at the time of the design and fabrication of the tank.

Bidder Complies as Written: **Yes:** _____ **No:** _____

BOOSTER TANK CAPACITY

All water and foam tanks shall be tested and certified as to capacity on a calibrated and certified tilting scale. Each tank shall be weighed empty and full to provide precise fluid capacity. Each Poly Tank is delivered with a Certificate of Capacity delineating the weight empty and full and the resultant capacity based on weight. Engineering estimates for capacity calculations shall not be permitted for capacity certification.

Bidder Complies as Written: **Yes:** _____ **No:** _____

BOOSTER TANK CENTER OF GRAVITY

A center of gravity calculation shall be determined for each tank and provided as requested in order to provide the apparatus manufacturer with the necessary data to design and certify the apparatus with respect to the NFPA requirements regarding rollover stability. This information may be used by the apparatus manufacturer to assist in the calculation of the apparatus's ability to meet the tilt table static rollover threshold or calculated Center of Gravity requirements per NFPA. A center of gravity and weight calculation for both empty and full conditions shall be required with each tank.

Bidder Complies as Written: **Yes:** _____ **No:** _____

BOOSTER TANK WARRANTY

For normal fire department applications, the tank shall have a limited Lifetime warranty that provides warranty service for the life of the fire apparatus in which the tank is installed. Warranties are transferable if the apparatus ownership changes by requesting the transfer from tank manufacture. In

applications where the tank will be subject to severe conditions, the tank may have a warranty unique to the application that is clearly defined for each such application.

Bidder Complies as Written: Yes: _____ No: _____

BOOSTER TANK SUMP

The sump will be constructed of 1/2" polyprene and be located in line with the tank suction valve. There shall be a 4" schedule 40 polyprene tube installed that will run from the suction outlet to the sump location. The tank will have an anti-swirl plate located approximately 2" above the sump.

Bidder Complies as Written: Yes: _____ No: _____

The sump shall have a 3" plug for use in draining and cleaning out the tank.

Bidder Complies as Written: Yes: _____ No: _____

BOOSTER TANK OUTLETS

In addition to the tank suction valve outlet located in the sump, there shall be an outlet provided for the tank fill valve. If there are any additional options selected (such as an extra tank suction or direct tank inlets), there shall be additional outlets provided to accommodate these items.

Bidder Complies as Written: Yes: _____ No: _____

WATER TANK LEVEL GAUGE - PUMP PANEL

The apparatus shall be equipped with an Innovative Controls SL Series Tank Level Monitor System shall be installed. The display model # shall be 3030358-04. The system shall include an electronic water display module, one (1) pressure transducer-based sender unit, and a 15' connection cable.

A Fire Research TankVision model WLA200-A00 tank indicator kit shall be installed on the apparatus. 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.

Bidder Complies as Written: Yes: _____ No: _____

The program features shall be accessed from the front of the indicator module. The program shall support self-diagnostics capabilities, self-calibration, and a datalink 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.

Bidder Complies as Written: Yes: _____ No: _____

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 be placed on the interior of the tank. Wiring shall be weather resistant and have automotive type plug-in connectors.

Bidder Complies as Written: Yes: _____ No: _____

The above tank level gauge shall have a polished chrome bezel.

Bidder Complies as Written: Yes: _____ No: _____

The electronic water display module shall be waterproof and shock resistant being encapsulated in a urethane-based potting compound. The potted water display module shall be mounted to a chrome plated panel-mount bezel with a durable easy-to-read polycarbonate insert featuring blue graphics and a water icon for water.

All programming functions shall be accessed and performed from the front of the display module. The programming includes self-diagnostics, manual or self-calibration, and networking capabilities to connect remote slave displays. Low tank level warnings shall include flashing red LEDs starting below the 1/4 level and an output for an audible alarm.

The display module shall receive an input signal from a pressure transducer. This stainless steel sender unit shall be installed on the outside of the water tank near the bottom. All wiring, cables and connectors shall be waterproof without the need for sealing grease.

Location of the water tank level display shall be at the pump panel.

Bidder Complies as Written: **Yes:** _____ **No:** _____

WATER TANK LEVEL LIGHTS

Three (3) Whelen PS-TANK vertically mounted LED lights shall be installed one each side of the apparatus and one (1) on the rear to allow for monitoring the water tank level from a distance.

They shall be configured as follows:

- GREEN - Position 1 indicates FULL
- BLUE - Position 2 indicates 3/4
- AMBER - Position 3 indicates 1/2
- RED - Position 4 indicates 1/4

Each light shall remain illuminated until the water level drops below full 3/4, 1/2, or 1/4 levels. When the level drops below 1/4 the RED light will flash to indicate an empty tank. The Whelen PS-TANK water tank level lights shall be controlled with an Innovative Controls remote driver. Each upper side corner of cab & the rear upper side above the ladder tunnel.

Bidder Complies as Written: **Yes:** _____ **No:** _____

LADDER STORAGE

There shall be a free standing, permanently mounted, ladder compartment provided with a hinged door on the rear of the compartment. The door shall be equipped with a single handle dual slam style latch and One (1) 10" long x 1 1/4" diameter handrail constructed of extruded aluminum with a knurled grip, full length red reflective inserts and shall be installed in a best fit location on the left side of the compartment door (not to interfere with the door latch) and in accordance with the current edition of NFPA 1901 standard requirements. There shall be a 2" minimum clearance between the bracket and the body.

The door shall also have a stiffener installed on the inside of the door. The door shall have a piano style

hinge mounted the full length of the door on the right side. The door shall open from left to right. There shall be a weather tight seal around the door.

Bidder Complies as Written: Yes: _____ No: _____

All items stowed shall be in their own sleeve to allow one item to be removed without disturbing any others. There shall be a stop in the front of the sections to prevent each item from sliding forward. The interior floor of the compartment shall be lined with Black ABS plastic for ease of stowing and un-stowing of ladders.

Bidder Complies as Written: Yes: _____ No: _____

The compartment door shall have a magnetic proximity switch installed so if the door is not properly closed and the transmission is placed into drive or reverse mode with the parking brake released, it shall activate the "Door Open" indicator light in the cab to warn the crew.

Bidder Complies as Written: Yes: _____ No: _____

The compartment shall be fabricated of .125" smooth aluminum with the door made of .125" smooth aluminum plate with chevron striping.

Bidder Complies as Written: Yes: _____ No: _____

The compartment shall be mounted on the right side through the right side compartment structure.

Bidder Complies as Written: Yes: _____ No: _____

Specific layout and design shall be determined by the purchaser during the pre-construction meeting. The compartment shall be large enough for one (1) 10' aluminum folding ladder, one (1) 12-foot aluminum roof ladder, one (1) 28-foot three section Duo-Safety aluminum extension ladder, two (2) pike poles, one (1) D handle rubbish hook, one (1) NY roof hook, one (1) dry wall hook, one (1) pry bar, and additional storage, to be stowed horizontally in individual divided slots, so one item may be removed without disturbing another.

Bidder Complies as Written: Yes: _____ No: _____

There shall be a removable stop in the front of each compartment to prevent the items from sliding forward.

Bidder Complies as Written: Yes: _____ No: _____

The inside of the wall of the ladder box shall run full height to match the height of the body side.

Bidder Complies as Written: Yes: _____ No: _____

The top of the ladder box compartment shall form the MISCELLANEOUS EQUIPMENT storage "coffin".

Bidder Complies as Written: Yes: _____ No: _____

There shall be (2) "coffin" style lids installed on the top of the STORAGE box a specified previously.

Bidder Complies as Written: Yes: _____ No: _____

COMPARTMENT PARTITIONS & WALLS

Compartment partitions and walls, fabricated of the same material as the body, shall be welded in place in both left and right side over-wheel compartments flush to the forward and rearward frame openings.

There shall be no openings from any compartment to allow equipment to fall into the ladder tunnel.

Bidder Complies as Written: **Yes:** _____ **No:** _____

These partitions shall aid in keeping loose equipment from falling into the fore and aft compartments.

Bidder Complies as Written: **Yes:** _____ **No:** _____

ADJUSTABLE SHELVING

Each shelf shall be fabricated of 3/16" thick aluminum sheet material with the outside and inside edges flanged up to prevent equipment from sliding off. Each shelf shall be as wide as possible to allow proper attachment to uni-strut channels. Each shelf shall be adjustable up and down. The shelves shall be notched for the Unistrut maximizing the available storage space.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The following shall be provided:

A {14"} deep shelf shall be supplied and installed in the compartment. Each shelf shall be as wide as possible and there shall be a total quantity of eight (8).

- One (1) located in the L-1 compartment.
- Two (2) located in the L-2 compartment.
- Two (2) located in the L-3 compartment.
- Two (2) located in the R-1 compartment.
- Two (2) located in the R-3 compartment.

Bidder Complies as Written: **Yes:** _____ **No:** _____

A {25.5"} deep shelf shall be supplied and installed in the compartment. Each shelf shall be as wide as possible and there shall be a total quantity of two (2).

- One (1) located in the L-1 compartment.
- One (1) located in the R-1 compartment.

Bidder Complies as Written: **Yes:** _____ **No:** _____

ROLL OUT TRAYS/AUSTIN

Each tray shall be fabricated of 3/16" thick 3003 grade or higher aluminum with four 3" side flanges; corner welded for maximum strength. Each tray shall be as wide and deep as the door allows and secured to (Austin Hardware) "heavy duty" slide assemblies. The slide assemblies shall incorporate cadmium plated ball bearing roller slides and a pneumatic hold-open and closed device. No locking finger releases shall be installed as the gas shock shall keep the tray either opened or closed.

The following shall be provided:

A {300#} capacity tray with {100% } extension shall be installed to the compartment floor. There shall be a total quantity of Seven (7).

Bidder Complies as Written: **Yes:** _____ **No:** _____

- One (1) located in the L - Engineer compartment.
- One (1) located in the L-1 compartment.
- One (1) located in the L-3 compartment.
- One (1) located in the R-1 compartment.
- One (1) located in the R-3 compartment.
- One (1) located in the B-1 rear center compartment.
- One (1) located in the 2-1/2" bulk hose bed tray

Bidder Complies as Written: Yes: _____ No: _____

Each shelf or tray shall be covered with Red Turtle Tile for durability and a pleasing appearance.

Bidder Complies as Written: Yes: _____ No: _____

WALL MOUNTED TOOL BOARD/ALUMINUM

An aluminum tool board shall be installed to the back wall of the compartment as specified. The tool board shall be mounted directly to uni-strut material attached the wall.

Bidder Complies as Written: Yes: _____ No: _____

There shall be a total quantity of one (1).

- One (1) located in the R-2 compartment.

Bidder Complies as Written: Yes: _____ No: _____

SIDE RUB RAILS (ALUMINUM CHANNEL)

The lowest edge of the apparatus body side compartments shall be trimmed with brightly anodized aluminum channel rub rail material.

Bidder Complies as Written: Yes: _____ No: _____

The rub rails shall be approximately 3.00" high with flanges turned outwards for increased rigidity, with each end chamfered to a 45-degree angle. The rub rails shall not be constructed as an integral part of the apparatus body structure, allowing each rub rail to be easily removed in the event of damage.

Bidder Complies as Written: Yes: _____ No: _____

The rub rails shall be secured with stainless steel fasteners and spaced away from the apparatus body with 1/2" nylon spacers to help absorb moderate side impacts and prevent the collection of water and debris for easier cleaning.

Bidder Complies as Written: Yes: _____ No: _____

SIDE RUB RAIL REFLECTIVE STRIPING

One-inch reflective striping (3M Diamond Grade) shall be applied to the length of each rub rail section making the perimeter of the apparatus more readily visible.

Bidder Complies as Written: Yes: _____ No: _____

The reflective striping shall be a combination of Red and Amber colors.

Bidder Complies as Written: Yes: _____ No: _____

REAR RUB RAIL (ALUMINUM CHANNEL)

The rearward edge of the rear step shall be trimmed with brightly anodized aluminum channel rub rail.

Bidder Complies as Written: Yes: _____ No: _____

The rub rail shall be approximately 3.00" high with flanges turned outwards for increased rigidity, with each end chamfered to a 45-degree angle. The rub rail shall not be constructed as an integral part of the apparatus body structure, allowing the rub rail to be easily removed in the event of damage.

Bidder Complies as Written: Yes: _____ No: _____

The rub rail shall be secured with stainless steel fasteners and spaced away from the edge of the rear step with ½" nylon spacers, to help absorb moderate rear impacts and prevent the collection of water and debris for easier cleaning.

Bidder Complies as Written: Yes: _____ No: _____

REAR RUB RAIL REFLECTIVE STRIPING

One-inch reflective striping (3M Diamond Grade) shall be applied to the length of each rub rail section making the perimeter of the apparatus more readily visible.

Bidder Complies as Written: Yes: _____ No: _____

The reflective striping shall be a combination of Red and Amber colors or designated by the purchaser.

Bidder Complies as Written: Yes: _____ No: _____

BODY OVERLAYS

The entire front face of the apparatus body shall have aluminum diamond plate overlays installed. The most exterior rear face of the apparatus body shall have raw aluminum overlays installed for the installation of chevron striping. The interior rear surfaces of inboard stepping area shall be covered with polished embossed aluminum treadplate.

Bidder Complies as Written: Yes: _____ No: _____

All overlay materials shall be coated with 3M adhesive sealant on the back portion to provide an insulating barrier between dissimilar metals.

Bidder Complies as Written: Yes: _____ No: _____

The front of the apparatus body, vertical wall overlays shall be installed with an 18-gauge mirrored stainless steel 1.0" x 1.0" corner trim piece for edge protection. The vertical edge trim piece shall extend from the top to bottom and shall be fastened at a minimum of three locations, top, middle, and bottom.

Bidder Complies as Written: Yes: _____ No: _____

The rear face of the apparatus body, vertical wall overlays shall be installed with an 18-gauge mirrored stainless steel 1.0" x 1.0" corner trim piece, for edge protection. The vertical edge trim piece shall extend from the top to bottom and shall be fastened at a minimum of three locations, top, middle, and bottom.

Bidder Complies as Written: Yes: _____ No: _____

The vertical edge trim piece that is protecting the chevron striping surface or that is utilized for the purpose of striping, shall be secured utilizing fasteners only.

Bidder Complies as Written: Yes: _____ No: _____

UPPER CATWALK SURFACE

The left side catwalk shall be constructed with materials of a non-slip 1/8" embossed aluminum diamond plate, meeting the minimum NFPA standard requirements for slip resistance. The right side shall have compartments.

Bidder Complies as Written: Yes: _____ No: _____

SIDE ROPE RESCUE ANCHOR POINTS

There shall be (2) rescue rope anchor points located below compartments L1 and R1, they shall be a 2" receiver design with interchangeable "D" ring style tie off points.

Bidder Complies as Written: Yes: _____ No: _____

The maximum rated pull capacity shall equal 10,000 pounds of straight pull. There shall be a label placed on or near rope anchor point stating the maximum load rating of each anchor point. A weatherproof winch power connection shall also be provided at all anchor points.

Bidder Complies as Written: Yes: _____ No: _____

FOLDING STEPS

CPI illuminated folding step(s) shall be installed on the body as directed by the department or required per NFPA. The top of the stepping surface shall have a knurled finish and an LED light that illuminates the stepping surface. An additional light shall be provided on the step mounting bracket to illuminate the area under the step. It is the intent of the purchaser to have two climbing accesses to the top of the apparatus from both pump panels. There shall also be two folding steps in the rear tailboard area to allow for access into the hosebed storage areas. Specific step locations shall be determined by the purchaser during the pre-construction meeting.

Bidder Complies as Written: Yes: _____ No: _____

RIGHT FRONT FOLDING STEPS

Four (4) folding steps shall be installed on the right forward wall of the front compartment. These steps shall be utilized to access the water tank fill tower of the apparatus. The steps shall also be utilized to gain access to the top of the pump compartment structure and any equipment located in the immediate vicinity.

Bidder Complies as Written: Yes: _____ No: _____

One (1) 10" long x 1 1/4" diameter handrail constructed of extruded aluminum with a knurled grip, full length red reflective inserts and full length illuminated LED light insert shall be installed in a best fit location above the forward step(s) to assist in climbing the steps and in accordance with the current edition of NFPA 1901 standard requirements. There shall be a 2" minimum clearance between the bracket and the body.

An additional handrail of similar construction but not lighted shall be mounted to the top of the body to facilitate climbing onto the top of the apparatus.

Bidder Complies as Written: Yes: _____ No: _____

RIGHT REAR FOLDING STEP

One (1) folding step shall be installed on the right rear vertical face of the body.

Bidder Complies as Written: Yes: _____ No: _____

One (1) 10" long x 1 1/4" diameter handrail constructed of extruded aluminum with a knurled grip, full length red reflective inserts and full length illuminated LED light insert shall be installed in a best fit location above the rearward step(s) to assist in climbing the steps and in accordance with the current edition of NFPA 1901 standard requirements. There shall be a 2" minimum clearance between the bracket and the body.

Bidder Complies as Written: **Yes:** _____ **No:** _____

LEFT FRONT FOLDING STEPS

Four (4) folding steps shall be installed on the left forward wall of the front compartment. These steps shall be utilized to access the water tank fill tower of the apparatus. The steps shall also be utilized to gain access to the top of the pump compartment structure and any equipment located in the immediate vicinity.

An additional handrail of similar construction but not lighted shall be mounted to the top of the body to facilitate climbing onto the top of the apparatus.

Bidder Complies as Written: **Yes:** _____ **No:** _____

One (1) 10" long x 1 1/4" diameter handrail constructed of extruded aluminum with a knurled grip, full length red reflective inserts and full length illuminated LED light insert shall be installed in a best fit location above the forward step(s) to assist in climbing the steps and in accordance with the current edition of NFPA 1901 standard requirements. There shall be a 2" minimum clearance between the bracket and the body.

Bidder Complies as Written: **Yes:** _____ **No:** _____

LEFT REAR FOLDING STEP

One (1) folding step shall be installed on the left rear vertical face of the body.

Bidder Complies as Written: **Yes:** _____ **No:** _____

One (1) 10" long x 1 1/4" diameter handrail constructed of extruded aluminum with a knurled grip, full length red reflective inserts and full length illuminated LED light insert shall be installed in a best fit location above the rearward step(s) to assist in climbing the steps and in accordance with the current edition of NFPA 1901 standard requirements. There shall be a 2" minimum clearance between the bracket and the body.

Bidder Complies as Written: **Yes:** _____ **No:** _____

KNURLED ALUMINUM ILLUMINATED HANDRAILS

All handrails shall be 1 1/4" in diameter, constructed of extruded aluminum with a knurled grip, full length red reflective inserts and full length illuminated LED light insert. There shall be a 2" minimum clearance between the handrail and the body. The light shall illuminate an area adjacent to the handrail that has been determined by the department and in accordance with the current edition of NFPA 1901 standard requirements.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The following handrails shall be installed at the approximate lengths noted:

Three (3) hand rails installed on the rear of the apparatus.

Bidder Complies as Written: **Yes:** _____ **No:** _____

Two (2) vertical hand rails shall be installed, one on each side, just below the hose bed sides. The left side grab rail shall be full height and the right-side grab rail shall be shortened and located on the ladder compartment door. The remaining hand rail shall be installed horizontally, just below the hose bed area (full width).

Bidder Complies as Written: **Yes:** _____ **No:** _____

10" HANDRAIL

One (1) 10" horizontal handrail(s) shall be located on the compartment lid of the upper enclosed dunnage compartment (above the crosslays).

Bidder Complies as Written: **Yes:** _____ **No:** _____

10" HANDRAIL

Two (2) 10" handrails shall be installed, one (1) on each side of the pump compartment above the pump panel.

Bidder Complies as Written: **Yes:** _____ **No:** _____

REAR TOW EYES

There shall be two rear tow eyes installed to the frame rails, one each side, accessible below the rear center compartment. They shall be manufactured of 1" plate steel and each plate shall be bolted to the chassis frame rail with a minimum quantity of (6) grade 8 bolts. The two plates shall be anchored together with 1" steel tubing to prevent swaying of the frame rails during a towing operation.

Bidder Complies as Written: **Yes:** _____ **No:** _____

LOW-VOLTAGE ELECTRICAL SYSTEM

The apparatus shall be equipped with a Logic Controlled, Low-Voltage (12v) Electrical System, compliant with the latest revision of the NFPA 1901 standard guidelines.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The system shall be capable of performing total load management, load management sequencing, and load shedding via continuous monitoring of the low-voltage electrical system. In addition, the system shall be capable of switching loads (similar to operating as an emergency warning lamp flasher) eliminating the dependency on many archaic electrical components such as conventional flasher modules. The system shall also incorporate provisions for future expansion or system modification.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The low-voltage electrical system shall be designed to distribute the placement of electrical system hardware throughout the apparatus thereby enabling a smaller, optimized wire harness. The programmable, logic controlled system shall eliminate redundant electrical hardware such as extra harnesses, circuit boards, relays, circuit breakers, and separate electrical or interlock subsystems and associated electronics for controlling various electrical loads and inputs.

Bidder Complies as Written: **Yes:** _____ **No:** _____

As-built electrical system drawings and an apparatus-specific reference of I/O shall be furnished in the final delivery manuals. These drawings shall illustrate the electrical system broken down into separate functions, or small groups of related functions. Drawings shall depict circuit numbers, electrical components and connectors from beginning to end. **A single drawing for all electrical circuits installed**

by the apparatus manufacturer shall not be accepted.

Bidder Complies as Written: Yes: _____ No: _____

All circuits located within the pump module shall have an acrylic label for each respective circuit.

Bidder Complies as Written: Yes: _____ No: _____

ELECTRICAL NODE(S)

An electrical distribution node or relay shall be installed and located on the interior of the most rearward compartments on each side of the apparatus body.

Bidder Complies as Written: Yes: _____ No: _____

Full depth body compartmentation designs shall have the node mounted to the back wall and run parallel front to back of the apparatus.

Bidder Complies as Written: Yes: _____ No: _____

Half depth compartment ion designs shall have the node mounted to the back wall and run parallel front to back of the apparatus.

Bidder Complies as Written: Yes: _____ No: _____

A protective cover shall be installed to prevent damage to the node or electrical system during equipment installation and or removal. Node covers shall be approximately 16 to 22” in length and shall match the compartments interior finish. Node covers will not include any type of shelf mounting structure and shall limit the height of uni-strut or shelf height within the compartments.

Bidder Complies as Written: Yes: _____ No: _____

LED DOT LIGHTING

There shall be a total of eleven (11) red clearance lights and two (2) amber clearance lights on the apparatus. There shall be seven (7) red clearance lights located on the rear of the apparatus, five (5) lights shall be in the rear rub rail and two (2) lights shall be as high and wide as possible. On the sides of the apparatus there shall be four (4) red clearance lights, two (2) located on each side of the apparatus in the rub rails at the front and rear portion of the rear compartments. Additionally, on the sides of the apparatus there shall be two (2) amber clearance lights, one (1) located on each side of the apparatus in the rub rail at the rear portion of front compartments.

Bidder Complies as Written: Yes: _____ No: _____

Four (4) amber intermediate marker lights on the sides of the apparatus (two (2) each per side) one (1) in the most forward portion of the body rub rail and one (1) in the most rearward portion of the body rub rail. These lights shall be programmed to flash with the turn indicators.

Bidder Complies as Written: Yes: _____ No: _____

The lights shall be Whelen OS series LED red and amber markers.

Bidder Complies as Written: Yes: _____ No: _____

Two (2) Whelen 500 LED amber intermediate turn signals shall be provided over the rear wheel well area, one (1) per side above the forward Smart Compartments.

Bidder Complies as Written: Yes: _____ No: _____

All wiring shall be protected from damage and shall not be exposed.

Bidder Complies as Written: **Yes:** _____ **No:** _____

LED MID CHASSIS TURN SIGNALS

The mid-chassis rub rail, center of the pump module, shall include two (2) Whelen Model M2 2.00-inch X 4.00-inch programmable LED amber turn signals with a chrome flange, one (1) each side.

Bidder Complies as Written: **Yes:** _____ **No:** _____

LED REAR TAIL LIGHT WARNING CLUSTER

There shall be a Whelen M6-Series Super LED Quad-Cluster, rear tail light cluster provided and installed in a polished bezel on the rear of the apparatus, one each side. The cluster shall consist of the following specified components:

- 1 - Whelen #M6 FCV4 Chrome Flange
- 1 - Whelen #M6BTT LED red brake light
- 1 - Whelen #M6T LED series amber turn signal light
- 1 - Whelen #M6 BUW LED clear backup light
- 1 - Whelen M6 LED warning light

Bidder Complies as Written: **Yes:** _____ **No:** _____

SWITCHABLE REAR SCENE / BACKUP LIGHTS

There shall be a momentary switch on the left side of the rear of the apparatus that shall control the backup & scene lights on the rear of the apparatus after the park brake has been set. The switch shall be located in the CPI box for the hosebed cover and shall activate the upper rear scene lights and reverses circuit providing scene lighting from all rear white M6 lights. The switch shall work independently of the parking brake circuit, after the park brake has been set. The lights shall shut off when the park brake is disengaged resetting the lights to off.

Bidder Complies as Written: **Yes:** _____ **No:** _____

REAR WORK LIGHT

The rear of the body shall include one (1) Whelen Pioneer model PFA1 scene light recessed with a chrome bezel. A weather proof switch shall be located on each light to independently turn off each light.

Bidder Complies as Written: **Yes:** _____ **No:** _____

REAR WORK LIGHT LOCATION

One (1) rear work light shall be located on the rear upper right sides, to the right of the hose bed.

Bidder Complies as Written: **Yes:** _____ **No:** _____

REAR WORK LIGHT ACTIVATION

The work light shall be activated by one (1) weatherproof rocker switches located in the pump panel switch cluster, and via the Multiplex Displays.

Bidder Complies as Written: **Yes:** _____ **No:** _____

LED PUMP COMPARTMENT WORK LIGHTS

Two (2) LED Tube light(s) shall be installed in the pump compartment module to illuminate the piping and plumbing components. The light(s) shall be activated by a weather resistant toggle switch.

Bidder Complies as Written: Yes: _____ No: _____

WHELEN SUPER LED STRIPE-LITE COMPARTMENT LIGHTING

Whelen Super LED Stripe-Lite lighting shall be installed in the compartments as specified. The lighting in each compartment shall be on a separate circuit, and shall activate when the master switch is "on".

Bidder Complies as Written: Yes: _____ No: _____

Two (2) Whelen Super LED Stripe-Lite’s shall be installed in two (2) over wheel compartment(s).

Bidder Complies as Written: Yes: _____ No: _____

One (1) Whelen Super LED Stripe-Lite shall be installed in two (2) pump module Engineer's compartments.

Bidder Complies as Written: Yes: _____ No: _____

Two (2) Whelen Super LED Stripe-Lite’s shall be installed in four (4) full height compartment(s).

Bidder Complies as Written: Yes: _____ No: _____

Two (2) Whelen Super LED Stripe-Lite’s shall be installed in the rear center compartment.

Bidder Complies as Written: Yes: _____ No: _____

LED PERIMETER LIGHTS

There shall be eight (8) LED underbody perimeter lights provided and installed in addition to the chassis provided lights. One (1) under each side of the pump house, one (1) under each side of the rear of the body, one (1) under each side of the front of the body, and two (2) under the rear step to illuminate the ground around the truck.

Bidder Complies as Written: Yes: _____ No: _____

Lighting designed to provide illumination under the cab step areas shall be of a switch-able design although, activate automatically when the exit doors are opened. All other ground area lighting shall be of the standard switch-able design controlled by the multiplex display

Bidder Complies as Written: Yes: _____ No: _____

They shall be manufactured by Trucklite and be model # 44308C.

Bidder Complies as Written: Yes: _____ No: _____

WHELEN LED UPPER LIGHTING PACKAGE

All Whelen warning lights shall be multiplex controlled and shall have the capability of multiple flash patterns that change with different inputs (i.e. lower light density, changed flash patterns while parked).

Bidder Complies as Written: Yes: _____ No: _____

WHELEN LED UPPER LIGHTING PACKAGE

The following NFPA lighting package, manufactured by Whelen, shall be supplied and installed in the upper areas of the vehicle. The control of these lights shall be in compliance with the lighting and

switching plan provided by the purchaser during the pre-construction meeting. Manufacturer shall wire lighting to be controlled by the multiplex display and remote rocker switches and include the ability to program various flash patterns.

ZONE A: There shall be a Whelen lightbar with Opticom emitter as previously specified, installed on the top front of the cab. Manufacturer shall wire lighting to be controlled by the multiplex display and include the ability to program various flash patterns.

Bidder Complies as Written: Yes: _____ No: _____

ZONE B & D: There shall be six (6) Whelen M9 warning lights installed on the apparatus. Four (4) located on the upper box and two (2) located on the cab. Manufacturer shall wire lighting to be controlled by the multiplex display and include the ability to program various flash patterns.

Bidder Complies as Written: Yes: _____ No: _____

ZONE C: There shall be two (2) Whelen M6 flashing Amber LED warning lights and two (2) red Whelen M6 red warning lights installed on the upper portion of the rear body. Manufacturer shall wire lighting to be controlled by the multiplex display and include the ability to program various flash patterns.

Bidder Complies as Written: Yes: _____ No: _____

WHELEN LOWER LED WARNING LIGHTING

The following NFPA lighting package, manufactured by Whelen, shall be supplied and installed in the lower areas of the vehicle. The control of these lights shall be in compliance with the lighting and switching plan provided by the purchaser during the pre-construction meeting. Manufacturer shall wire lighting to be controlled by the multiplex display and remote rocker switches and include the ability to program various flash patterns.

ZONE A: There shall be four (4) Whelen M6 LED warning lights installed into the front grill fascia and two (2) Whelen M6 LED warning lights on the sides of the bumper (one on each side). Manufacturer shall wire lighting to be controlled by the multiplex display and remote rocker switches and include the ability to program various flash patterns.

Bidder Complies as Written: Yes: _____ No: _____

ZONES B&D: There shall be four (4) Whelen M2 warning lights installed on the lower body and rub rail and one (1) M6 installed above the front axle. Manufacturer shall wire lighting to be controlled by the multiplex display and remote rocker switches and include the ability to program various flash patterns.

Bidder Complies as Written: Yes: _____ No: _____

ZONE C: There shall be two (2) Whelen M6 warning lights installed on the lower rear body. Manufacturer shall wire lighting to be controlled by the multiplex display and remote rocker switches and include the ability to program various flash patterns.

Bidder Complies as Written: Yes: _____ No: _____

WHELEN LED REAR DIRECTIONAL LIGHT BAR

There shall be a Whelen model #TAM85 46.82” long directional lightbar with eight (8) TIR6 Super-LED light heads provided and installed on the rear of the apparatus. The traffic advisor shall be

controlled through a Whelen TACTLD1 control head which will be the primary controller (both wired HOT with ignition) and active with the park brake. The traffic advisor shall also activate in "FLASH MODE" through the Federal Signal Unitrol (Position 2 and Position 3) when responding.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The lightbar is to be recess mounted into the end of the single hosebed cover (centered).

Bidder Complies as Written: **Yes:** _____ **No:** _____

REAR VIEW CAMERA SYSTEM

A camera shall be surface mounted on the center rear of the apparatus body for maximum viewing capability. The camera shall be recessed or a protective shroud shall be installed over the system to protect against damage.

Bidder Complies as Written: **Yes:** _____ **No:** _____

WHELEN M9 LED 12 VOLT SIDE SCENE LIGHTS

There shall be a Whelen model #M9LZC 12-volt gradient scene light with chrome bezel provided and installed with the apparatus as specified.

Bidder Complies as Written: **Yes:** _____ **No:** _____

There shall be a total quantity of four (4).

Bidder Complies as Written: **Yes:** _____ **No:** _____

The scene lights shall be located on the side of the body, TWO (2) (1) each side, located on the upper portion, forward and rearward of the body side wall on coffin compartments, below the red M9 emergency light.

Bidder Complies as Written: **Yes:** _____ **No:** _____

The scene lights shall be activated by a switch on the multiplex display and by a weather resistant switch on the pump panel. The control of these lights shall be in compliance with the lighting and switching plan provided by the purchaser during the pre-construction meeting.

Bidder Complies as Written: **Yes:** _____ **No:** _____

REFLECTIVE STRIPING

The purchaser shall supply reflective striping for the apparatus in compliance to applicable NFPA standards.

Bidder Complies as Written: **Yes:** _____ **No:** _____

FRONT BUMPER CHEVRON STRIPING

The front bumper shall have 3M Diamond Grade reflective red and amber striping installed. The chevron style striping shall be applied at a 45-degree upward angle.

Bidder Complies as Written: **Yes:** _____ **No:** _____

REAR BODY CHEVRON STRIPING

The entire rear portion of the body shall have 3M Diamond Grade reflective red and amber striping installed. The chevron style striping shall be applied at a 45-degree upward angle

pointing towards the center upper portion of the rear panel.

Bidder Complies as Written: Yes: _____ No: _____

INSIDE DOOR PANEL REFLECTIVE STRIPE

Reflective striping shall be installed on the interior of each chassis door. The lower portion of the doors shall have red and amber chevron applied to it that matches the rear of the apparatus. A matching reflective stripe shall be applied on the vertical outer edge of the door.

Bidder Complies as Written: Yes: _____ No: _____

LED LICENSE PLATE MOUNTING

A Cast Products, model LP0004-1-B, cast aluminum fully enclosed license plate bracket shall be installed. The bracket shall incorporate a clear LED light (WL0501) to illuminate the license plate and meet DOT requirements.

Bidder Complies as Written: Yes: _____ No: _____

OEM PROVIDED MISCELLANEOUS EQUIPMENT

The following equipment list shall be provided by the OEM or Dealer with the completed apparatus.

ZICO WHEEL CHOCKS

Two (2) NFPA compliant Ziamatic folding wheel chocks model # SAC-44-E with mounting brackets shall be supplied with the apparatus as specified earlier in the spec.

Bidder Complies as Written: Yes: _____ No: _____

GROUND LADDERS

The OEM or Dealer shall supply and store the below ground ladders:

- One (1) Duo-Safety 28' three (3) section aluminum extension ladder(s), model 1225A
- One (1) Duo-Safety 12' aluminum roof ladder(s) with folding hooks, model 775A.
- One (1) Duo-Safety 10' aluminum attic ladder(s), model 585A
- There shall be a Little Giant Overhaul model 17 type 1AA aluminum ladder. There shall be a total quantity of one (1)

Bidder Complies as Written: Yes: _____ No: _____

NUPLA PIKE & MISC. POLES

The OEM or Dealer shall supply and store the below pike poles and rubbish hook:

- one (1) Nupla 10' Nuplaglas Classic Round Pike Pole(s), model YPD-10.
- one (1) Nupla 8' Nuplaglas Classic Round Pike Pole(s), model YPD-8.
- one (1) Nupla 6' Nuplaglas Classic Round Rubbish Hook w/ D-handle, model RH-6DA.

Bidder Complies as Written: Yes: _____ No: _____

FIRE EXTINGUISHERS

The OEM or Dealer shall supply and store the below fire extinguishers:

One (1) 20 lb. Amerex B-42 Extinguisher(s) shall be supplied with the apparatus. The extinguisher shall be installed in the extinguisher compartment on the officer's side of the apparatus rear wheel well

compartment.

Bidder Complies as Written: Yes: _____ No: _____

One (1) 2 1/2 gallon Water Extinguisher Badger Model WP61 shall be supplied with the apparatus. The extinguisher shall be installed in the extinguisher compartment on the officer's side of the apparatus rear wheel well compartment.

Bidder Complies as Written: Yes: _____ No: _____

LED RECHARGEABLE FLASHLIGHTS

A hand held Streamlight Fire Vulcan LED rechargeable lantern, model #44451 (orange) with quick release shoulder strap and charge rack shall be installed on the apparatus. The light(s) shall be mounted in the crew area of the cab per Fire Department at Final Inspection.

Bidder Complies as Written: Yes: _____ No: _____

Four (4) hand held Streamlight Survivor LED, right angle flashlights model #90509 (orange) with fast charger, holder and 12volt DC cord shall be installed on the apparatus. The light(s) shall be mounted in the crew area of the cab per Fire Department at Mid Inspection.

Bidder Complies as Written: Yes: _____ No: _____

END OF SPECIFICATION