



Request for Proposals

THREE (3) TRIPLE COMBINATION PUMPER FIRE ENGINES

Issue Date: Thursday February 25, 2021

**JONES COUNTY BOARD OF COMMISSIONERS
166 INDUSTRIAL BLVD./P.O. BOX 1359
GRAY, GA 31032
PHONE: (478) 986-6405
ATTN: JASON RIZNER, COUNTY ADMINISTRATOR**

BIDS WILL BE RECEIVED UNTIL MARCH 25, 2021 AT 4:30 P.M.

PROPOSALS ARE TO BE SEALED AND MAILED VIA USPS, FEDEX OR UPS TO THE ABOVE ADDRESS OR HAND DELIVERED TO THE COUNTY ADMINISTRATOR'S OFFICE LOCATED IN THE JONES COUNTY GOVERNMENT CENTER AT 166 INDUSTRIAL BLVD., GRAY, GA 31032. ENVELOPES SHOULD BE MARKED WITH "RFP – FIRE TRUCKS."



The Jones County Board of Commissioners is requesting proposals from qualified fire engine companies to provide three (3) Triple Combination Pumpers for the Jones County Fire/Rescue Department. Proposals will be accepted until 4:30 PM on Thursday, March 25, 2021 when they will be opened and read aloud in the Jones County Government Center Conference Room (166 Industrial Blvd., Gray, GA 31032). Any questions should be directed to Leslie Faulk via e-mail at leslie.faulk@jonescountyga.org.

1. BACKGROUND

The Jones County Fire/Rescue Department is seeking to replace three existing pumpers with new pumpers based on the specifications outlined below. Money from the 2021-2026 SPLOST has been allocated for this purchase.

It shall be the intent of these specifications to cover the furnishing and delivery of a complete fire apparatus. These detailed specifications cover the requirements as to the type of construction, finish, equipment and tests to which the fire apparatus shall conform. Minor details of construction and materials, which are not otherwise specified, are left to the discretion of the contractor.

Images and illustrative material in this specification are as accurate as known at the time of publication, but are subject to change without notice. Images and illustrative material is for reference only, and may include optional equipment and accessories and may not include all standard equipment.

These specifications are for a build-to-order truck. A stock unit is not acceptable. **No exceptions.**

2. RESPONSE TO RFP

2.1. Responses to the RFP must be submitted as follows:

- 2.1.1. Sealed proposals including the forms attached to this RFP document
- 2.1.2. Professional binder form (two hard copies)
- 2.1.3. One digital copy of proposal on USB drive
- 2.1.4. Plainly marked with proposer's name, title, and time for submission
- 2.1.5. Company name
- 2.1.6. Indicate "RFP – Fire Trucks" on the package
- 2.1.7. Specification information on the proposed vehicle that is sufficient to determine if the proposed vehicle complies with the specifications outlined below.
- 2.1.8. Cost of vehicles and equipment
- 2.1.9. Any other required materials identified in this document.

2.2. Additional Instructions for Bidders



- 2.2.1. The purchaser's standards for bidding automotive fire apparatus must be strictly adhered to, and all bid forms and questions must be complete and submitted with the bid. **Omissions and variations shall result in immediate rejection of the bid.**
- 2.2.2. 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 20 years. Furthermore, in order to insure fair, ethical, and legal competition, neither the original equipment manufacturer (O.E.M.) nor parent company of the O.E.M. shall have ever been fined or convicted of price fixing, bid rigging, or collusion in any domestic or international fire apparatus market (no exceptions).
- 2.2.3. If a bidder represents more than one fire apparatus company or brands of apparatus, they must only bid the top of the line that meets specification.**
- 2.2.4. Each bidder shall furnish satisfactory evidence of their ability to construct the apparatus specified.
- 2.2.5. Any apparatus manufacturer or their parent company who has had a performance bond called in the last 10 years, shall not be eligible to bid. Any bids from these manufactures shall be immediately rejected (no exceptions).
- 2.2.6. Each bid shall be accompanied by a set of manufacturer's set of specifications consisting of a detailed description of the apparatus, construction methods, and equipment proposed to which the apparatus furnished under contract shall conform. These specifications shall indicate size, type, model and make of all components parts and equipment, providing proof of compliance with each and every item in the departments advertised specifications. A letter only, even though written on company letterhead, shall not be sufficient. **An exception to this requirement shall not be acceptable.**
- 2.2.7. In accordance with the current edition of NFPA 1901 standards, the proposal shall specify whether the fire department or apparatus dealership shall provide required loose equipment.
- 2.2.8. The purchaser will utilize this advertised specification to compare all submitted bid proposals. To facilitate comparison, all bid proposal specifications shall be submitted in the same sequence as the advertised specification. Any bidder who fails to submit a set of bid proposal specifications, or who photo copies and submits these specifications as their own construction details will be considered non responsive. This shall render such proposal ineligible for award.
- 2.2.9. The purchaser's specification shall, in all cases, govern the construction of the apparatus, unless a properly documented exception or deviation was approved. Any bid indicating that the manufacturer's proposal shall supersede the purchaser's specification will be considered a complete substitute and immediately rejected.
- 2.2.10. THE PURCHASER HAS THE RIGHT TO REJECT ANY BIDS WHICH DOES NOT MEET THESE SPECIFICATIONS AND IS THE SOLE DECIDER TO DEEM WHICH BID IS IN THE BEST INTEREST OF THE PURCHASER.

3. Questions

- 3.1. Questions regarding this request for proposals shall be directed to Leslie Faulk via email at leslie.faulk@jonescountyga.org. The deadline for the receipt of questions is 5:00 PM on March 12. An addendum with questions and answers will be issued on



Tuesday March 16. Vendors are responsible for monitoring the Jones County website (Vendor Registry) for any addenda that may be issued.

3.2. Exceptions

- 3.2.1. These specifications are based upon design and performance criteria which have been developed by the fire department as a result of extensive research and careful analysis. Subsequently these specifications reflect the only type of fire apparatus that is acceptable at this time and all specifications herein contained are considered as minimum. Therefore exceptions to the specifications may not be accepted.
- 3.2.2. Bidders shall indicate in the "yes/no" column on the proposal submission form whether their proposal complies on each item (paragraph) specified. Bidders shall note any exceptions or other pertinent information in the "Notes/Exceptions" column. Additional information may be attached if necessary.
- 3.2.3. If a product brand name is specified and is commercially available to all bidders, an exception to such items is not acceptable and such bid may be rejected.
- 3.2.4. Exceptions shall be allowed if they are equal to or superior to that specified and provided they are listed and fully explained on a separate page. **All deviations, no matter how slight, shall be clearly explained on a separate sheet, in the bid sequence, citing the page and paragraph number(s) of the specifications, how the proposal deviation is different, how the deviation meets or exceeds the specifications and why it is necessary, and entitled "EXCEPTIONS TO SPECIFICATIONS".**
- 3.2.5. The buyer reserves the right to require a bidder to provide proof in each case that a substituted item is equal to that specified. The buyer shall be the sole judge in determination of acceptable substitutes.
- 3.2.6. Proposals that are found to have deviations without listing them or bids taking total exceptions to these advertised specifications will be rejected (no exception).
- 3.2.7. Proposals that are found to have deviations without listing them or bids taking total exceptions to these advertised specifications will be rejected (no exception).

4. General Design and Construction

- 4.1. The prime vehicle manufacturer shall be responsible for the overall design so that the cab, chassis, pump module, and body are all integrated and function together as a complete fire apparatus, which shall also minimize third party involvement on engineering, design, service and warranty issues.
- 4.2. All bidders shall provide a list of the company, manufacturing location, and engineering source for each individual major component, including but not limited to the cab assembly, the pumphouse module assembly, the chassis assembly, body and electrical system.
- 4.3. The apparatus shall be designed with due consideration to distribution of load between the front and rear axles. Weight balance and distribution shall be in accordance with the recommendations of the National Fire Protection Association.
- 4.4. The bidder shall make accurate statements as to the apparatus weight and dimensions.

5. Quality and Workmanship

- 5.1. All steel welding shall follow American welding Society D1.1-2004 recommendations for structural steel welding. All aluminum welding shall follow American welding



Society and ANSI D1.2-2003 requirements for structural welding of aluminum. All sheet metal welding shall follow American Welding Society B2.1-2000 requirements for structural welding of sheet metal. Flux core arc welding to use alloy rods, type 7000, American welding Society standards A5.20-E70T1. Employees classified as welders are tested and certified to meet the American Welding Society codes upon hire and every three (3) years thereafter. The manufacturer shall be required to have an American welding Society certified welding inspector in plant during working hours to monitor weld quality.

5.2. The manufacturer shall also be certified to operate a Quality Management System under the requirements of ISO 9001. These standards sponsored by the International organization for Standardization (ISO) specify the quality systems that shall be established by the manufacturer for design, manufacture, installation and service. A copy of the certificate of compliance shall be included with the bid.

5.3. To demonstrate the quality of the product and service, each bidder shall provide a list of at least five (5) fire departments/municipalities in the region that have bought a second time from the representing dealer. **An exception to this requirement shall not be acceptable.**

6. Manuals and Service Information

6.1. The manufacturer shall supply at time of delivery, complete operation and maintenance manuals covering the complete apparatus as delivered. A permanent plate shall be mounted in the drivers compartment which specifies the quantity and type of fluid required including engine oil, engine coolant, transmission, pump transmission lubrication, pump primer and drive axle.

7. Safety Video

7.1. Since video is much more effective than written documentation and can be replayed for new personnel and as a refresher for existing personnel, an apparatus safety video, in DVD format shall be provided at time of delivery. This video shall address key safety considerations for personnel to follow when they are driving, operating, and maintaining the apparatus. Safety procedures for the following shall be included on the video: vehicle pre trip inspection, chassis operation, pump operation and maintenance.

8. Performance Tests and Requirements

8.1. A road test shall be conducted with the apparatus fully loaded and a continuous run of ten (10) miles or more shall be made under all driving conditions, during which time the apparatus shall show no loss of power or overheating. The transmission drive shaft or shafts, and rear axle shall run quietly and be free from abnormal vibration or noise throughout the operating range of the apparatus. Vehicle shall adhere to the following parameters:

8.1.1. The apparatus, when fully equipped and loaded, shall have not less than 25 percent nor more than 50 percent of the weight on the front axle, and not less than 50 percent nor more than 75 percent on the rear axle.

8.1.2. The apparatus shall be capable of accelerating to 35 mph from a standing start within 25 seconds on a level concrete highway without exceeding the maximum governed rpm of the engine.



8.1.3. The service brakes shall be capable of stopping a fully loaded vehicle in 35 feet at 20 mph on a level concrete highway. The air brake system shall conform to Federal Motor vehicle Safety Standards (FMVSS) 121.

8.1.4. The apparatus, fully loaded, shall be capable of obtaining a speed of 50 mph on a level concrete highway with the engine not exceeding the governed rpm (full load).

8.2. Failure to Meet Test

8.2.1. In the event the apparatus fails to meet the test requirements of these specifications on the first trial, second trials may be made at the option of the bidder within 30 days of the date of the first trial. Such trials shall be final and conclusive and failure to comply with these requirements shall be cause for rejection. Failure to comply with changes to conform to any clause of the specifications, within 30 days after notice is given to the bidder of such changes, shall also be cause for rejection of the apparatus. Permission to keep or store the apparatus in any building owned or occupied by the purchaser or its use by the purchaser during the above-specified period with the permission of the bidder shall not constitute acceptance.

9. Service and Warranty Support (Dealership)

9.1. TO INSURE FULL SERVICE AFTER DELIVERY, THE SELLING BIDDER/DEALERSHIP MUST BE CAPABLE OF PROVIDING SERVICE WHEN REQUIRED.

9.2. The bidder/dealership shall show that the company is in position to render prompt service and to furnish replacement parts.

9.3. Each bidder/dealership must be able to display that they are actively in the fire apparatus service business by operating a factory authorized service center and parts repository capable of satisfying the warranty service requirements and parts requirements of the vehicle(s) being purchased.

9.4. The bidder/dealership must state the location of this authorized service center. This service center must have a staff of factory-trained mechanics, well versed in all aspects of service for all major components of the apparatus. The service center must be within fifty (50) miles of the Fire Department. The bidder must also provide mobile service and state the number of mobile service technicians employed.

10. Service and Warranty Support (Manufacturer)

10.1. To provide an additional layer of service support, the successful manufacturer must also own a least two separate service facilities, one located in the northern portion of the US to service both Canada and the northern US states and one in the south to service the southern states.

10.2. The manufacturer shall stock 1 million parts equating to \$5,000,000 of inventory dedicated to service and replacement parts to ensure quick response and minimize down time. Furthermore, the manufacturer shall house the inventory in a dedicated facility, with a dedicated shipping area that ensures service parts are given priority. The bidder shall provide detailed documentation of service and replacement part resources.

10.3. Parts identification shall be provided to both the dealer and the Fire Department through an on line web based application for the specific truck reflected in this specification. Access will be granted using the specific VIN number of the vehicle. The online web application will provide the ability to view complete bills of materials, digital



photographs, parts drawings, assembly drawings, and access to all current operation, maintenance and service publications.

- 10.4.** The manufacturer must also maintain a 24 hour/ 7 day a week, toll free emergency hot line.
- 10.5.** The manufacturer shall employ a staff of adequate size (a minimum of 30 personnel) specifically dedicated to providing customer support and parts for the fielded fleet of vehicles it has produced.
- 10.6.** The manufacturer must be capable of providing both in-house and on-site service for the apparatus.
- 10.7.** The manufacturer shall offer regional factory hands-on repair and maintenance training classes.
- 10.8.** The manufacturer shall employ a minimum of four certified EVT technicians on staff, not only providing technical expertise in the repair of fire apparatus, but also demonstrating the commitment to service after the sale.

11. Liability

- 11.1.** The successful bidder shall defend any and all suits and assume all liability for the use of any patented process including any device or article forming a part of the apparatus or any appliance furnished under the contract.

12. NFPA 2016 Standards

- 12.1.** This apparatus specification includes a commercial chassis that has not been certified to meet the requirements of NFPA 1901 by the chassis manufacturer. Although this chassis may comply with certain aspects of the standard, has not received certification from this chassis manufacturer that all criteria have been met. The body as built by the manufacturer must comply with the NFPA standards effective January of 2016.
- 12.2.** Certification of slip resistance of all stepping, standing and walking surfaces must be supplied with delivery of the apparatus.
- 12.3.** All horizontal surfaces designated as a standing or walking surface that are greater than 48.00" above the ground must be defined by a 1.00" wide line along its outside perimeter. Perimeter markings and designated access paths to destination points shall be identified on the customer approval print and are shown as approximate. Actual location(s) shall be determined based on materials used and actual conditions at final build. Access paths may pass through hose storage areas and opening or removal of covers or restraints may be required. Access paths may require the operation of devices and equipment such as the aerial device or ladder rack.
- 12.4.** A plate that is highly visible to the driver while seated shall be provided. This plate shall show the overall height, length, and gross vehicle weight rating.
- 12.5.** The manufacturer shall have programs in place for training, proficiency testing and performance for any staff involved with certifications.
- 12.6.** An official of the company shall designate, in writing, who is qualified to witness and certify test results.

13. NFPA Compliance

- 13.1.** Apparatus proposed by the bidder shall meet the applicable requirements of the National Fire Protection Association (NFPA) as stated in the current edition at time of



contract execution. Fire Department's specifications that differ from NFPA specifications shall be indicated in the proposal as "non-NFPA."

14. Pump Test

- 14.1.** The rated water pump shall be tested, approved, and certified by an ISO certified independent third party testing agency at the manufacturer's expense. The test results, along with the pump manufacturer's certification of hydrostatic test, the engine manufacturer's certified brake horsepower curve, and the manufacturer's record of pump construction details shall be forwarded to the Fire Department.

15. Aftermarket Support Website

- 15.1.** A Customer Service website shall provide authorized dealers access to comprehensive information pertaining to the maintenance and service of their customer's apparatus. This tool shall provide the authorized dealer the ability to service and support their customers to the best of their ability with factory support at their fingertips.
- 15.2.** This website shall also be accessible to the end user through the guest login. Limited access is available and vehicle specific parts information accessible by entering a specific VIN number. All end users should see their local authorized dealer for additional support and service.
- 15.3.** The website shall provide the following to the designated individuals:
- 15.3.1. Authorized dealer only - ability to access truck detail information on the major components of the vehicle, warranty information, available vehicle photographs, vehicle drawings, sales options, applicable vehicle software downloads, etc.
 - 15.3.2. Authorized dealer and customer - parts look-up capability, with the aid of digital photographs, part drawings, and assembly drawings.
 - 15.3.3. Authorized dealer only - ability to electronically submit warranty claims directly to the factory for reimbursement.
 - 15.3.4. Authorized dealer only - accessibility to multiple dealer reports that allow the dealership to maintain communication with the customer on the status of orders, claims, and phone contacts.
 - 15.3.5. Authorized dealer and customer - access to all currently published Operation and Maintenance and Service publications.
 - 15.3.6. Authorized dealer only - access to manufacturer Service Bulletins and Work Instructions containing information on current service topics and recommendations provided.
 - 15.3.7. Authorized dealer and customer - access to upcoming training classes offered by the manufacturer.
 - 15.3.8. Authorized dealer only - access to interactive electronic learning modules (Operators Guides) covering the operation of major vehicle components.
 - 15.3.9. Authorized dealer only - access to customer service articles, corporate news, quarterly newsletters, and key contacts.

16. Bid Bond

- 16.1.** All bidders shall provide a bid bond as security for the bid in the form of a 10% bid bond to accompany their bid. This bid bond shall be issued by a Surety Company who is listed on the U.S. Treasury Departments list of acceptable sureties as published in Department Circular 570. The bid bond shall be issued by an authorized representative of the Surety Company and shall be accompanied by a certified power of attorney dated



on or before the date of bid. The bid bond shall include language, which assures that the bidder/principal shall give a bond or bonds as may be specified in the bidding or contract documents, with good and sufficient surety for the faithful performance of the contract, including the Basic One (1) Year Limited Warranty, and for the prompt payment of labor and material furnished in the prosecution of the contract.

- 16.2.** Notwithstanding any document or assertion to the contrary, any surety bond related to the sale of a vehicle shall apply only to the Basic One (1) Year Limited Warranty for such vehicle. Any surety bond related to the sale of a vehicle shall not apply to any other warranties that are included within this bid (OEM or otherwise) or to the warranties (if any) of any third party of any part, component, attachment or accessory that is incorporated into or attached to the vehicle. In the event of any contradiction or inconsistency between this provision and any other document or assertion, this provision shall prevail.

17. Performance Bond

- 17.1.** The successful bidder shall furnish a Performance and Payment bond (Bond) equal to 100 percent of the total contract amount within 30 days of the notice of award. Such Bond shall be in a form acceptable to the Owner and issued by a surety company included within the Department of Treasury's Listing of Approved Sureties (Department Circular 570) with a minimum A.M. Best Financial Strength Rating of A and Size Category of XV. In the event of a bond issued by a surety of a lesser Size Category, a minimum Financial Strength rating of A+ is required.

- 17.2.** Bidder and Bidder's surety agree that the Bond issued hereunder, whether expressly stated or not, also includes the surety's guarantee of the vehicle manufacturer's Basic One (1) Year Limited Warranty period included within this proposal. Owner agrees that the penal amount of this bond shall be simultaneously amended to 100 percent of the total contract amount upon satisfactory acceptance and delivery of the vehicle(s) included herein. Notwithstanding anything contained within this contract to the contrary, the surety's liability for any warranties of any type shall not exceed one (1) year from the date of such satisfactory acceptance and delivery, or the actual Basic One (1) Year Limited Warranty period, whichever is shorter.

- 17.3.** Manufacturer shall disclose their bond rate \$_____ Per \$1000

18. Approval Drawing

- 18.1.** A drawing of the proposed apparatus shall be provided for approval before construction begins. The sales representative shall also have a copy of the same drawing. The finalized and approved drawing shall become part of the contract documents. This drawing shall indicate the chassis make and model, location of the lights, siren, horns, compartments, major components, etc.

- 18.2.** A "revised" approval drawing of the apparatus shall be prepared and submitted by the manufacturer to the purchaser showing any changes made to the approval drawing.

19. Electrical Wiring Diagrams

- 19.1.** Two (2) electrical wiring diagrams, prepared for the body as it interfaces with the commercial chassis, shall be provided.

20. Equipment Specifications

1.1. MODEL YEAR



1.1.1. Equipment must be new and from the most current model year.

1.2. CHASSIS

1.2.1. The chassis shall be a Freightliner, Model M2, 106MD Conventional Chassis, supplied with the following equipment:

1.3. MAXIMUM OVERALL LENGTH

1.3.1. The maximum overall length of the apparatus shall be 32'.

1.4. WHEELBASE

1.4.1. The wheelbase of the vehicle shall be no greater than 227.5.

1.5. GVW RATING

1.5.1. The gross vehicle weight rating shall be a minimum of 42,000.

1.6. FRAME

1.6.1. The frame rails shall be formed from 120,000 psi yield, heat treated alloy steel. The frame rails shall be E-coated prior to painting.

1.7. FRONT AXLE

1.7.1. Front axle shall be an "I" beam type, made of forged steel. It shall have a ground rating capacity of 16,000 pounds. Suspension or other components may limit the actual GAWR.

1.8. FRONT SUSPENSION

1.8.1. Spring mounted

1.8.2. Capacity at Ground: 14,600 lb

1.8.3. Shock absorbers shall be provided on the front axle.

1.9. FRONT BRAKES

1.9.1. The front brakes shall be S-Cam, 16.50" x 6.00". The front brakes shall be provided with automatic slack adjusters.

1.10. TIRE BRAND

1.10.1. The default brand of tire for the commercial chassis manufacturer for this apparatus is Michelin.

1.10.1.1. However, it is understood that the commercial chassis manufacturer reserves the right to substitute brands and models of tire as may be available at the factory on the date of manufacture. They shall provide the proper tread style and weight rating for the position in which the tire is installed.

1.11. TIRES, FRONT

1.11.1. Front tires shall be 12R22.50, radial tires with a tread pattern suitable for the steering axle position. The capacity of the tires shall meet or exceed the rating of the axle and/or suspension.

1.12. WHEELS, FRONT

1.12.1. Wheels for the front axle shall be 22.50" x 8.25" aluminum disc.

1.13. REAR AXLE

1.13.1. The single reduction rear axle shall be a Meritor™, Model RS-26-185, with a ground rating capacity of 26,000 lb.

1.14. PARKING BRAKE

1.14.1. The parking brake shall be spring set and located on the rear axle service brake.



1.14.2. Rear axle brakes shall be 16.50" x 7.00", S-Cam drum type brakes. Automatic slack adjusters shall be provided.

1.15. REAR AXLE RATIO

1.15.1. A rear axle ratio shall be furnished to allow the vehicle to reach a top speed of 68 MPH.

1.16. REAR SUSPENSION

1.16.1. The rear suspension shall be spring mounted multi-leaf with a capacity at ground level of 26,000 lbs.

1.17. TIRES, REAR

1.17.1. Rear tires shall be 12R22.50 radial tires with a traction tread pattern suitable for the drive axle position. The tires shall meet or exceed the weight rating of the axle and/or suspension.

1.18. WHEELS, REAR

1.18.1. The rear wheels shall be 22.50" x 8.25" disc. The outer wheel shall be polished aluminum and the inner wheel shall be steel.

1.19. TIRE PRESSURE MANAGEMENT

1.19.1. There shall be a RealWheels LED AirSecure™ tire alert pressure management system provided, that shall monitor each tire's pressure. A sensor shall be provided on the valve stem of each tire for a total of six (6) tires.

1.19.2. The sensor shall calibrate to the tire pressure when installed on the valve stem for pressures between 10 and 200 psi. The sensor shall activate an integral battery operated LED when the pressure of that tire drops 5 to 8 psi.

1.19.3. Removing the cap from the sensor shall indicate the functionality of the sensor and battery. If the sensor and battery are in working condition, the LED shall immediately start to flash.

1.20. FRONT HUB COVERS

1.20.1. Stainless steel hub covers shall be provided on the front axle. An oil level viewing window shall be provided.

1.21. REAR HUB COVERS

1.21.1. A pair of stainless steel high hat hub covers shall be provided on rear axle hubs.

1.22. CHROME LUG NUT COVERS

1.22.1. Chrome lug nut covers shall be supplied on front and rear wheels.

1.23. MUD FLAPS

1.23.1. Mud flaps shall be installed behind the rear wheels of the apparatus.

1.24. WHEEL CHOCKS

1.24.1. There shall be one (1) pair of Worden Safety Products, Model HWGY-SB, wheel chocks provided.

1.24.2. Heavy Duty, large molded aluminum wheel chock with solid bottom, yellow powder coat finish.

1.25. WHEEL CHOCK BRACKETS

1.25.1. There shall be one (1) pair of Worden Safety model U815T mounting wheel chock brackets provided . The brackets shall be mounted Will advise.



1.26. ANTI-LOCK BRAKE SYSTEM

1.26.1. The vehicle shall be equipped with an anti-lock braking system. The ABS shall provide anti-lock braking control on both the front and rear wheels. It shall be a digitally controlled system that utilizes microprocessor technology to control the anti-lock braking system. Each wheel shall be monitored by the system. When any particular wheel begins to lockup, a signal shall be sent to the control unit. This control unit then shall reduce the braking of that wheel for a fraction of a second and then reapply the brake. This anti-lock brake system shall eliminate the lockup of any wheel thus helping to prevent the apparatus from skidding out of control.

1.27. AIR COMPRESSOR, BRAKE SYSTEM

1.27.1. The air compressor shall have an output of 18.7 cubic feet per minute.

1.28. AIR DRYER

1.28.1. An air dryer with a heater shall be provided. Other features of this air dryer include:

- 1.28.1.1. Desiccant style filter
- 1.28.1.2. In-line filtration system
- 1.28.1.3. Automatic purge valve

1.29. AIR INLET

1.29.1. A single air inlet with male coupling shall be provided. It shall allow station air to be supplied to the apparatus brake system through a shoreline hose. The inlet shall be located on the driver side pump panel. A check valve shall be provided to prevent reverse flow of air. The inlet shall discharge into the "wet" tank of the brake system. A mating female coupling shall also be provided with the loose equipment.

1.30. ENGINE

- 1.30.1. Model: Electronic Cummins ISL-300
- 1.30.2. Number of Cylinders: Six (6)
- 1.30.3. Displacement: 8.9 L
- 1.30.4. Rated Brake Horsepower: 300 at 2000 rpm
- 1.30.5. Peak Torque: 860 at 1300 rpm
- 1.30.6. Governed rpm: 2200
- 1.30.7. Turbocharger
- 1.30.8. Charge Air Cooled
- 1.30.9. Fuel System: Hydraulically Actuated, Electronically Controlled Unit Injectors (HEUI)

1.31. ENGINE ACCESSORIES

- 1.31.1. Air Cleaner: Dry type, with restriction indicator in cab
- 1.31.2. Fuel Filters: Dual, with check valve
- 1.31.3. Governor: Limiting speed type
- 1.31.4. Lube Oil Cooler
- 1.31.5. Lube Oil Filter: Full flow
- 1.31.6. Starting Motor: 12-volt



1.31.7. Oil Fill and Level Gauge

1.32. RADIATOR

1.32.1. Pressurized System, Tube and Fin

1.32.2. Deaeration Tank and Sight Glass

1.32.3. Anti-Freeze Protection -30 Degrees Fahrenheit

1.33. HIGH IDLE

1.33.1. A high idle switch shall be provided on the instrument panel inside the cab. Activating the switch shall cause the vehicle to automatically maintain a preset engine rpm.

1.33.2. The high idle switch shall be operational only when the parking brake is on and the truck transmission is in neutral. A green indicator light shall be provided adjacent to the switch. The light shall be labeled "OK To Engage High Idle."

1.34. ENGINE BRAKE

1.34.1. A Cummins C-Brake engine brake is to be installed with the controls located on the instrument panel within easy reach of the driver. The driver shall be able to turn the brake system "On" or "Off" and have at least a "High & Low" setting.

1.35. AIR INTAKE, W/EMBER SEPARATOR

1.35.1. The air inlet shall be equipped with a stainless steel mesh to separate water and burning embers from the air intake system such that particulate matter larger than 0.039" (1.0 mm) in diameter cannot reach the air filter element.

1.35.2. This shall comply with NFPA 1901 and 1906 standards.

1.36. EXHAUST SYSTEM

1.36.1. The exhaust system shall include a diesel particulate filter (DPF) and a selective catalytic reduction (SCR) device to meet current EPA standards. The DPF and SCR shall be mounted horizontally outside of the frame rails in the right side front step area.

1.37. EXHAUST MODIFICATIONS

1.37.1. The exhaust shall terminate with a horizontal tailpipe and diffuser ahead of the right side rear wheels.

1.37.2. A heat deflector shield shall be provided where the tail pipe is routed under any side compartmentation.

1.37.3. All modifications shall be approved by the chassis engine manufacturer and/or the chassis OEM. Exhaust treatment devices shall not be altered.

1.38. COOLANT LINES

1.38.1. Gates Blue Stripe rubber hose shall be used for all engine coolant lines installed by the chassis manufacturer.

1.38.2. Hose clamps shall be of a design commonly called constant torque type to prevent coolant leakage. They shall react to temperature changes in the cooling system and expand or contract accordingly while maintaining a constant clamping pressure on the hose.

1.39. FUEL TANK



- 1.39.1. A 50 gallon fuel tank shall be provided and mounted at the left-hand cab step.
The tank shall be constructed of aluminum.

1.40. DIESEL EXHAUST FLUID TANK

- 1.40.1. A diesel exhaust fluid (DEF) tank shall be provided and mounted on the left side, below the cab.
- 1.40.2. The tank shall be sized by the chassis manufacturer based on the engine provided. It shall include an integrated heater unit that utilizes engine coolant to thaw the DEF in the event of freezing.

1.41. FUEL PRIMER PUMP

- 1.41.1. A fuel primer pump shall be included with the heated fuel water separator.

1.42. AUXILIARY FUEL COOLING SYSTEM

- 1.42.1. A supplementary fuel cooling system shall be provided to allow the use of water from the discharge side of the pump for cooling the chassis engine fuel. The heat exchanger shall be a cylindrical type and shall be a separate unit. The cooler shall operate any time the pump is discharging water and shall be plumbed to the master drain valve.

1.43. TRANSMISSION

- 1.43.1. An Allison, model 3000 EVS, electronic torque converting automatic transmission shall be provided. To qualify for the EVS rating, the transmission shall be filled with synthetic transmission fluid.
- 1.43.2. Two (2) PTO openings shall be located on left and right side of the converter housing (positions 8 o'clock and 4 o'clock).
- 1.43.3. A transmission temperature gauge or warning light shall be installed on cab instrument panel.

1.44. TRANSMISSION SHIFT CONTROL

- 1.44.1. A push button shift module shall be mounted to right of driver. Shift position indicator shall be indirectly lit for after dark operation.
- 1.44.2. The transmission shall be a five (5)-speed.

1.45. TRANSMISSION COOLER

- 1.45.1. A transmission oil cooler shall be provided in a tank of the radiator.

1.46. DRIVELINE

- 1.46.1. Drivelines shall be a heavy duty metal tube equipped with universal joints properly sized for the application. A splined slip joint shall be provided in each driveshaft.

1.47. STEERING

- 1.47.1. The steering system shall be hydraulically driven. The steering column shall have an adjustable tilt and telescope feature.

1.48. BUMPER

- 1.48.1. A one (1)-piece, 10.00" high, stainless steel bumper shall be attached to the front of the frame.
- 1.48.2. A 9.00" channel shall be mounted directly behind the bumper for additional strength.



1.48.3. The bumper shall be extended 19.00" from the front face of the cab.

1.49. GRAVEL PAN

1.49.1. A gravel pan, constructed of bright aluminum treadplate, shall be furnished between the bumper and cab face. The gravel pan shall be properly supported from the underside to prevent flexing and vibration of the aluminum treadplate.

1.50. CENTER HOSE TRAY

1.50.1. A hose tray, constructed of aluminum, shall be placed in the center of the bumper extension.

1.50.2. The tray shall have a capacity of 125' of 1.75" double jacket cotton-polyester hose.

1.50.3. Black rubber grating shall be provided at the bottom of the tray. Drain holes are also provided.

1.50.4. Center Hose Tray Restraint

1.50.4.1. There shall be one (1) pair of hose tray restraint straps located over the center mounted tray.

1.50.4.2. The restraints shall be a pair of 2.00" wide black nylon straps with Velcro® fasteners provided. The strap(s) shall be used to secure the hose in the tray.

1.51. TOW HOOKS

1.51.1. Two (2) chromed steel tow hooks shall be installed under the bumper and attached to the front frame members. The tow hooks shall be designed and positioned to allow up to a 6,000 lb straight horizontal pull in line with the centerline of the vehicle. The tow hooks shall not be used for lifting of the apparatus.

1.52. CAB

1.52.1. A 4-door, high-roof cab shall be provided. The cab and doors shall be of an aluminum construction.

1.52.2. EXTERIOR STYLING

1.52.2.1. Aerodynamic hood and windshield

1.52.2.2. Tinted Glass in all Windows

1.52.2.3. Fiberglass hood with mounted plastic grille

1.52.2.4. Single 63"x14" rear window (unless deleted by the customer - option elsewhere in specification)

1.52.3. INTERIOR STYLING

1.52.3.1. Air bag rear cab suspension

1.52.3.2. Gray vinyl mats

1.52.3.3. Forward roof mounted console

1.52.3.4. Two (2) dash-mounted cup holders, right-hand and left-hand

1.52.3.5. Gray Vinyl Upholstery

1.52.3.6. Dual Sun visors

1.52.3.7. Fresh Air Heater and Defroster

1.52.3.8. Gray Vinyl Upholstery

1.53. CAB GRILLE



1.53.1. The cab grille shall be a black molded-in color high impact plastic with a horizontal rib design. The grille shall tilt with the hood.

1.54. AIR INTAKE GRILLES

1.54.1. The engine air intake grilles on each side of the hood shall be black mold-in color.

1.55. MIRRORS

1.55.1. West Coast style heated, remote operated mirrors constructed from a molded composite material with a bright finish shall be provided. A heated 8.00" convex mirror shall be included below the primary mirrors. An auxiliary down view mirror shall be included on the passenger side.

1.56. CAB ACCESS STEPS

1.56.1. The cab access steps shall be provided by the apparatus manufacturer. The steps shall be a two (2) step design fabricated from bright aluminum treadplate. The step assembly shall enclose the area under the cab and be continuous from front to rear. The fuel and DEF tank fill caps shall be exposed for refueling if located under the cab. Access shall be provided to inspect the chassis batteries when located under the cab.

1.57. COMPARTMENT, STORAGE

1.57.1. A storage compartment shall be provided under the crew cab in the left side step area. An aluminum treadplate drop-down door with a rubber seal shall be provided on the compartment. The door shall have a single pan construction.

1.58. REEL COMPARTMENT

1.58.1. A compartment shall be provided under the crew cab in the right side step area. An aluminum treadplate access plate shall be provided on the compartment.

1.59. STEP LIGHTS

1.59.1. There shall be four (4) white LED step lights provided. There shall be one (1) light installed at each cab door, one (1) light per doorstep.

1.59.2. In order to ensure exceptional illumination, each light shall provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light.

1.59.3. The lights shall be activated when the adjacent door is opened.

1.60. AIR CONDITIONING

1.60.1. An air conditioner shall be provided that is integral with heater and defroster system.

1.61. ENGINE COMPARTMENT LIGHTS

1.61.1. Two (2) engine compartment lights shall be installed under the engine hood, of which the switches are an integral part.

1.62. STORAGE CONSOLE

1.62.1. There shall be a console located between the front seats with room for map storage, the siren head and a radio. There shall be four (4) sections for map storage to the rear of the console. Each map storage section shall be



approximately 4.00" wide x 13.00" long x 12.25" deep. The console shall be constructed of smooth aluminum and painted black.

1.63. SEATING CAPACITY

1.63.1. The seating capacity in the cab shall be five (5).

1.64. SEATING

1.64.1. Seating inside the cab shall consist of a Seats Inc. air-ride driver seat and a non-suspension Seats Inc. 911 SCBA officer seat.

1.65. SEATING (CREW CAB)

1.65.1. Three (3) individual Seats Inc. #911 SCBA style seats shall be provided inside the crew cab. Each seat shall be mounted to an individual storage box with drop down hinged door and latch.

1.66. AIR BOTTLE HOLDERS

1.66.1. A Ziamatic, Model ULLH, SCBA holder shall be mounted in the back rest of the SCBA seat. This bracket shall include a backplate, two (2) seats, a footplate and the Model LLS (Load & Lock) strap to hold the bottle in the bracket. The bracket seats shall be a one (1) size fits all style seat and shall accommodate SCBA cylinders from the high pressure 30 minute to the high pressure 60 minute. Seats shall be adjustable up and down by unbolting, relocating, and rebolting in the desired position. There shall be a quantity of four (4).

1.67. SEAT BELT WEB LENGTH

1.67.1. NFPA 14.1.3.2 and 14.1.3.3 requires effective seat belt web length for a Type 1 lap belt for pelvic restraint to be a minimum of 60 in., and a Type 2 pelvic and upper torso restraint-style seat belt assembly to be a minimum of 110 in.

1.67.2. Per Fire Department specification of a commercial chassis, this apparatus shall have seat belts of the required length. These belts shall provide sufficient length for large firefighters in bunker gear. This apparatus shall be compliant to NFPA standards effective at time of contract execution.

1.68. SEAT BELTS

1.68.1. All seating positions in the cab and crew cab shall have highly visible (orange) seat belts.

1.69. HELMET STORAGE PROVIDED BY FIRE DEPARTMENT

1.69.1. NFPA 1901, 2016 edition, section 14.1.7.4.1 requires a location for helmet storage be provided.

1.69.2. There is no helmet storage on the apparatus as manufactured. The fire department shall provide a location for storage of helmets.

1.70. PORTABLE HAND LIGHTS, PROVIDED BY FIRE DEPARTMENT

1.70.1. NFPA 1901, 2016 edition, section 5.9.4 requires two portable hand lights mounted in brackets fastened to the apparatus.

1.70.2. The hand lights are not on the apparatus as manufactured. The fire department shall provide and mount these hand lights.

1.71. CAB INSTRUMENTS

1.71.1. Engine Temperature Gauge and Warning Buzzer



- 1.71.2. Engine Oil Pressure Gauge and Warning Buzzer
- 1.71.3. Speedometer with Odometer
- 1.71.4. Engine Tachometer
- 1.71.5. Engine Hourmeter
- 1.71.6. Fuel Level Gauge
- 1.71.7. DEF Level Gauge and Warning Lamp
- 1.71.8. Voltmeter: Low voltage red warning light and audible alarm
- 1.71.9. Air Brake Pressure Gauge
- 1.71.10. Air Restriction Indicator
- 1.71.11. Circuit Breakers: For overload protection of electric circuits
- 1.71.12. Ignition Switch: Keyless type

1.72. EMERGENCY SWITCH PANEL

- 1.72.1. An emergency switch panel shall be provided in the cab. The switch panel shall be located overhead and on the cab instrument panel.

1.73. "DO NOT MOVE APPARATUS" INDICATOR

- 1.73.1. A flashing red indicator light (located in the driving compartment) shall be illuminated automatically per the current edition of NFPA. The light shall be labeled "Do Not Move Apparatus If Light Is On".
- 1.73.2. The same circuit that activates the Do Not Move Apparatus indicator shall activate a pulsating alarm when the parking brake is released.

1.74. OPEN DOOR INDICATOR LIGHT

- 1.74.1. A red "open door" indicator light shall be provided inside the cab, in clear view of the driver, to warn of an open compartment door.

1.75. WIPER CONTROL

- 1.75.1. Wiper control shall include an intermittent feature and windshield washer controls.

1.76. SPARE CIRCUIT 1

- 1.76.1. There shall be one (1) pair of wires, including a positive and a negative, installed on the apparatus.
- 1.76.2. The above wires shall have the following features:
 - 1.76.2.1. The positive wire shall be connected directly to the battery power.
 - 1.76.2.2. The negative wire shall be connected to ground.
 - 1.76.2.3. Wires shall be protected to 2.0 amps at 12 volts DC.
 - 1.76.2.4. Power and ground shall terminate officer side dash.
 - 1.76.2.5. Termination shall be a Blue Sea Systems part number 1016 dual USB charger socket.
 - 1.76.2.6. Wires shall be sized to 125 percent of the protection.
 - 1.76.2.7. This circuit(s) may be load managed when the parking brake is applied.

1.77. SPARE CIRCUIT 2

- 1.77.1. There shall be two (2) pair of wires, including a positive and a negative, installed on the apparatus.
- 1.77.2. The above wires shall have the following features:



- 1.77.3. The positive wire shall be connected directly to the battery power
- 1.77.4. The negative wire shall be connected to ground
- 1.77.5. Wires shall be protected to 15 amps at 12 volts DC
- 1.77.6. Power and ground shall terminate officer side dash area
- 1.77.7. Termination shall be with heat shrinkable butt splicing
- 1.77.8. Wires shall be sized to 125 percent of the protection
- 1.77.9. The circuit(s) may be load managed when the parking brake is set.

1.78. VEHICLE DATA RECORDER

- 1.78.1. There shall be a vehicle data recorder (VDR) capable of reading and storing vehicle information provided.
- 1.78.2. The information stored on the VDR can be downloaded through a USB port mounted in a convenient location determined by cab model. A USB cable can be used to connect the VDR to a laptop to retrieve required information. The program to download the information from the VDR shall be available to download on-line.
- 1.78.3. The vehicle data recorder shall be capable of recording the following data via hardwired and/or CAN inputs:
 - 1.78.3.1. Vehicle Speed - MPH
 - 1.78.3.2. Acceleration - MPH/sec
 - 1.78.3.3. Deceleration - MPH/sec
 - 1.78.3.4. Engine Speed - RPM
 - 1.78.3.5. Engine Throttle Position - % of Full Throttle
 - 1.78.3.6. ABS Event - On/Off
 - 1.78.3.7. Seat Occupied Status - Yes/No by Position
 - 1.78.3.8. Seat Belt Buckled Status - Yes/No by Position
 - 1.78.3.9. Master Optical Warning Device Switch - On/Off
 - 1.78.3.10. Time - 24 Hour Time
 - 1.78.3.11. Date - Year/Month/Day
- 1.78.4. The system shall also be capable of no additional functionality required.
- 1.78.5. An additional input shall be included with this system. When the VDR is active, this input shall not be required.

1.79. SEAT BELT MONITORING SYSTEM

- 1.79.1. A seat belt monitoring system (SBMS) shall be provided. The SBMS shall be capable of monitoring up to six (6) seating positions indicating the status of each seat position per the following:
 - 1.79.1.1. Seat Occupied & Buckled = Green LED indicator illuminated
 - 1.79.1.2. Seat Occupied & Unbuckled = Red LED indicator with audible alarm
 - 1.79.1.3. No Occupant & Buckled = Red LED indicator with audible alarm
 - 1.79.1.4. No Occupant & Unbuckled = No indicator and no alarm
- 1.79.2. The SBMS shall include an audible alarm that shall warn that an unbuckled occupant condition exists and the parking brake is released, or the transmission is not in park.



1.80. RADIO ANTENNA MOUNT

1.80.1. There shall be one (1) standard 1.125", 18 thread antenna-mounting base(s) installed on the cab roof with high efficiency, low loss, coaxial cable(s) routed to the instrument panel area. A weatherproof cap shall be installed on the mount.

1.81. ELECTRICAL

1.81.1. All 12-volt electrical equipment installed by the apparatus manufacturer shall conform to modern automotive practices. All wiring shall be high temperature crosslink type. Wiring shall be run in loom or conduit where exposed and have grommets where wire passes through sheet metal. Automatic reset circuit breakers shall be provided which conform to SAE Standards. Wiring shall be color, function and number coded. Function and number codes shall be continuously imprinted on all wiring harness conductors at 2.00" intervals. Exterior exposed wire connectors shall be positive locking, and environmentally sealed to withstand elements such as temperature extremes, moisture and automotive fluids. Electrical wiring and equipment shall be installed utilizing the following guidelines:

- 1.81.1.1. All holes made in the roof shall be caulked with silicon. Rope caulk is not acceptable. Large fender washers, liberally caulked, shall be used when fastening equipment to the underside of the cab roof.
- 1.81.1.2. Any electrical component that is installed in an exposed area shall be mounted in a manner that shall not allow moisture to accumulate in it. Exposed area shall be defined as any location outside of the cab or body.
- 1.81.1.3. Electrical components designed to be removed for maintenance shall not be fastened with nuts and bolts. Metal screws shall be used in mounting these devices. Also a coil of wire shall be provided behind the appliance to allow them to be pulled away from mounting area for inspection and service work.
- 1.81.1.4. Corrosion preventative compound shall be applied to all terminal plugs located outside of the cab or body. All non-waterproof connections shall require this compound in the plug to prevent corrosion and for easy separation (of the plug).
- 1.81.1.5. All lights that have their sockets in a weather exposed area shall have corrosion preventative compound added to the socket terminal area.
- 1.81.1.6. All electrical terminals in exposed areas shall have silicon (1890) applied completely over the metal portion of the terminal. All emergency light switches shall be mounted on a separate panel installed in the cab. A master warning light switch and individual switches to be provided to allow pre-selection of emergency lights. The light switches shall be "rocker" type with an internal indicator light to show when switch is energized. All switches shall be properly identified and mounted in a removable panel for ease in servicing. Identification of the switches shall be done by either printing or etching on the switch panel. The switches and identification shall be illuminated.



1.81.2. All lights and reflectors, required to comply with Federal Motor Vehicle Safety Standard #108, shall be furnished. Rear identification lights shall be recessed mounted for protection. Lights and wiring mounted in the rear bulkheads shall be protected from damage by installing a false bulkhead inside the rear compartments.

1.81.3. An operational test shall be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order.

1.81.4. The results of the tests shall be recorded and provided to the purchaser at time of delivery.

1.82. BATTERY SYSTEM

1.82.1. A single starting battery system shall be provided consisting of two (2) 12 volt, maintenance-free batteries. The battery system shall have a total of 2000 CCA.

1.82.2. Jump Start Connections

1.82.2.1. Positive and negative posts for jump starting shall be provided by the chassis manufacturer. They shall be frame mounted and located under the hood.

1.83. BATTERY SYSTEM MODIFICATION

1.83.1. Due to specific apparatus configuration requirements, the batteries shall be relocated to the driver's side crew cab step by the apparatus manufacturer. An enclosure with an access panel shall protect the batteries.

1.84. MASTER BATTERY SWITCH

1.84.1. A master battery switch, to activate the battery system, shall be provided inside the cab within easy reach of the driver.

1.84.2. The master battery disconnect switch shall be wired between the starter solenoid and the remainder of the electrical loads on the apparatus.

1.84.3. A green "battery on" indicator light, visible from the driver's position, shall be provided.

1.85. BATTERY CHARGER

1.85.1. There shall be an IOTA, Model DSL 45, 45 amp battery charger provided.

1.85.2. The battery charger shall be wired to the AC shoreline inlet through an AC receptacle adjacent to this battery charger.

1.85.3. The battery charger shall be located in the left body compartment mounted on the left wall as high as possible.

1.86. AUTO EJECT FOR SHORELINE

1.86.1. There shall be one (1) Kusssmaul™, Model 091-55-20-120, 20 amp 120 volt AC shoreline inlet(s) provided to operate the dedicated 120 volt AC circuits on the apparatus.

1.86.2. The shoreline inlet(s) shall include red weatherproof flip up cover(s).

1.86.3. There shall be a release solenoid wired to the vehicle's starter to eject the AC connector when the engine is starting.

1.86.4. The shoreline(s) shall be connected to the battery charger.



1.86.5. There shall be a mating connector body supplied with the loose equipment.

1.86.6. There shall be a label installed near the inlet(s) that state the following:

- 1.86.6.1. Line Voltage
- 1.86.6.2. Current Rating (amps)
- 1.86.6.3. Phase
- 1.86.6.4. Frequency

1.86.7. The shoreline receptacle shall be located on the driver side of pump panel.

1.87. ALTERNATOR

1.87.1. The alternator shall be a Leece Neville with a capacity of 12-volt 320 amp.

1.88. ELECTRONIC LOAD MANAGEMENT

1.88.1. A Kussmaul Load Manager 2 shall be provided on the apparatus. The device is an electronic load management (ELM) system that monitors the vehicles 12-volt electrical system, and automatically reduces the electrical load in the event of a low voltage condition and by doing so, ensures the integrity of the electrical system.

1.88.2. The ELM shall monitor the vehicle's voltage while at the scene (parking brake applied). It shall sequentially shut down individual electrical loads when the system voltage drops below a preset value. Two (2) separate electrical loads shall be controlled by the load manager. The ELM shall sequentially re-energize electrical loads as the system voltage recovers.

1.89. EXTERIOR LIGHTING

1.89.1. Exterior lighting shall meet or exceed Federal Department of Transportation, Federal Motor Vehicle Safety Standards and National Fire Protection Association requirements in effect at time of proposal.

1.89.2. Five (5) LED clearance and marker lights shall be installed across the leading edge of the cab.

1.90. INTERMEDIATE LIGHT

1.90.1. There shall be two (2) Weldon, Model 9186-8580-29, amber LED turn signal marker lights furnished, one (1) each side, in the rear fender panel. The light shall double as a turn signal and marker light.

1.91. REAR CLEARANCE/MARKER/ID LIGHTING

1.91.1. There shall be a three (3) LED light bar used as identification lights located at the rear of the apparatus per the following:

- 1.91.1.1. As close as practical to the vertical centerline
- 1.91.1.2. Centers spaced not less than 6.00" or more than 12.00" apart
- 1.91.1.3. Red in color
- 1.91.1.4. All at the same height

1.91.2. There shall be two (2) LED lights installed at the rear of the apparatus used as clearance lights located at the rear of the apparatus per the following:

- 1.91.2.1. To indicate the overall width of the vehicle
- 1.91.2.2. One (1) each side of the vertical centerline
- 1.91.2.3. As near the top as practical



- 1.91.2.4. Red in color
- 1.91.2.5. To be visible from the rear
- 1.91.2.6. All at the same height
- 1.91.3. There shall be two (2) LED lights installed on the side of the apparatus used as marker lights as close to the rear as practical per the following:
 - 1.91.3.1. To indicate the overall length of the vehicle
 - 1.91.3.2. One (1) each side of the vertical centerline
 - 1.91.3.3. As near the top as practical
 - 1.91.3.4. Red in color
 - 1.91.3.5. To be visible from the side
 - 1.91.3.6. All at the same height
- 1.91.4. There shall be two (2) red reflectors located on the rear of the truck facing to the rear. One (1) each side, as far to the outside as practical, at a minimum of 15.00", but no more than 60.00", above the ground.
- 1.91.5. There shall be two (2) red reflectors located on the side of the truck facing to the side. One (1) each side, as far to the rear as practical, at a minimum of 15.00", but no more than 60.00", above the ground.
- 1.91.6. Per FMVSS 108 and CMVSS 108 requirements.
- 1.92. REAR FMVSS LIGHTING**
 - 1.92.1. The rear stop/tail and directional LED lighting shall consist of the following:
 - 1.92.1.1. Two (2) Whelen®, Model M6BTT, red LED stop/tail lights
 - 1.92.1.2. Two (2) Whelen, Model M6T, amber LED arrow turn lights
 - 1.92.2. The lights shall be provided with color lenses.
 - 1.92.3. The lights shall be mounted in a polished combination housing.
 - 1.92.4. There shall be two (2) Whelen Model M6BUW, LED backup lights provided in the tail light housing.
- 1.93. LICENSE PLATE BRACKET**
 - 1.93.1. There shall be one (1) license plate bracket mounted on the rear of the body.
 - 1.93.2. A white LED light shall illuminate the license plate. A stainless steel light shield shall be provided over the light that shall direct illumination downward, preventing white light to the rear.
- 1.94. LIGHTING BEZEL**
 - 1.94.1. There shall be two (2) Whelen, Model M6FCV4P, four (4) place chromed ABS housings with logos provided for the rear M6 series stop/tail, directional, back up, scene lights or warning lights.
- 1.95. BACK-UP ALARM**
 - 1.95.1. A PRECO, Model 1040, solid-state electronic audible back-up alarm that actuates when the truck is shifted into reverse shall be provided. The device shall sound at 60 pulses per minute and automatically adjust its volume to maintain a minimum ten (10) dBA above surrounding environmental noise levels.
- 1.96. CAB PERIMETER SCENE LIGHTS**



1.96.1. There shall be four (4) Amdor, Model AY-LB-12HW020, 350 lumens each, 20.00" white LED strip lights provided, one (1) for each cab door.

1.96.2. These lights shall be activated automatically when the battery switch is on and the exit doors are opened or by the same means as the body perimeter scene lights.

1.97. PUMP HOUSE PERIMETER LIGHTS

1.97.1. There shall be two (2) Amdor, Model AY-LB-12HW020, 350 lumens each, 20.00" LED weatherproof strip lights with brackets provided under the pump panel running boards, one (1) each side.

1.97.2. If the combination of options in the vehicle does not permit clearance for a 20.00" light, a 12.00" version of the Amdor light shall be installed.

1.97.3. The lights shall be controlled by the same means as the body perimeter lights.

1.98. BODY PERIMETER SCENE LIGHTS

1.98.1. There shall be two (2) Amdor Model AY-LB-12HW020, 350 lumens, 20.00" LED lights provided at the rear step area of the body, one (1) each side shining to the rear.

1.98.2. The perimeter scene lights shall be activated when the battery switch is on, and a cab door is open.

1.99. STEP LIGHTS

1.99.1. Four (4) white LED step lights shall be provided. One (1) step light shall be provided on each side, on the front compartment face and two (2) step lights at the rear to illuminate the tailboard.

1.99.2. In order to ensure exceptional illumination, each light shall provide a minimum of 25 foot-candles (fc) covering an entire 15.00" x 15.00" square placed 10.00" below the light and a minimum of 1.5 fc covering an entire 30.00" x 30.00" square at the same 10.00" distance below the light.

1.99.3. These step lights shall be actuated with the pump panel light switch.

1.99.4. All other steps on the apparatus shall be illuminated per the current edition of NFPA 1901.

1.100. 12 VOLT LIGHTING

1.100.1. There shall be one (1) HiViz, part number FT-MB-24-TRGWA-*-**, 2.56" high x 31.11" long x 3.31" deep 8,880 lumens 12 volt DC LED light(s) installed with TRGWA adjustable tilt mounts located Walkway, Centered over the LS2 comp. The lights shall be supplied with a combination of flood and spot optics.

1.100.2. The painted parts to be black.

1.100.3. The light(s) selected above shall be controlled by a switch at the driver's side switch panel and by a switch at the driver's side pump panel.

1.100.4. These light(s) may be load managed when the parking brake is applied.

1.101. 12 VOLT LIGHTING

1.101.1. There shall be one (1) HiViz, part number FT-MB-24-TRGWA-*-**, 2.56" high x 31.11" long x 3.31" deep 8,880 lumens 12 volt DC LED light(s) installed with



TRGWA adjustable tilt mounts located Walkway, Centered over the RS2 comp. The lights shall be supplied with a combination of flood and spot optics.

- 1.101.2. The painted parts to be black.
- 1.101.3. The light(s) selected above shall be controlled by a switch at the driver's side switch panel and by a switch at the driver's side pump panel.
- 1.101.4. These light(s) may be load managed when the parking brake is applied.

1.102. 12 VOLT LIGHTING

- 1.102.1. There shall be one (1) Whelen®, Model P*H*1, 8,875 lumens light(s) with white LEDs and a combination of flood and spot optics, mounted on a special bracket painted exterior cab roof color, provided on the front of the cab roof, centered.
- 1.102.2. The painted parts of this light assembly to be black.
- 1.102.3. The scene light(s) shall be activated by a switch at the driver's side switch panel.
- 1.102.4. The light(s) may be load managed when the parking brake is applied.

1.103. HOSE BED LIGHTS

- 1.103.1. There shall be white 12 volt DC LED light strips with stainless steel protective cover, provided to light the hose bed area. Hose Bed lights shall meet the photometric levels listed in NFPA 1901 for Hose Bed lighting requirements.
- 1.103.2. Light strip(s) shall be installed along the upper edge of the left side of the hose bed.
- 1.103.3. Light strip(s) shall be installed along the upper edge of the right side of the hose bed.
- 1.103.4. The lights shall be activated by a cup switch at the rear of the apparatus no more than 72.00" from the ground.

1.104. REAR SCENE LIGHT(S)

- 1.104.1. There shall be two (2) Whelen®, Model M9LZC, LED scene light(s) with chrome trim bezel(s) installed at the rear of the apparatus, one (1) each side high on rear body bulkhead .
- 1.104.2. The light(s) shall be controlled by a switch at the driver's side switch panel and by a switch in a stainless steel cup located at the rear of the apparatus no more than 72.00" from the ground.
- 1.104.3. The light(s) may be load managed when the parking brake is applied.

1.105. WALKING SURFACE LIGHT

- 1.105.1. There shall be Model FRP, 4" round black 12 volt DC LED floodlight(s) with bolt mount provided to illuminate the entire designated walking surface on top of the body.
- 1.105.2. The light(s) shall be activated when the body step lights are on.

1.106. WATER TANK

- 1.106.1. Booster tank shall have a capacity of 1000 gallons and be constructed of polypropylene plastic by United Plastic Fabricating, Incorporated.
- 1.106.2. Tank joints and seams shall be nitrogen welded inside and out.



- 1.106.3. Tank shall be baffled in accordance with NFPA Bulletin 1901 requirements.
 - 1.106.4. Baffles shall have vent openings at both the top and bottom to permit movement of air and water between compartments.
 - 1.106.5. Longitudinal partitions shall be constructed of .38" polypropylene plastic and shall extend from the bottom of the tank through the top cover to allow for positive welding.
 - 1.106.6. Transverse partitions shall extend from 4.00" off the bottom of the tank to the underside of the top cover.
 - 1.106.7. All partitions shall interlock and shall be welded to the tank bottom and sides.
 - 1.106.8. Tank top shall be constructed of .50" polypropylene. It shall be recessed .38" and shall be welded to the tank sides and the longitudinal partitions.
 - 1.106.9. Tank top shall be sufficiently supported to keep it rigid during fast filling conditions.
 - 1.106.10. Construction shall include 2.00" polypropylene dowels spaced no more than 30.00" apart and welded to the transverse partitions. Two (2) of the dowels shall be drilled and tapped (.50" diameter, 13.00" deep) to accommodate lifting eyes.
 - 1.106.11. A sump that will be sized dependent on the tank to pump plumbing shall be provided at the bottom of the water tank.
 - 1.106.12. Sump shall include a drain plug and the tank outlet.
 - 1.106.13. Tank shall be installed in a fabricated cradle assembly constructed of structural steel.
 - 1.106.14. Sufficient crossmembers shall be provided to properly support bottom of tank. Crossmembers shall be constructed of steel bar channel or rectangular tubing.
 - 1.106.15. Tank shall "float" in cradle to avoid torsional stress caused by chassis frame flexing. Rubber cushions, .50" thick x 3.00" wide, shall be placed on all horizontal surfaces that the tank rests on.
 - 1.106.16. Stops or other provision shall be provided to prevent an empty tank from bouncing excessively while moving vehicle.
 - 1.106.17. Mounting system shall be approved by the tank manufacturer.
 - 1.106.18. Fill tower shall be constructed of .50" polypropylene and shall be a minimum of 8.00" wide x 14.00" long.
 - 1.106.19. Fill tower shall be furnished with a .25" thick polypropylene screen and a hinged cover.
 - 1.106.20. An overflow pipe, constructed of 4.00" schedule 40 polypropylene, shall be installed approximately halfway down the fill tower and extend through the water tank and exit to the rear of the rear axle.
- 1.107. SLEEVE, PLUMBING, THROUGH TANK**



- 1.107.1. Two (1) sleeves shall be provided in the water tank for a 3.00" pipe to the rear.

1.108. HOSE BED

- 1.108.1. The hose bed shall be fabricated of .125"-5052 aluminum with a nominal 38,000 psi tensile strength. NO EXCEPTIONS
- 1.108.2. Upper and rear edges of side panels shall have a double break for rigidity, a split tube finish shall not be acceptable.
- 1.108.3. The upper inside area of the beavertails shall be covered with brushed stainless steel to prevent damage to painted surface when hose is removed.
- 1.108.4. Flooring of the hose bed shall be removable aluminum grating with the top surface corrugated to aid in hose aeration. The grating slats shall be a minimum of 0.50" x 4.50" with spacing between slats for hose ventilation.
- 1.108.5. The inside of the hose bed shall be unpainted and have a DA sanded finish . The inside of the cargo area shall be unpainted with a DA sanded finish .
- 1.108.6. The hose bed shall accommodate 1000 feet of 5.00" hose and 1000 feet of 3.00" hose.

1.109. HOSE BED DIVIDER

- 1.109.1. Two (2) adjustable hosebed dividers shall be furnished for separating hose.
- 1.109.2. Each divider shall be constructed of a .25" brushed aluminum sheet. Flat surfaces shall be sanded for uniform appearance, or constructed of brushed aluminum.
- 1.109.3. Divider shall be fully adjustable by sliding in tracks, located at the front and rear of the hose bed.
- 1.109.4. Divider shall be held in place by tightening bolts, at each end.
- 1.109.5. Acorn nuts shall be installed on all bolts in the hose bed which have exposed threads.

1.110. HOSE BED HOSE RESTRAINT

- 1.110.1. The hose in the hose bed shall be restrained by a black nylon Velcro® strap at the top of the hose bed. At the rear of the hose bed, 2.00" black nylon webbing with a 1.50" x 4.00" box pattern shall attach at the top rear outside corners with seat belt buckle fasteners. The webbing shall have straps connected with seat belt buckle fasteners located at the rear body sheet below the hose bed.
- 1.110.2. A cross-divider shall be provided just behind the fill tower. The divider shall be bolted to the side sheet.

1.111. RUNNING BOARDS

- 1.111.1. Running boards shall be fabricated of .125" bright aluminum treadplate.
- 1.111.2. Each running board shall be supported by a welded 2.00" square tubing and channel assembly, which shall be bolted to the pump compartment substructure.
- 1.111.3. Running boards shall be 12.75" deep and spaced .50" away from the pump panel.



- 1.111.4. A splash guard shall be provided above the running board treadplate.

1.112. TAILBOARD

- 1.112.1. The tailboard shall also be constructed of .125" bright aluminum treadplate and spaced .50" from the body, as well as supported by a structural steel assembly.
- 1.112.2. The tailboard area shall be 24.00" deep in the center area and 8.00" deep to the rear of the side compartments. The tailboard shall be T-shaped. The outboard sides of the tailboard shall be angled at 45 degrees beginning at the point where the body meets the tailboard at the outboard edge angling rearward to the rear edge of the tailboard.
- 1.112.3. The exterior side shall be flanged down and in for increased rigidity of tailboard structure.

1.113. REAR WALL, SMOOTH ALUMINUM/BODY MATERIAL

- 1.113.1. The rear facing surfaces of the center rear wall shall be smooth aluminum.
- 1.113.2. The bulkheads, the surface to the rear of the side body compartments, shall be smooth and the same material as the body.
- 1.113.3. Any inboard facing surfaces below the height of the hosebed shall be aluminum diamondplate.

1.114. TOW BAR

- 1.114.1. A tow bar shall be installed under the tailboard at center of truck.
- 1.114.2. Tow bar shall be fabricated of 1.00" CRS bar rolled into a 3.00" radius.
- 1.114.3. Tow bar assembly shall be constructed of .38" structural angle. When force is applied to the bar, it shall be transmitted to the frame rail.
- 1.114.4. Tow bar assembly shall be designed and positioned to allow up to a 30-degree upward angled pull of 17,000 lb, or a 20,000 lb straight horizontal pull in line with the centerline of the vehicle.
- 1.114.5. Tow bar design shall have been fully tested and evaluated using strain gauge testing and finite element analysis techniques.

1.115. COMPARTMENTATION

- 1.115.1. Body and its components will be fabricated and assembled by the supplier at their facility. NO EXCEPTIONS
- 1.115.2. Body and compartments shall be fabricated of .125", 5052-H32 aluminum. (NO EXCEPTIONS)
- 1.115.3. Side compartments shall be an integral assembly with the rear fenders.
- 1.115.4. Circular fender liners shall be provided for prevention of rust pockets and ease of maintenance.
- 1.115.5. Side compartment flooring shall be of the sweep out design with the floor higher than the compartment door lip.
- 1.115.6. The side compartment door opening shall be framed by flanging the edges in 1.75" and bending out again .75" to form an angle.



- 1.115.7. Drip protection shall be provided above the doors by means of bright aluminum extrusion, formed bright aluminum treadplate or polished stainless steel.
- 1.115.8. The top of the compartment shall be covered with bright aluminum treadplate rolled over the edges on the front, rear and outward side. These covers shall have the corners welded.
- 1.115.9. Side compartment covers shall be separate from the compartment tops.
- 1.115.10. Front facing compartment walls shall be covered with bright aluminum treadplate.
- 1.115.11. All screws and bolts which protrude into a compartment shall have acorn nuts on the ends to prevent injury.

1.116. UNDERBODY SUPPORT SYSTEM (NO EXCEPTIONS)

- 1.116.1. Due to the severe loading requirements of this pumper a method of body and compartment support suitable for the intended load shall be provided.
- 1.116.2. The backbone of the support system shall be the chassis frame rails which is the strongest component of the chassis and is designed for sustaining maximum loads.
- 1.116.3. The support system shall include .375" thick steel vertical angle supports bolted to the chassis frame rails with .625" diameter bolts.
- 1.116.4. Attached to the bottom of the steel vertical angles shall be horizontal angles, with gussets welded to the vertical members, which extend to the outside edge of the body.
- 1.116.5. A steel frame shall be mounted on the top of these supports to create a floating substructure which shall result in a 500 lb equipment support rating per lower compartment.
- 1.116.6. The floating substructure shall be separated from the horizontal members with neoprene elastomer isolators. These isolators shall reduce the natural flex stress of the chassis from being transmitted to the body.
- 1.116.7. Isolators shall have a broad load range, proven viability in vehicular applications, be of a fail safe design and allow for all necessary movement in three (3) transitional and rotational modes.
- 1.116.8. The neoprene isolators shall be installed in a modified V three (3)-point mounting pattern to reduce the natural flex of the chassis being transmitted to the body.
- 1.116.9. A design with body compartments hanging on the chassis in an unsupported fashion shall not be acceptable.

1.117. AGGRESSIVE WALKING SURFACE

- 1.117.1. All exterior surfaces designated as stepping, standing, and walking areas shall comply with the required average slip resistance of the current NFPA standards.

1.118. LOUVERS



- 1.118.1. Louvers shall be stamped into compartment walls to provide the proper airflow inside the body compartments and to prevent water from dripping into the compartment. Where these louvers are provided, they shall be formed into the metal and not added to the compartment as a separate plate.

1.119. TESTING OF BODY DESIGN

- 1.119.1. Body structural analysis shall be fully tested. Proven engineering and test techniques such as finite element analysis, stress coating and strain gauging shall be performed with special attention given to fatigue, life and structural integrity of the cab, body and substructure.
- 1.119.2. Body shall be tested while loaded to its greatest in-service weight.
- 1.119.3. The criteria used during the testing procedure shall include:
 - 1.119.3.1. Raising opposite corners of the vehicle tires 9.00" to simulate the twisting a truck may experience when driving over a curb.
 - 1.119.3.2. Making a 90 degree turn, while driving at 20 mph to simulate aggressive driving conditions.
 - 1.119.3.3. Driving the vehicle at 35 mph on a washboard road.
 - 1.119.3.4. Driving the vehicle at 55 mph on a smooth road.
 - 1.119.3.5. Accelerating the vehicle fully, until reaching the approximate speed of 45 mph on rough pavement.
- 1.119.4. Evidence of actual testing techniques shall be made available upon request.

1.120. LEFT SIDE COMPARTMENTATION

- 1.120.1. The left side compartmentation shall consist of three rollup door compartments.
- 1.120.2. A full height, rollup door compartment ahead of the rear wheels shall be provided. The interior dimensions of this compartment shall be 34.50" wide x 66.63" high x 25.88" deep in the lower 25.00" of the compartment and 12.00" deep in the remaining upper portion. The clear door opening shall be a minimum of 28.75" wide x 56.88" high.
- 1.120.3. A rollup door compartment over the rear wheels shall be provided. The interior dimensions of this compartment shall be 66.50" wide x 32.88" high x 12.00" deep. The clear door opening shall be a minimum of 58.25" wide x 23.13" high.
- 1.120.4. A full height, rollup door compartment behind the rear wheels shall be provided. The interior dimensions of this compartment shall be 47.75" wide x 67.63" high x 25.88" deep in the lower 26.00" of height and 12.00" deep in the remaining upper section of the compartment. The clear door opening shall be a minimum of 44.75" wide x 57.88" high.
- 1.120.5. The interior height of the compartments shall be measured from the compartment floor to the ceiling. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartments shall be measured from the back wall to the inside of the door frame.



- 1.120.6. Closing of the door shall not require releasing, unlocking, or unlatching any mechanism and shall easily be accomplished with one hand.

1.121. RIGHT SIDE COMPARTMENTATION

- 1.121.1. The right side compartmentation shall consist of three rollup door compartments.
- 1.121.2. A full height, rollup door compartment ahead of the rear wheels shall be provided. The interior dimensions of this compartment shall be 34.50" wide x 66.63" high x 25.88" deep in the lower 25.00" of the compartment and 12.00" deep in the remaining upper portion. The clear door opening shall be a minimum of 28.75" wide x 56.88" high.
- 1.121.3. A rollup door compartment over the rear wheels shall be provided. The interior dimensions of this compartment shall be 66.50" wide x 32.88" high x 12.00" deep. The clear door opening shall be a minimum of 58.25" wide x 23.13" high.
- 1.121.4. A full height, rollup door compartment behind the rear wheels shall be provided. The interior dimensions of this compartment shall be 47.75" wide x 67.63" high x 25.88" deep in the lower 26.00" of height and 12.00" deep in the remaining upper section of the compartment. The clear door opening shall be a minimum of 44.75" wide x 57.88" high.
- 1.121.5. The interior height of the compartments shall be measured from the compartment floor to the ceiling. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartments shall be measured from the back wall to the inside of the door frame.
- 1.121.6. Closing of the door shall not require releasing, unlocking, or unlatching any mechanism and shall easily be accomplished with one hand.

1.122. SIDE COMPARTMENT ROLLUP DOOR(S)

- 1.122.1. there shall be six (6) compartment doors installed on the side compartments. The doors shall be double faced aluminum construction, painted one (1) color to match the lower portion of the body and manufactured by Gortite®.
- 1.122.2. Lath sections shall be an interlocking rib design and shall be individually replaceable without complete disassembly of door.
- 1.122.3. Between each slat at the pivoting joint shall be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments. Seals shall allow door to operate in extreme temperatures ranging from 180 to -40 degrees Fahrenheit. Side, top and bottom seals shall be provided to resist ingress of dirt and weather and be made of Santoprene.
- 1.122.4. All hinges, barrel clips and end pieces shall be nylon 66. All nylon components shall withstand temperatures from 300 to -40 degrees Fahrenheit. Hardened plastic shall not be acceptable.
- 1.122.5. A polished stainless steel lift bar to be provided for each roll-up door. Lift bar shall be located at the bottom of door and have latches on the outer extrusion



of the doors frame. A ledge shall be supplied over lift bar for additional area to aid in closing the door.

1.122.6. Doors shall be constructed from an aluminum box section. The exterior surface of each slat shall be flat. The interior surfaces shall be concave to provide strength and prevent loose equipment from jamming the door from inside.

1.122.7. To conserve space in the compartments, the spring roller assembly shall not exceed 3.00" in diameter. A garage style roll door shall not be acceptable.

1.122.8. The header for the rollup door assembly shall not exceed 4.00".

1.122.9. A heavy-duty magnetic switch shall be used for control of open compartment door warning lights.

1.123. REAR COMPARTMENTATION

1.123.1. A roll-up door compartment above the rear tailboard shall be provided.

1.123.2. The interior dimensions of this compartment shall be 40.00" wide x 54.13" high x 25.88" deep. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartment shall be calculated with the compartment door closed.

1.123.3. A louvered, removable access panel shall be furnished on the back wall of the compartment.

1.123.4. The rear compartment shall be open into the rear side compartments.

1.123.5. The clear door opening of this compartment shall be a minimum of 33.25" wide x 44.38" high.

1.123.6. Closing of the door shall not require releasing, unlocking, or unlatching any mechanism and shall easily be accomplished with one hand.

1.124. ROLLUP REAR COMPARTMENT DOOR

1.124.1. There shall be a rear rollup door. The door shall be double faced aluminum construction, an anodized satin finish and manufactured by Gortite®.

1.124.2. Lath sections shall be an interlocking rib design and shall be individually replaceable without complete disassembly of door.

1.124.3. Between each slat at the pivoting joint shall be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments. Seals shall allow door to operate in extreme temperatures ranging from 180 to -40 degrees Fahrenheit. Side, top and bottom seals shall be provided to resist ingress of dirt and weather and be made of Santoprene.

1.124.4. All hinges, barrel clips and end pieces shall be nylon 66. All nylon components shall withstand temperatures from 300 to -40 degrees Fahrenheit. Hardened plastic shall not be acceptable.

1.124.5. A polished stainless steel lift bar to be provided for each roll-up door. Lift bar shall be located at the bottom of door and have latches on the outer extrusion of the doors frame. A ledge shall be supplied over lift bar for additional area to aid in closing the door.



- 1.124.6. Door shall be constructed from an aluminum box section. The exterior surface of each slat shall be flat. The interior surface shall be concave to provide strength and prevent loose equipment from jamming the door from inside.
- 1.124.7. To conserve space in the compartments, the spring roller assembly shall not exceed 3.00" in diameter. A garage style roll door shall not be acceptable.
- 1.124.8. The header for the rollup door assembly shall not exceed 4.00".
- 1.124.9. A heavy-duty magnetic switch shall be used for control of open compartment door warning lights.

1.125. COMPARTMENT LIGHTING

- 1.125.1. There shall be seven (7) compartment(s) with two (2) white 12 volt DC LED compartment light strips. The dual light strips shall be centered vertically along each side of the door framing. There shall be two (2) light strips per compartment. The dual light strips shall be in all body compartment(s).
- 1.125.2. Any remaining compartments without light strips shall have a 6.00" diameter Truck-Lite, Model: 79384 light. Each light shall have a number 1076 one filament, two wire bulb.
- 1.125.3. Opening the compartment door shall automatically turn the compartment lighting on.

1.126. MOUNTING TRACKS

- 1.126.1. There shall be five (5) sets of tracks for mounting shelf(s) in LS1, LS3, RS1, RS3 and B1. These tracks shall be installed vertically to support the adjustable shelf(s), and shall be full height of the compartment. The tracks shall be painted to match the compartment interior.

1.127. ADJUSTABLE SHELVES

- 1.127.1. There shall be three (5) shelves with a capacity of 500 lb provided.
- 1.127.2. The shelf construction shall consist of .188" aluminum painted spatter gray with 2.00" sides.
- 1.127.3. Each shelf shall be infinitely adjustable by means of a threaded fastener, which slides in a track.
- 1.127.4. The shelves shall be held in place by .12" thick stamped plated brackets and bolts.
- 1.127.5. The location(s) shall be determined at a later date.

1.128. SLIDE-OUT FLOOR MOUNTED TRAY

- 1.128.1. There shall be two (2) floor mounted slide-out tray(s) provided.
- 1.128.2. Each tray shall have 2.00" high sides and a minimum capacity rating of 500 lb in the extended position.
- 1.128.3. Each tray shall be constructed of aluminum painted spatter gray
- 1.128.4. There shall be two undermount-roller bearing type slides rated at 250lb each provided. The pair of slides shall have a safety factor rating of 2.
- 1.128.5. To ensure years of dependable service, the slides shall be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117.



1.128.6. To ensure years of easy operation, the slides shall require no more than a 50lb force for push-in or pull-out movement when fully loaded after having been subjected to a 40 hour vibration (shaker) test under full load. The vibration drive file shall have been generated from accelerometer data collected from a heavy truck chassis driven over rough gravel roads in an unloaded condition. Proof of compliance shall be provided upon request.

1.128.7. Automatic locks shall be provided for both the "in" and "out" positions. The trip mechanism for the locks shall be located at the front of the tray for ease of use with a gloved hand.

1.128.8. The location(s) shall be RS1 and LS1.

1.129. SWING OUT TOOLBOARD

1.129.1. A swing out aluminum toolboard shall be provided.

1.129.2. It shall be a minimum of .188" thick with .281" diameter holes in a pegboard pattern with 1.00" centers between holes.

1.129.3. A 1.00" x 1.00" aluminum tube frame shall be welded to the edge of the pegboard.

1.129.4. The board shall be mounted on a pivoting device at the front of the compartment on the top and bottom to allow easy movement in and out of the compartment. The maximum tool load shall be 400 pounds.

1.129.5. The board shall have positive lock in the stowed and extended position.

1.129.6. The board shall be mounted on adjustable tracks from front to back within the compartment.

1.129.7. There shall be One (1) toolboard(s) provided. The toolboard(s) shall be spatter gray painted and installed LS2.

1.130. RUB RAIL

1.130.1. Bottom edge of the side compartments shall be trimmed with a bright aluminum extruded rub rail.

1.130.2. Trim shall be 2.12" high with 1.38" flanges turned outward for rigidity.

1.130.3. The rub rails shall not be an integral part of the body construction, which allows replacement in the event of damage.

1.131. BODY FENDER CROWNS

1.131.1. Black rubber fender crowns shall be provided around the rear wheel openings.

1.132. BODY FENDER LINER

1.132.1. A painted fender liner shall be provided. The liners shall be removable to aid in the maintenance of rear suspension components.

1.133. HOSE TROUGHS

1.133.1. Hard suction hose shall be carried above the left compartment in V-shaped troughs and held in place by chrome plated, quarter turn, spring loaded clamps.

1.133.2. Troughs shall be constructed of steel and painted job color.



- 1.133.3. The size and length of the hard suction hose that shall be carried is 10' X 6".

1.134. HANDRAILS

- 1.134.1. The handrails shall be 1.25" diameter anodized aluminum extrusion, with a ribbed design, to provide a positive gripping surface.
- 1.134.2. Chrome plated end stanchions shall support the handrail. Plastic gaskets shall be used between end stanchions and any painted surfaces.
- 1.134.3. Drain holes shall be provided in the bottom of all vertically mounted handrails.
- 1.134.4. Handrails shall be provided to meet NFPA 1901 section 15.8 requirements. The handrails shall be installed as noted on the sales drawing.

1.135. VERTICAL HANDRAIL

- 1.135.1. One (1) vertical handrail shall be located on each rear beavertail.

1.136. HORIZONTAL HANDRAIL

- 1.136.1. One (1) full width horizontal handrail shall be provided below the hose bed at the rear of the apparatus.

1.137. EXTINGUISHER/AIR BOTTLE/ STORAGE (TRIANGULAR)

- 1.137.1. A total of one (1) extinguisher/air bottle/storage compartments shall be provided RS rear of the axle. The triangular shaped compartment shall be sized to fit a 8.00" diameter extinguisher in the lower area and a 8.00" diameter extinguisher in the upper area. The compartment shall be approximately 25.50" deep. A partition shall be provided to separate the compartment. Also inside the compartment, black rubber matting shall be provided. The compartment shall be furnished with a drain hole. A polished stainless steel, triangular shaped door with a chrome plated flush lift & turn latch shall be provided to contain the air bottles. A dielectric barrier shall be provided between the door hinge, hinge fasteners and the body sheet metal.

1.138. AIR BOTTLE COMPARTMENT STRAP

- 1.138.1. A strap shall be provided in the air bottle compartment(s) to help contain the bottles when the vehicle is parked on an incline. The strap shall wrap around the neck and attach to the wall of the compartment.

1.139. AIR BOTTLE STORAGE (TRIPLE)

- 1.139.1. A quantity of two (2) air bottle compartments designed to hold (3) air bottles up to 7.25" in diameter x 26.00" deep shall be provided on the left side forward of the rear wheels and on the right side forward of the rear wheels. A polished stainless steel door with a chrome plated flush lift & turn latch shall be provided to contain the air bottle. A dielectric barrier shall be provided between the door hinge, hinge fasteners and the body sheet metal.

- 1.139.2. Inside the compartment, black rubber matting shall be provided.

1.140. AIR BOTTLE COMPARTMENT STRAP



- 1.140.1. A strap shall be provided in the air bottle compartment(s) to help contain the air bottles when the vehicle is parked on an incline. The strap shall wrap around the neck and attach to the wall of the compartment.

1.141. EXTENSION LADDER

- 1.141.1. There shall be a 24' two-section aluminum Duo-Safety Series 900-A extension ladder provided.

1.142. ROOF LADDER

- 1.142.1. There shall be a 14' aluminum Duo-Safety Series 775-A roof ladder provided.

1.143. LADDER STORAGE

- 1.143.1. The ladders shall be stored between the water tank and the right side compartments.
- 1.143.2. The ladders shall extend into the pump compartment just to the rear of the water pump discharges.
- 1.143.3. The ladder storage area shall be enclosed as practical by means of sheet metal to protect the ladders from road dirt. The ladders that extend into the pump house shall also be enclosed. A black rubber boot shall be provided to enclose the ladders in the gap between the pump house and the body.
- 1.143.4. Each ladder shall be stored vertically in a separate stainless steel storage trough. Each stainless steel trough shall be lined with Dura-Surf nylon slides.
- 1.143.5. An aluminum enclosure shall be provided at the rear of the body to properly contain the ladders. This enclosure shall extend to the rear of the side body compartments.
- 1.143.6. The enclosure shall also include a vertically hinged smooth aluminum door with a D-handle latch to access the ladders. The door shall be hinged on the left side.

1.144. FOLDING LADDER

- 1.144.1. One (1) 10.00' aluminum, Series 585-A, Duo-Safety folding ladder shall be installed in a U-shaped trough inside the ladder storage compartment.

1.145. PIKE POLE PROVIDED BY FIRE DEPARTMENT

- 1.145.1. NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) 8 ft or longer pike pole mounted in a bracket fastened to the apparatus.
- 1.145.2. The pike pole is not on the apparatus as manufactured. The fire department shall provide and mount the pike pole.
- 1.145.3. The pike pole(s) shall be a Duo-Safety 10' pike pole.

1.146. 6' PIKE POLE PROVIDED BY FIRE DEPARTMENT

- 1.146.1. NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) 6' pike pole or plaster hook mounted in a bracket fastened to the apparatus.
- 1.146.2. The pike pole is not on the apparatus as manufactured. The fire department shall provide and mount the pike pole.
- 1.146.3. The pike pole(s) shall be a Duo-Safety 6' pike pole.

1.147. PIKE POLE STORAGE



- 1.147.1. Aluminum tubing shall be used for the storage of two (2) pike poles and shall be located mounted behind the ladders on the side sheet, passenger's side. If the head of a pike pole can come in contact with a painted surface, a stainless steel scuffplate shall be provided.

1.148. STEPS

- 1.148.1. A folding step shall be provided on the front of each fender compartment. The step shall be bright finished, non-skid with a black coating. Each step shall incorporate an LED light to illuminate the stepping surface. The step can be used as a hand hold with two openings wide enough for a gloved hand.

1.149. REAR STEPS

- 1.149.1. Aluminum treadplate corner steps and bright finished, non-skid folding steps shall be provided at the rear. The folding steps shall have a black coating. Each folding step shall incorporate an LED light to illuminate the stepping surface. The folding steps can be used as a hand hold with two openings wide enough for a gloved hand. All steps shall provide adequate surface for stepping.
- 1.149.2. Four (4) additional folding steps shall be located two (2) on the each side front bulkhead. The step(s) shall be bright finished, non-skid with a black coating. Each step shall incorporate an LED light to illuminate the stepping surface. The step(s) can be used as a hand hold with two openings wide enough for a gloved hand.

1.150. PUMP

- 1.150.1. Fire pump shall be a Waterous CXC20, 1500 gpm, single (1) stage centrifugal type. The pump shall be an end suction, pedestal mount, single inlet type.
- 1.150.2. Pump shall be the class "A" type.
- 1.150.3. Pump shall deliver the percentage of rated discharge at pressures indicated below:
- 1.150.4. 100% of rated capacity at 150 psi net pump pressure.
- 1.150.5. 70% of rated capacity at 200 psi net pump pressure.
- 1.150.6. 50% of rated capacity at 250 psi net pump pressure.
- 1.150.7. Pump body shall be close-grained gray iron, bronze fitted.
- 1.150.8. Impeller shaft shall be stainless steel, accurately ground to size. It shall be supported by oil or grease lubricated, anti-friction ball bearings for rigid precise support.
- 1.150.9. Bearings shall be protected from water and sediment by suitable stuffing boxes, slinger rings, and oil seals. No special or sleeve type bearings shall be used.
- 1.150.10. Pump shall be equipped with a self-adjusting, maintenance-free, mechanical shaft seal.
- 1.150.11. The mechanical seal shall consist of a flat, highly polished, spring fed carbon ring that rotates with the impeller shaft. The carbon ring shall press against a highly polished stainless steel stationary ring that is sealed within the pump body.



1.150.12. In addition, a throttling ring shall be pressed into the steel chamber cover, providing a very small clearance around the rotating shaft in the event of a mechanical seal failure. The pump performance shall not deteriorate, nor shall the pump lose prime, while drafting if the seal fails during pump operation.

1.150.13. Wear rings shall be bronze and easily replaceable to restore original pump efficiency and eliminate the need to replace the entire pump casing due to wear.

1.151. PUMP TRANSMISSION

1.151.1. The pump transmission shall be made of a three (3) piece, aluminum, horizontally split casing. Power transfer to pump shall be through a high strength Morse HY-VO silent drive chain. By the use of a chain rather than gears, 50% of the sprocket shall be accepting or transmitting torque, compared to two (2) or three (3) teeth doing all the work.

1.151.2. Drive shafts shall be 2.35" diameter hardened and ground alloy steel and supported by ball bearings. The case shall be designed to eliminate the need for water cooling.

1.152. PUMPING MODE

1.152.1. An interlock system shall be provided to ensure that the pump drive system components are properly engaged so that the apparatus can be safely operated. The interlock system shall be designed to allow stationary pumping only.

1.153. AIR PUMP SHIFT

1.153.1. Pump shift engagement shall be made by a two (2) position sliding collar, actuated pneumatically (by air pressure), with a three (3) position air control switch located in the cab.

1.153.2. Two (2) indicator lights shall be provided adjacent to the pump shift inside the cab. One (1) green light shall indicate the pump shift has been completed and be labeled "pump engaged". The second green light shall indicate when the pump has been engaged, and that the chassis transmission is in pump gear. This indicator light shall be labeled "OK to pump".

1.153.3. The pump shift shall be interlocked to prevent the pump from being shifted out of gear when the chassis transmission is in gear to meet NFPA requirements.

1.153.4. The pump shift control in the cab shall be illuminated to meet NFPA requirements.

1.154. TRANSMISSION LOCK-UP

1.154.1. The direct gear transmission lock-up for the fire pump operation shall engage automatically when the pump shift control in the cab is activated.

1.155. AUXILIARY COOLING SYSTEM

1.155.1. A supplementary heat exchange cooling system shall be provided to allow the use of water from the discharge side of the pump for cooling the engine water. Heat exchanger shall be cylindrical type and shall be a separate unit. It



shall be installed in the pump or engine compartment with the control located on the pump operator's control panel. Exchanger shall be plumbed to the master drain valve.

1.156. INTAKE RELIEF VALVE - PUMP

- 1.156.1. There shall be One (1) Elkhart Style 40 relief valve(s) installed on the suction side of the pump preset at 125 psig.
- 1.156.2. The relief valve(s) shall have a working range of 75 psi to 250 psi.
- 1.156.3. The outlet shall terminate below the frame rails with a 2.50" National Standard hose thread adapter and shall have a "do not cap" warning tag.
- 1.156.4. The relief valve pressure control shall be located behind the right side pump panel with a stainless steel access door .

1.157. PRESSURE CONTROLLER

- 1.157.1. A Pump Boss Model PBA300 pressure governor shall be provided. (NO EXCEPTIONS)
- 1.157.2. A pressure transducer shall be installed in the water discharge manifold on the pump.
- 1.157.3. The display panel shall be located at the pump operator's panel.

1.158. PRIMING PUMP

- 1.158.1. The priming pump shall be a Trident Emergency Products compressed air powered, high efficiency, multistage venturi based AirPrime System, conforming to standards outlined in the current edition of NFPA 1901.
- 1.158.2. All wetted metallic parts of the priming system are to be of brass and stainless steel construction.
- 1.158.3. One (1) priming control shall open the priming valve and start the pump primer.

1.159. PUMP MANUALS

- 1.159.1. There shall be a total of two (2) pump manuals provided by the pump manufacturer and furnished with the apparatus. The manuals shall be provided by the pump manufacturer in the form of two (2) electronic copies. Each manual shall cover pump operation, maintenance, and parts.

1.160. PUMP TEST

- 1.160.1. The pump shall be tested, approved and certified by an independent third party testing agency at the manufacturer's expense. The test results along with the pump manufacturer's certification of hydrostatic test, the engine manufacturer's certified brake horse power curve and the manufacturer's record of pump construction details shall be forwarded to the Fire Department.
- 1.160.2. The 1500 gpm pump installed on the apparatus shall be rated at 1250 gpm.

1.161. PLUMBING, STAINLESS STEEL AND HOSE

- 1.161.1. All inlet and outlet lines shall be plumbed with either stainless steel pipe, flexible polypropylene tubing or synthetic rubber hose reinforced with hi-tensile polyester braid. All hose's shall be equipped with brass or stainless steel couplings.



All stainless steel hard plumbing shall be a minimum of a schedule 10 wall thickness.

- 1.161.2. Where vibration or chassis flexing may damage or loosen piping or where a coupling is required for servicing, the piping shall be equipped with victaulic or rubber couplings.
- 1.161.3. Plumbing manifold bodies shall be ductile cast iron or stainless steel.
- 1.161.4. All piping lines are to be drained through a master drain valve or shall be equipped with individual drain valves. All drain lines shall be extended with a hose to drain below the chassis frame.
- 1.161.5. All water carrying gauge lines shall be of flexible polypropylene tubing.
- 1.161.6. All piping, hose and fittings shall have a minimum of a 500 PSI hydrodynamic pressure rating.

1.162. MAIN PUMP INLETS

- 1.162.1. A 6.00" pump manifold inlet shall be provided on each side of the vehicle. The suction inlets shall include removable die cast zinc screens that are designed to provide cathodic protection for the pump, thus reducing corrosion in the pump.

1.163. MAIN PUMP INLET CAP

- 1.163.1. The main pump inlets shall have National Standard Threads with a long handle chrome cap.
- 1.163.2. The cap shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exceptions).

1.164. VALVES

- 1.164.1. All ball valves shall be Akron® Brass in-line valves. The Akron valves shall be the 8000 series heavy-duty style with a stainless steel ball and a simple two-seat design. No lubrication or regular maintenance is required on the valve.
- 1.164.2. Valves shall have a ten (10) year warranty.

1.165. LEFT SIDE INLET

- 1.165.1. There shall be one (1) auxiliary inlet with a 2.50" valve at the left side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter.
- 1.165.2. The auxiliary inlet shall be provided with a strainer, chrome swivel and plug.

1.166. RIGHT SIDE INLET

- 1.166.1. There shall be one (1) auxiliary inlet with a 2.50" valve at the right side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter.
- 1.166.2. The auxiliary inlet shall be provided with a strainer, chrome swivel and plug.
- 1.166.3. The location of the valve for the two (2) inlets shall be recessed behind the pump panel.

1.167. INLET CONTROL

- 1.167.1. The side auxiliary inlet(s) shall incorporate a quarter-turn ball valve with the control located at the inlet valve. The valve operating mechanism shall indicate the position of the valve.



1.168. INLET BLEEDER VALVE

- 1.168.1. A 0.75" bleeder valve shall be provided for each side gated inlet. The valves shall be located behind the panel with a swing style handle control extended to the outside of the panel. The handles shall be chrome plated and provide a visual indication of valve position. The swing handle shall provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. The water discharged by the bleeders shall be routed below the chassis frame rails.

1.169. TANK TO PUMP

- 1.169.1. The booster tank shall be connected to the intake side of the pump with stainless steel piping and a quarter turn 3.00" full flow line valve with the control remotely located at the operator's panel. Tank to pump line shall run straight (no elbows) from the pump into the front face of the water tank and angle down into the tank sump. A rubber coupling shall be included in this line to prevent damage from vibration or chassis flexing.
- 1.169.2. A check valve shall be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.

1.170. TANK REFILL

- 1.170.1. A 1.50" combination tank refill and pump re-circulation line shall be provided, using a quarter-turn full flow ball valve controlled from the pump operator's panel.

1.171. LEFT SIDE DISCHARGE OUTLETS

- 1.171.1. There shall be One (1) discharge outlet with a 2.50" valve on the left side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.

1.172. RIGHT SIDE DISCHARGE OUTLETS

- 1.172.1. There shall be One (1) discharge outlet with a 2.50" valve on the right side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.

1.173. FRONT DISCHARGE OUTLET

- 1.173.1. There shall be one (1) 2.50" discharge outlet piped to the front of the apparatus and located on the top of the left side of the front bumper.
- 1.173.2. Plumbing shall consist of 2.50" piping and flexible hose with a 2.50" full flow valve with control at the pump operator's panel. A fabricated weldment made of stainless steel pipe shall be used in the plumbing where appropriate. The piping shall terminate with a 2.50" NST with 90 degree stainless steel swivel.
- 1.173.3. There shall be automatic drains provided at all low points of the piping.

1.174. REAR DISCHARGE OUTLET

- 1.174.1. There shall be One (1) discharge outlet piped to the rear of the hose bed, right side, installed so proper clearance is provided for spanner wrenches or adapters. Plumbing shall consist of 2.50" piping along with a 2.50" full flow ball valve with the control from the pump operator's panel.



1.175. FRONT OF HOSE BED DISCHARGE OUTLET

- 1.175.1. There shall be One (1) discharge outlet discharge(s) piped to the front of the hose bed and located DS. Plumbing shall consist of 2.50" piping with a 2.50" full-flow ball valve controlled at the pump operator's panel. The discharge(s) shall terminate with a 2.50" (M) National Standard hose thread adapter.

1.176. DISCHARGE CAPS/ INLET PLUGS

- 1.176.1. Chrome plated, rocker lug, caps with chain shall be furnished for all discharge outlets 1.00" thru 3.00" in size, besides the pre-connected hose outlets.
- 1.176.2. Chrome plated, rocker lug, plugs with chain shall be furnished for all auxiliary inlets 1.00" thru 3.00" in size.
- 1.176.3. The caps and plugs shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exceptions).

1.177. OUTLET BLEEDER VALVE

- 1.177.1. A 0.75" bleeder valve shall be provided for each outlet 1.50" or larger. Automatic drain valves are acceptable with some outlets if deemed appropriate with the application.
- 1.177.2. The valves shall be located behind the panel with a swing style handle control extended to the outside of the side pump panel. The handles shall be chrome plated and provide a visual indication of valve position. The swing handle shall provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. Bleeders shall be located at the bottom of the pump panel. They shall be properly labeled identifying the discharge they are plumbed in to. The water discharged by the bleeders shall be routed below the chassis frame rails.

1.178. LEFT SIDE OUTLET ELBOWS

- 1.178.1. The 2.50" discharge outlets located on the left side pump panel shall be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow.
- 1.178.2. The elbow shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exceptions).

1.179. RIGHT SIDE OUTLET ELBOWS

- 1.179.1. The 2.50" discharge outlets located on the right side pump panel shall be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow.
- 1.179.2. The elbow shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exceptions).

1.180. REAR OUTLET ELBOWS

- 1.180.1. The 2.50" discharge outlets located at the rear of the apparatus shall be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow.
- 1.180.2. The elbow shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exceptions).



1.181. DISCHARGE OUTLET CONTROLS

- 1.181.1. The discharge outlets shall incorporate a quarter-turn ball valve with the control located at the pump operator's panel. The valve operating mechanism shall indicate the position of the valve.
- 1.181.2. If a handwheel control valve is used, the control shall be a minimum of a 3.9" diameter stainless steel handwheel with a dial position indicator built in to the center of the handwheel.
- 1.181.3. Any 3.00 inch or larger discharge valve shall be a slow-operating valve in accordance with NFPA 16.7.5.3.

1.182. DELUGE RISER

- 1.182.1. A 3.00" deluge riser shall be installed above the pump in such a manner that a monitor can be mounted and used effectively. Piping shall be installed securely so no movement develops when the line is charged. The riser shall be gated and controlled at the pump operator's panel.
- 1.182.2. Any 3.00 inch or larger discharge valve shall be a slow-operating valve in accordance with NFPA 16.7.5.3.
- 1.182.3. The deluge riser shall have male National Pipe Threads for mounting the monitor.

1.183. CROSSLAY HOSE BEDS

- 1.183.1. Two (2) crosslays with 1.50" outlets shall be provided. Each bed to be capable of carrying 200' of 1.75" double jacketed hose and shall be plumbed with 2.00" i.d. pipe and gated with a 2.00" quarter turn ball valve.
- 1.183.2. Outlets to be equipped with a 1.50" National Standard hose thread 90 degree swivel located in the hose bed so that hose may be removed from either side of apparatus.
- 1.183.3. The crosslay controls shall be at the pump operator's panel.
- 1.183.4. The center crosslay dividers shall be fabricated of 0.25" aluminum and shall provide adjustment from side to side. The divider shall be unpainted with a brushed finish.
- 1.183.5. Vertical scuffplates, constructed of stainless steel shall be provided at the front and rear ends of the bed on each side of vehicle.
- 1.183.6. Crosslay bed flooring shall consist of removable perforated brushed aluminum.

1.184. CROSSLAY HOSE COVER

- 1.184.1. A heavy black nylon webbing made of 1" nylon strap with a 2" box pattern webbing shall be provided across the top of the crosslay(s) to secure the hose during travel.
- 1.184.2. Each webbing shall cover the top and ends of the crosslay(s) and be fastened with 2 velcro straps on each side through footman loops at the bottom of the crosslay(s).
- 1.184.3. There shall be two (2) provided.

1.185. BOOSTER HOSE REEL



- 1.185.1. A steel Hannay electric rewind booster hose reel shall be installed below the crew cab door on the right side of the apparatus. The reel shall be located behind the aluminum treadplate enclosure above the crew cab step. The opening shall include a high-density synthetic guide to conceal exposed edges around the opening and perform as a protective guide to prevent abrasion during rewinding and unwinding.
- 1.185.2. The exterior finish of the reel shall be painted #269 gray from the reel manufacturer.
- 1.185.3. Discharge control shall be provided at the pump operator's panel. Plumbing to the reel shall consist of 1.50" Aeroquip hose and a 1.50" valve.
- 1.185.4. Reel motor shall be protected from overload with a circuit breaker rated to match the motor.
- 1.185.5. An electric rewind control switch shall be installed adjacent to the reel.
- 1.185.6. Booster hose, 1.00" diameter and 150 feet, with chrome plated Barway, or equal couplings shall be provided.
- 1.185.7. Working pressure of the booster hose shall be a minimum of 800 psi.
- 1.185.8. Capacity of the hose reel shall be 150 feet of 1.00" booster hose.

1.186. PUMP COMPARTMENT

- 1.186.1. The pump compartment shall be separate from the hose body and compartments so that each may flex independently of the other. It shall be a fabricated assembly of steel tubing, angles and channels which supports both the fire pump and the side running boards. The pump house will be manufactured, painted, and installed by the apparatus supplier (NO EXCEPTIONS)
- 1.186.2. The pump compartment shall be mounted on the chassis frame rails with rubber biscuits in a four point pattern to allow for chassis frame twist.
- 1.186.3. Pump compartment, pump, plumbing and gauge panels shall be removable from the chassis in a single assembly.

1.187. PUMP MOUNTING

- 1.187.1. Pump shall be mounted to a substructure which shall be mounted to the chassis frame rail using rubber isolators. The mounting shall allow chassis frame rails to flex independently without damage to the fire pump.

1.188. LEFT SIDE PUMP CONTROL PANELS

- 1.188.1. All pump controls and gauges shall be located at the left side of the apparatus and properly identified.
- 1.188.2. Layout of the pump control panel shall be ergonomically efficient and systematically organized.
- 1.188.3. The pump operator's control panel shall be removable in two (2) main sections for ease of maintenance:
- 1.188.4. The upper section shall contain sub panels for the mounting of the pump pressure control device, engine monitoring gauges, electrical switches, and foam controls (if applicable). Sub panels shall be removable from the face of the pump



panel for ease of maintenance. Below the sub panels shall be located all valve controls and line pressure gauges.

1.188.5. The lower section of the panel shall contain all inlets, outlets, and drains.

1.188.6. All push/pull valve controls shall have 1/4 turn locking control rods with polished chrome plated zinc tee handles. Guides for the push/pull control rods shall be chrome plated zinc castings securely mounted to the pump panel. Push/pull valve controls shall be capable of locking in any position. The control rods shall pull straight out of the panel and shall be equipped with universal joints to eliminate binding.

1.189. IDENTIFICATION TAGS

1.189.1. The identification tag for each valve control shall be recessed in the face of the tee handle.

1.189.2. All discharge outlets shall have color coded identification tags, with each discharge having its own unique color. Color coding shall include the labeling of the outlet and the drain for each corresponding discharge.

1.189.3. All line pressure gauges shall be mounted directly above the corresponding discharge control tee handles and recessed within the same chrome plated casting as the rod guide for quick identification. The gauge and rod guide casting shall be removable from the face of the pump panel for ease of maintenance. The casting shall be color coded to correspond with the discharge identification tag.

1.189.4. All remaining identification tags shall be mounted on the pump panel in chrome plated bezels.

1.189.5. The pump panel on the right side shall be removable with lift and turn type fasteners.

1.189.6. Trim rings shall be installed around all inlets and outlets.

1.190. PUMP PANEL CONFIGURATION

1.190.1. The pump panel configuration shall be arranged and installed in an organized manner that shall provide user-friendly operation.

1.191. PUMP AND GAUGE PANEL

1.191.1. The pump and gauge panels shall be constructed of aluminum with a painted FormCoat black finish. A stainless steel pump panel is not acceptable.

1.191.2. A polished aluminum trim molding shall be provided around each panel.

1.191.3. The right side pump panel shall be removable and fastened with swell type fasteners.

1.191.4. On the front of the pump house structure, provisions shall be provided for access to the pump.

1.192. PUMP COMPARTMENT LIGHT

1.192.1. A pump compartment light shall be provided inside the right side pump enclosure and accessible through a door on the pump panel.

1.192.2. A .125" weep hole shall be provided in each light lens, preventing moisture retention.



- 1.192.3. Engine monitoring graduated LED indicators shall be incorporated with the pressure controller.

1.193. THROTTLE READY GREEN INDICATOR LIGHT

- 1.193.1. There shall be a green indicator light integrated with the pressure governor and/or engine throttle installed on the pump operators panel that is activated when the pump is in throttle ready mode.
- 1.193.2. OK TO PUMP INDICATOR LIGHT
- 1.193.3. There shall be a green indicator light installed on the pump operators panel that is activated when the pump is in Ok To Pump mode.

1.194. AIR HORN BUTTON

- 1.194.1. An air horn control button shall be provided at the pump operator's control panel. This button shall be red in color and properly labeled "Evacuation".

1.195. VACUUM AND PRESSURE GAUGES

- 1.195.1. The pump vacuum and pressure gauges shall be liquid filled and manufactured by Class 1 Incorporated ©.
- 1.195.2. The gauges shall be a minimum of 4.00" in diameter and shall have white faces with black lettering, with a pressure range of 30.00"-0-600#.
- 1.195.3. Gauge construction shall include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.
- 1.195.4. The pump pressure and vacuum gauges shall be installed adjacent to each other at the pump operator's control panel.
- 1.195.5. Test port connections shall be provided at the pump operator's panel. One (1) shall be connected to the intake side of the pump, and the other to the discharge manifold of the pump. They shall have 0.25 in. standard pipe thread connections and non-corrosive polished stainless steel or brass plugs. They shall be marked with a label.
- 1.195.6. This gauge shall include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.

1.196. PRESSURE GAUGES

- 1.196.1. The individual "line" pressure gauges for the discharges shall be interlube filled and manufactured by Class 1©.
- 1.196.2. They shall be a minimum of 2.00" in diameter and shall have white faces with black lettering.
- 1.196.3. Gauge construction shall include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.
- 1.196.4. Gauges shall have a pressure range of 30"-0-400#.
- 1.196.5. The individual pressure gauge shall be installed as close to the outlet control as practical.
- 1.196.6. This gauge shall include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.

1.197. WATER LEVEL GAUGE



1.197.1. There shall be an electronic water level gauge provided on the operator's panel that registers water level by means of five (5) colored LED lights. The lights shall be durable, ultra-bright five (5) LED design viewable through 180 degrees.

The water level indicators shall be as follows:

1.197.1.1. 100 percent = Green

1.197.1.2. 75 percent = Yellow

1.197.1.3. 50 percent = Yellow

1.197.1.4. 25 percent = Yellow

1.197.1.5. Refill = Red

1.197.2. The light shall flash when the level drops below the given level indicator to provide an eighth of a tank indication. To further alert the pump operator, the lights shall flash sequentially when the water tank is empty.

1.197.3. The level measurement shall be based on the sensing of head pressure of the fluid in the tank.

1.197.4. The display shall be constructed of a solid plastic material with a chrome plated die cast bezel to reduce vibrations that can cause broken wires and loose electronic components. The encapsulated design shall provide complete protection from water and environmental elements. An industrial pressure transducer shall be mounted to the outside of the tank. The field calibratable display measures head pressure to accurately show the tank level.

1.198. LIGHT SHIELD

1.198.1. There shall be a polished, 16 gauge stainless steel light shield installed over the pump operator's panel.

1.198.2. There shall be 12 volt DC white LED lights installed under the stainless steel light shield to illuminate the controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus. These lights shall be activated by the pump panel light switch. Additional lights shall be included every 18.00" depending on the size of the pump house.

1.198.3. One (1) pump panel light shall come on when the pump is in ok to pump mode.

1.198.4. There shall be a light activated above the pump panel light switch when the parking brake is set. This is to afford the operator some illumination when first approaching the control panel.

1.199. AIR HORN SYSTEM

1.199.1. There shall be two (2) Grover air horns recessed in the front bumper. The horn system shall be piped to the air brake system wet tank utilizing 0.38" tubing. A pressure protection valve shall be installed in-line to prevent loss of air in the air brake system.

1.199.2. Air Horn Location

1.199.2.1. The air horns shall be located on each side of the bumper, towards the outside.

1.199.3. Air Horn Control



1.199.3.1. The air horns shall be actuated by a chrome push button located on the officer's side of the engine tunnel and by the horn button in the steering wheel. The driver shall have the option to control the air horns or the chassis horns from the horn button by means of a selector switch located on the instrument panel.

1.200. ELECTRONIC SIREN

- 1.200.1. There shall be a Whelen, Model 295SL101, 100 or 200 watt electronic siren with noise canceling plug-in microphone shall be provided.
- 1.200.2. This siren to be active when the battery switch is on and that emergency master switch is on.
- 1.200.3. Siren head shall be located near the overhead switches.
- 1.200.4. The electronic siren shall be controlled on the siren head only. No horn button or foot switches shall be required.

1.201. SPEAKER

- 1.201.1. There shall be one (1) Whelen®, Model SA315P, black nylon composite, 100-watt, speaker with through bumper mounting brackets and polished stainless steel grille provided. The speaker shall be connected to the siren amplifier.
- 1.201.2. The speaker(s) shall be recessed in the center of the front bumper.

1.202. MECHANICAL SIREN, (AUXILIARY)

- 1.202.1. An Eagle Sirens, Screaming Eagle siren shall be furnished.
- 1.202.2. A siren brake button shall be installed on the switch panel.
- 1.202.3. The mechanical siren shall be recessed in the front bumper on the left side. The siren shall be supported by the bumper framework.
- 1.202.4. The mechanical siren shall be actuated by two (2) foot switches, one (1) located on the officer's side and one (1) on the driver's side.

1.203. FRONT ZONE UPPER WARNING LIGHTS

- 1.203.1. There shall be one (1) 60.00" Whelen Freedom IV lightbar mounted on the cab roof.
- 1.203.2. The lightbar shall include the following:
 - 1.203.2.1. One (1) red flashing LED module in the driver's side rear corner position.
 - 1.203.2.2. One (1) red flashing LED module in the driver's side end position.
 - 1.203.2.3. One (1) red flashing LED module in the driver's side front corner position.
 - 1.203.2.4. One (1) white flashing LED module in the driver's side first front position.
 - 1.203.2.5. One (1) red flashing LED module in the driver's side second front position.
 - 1.203.2.6. One (1) red flashing LED module in the driver's side third front position.
 - 1.203.2.7. One (1) white flashing LED module in the driver's side fourth front position.
 - 1.203.2.8. One (1) red flashing LED module in the driver's side fifth front position.
 - 1.203.2.9. One (1) red flashing LED module in the passenger's side fifth front position.
 - 1.203.2.10. One (1) white flashing LED module in the passenger's side fourth front position.



- 1.203.2.11. One (1) red flashing LED module in the passenger's side third front position.
- 1.203.2.12. One (1) red flashing LED module in the passenger's side second front position.
- 1.203.2.13. One (1) white flashing LED module in the passenger's side first front position.
- 1.203.2.14. One (1) red flashing LED module in the passenger's side front corner position.
- 1.203.2.15. One (1) red flashing LED module in the passenger's side end position.
- 1.203.2.16. One (1) red flashing LED module in the passenger's side rear corner position.
- 1.203.3. There shall be clear lenses included on the lightbar.
- 1.203.4. There shall be a switch in the cab on the switch panel to control this lightbar.
- 1.203.5. The white flashing LEDs shall be disabled when the parking brake is applied.
- 1.203.6. The red flashing LED modules in the front positions may be load managed when the parking brake is applied.
- 1.204. FRONT ZONE LOWER LIGHTING**
 - 1.204.1. Two (2) Whelen model M7*C flashing LED warning lights with a chrome flange shall be provided on the cab face or grille.
 - 1.204.2. The driver's side front warning light to be red.
 - 1.204.3. The passenger's side front warning light to be red.
 - 1.204.4. Both lights shall include a clear lens.
 - 1.204.5. Both lights shall be controlled by a lighted switch on the cab instrument panel.
- 1.205. FRONT WARNING LIGHT**
 - 1.205.1. There shall be a Whelen Dominator, Model DP8, LED light bar mounted to the lower section of the front cab grille. The lightbar shall include eight (8) LINZ6, red LED modules.
 - 1.205.2. The dimensions shall be 30.36" long x 1.75" high x 2.18" deep.
 - 1.205.3. The light flash pattern shall be controlled by an internal programmable flasher. The flash patter shall be set to flash back and fourth.
 - 1.205.4. There shall be a switch located in the cab on the switch panel to control the lightbar.
 - 1.205.5. This light may be load managed when the parking brake is set.
- 1.206. SIDE ZONE LOWER LIGHTING**
 - 1.206.1. There shall be six (6) Whelen®, Model M6*C, flashing LED warning lights with chrome trim installed per the following:
 - 1.206.2. Two (2) lights, one (1) each side on the bumper extension. The side front lights to be red.



- 1.206.3. Two (2) lights, one (1) each side of cab rearward of crew cab doors. The side middle lights to be red.
- 1.206.4. Two (2) lights, one (1) each side, centered above rear wheels. The side rear lights to be red.
- 1.206.5. The lights shall include clear lenses.
- 1.206.6. There shall be a switch in the cab on the switch panel to control the lights.

1.207. REAR ZONE LOWER LIGHTING

- 1.207.1. There shall be two (2) Whelen®, Model M6*C, LED flashing warning lights located at the rear of the apparatus.
- 1.207.2. The driver's side rear light to be red
- 1.207.3. The passenger's side rear light to be red
- 1.207.4. Both lights shall include a lens that is clear.
- 1.207.5. There shall be a switch located in the cab on the switch panel to control the lights.

1.208. REAR/SIDE ZONE UPPER WARNING LIGHTS

- 1.208.1. There shall be two (2) Whelen®, Model L31H*FN, LED warning beacons provided at the rear of the truck, located one (1) each side. There shall be a switch located in the cab on the switch panel to control the beacons.
- 1.208.2. The color of the lights shall be red LEDs with both domes clear.
- 1.208.3. The rear warning lights shall be mounted on top of the compartmentation with all wiring totally enclosed. The rear deck lights shall be mounted on the beavertails as high as possible.

1.209. ELECTRICAL SYSTEM GENERAL DESIGN FOR ALTERNATING CURRENT

- 1.209.1. The following guidelines shall apply to the 120/240 VAC system installation:
 - 1.209.1.1. General
 - 1.209.1.1.1. Any fixed line voltage power source producing alternating current (ac) line voltage shall produce electric power at 60 cycles plus or minus 3 cycles.
 - 1.209.1.1.2. Except where superseded by the requirements of NFPA 1901, all components, equipment and installation procedures shall conform to NFPA 70, National Electrical Code (herein referred to as the NEC).
 - 1.209.1.1.3. Line voltage electrical system equipment and materials included on the apparatus shall be listed and installed in accordance with the manufacturer's instructions. All products shall be used only in the manner for which they have been listed.
 - 1.209.1.2. Grounding
 - 1.209.1.2.1. Grounding shall be in accordance with Section 250-6 "Portable and Vehicle Mounted Generators" of the NEC. Ungrounded systems shall not be used. Only stranded or braided copper conductors shall be used for grounding and bonding.



- 1.209.1.2.2. An equipment grounding means shall be provided in accordance with Section 250-91 (Grounding Conductor Material) of the NEC.
- 1.209.1.2.3. The grounded current carrying conductor (neutral) shall be insulated from the equipment grounding conductors and from the equipment enclosures and other grounded parts. The neutral conductor shall be colored white or gray in accordance with Section 200-6 (Means of Identifying Grounding Conductors) of the NEC.
- 1.209.1.2.4. In addition to the bonding required for the low voltage return current, each body and driving or crew compartment enclosure shall be bonded to the vehicle frame by a copper conductor. This conductor shall have a minimum amperage rating of 115 percent of the nameplate current rating of the power source specification label as defined in Section 310-15 (amp capacities) of the NEC. A single conductor properly sized to meet the low voltage and line voltage requirements shall be permitted to be used.
- 1.209.1.2.5. All power source system mechanical and electrical components shall be sized to support the continuous duty nameplate rating of the power source.
- 1.209.1.3. Operation
 - 1.209.1.3.1. Instructions that provide the operator with the essential power source operating instructions, including the power-up and power-down sequence, shall be permanently attached to the apparatus at any point where such operations can take place.
 - 1.209.1.3.2. Provisions shall be made for quickly and easily placing the power source into operation. The control shall be marked to indicate when it is correctly positioned for power source operation. Any control device used in the drive train shall be equipped with a means to prevent the unintentional movement of the control device from its set position.
 - 1.209.1.3.3. A power source specification label shall be permanently attached to the apparatus near the operator's control station. The label shall provide the operator with the following information:
 - 1.209.1.3.3.1. Rated voltage(s) and type (ac or dc)
 - 1.209.1.3.3.2. Phase
 - 1.209.1.3.3.3. Rated frequency
 - 1.209.1.3.3.4. Rated amperage
 - 1.209.1.3.3.5. Continuous rated watts
 - 1.209.1.3.3.6. Power source engine speed
 - 1.209.1.3.4. Direct drive (PTO) and portable generator installations shall comply with Article 445 (Generators) of the NEC.
- 1.209.1.4. Overcurrent protection



- 1.209.1.4.1. The conductors used in the power supply assembly between the output terminals of the power source and the main over current protection device shall not exceed 144.00" (3658 mm) in length.
- 1.209.1.4.2. For fixed power supplies, all conductors in the power supply assembly shall be type THHW, THW, or use stranded conductors enclosed in nonmetallic liquid tight flexible conduit rated for a minimum of 194 degree Fahrenheit (90 degrees Celsius).
- 1.209.1.4.3. For portable power supplies, conductors located between the power source and the line side of the main overcurrent protection device shall be type SO or type SEO with suffix WA flexible cord rated for 600-volts at 194 degrees Fahrenheit (90 degrees Celsius).
- 1.209.1.5. Wiring Methods
 - 1.209.1.5.1. Fixed wiring systems shall be limited to the following:
 - 1.209.1.5.1.1. Metallic or nonmetallic liquid tight flexible conduit rated at not less than 194 degrees Fahrenheit (90 degrees Celsius)
 - 1.209.1.5.1.2. or
 - 1.209.1.5.1.3. Type SO or Type SEO cord with a WA suffix, rated at 600 volts at not less than 194 degrees Fahrenheit (90 degrees Celsius)
 - 1.209.1.5.2. Electrical cord or conduit shall not be attached to chassis suspension components, water or fuel lines, air or air brake lines, fire pump piping, hydraulic lines, exhaust system components, or low voltage wiring. In addition the wiring shall be run as follows.
 - 1.209.1.5.2.1. Separated by a minimum of 12.00" (305 mm), or properly shielded, from exhaust piping
 - 1.209.1.5.2.2. Separated from fuel lines by a minimum of 6.00" (152 mm) distance
 - 1.209.1.5.3. Electrical cord or conduit shall be supported within 6.00" (152 mm) of any junction box and at a minimum of every 24.00" (610 mm) of continuous run. Supports shall be made of nonmetallic materials or corrosion protected metal. All supports shall be of a design that does not cut or abrade the conduit or cable and shall be mechanically fastened to the vehicle.
- 1.209.1.6. Wiring Identification
 - 1.209.1.6.1. All line voltage conductors located in the main panel board shall be individually and permanently identified. The identification shall reference the wiring schematic or indicate the final termination point. When prewiring for future power sources or devices, the unterminated ends shall be labeled showing function and wire size.
- 1.209.1.7. Wet Locations
 - 1.209.1.7.1. All wet location receptacle outlets and inlet devices, including those on hardwired remote power distribution boxes, shall be of the grounding type provided with a wet location cover and installed in



accordance with Section 210-7 "Receptacles and Cord Connections" of the NEC.

- 1.209.1.7.2. All receptacles located in a wet location shall be not less than 24.00" (610 mm) from the ground. Receptacles on off-road vehicles shall be a minimum of 30.00" (762 mm) from the ground.
- 1.209.1.7.3. The face of any wet location receptacle shall be installed in a plane from vertical to not more than 45 degrees off vertical. No receptacle shall be installed in a face up position.
- 1.209.1.8. Dry Locations
 - 1.209.1.8.1. All receptacles located in a dry location shall be of the grounding type. Receptacles shall be not less than 30.00" (762 mm) above the interior floor height.
 - 1.209.1.8.2. All receptacles shall be marked with the type of line voltage (120-volts or 240-volts) and the current rating in amps. If the receptacles are direct current, or other than single phase, they shall be so marked.
- 1.209.1.9. Listing
 - 1.209.1.9.1. All receptacles and electrical inlet devices shall be listed to UL 498, Standard for Safety Attachment Plugs and Receptacles, or other appropriate performance standards. Receptacles used for direct current voltages shall be rated for the appropriate service.
- 1.209.1.10. Electrical System Testing
 - 1.209.1.10.1. The wiring and associated equipment shall be tested by the apparatus manufacturer or the installer of the line voltage system.
 - 1.209.1.10.2. The wiring and permanently connected devices and equipment shall be subjected to a dielectric voltage withstand test of 900-volts for one (1) minute. The test shall be conducted between live parts and the neutral conductor, and between live parts and the vehicle frame with any switches in the circuit(s) closed. This test shall be conducted after all body work has been completed.
 - 1.209.1.10.3. Electrical polarity verification shall be made of all permanently wired equipment and receptacles to determine that connections have been properly made.
- 1.209.1.11. Operational Test per Current NFPA 1901 Standard
 - 1.209.1.11.1. The apparatus manufacturer shall perform the following operation test and ensure that the power source and any devices that are attached to the line voltage electrical system are properly connected and in working order. The test shall be witnessed and the results certified by an independent third-party certification organization.
 - 1.209.1.11.2. The prime mover shall be started from a cold start condition and the line voltage electrical system loaded to 100 percent of the nameplate rating.



1.209.1.11.3. The power source shall be operated at 100 percent of its nameplate voltage for a minimum of two (2) hours unless the system meets category certification as defined in the current NFPA 1901 standard.

1.209.1.11.4. Where the line voltage power is derived from the vehicle's low voltage system, the minimum continuous electrical load as defined in the current NFPA 1901 standard shall be applied to the low voltage electrical system during the operational test.

1.210. GENERATOR

1.210.1. A generator shall be furnished and installed by the fire department. The generator being installed shall be a Honda 3500W elec start.

1.211. GENERATOR LOCATION

1.211.1. The generator shall be located RS1.

1.212. ELECTRIC START PROVISION

1.212.1. Electric start provisions shall be furnished for the generator from the chassis battery system.

1.213. LOAD CENTER AREA

1.213.1. All 120/240 volt options shall require a designated area for the wire drop offs, so the future load center shall have wire leads to put into the box.

1.213.2. This location shall be [Location, CB Panel].

1.214. 120 VOLT RECEPTACLE

1.214.1. There shall be two (2), 4-place receptacle box(es) with four (4) 15/20 amp 120 volt AC three (3) wire straight blade receptacles with interior flip up cover(s) installed TBD. The NEMA configuration for the receptacles shall be 5-20R.

1.214.2. The receptacle(s) shall be powered from the shoreline inlet.

1.214.3. There shall be a label installed near the receptacle(s) that state the following:

1.214.3.1. Line Voltage

1.214.3.2. Current Rating (amps)

1.214.3.3. Phase

1.214.3.4. Frequency

1.215. LOOSE EQUIPMENT

1.215.1. The following equipment shall be furnished with the completed unit:

1.215.2. One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit

1.216. PAINT PROCESS

1.216.1. The exterior custom cab and/or body painting procedure shall consist of a seven (7) step finishing process. A commercial chassis paint process shall follow similar processes as determined by the chassis manufacturer. The following procedure shall be used by the apparatus manufacturer:

1.216.1.1. Manual Surface Preparation - All exposed metal surfaces on the custom cab and body shall be thoroughly cleaned and prepared for painting.



Imperfections on the exterior surfaces shall be removed and sanded to a smooth finish. Exterior seams shall be sealed before painting. Exterior surfaces that shall not be painted include; chrome plating, polished stainless steel, anodized aluminum and bright aluminum treadplate.

- 1.216.1.2. Chemical Cleaning and Pretreatment - All surfaces shall be chemically cleaned to remove dirt, oil, grease, and metal oxides to ensure the subsequent coatings bond well. The aluminum surfaces shall be properly cleaned and treated using a high pressure, high temperature 4 step Acid Etch process. The steel and stainless surfaces shall be properly cleaned and treated using a high temperature 3 step process specifically designed for steel or stainless. The chemical treatment converts the metal surface to a passive condition to help prevent corrosion. A final pure water rinse shall be applied to all metal surfaces.
- 1.216.1.3. Surfacer Primer - The Surfacer Primer shall be applied to a chemically treated metal surface to provide a strong corrosion protective base coat. A minimum thickness of 2 mils of Surfacer Primer is applied to surfaces that require a critical aesthetic finish. The surfacer primer shall be a two-component high solids urethane that has excellent sanding properties and an extra smooth finish when sanded.
- 1.216.1.4. Finish Sanding - The surfacer primer shall be sanded with a fine grit abrasive to achieve an ultra-smooth finish. This sanding process is critical to produce the smooth mirror like finish in the topcoat.
- 1.216.1.5. Sealer Primer - The sealer primer is applied prior to the base coat in all areas that have not been previously primed with the surfacer primer. The sealer primer is a two-component high solids urethane that goes on smooth and provides excellent gloss hold out when top coated.
- 1.216.1.6. Base coat Paint - Two coats of a high performance, two component high solids polyurethane base coat shall be applied. The Base coat shall be applied to a thickness that shall achieve the proper color match. The Base coat shall be used in conjunction with a urethane clear coat to provide protection from the environment.
- 1.216.1.7. Clear Coat - Two (2) coats of clear coat shall be applied over the base coat color. The clear coat is a two-component high solids urethane that provides superior gloss and durability to the exterior surfaces. Lap style doors shall be clear coated to match the body. Paint warranty for the roll-up doors shall be provided by the roll-up door manufacturer.
- 1.216.2. Specifications are written to define cyclic corrosion testing, physical strengths, durability and minimum appearance requirements must be met in order for an exterior paint finish to be considered acceptable as a quality finish.
- 1.216.3. Each batch of base coat color shall be checked for a proper match before painting of the cab and the body. After the cab and body are painted, the color is verified again to make sure that it matches the color standard. Electronic color



measuring equipment shall be used to compare the color sample to the color standard entered into the computer. Color specifications are used to determine the color match. A Delta E reading shall be used to determine a good color match within each family color.

1.216.4. All removable items such as brackets, compartment doors, door hinges, and trim shall be removed and separately if required, to ensure paint behind all mounted items. Body assemblies that cannot be finish painted after assembly shall be finish painted before assembly.

1.216.5. Environmental Impact

1.216.5.1. Contractor shall meet or exceed all current State regulations concerning paint operations. Pollution control shall include measures to protect the atmosphere, water and soil. Controls shall include the following conditions:

1.216.5.2. Topcoats and primers shall be chrome and lead free.

1.216.5.3. Metal treatment chemicals shall be chrome free. The wastewater generated in the metal treatment process shall be treated on-site to remove any other heavy metals.

1.216.5.4. Particulate emission collection from sanding operations shall have a 99.99 percent efficiency factor.

1.216.5.5. Particulate emissions from painting operations shall be collected by a dry filter or water wash process. If the dry filter is used, it shall have an efficiency rating of 98 percent. Water wash systems shall be 99.97 percent efficient.

1.216.5.6. Water from water wash booths shall be reused. Solids shall be removed on a continual basis to keep the water clean.

1.216.5.7. Paint wastes shall be disposed of in an environmentally safe manner.

1.216.5.8. Empty metal paint containers shall be recycled to recover the metal.

1.216.5.9. Solvents used in clean-up operations shall be recycled on-site or sent off-site for distillation and returned for reuse.

1.216.5.10. Additionally, the finished apparatus shall not be manufactured with or contain products that have ozone depleting substances. Contractor shall, upon demand, present evidence that the manufacturing facility meets the above conditions and that it is in compliance with the state EPA rules and regulations.

1.217. PAINT

1.217.1. The chassis shall be painted by the chassis manufacturer, and shall remain the commercial grade finish as provided. To ensure a good color match between the body and chassis, the apparatus manufacturer and chassis manufacturer shall have a mutually preapproved paint color program. The apparatus shall be painted candy apple red.

1.218. COMMERCIAL CHASSIS PAINT

1.218.1. The chassis shall be painted by the chassis manufacturer. It shall remain the color and commercial quality finish as provided. The primary color shall be candy apple red.



1.219. TWO-TONE CAB

- 1.219.1. The cab shall be painted two-tone by the chassis manufacturer. The color used for the upper section shall be black. The area of the cab to be painted black shall be from the bottom of the windshield post, following the angle of the cab door window opening, around the back of the cab including the cab roof.

1.220. PAINT CHASSIS FRAME ASSEMBLY

- 1.220.1. The chassis frame assembly shall be painted black by the chassis manufacturer. It shall remain the commercial grade finish as provided.

1.221. PUMP HOUSE

- 1.221.1. Pump house will be painted job color (NO EXCEPTIONS)

1.222. COMPARTMENT INTERIOR PAINT

- 1.222.1. The interior of all compartments shall be painted with a gray spatter type paint. NO EXCEPTIONS.

1.223. REFLECTIVE STRIPES

- 1.223.1. Three (3) reflective stripes shall be provided across the front of the vehicle and along the sides of the body. The reflective band shall consist of a 1.00" black stripe at the top with a 1.00" gap then a 4.00" black stripe with a 1.00" gap and a 1.00" black stripe on the bottom.

1.224. REFLECTIVE VINYL ON FRONT BUMPER

- 1.224.1. There shall be a reflective vinyl band provided across the front bumper.

1.225. REAR CHEVRON STRIPING

- 1.225.1. There shall be alternating chevron striping located on the rear-facing vertical surface of the apparatus. The rear surface, excluding the rear compartment door, shall be covered.
- 1.225.2. The colors shall be red and fluorescent yellow green diamond grade.
- 1.225.3. Each stripe shall be 6.00" in width.
- 1.225.4. This shall meet the requirements of the current edition of NFPA 1901, which states that 50% of the rear surface shall be covered with chevron striping.

1.226. CAB DOORS REFLECTIVE STRIPE

- 1.226.1. A white reflective stripe shall be provided on the interior of each cab door.
- 1.226.2. This stripe shall be a minimum of 96.00 square inches and shall meet the NFPA 1901 requirement.

1.227. CAB STRIPE

- 1.227.1. There shall be a genuine gold leaf stripe provided on the paint break on both sides of the cab.

1.228. LETTERING - 1

- 1.228.1. The lettering shall be totally encapsulated between two (2) layers of clear vinyl.

1.229. LETTERING - 2

- 1.229.1. Sixty-one (61) to eighty (80) printed effect gold leaf lettering, 3.00" high, with outline and shade shall be provided.



1.230. LETTERING - 3

- 1.230.1. One (1) to twenty (20) printed effect gold leaf lettering, 6.00" high, with outline and shade shall be provided.

1.231. LETTERING - 4

- 1.231.1. There shall be printed effect gold leaf lettering, 6.00" high, with outline and shade provided. There shall be two (2) letters provided.

1.232. LETTERING - 5

- 1.232.1. There shall be printed effect gold leaf lettering, 8.00" high, with outline and shade provided. There shall be three (3) letters provided.

1.233. LETTERING - 6

- 1.233.1. There shall be printed effect gold leaf lettering, 10.00" high, with outline and shade provided. There shall be four (4) letters provided.

1.234. EMBLEM/S

- 1.234.1. There shall be one (1) emblem/s, installed rear roll up door. Emblem/s shall be modeled after the department patch.

1.235. MANUAL, BODY PARTS ONLY

- 1.235.1. A custom parts manuals for the factory installed parts only shall be provided in USB flash drive format with the completed unit.
- 1.235.2. The manual shall contain the following:
- 1.235.2.1. Job number
 - 1.235.2.2. Part numbers with full descriptions
 - 1.235.2.3. Table of contents
 - 1.235.2.4. Parts section sorted in functional groups reflecting a major system, component, or assembly
 - 1.235.2.5. Parts section sorted in Alphabetical order
 - 1.235.2.6. Instructions on how to locate parts
- 1.235.3. The manual shall be specifically written for the body model being purchased. It shall not be a generic manual for a multitude of different bodies.

1.236. SERVICE PARTS INTERNET SITE

- 1.236.1. The service parts information included in this manual are also available on the factory website. The website offers additional functions and features not contained in this manual, such as digital photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.

1.237. MANUALS, SERVICE

- 1.237.1. A USB flash drive format service manual supplement containing parts and service information on factory installed components shall be provided with the completed unit.
- 1.237.2. The manual shall be specifically written for the unit being purchased. It shall not be a generic manual for a multitude of different units.

1.238. MANUAL, CHASSIS OPERATION



- 1.238.1. One (1) chassis operation (manufacturers standard) shall be provided with the completed unit.

1.239. ONE (1) YEAR MATERIAL AND WORKMANSHIP

- 1.239.1. Each new piece of apparatus shall be provided with a minimum one (1) year basic apparatus material and workmanship limited warranty. The warranty shall cover such portions of the apparatus built by the manufacturer as being free from defects in material and workmanship that would arise under normal use and service.

- 1.239.2. A copy of the warranty certificate shall be submitted with the bid package (no exceptions).

1.240. CHASSIS WARRANTY

- 1.240.1. The chassis manufacturer shall provide a three (3) year or 100,000 mile warranty.

1.241. PAINT WARRANTY

- 1.241.1. The commercial chassis manufacturer's paint warranty shall apply to the paint on the chassis only.

1.242. COMPARTMENT LIGHT WARRANTY

- 1.242.1. A ten (10) year material and workmanship limited warranty shall be provided for the 12 volt DC LED strip lights. The warranty shall cover the LED strip lights to be free from defects in material and workmanship that would arise under normal use.

- 1.242.2. A copy of the warranty certificate shall be submitted with the bid package (no exceptions).

1.243. TRANSMISSION WARRANTY

- 1.243.1. The transmission shall have a five (5) year/unlimited mileage warranty covering 100 percent parts and labor. The warranty to be provided by Allison Transmission and not apparatus builder.

1.244. WATER TANK WARRANTY

- 1.244.1. The UPF poly water tank shall be provided with a lifetime material and workmanship limited warranty.

- 1.244.2. A copy of the warranty certificate shall be submitted with the bid package (no exceptions).

1.245. TEN (10) YEAR STRUCTURAL INTEGRITY

- 1.245.1. Each new piece of apparatus shall be provided with a ten (10) year material and workmanship limited warranty on the apparatus body. The warranty shall cover such portions of the apparatus built by the manufacturer as being free from defects in material and workmanship that would arise under normal use and service.

- 1.245.2. A copy of the warranty certificate shall be submitted with the bid package (no exceptions).

1.246. ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY



1.246.1. A Gortite roll-up door limited warranty shall be provided. The mechanical components of the roll-up door shall be warranted against defects in material and workmanship for the lifetime of the vehicle. A six (6) year limited warranty shall be provided on painted and satin roll up doors.

1.246.2. A copy of the warranty certificate shall be submitted with the bid package.

1.247. PUMP WARRANTY

1.247.1. The Waterous pump shall be provided with a Seven (7) year material and workmanship limited warranty.

1.247.2. A copy of the warranty certificate shall be submitted with the bid package (no exceptions).

1.248. TEN (10) YEAR PUMP PLUMBING WARRANTY

1.248.1. The stainless steel plumbing components and ancillary brass fittings used in the construction of the water/foam plumbing system shall be warranted for a period of ten (10) years or 100,000 miles. This covers structural failures caused by defective design or workmanship, or perforation caused by corrosion, provided the apparatus is used in a normal and reasonable manner. This warranty is extended only to the original purchaser for a period of ten years from the date of delivery.

1.248.2. A copy of the warranty certificate shall be submitted with the bid package (no exceptions).

1.249. TEN (10) YEAR PRO-RATED PAINT AND CORROSION

1.249.1. Each new piece of apparatus shall be provided with a ten (10) year pro-rated paint and corrosion limited warranty on the apparatus body. The warranty shall cover painted exterior surfaces of the body to be free from blistering, peeling, corrosion, or any other adhesion defect caused by defective manufacturing methods or paint material selection that would arise under normal use and service.

1.249.2. A copy of the warranty certificate shall be submitted with the bid package (no exceptions).

1.250. THREE (3) YEAR MATERIAL AND WORKMANSHIP

1.250.1. The gold leaf lamination shall be provided with a three (3) year material and workmanship limited warranty. The warranty shall cover the gold leaf lamination as being free from defects in material and workmanship that would arise under normal use and service.

1.250.2. A copy of the warranty certificate shall be submitted with the bid package (no exceptions).

1.251. VEHICLE STABILITY CERTIFICATION

1.251.1. The fire apparatus manufacturer shall provide a certification stating the apparatus complies with NFPA 1901, current edition, section 4.13, Vehicle Stability. The certification shall be provided at the time of bid.

1.252. CAB INTEGRITY

1.252.1. The cab has been tested to and passed the following standards:

1.252.1.1. ECE Regulation No.29



1.252.1.2. SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks.

1.253. AMP DRAW REPORT

- 1.253.1. The bidder shall provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system.
- 1.253.2. The manufacturer of the apparatus shall provide the following:
 - 1.253.2.1. Documentation of the electrical system performance tests.
 - 1.253.2.2. A written load analysis, which shall include the following:
 - 1.253.2.2.1. The nameplate rating of the alternator.
 - 1.253.2.2.2. The alternator rating under the conditions specified per:
 - 1.253.2.2.2.1. Applicable NFPA 1901 or 1906 (Current Edition).
 - 1.253.2.2.3. The minimum continuous load of each component that is specified per:
 - 1.253.2.2.3.1. Applicable NFPA 1901 or 1906 (Current Edition).
 - 1.253.2.2.4. Additional loads that, when added to the minimum continuous load, determine the total connected load.
 - 1.253.2.2.5. Each individual intermittent load.
 - 1.253.2.3. All of the above listed items shall be provided by the bidder per the applicable NFPA 1901 or 1906 (Current Edition).

1.254. THIRD-PARTY WEEKLY PROGRESS REPORTS AND INSPECTIONS

- 1.254.1. The successful bidder shall also provide weekly photographic progress reports and in process inspection services, provided by an independent third party. These progress reports and in process inspection services shall begin once the apparatus starts the manufacturing and assembly process. The inspection service will NOT warranty any aspect of the apparatus' operability or design, but shall confirm that the options on the apparatus at final inspection reasonably comport to those in the specification. In addition, after the final inspection has been completed by the customer, the third party inspector shall also review all items noted in the inspection for completion prior to the apparatus leaving the manufacturing facility for delivery to the local service area for pre-delivery service. ANY BIDDER WHO DOES NOT COMPLY WITH THIS REQUIREMENT SHALL BE DEEMED NON-CONFORMING AND NOT CONSIDERED.

1.255. LOOSE EQUIPMENT

- 1.255.1. The following loose equipment is also to be quoted and included in the pricing. This list is per truck.



Item No.	Description	Unit	Quantity
KEY-DP17-800ARN-50 RED	HOSE BIG 10 DJ 1.75 X 50 RED	EACH	8
KEY-DP17-800ARN-50 BLU	HOSE BIG 10 DJ 1.75 X 50 BLUE	EACH	8
KEY-DP17-800ARN-50 ORA	HOSE BIG 10 DJ 1.75 X 50 ORANGE	EACH	8
ELK-04XD0051	CHIEF XD COMBO NOZZLE W/O PISTOL GRIP 150GPM @ 50PSI; RED	EACH	1
ELK-04XD0051	CHIEF XD COMBO NOZZLE W/O PISTOL GRIP 150GPM @ 50PSI; BLUE	EACH	1
ELK-04XD0051	CHIEF XD COMBO NOZZLE W/O PISTOL GRIP 150GPM @ 50PSI; ORANGE	EACH	1
KEY-DP25-800ARN-50 YEL	HOSE BIG 10 DJ 2.5 X 50 YELLOW	EACH	8
ELK-0034XD02	2.5 " XD PLAYPIPE	EACH	1
	ELK-02XD3031...SELECT-O-MATIC XD NOZZLE W/ PG	EACH	1
	75-325GPM @ SPECIFY PSI (75 OR 100)		
KEY-DP30-800ARN-50 R	HOSE BIG 10 3" X 50' COLOR NEEDED?	EACH	24
ELK-81270001	STINGER UPPER ONLY	EACH	1
ELK-8298P	THREADED ADAPTER TOP MNT 3	EACH	1
	** SPECIFY 3" FLANGE OR NPT AT TIME OF PURCHASE **		
ELK-ST-194	TIP QUAD STACKED	EACH	1
ELK-03476001	282-A STREAM SHAPER 2.5"FNHX2.5"MNH	EACH	1
CFY-EM5000SXX31	HONDA GENERATOR, 5000W, 11HP ELECTRIC START	EACH	1
SUP-V18-ES	SUPERVAC VALOR 18" 1HP PPV	EACH	1
EDW-600	MODEL 600 CORD REEL 15AMP 100FT	EACH	1
	100' CORD, 15AMP	FOOT	100
	PORTABLE CORD REEL LIGHT...NO BID		
STR-44315	VULCAN 180 W/VEHICLE MT SYSTEM	EACH	2
Item No.	Description	Unit	Quantity
RED-148-3	HYD WRENCH SET W/HOLDER (1) HYDRANT WRENCH (2) SPANNER WRENCHES	EACH	2
RED-362525	ADAPTER 2.5" DOUBLE MALE SPECIFY SIZE	EACH	2
RED-352525	ADAPTER 2.5" DOUBLE FEMALE SPECIFY SIZE	EACH	2
SFF-SH08	8LB SLEDGE HAMMER W/FG HANDLE	EACH	1
PER-1010	8# SLEDGE HGR.POCKET	EACH	1
PER-1004 B	TOOL HANDLE LOCK	EACH	1
	LNS-NOT32-B...NOTCHED PIG AXE 36" BLACK HANDLE	EACH	1
PER-1011	AX HANGER/POCKET	EACH	1
PER-1004 B	TOOL HANDLE LOCK	EACH	1
SFF-FHAF6LB	FLAT HEAD AX 6LB W/F/G HANDLE	EACH	1
PER-1011	AX HANGER/POCKET	EACH	1
PER-1004 B	TOOL HANDLE LOCK	EACH	1
SFF-PHAF6LB	PICK HEAD AX 6LB W/FG HANDLE	EACH	1
PER-1012	AX PICK HEAD HOLDER	EACH	1
PER-1004 B	TOOL HANDLE LOCK	EACH	1
LTH-LB-36	LEATHERHEAD HALLIGAN BAR, 36"	EACH	1
PER-K5032	HALLIGAN BRACKET	EACH	1
SFF-BC18	18" BOLT CUTTER	EACH	1
PER-K5029-1	BOLT CUTTER MOUNT KIT	EACH	1
SFF-PB36	PRY BAR 36"	EACH	1
SFF-PB51	PRY BAR 51"	EACH	1
SPK-CHR55Z01C	CROWBAR HOLDER SET	EACH	2
ELK-B-100A	BALL VLV WYE 2.5F X (2) 1.5M	EACH	1
ELK-X-86A	HYDRANT GATE VALVE	EACH	1
ELK-BG-104-A	WATER THIEF 2.5X1.5	EACH	1



	LTH-PLY-6AH-B...6' PIKE POLE W/ FG HANDLE	EACH	1
	LTH-PLY-8AH-B...8' PIKE POLE W/ FG HANDLE	EACH	1
AMX-240	EXTINGUISH 2.5G H2O	EACH	1
AMX-810	BRACKET TRUCK MNT 7-7.5	EACH	
	SALVAGE TUB...NO BID		1
SFF-LSS27D	SCOOP SHOVEL 27" W/D HDL	EACH	2
SFF-SQP48	SQUARE PT SHOVEL 48"	EACH	2
STE-32955DLX	BIG EASY, LOCK OUT KIT DELUXE	EACH	1
SRT-TNT-EBFCC-28-D	DUAL BATTERY M28 BRUTE FORCE COMBINATION TOOL	EACH	1
JGB-A007-1960-0010	6" X 10' COUPLED RL MALE X LH FEMALE HARD SUCTION	SECTION	2
KOC-BS60-P09	6" UNIVERSAL BARREL STRAINER SILVER	EACH	1
RED-M-60	MOUNT PLATE 6MOUNT PLATE 6	EACH	1
HEB-6HC	6 HOSE CLAMP	EACH	1
HEB-MNT	MOUNT BRKT FOR CLAMP	EACH	1
SFF-RMFG	RUBBER Mallet FG HANDLE 2LB	EACH	1
PER-1004 B	TOOL HANDLE LOCK	EACH	1
AMX-B460	PURPLE K 10LB	EACH	1
AMX-809	BRACKET	EACH	1

General Information:

- The County reserves the right to reject and or all bids or proposals, to waive technicalities, and to make a selection and final award as deemed to be in the best interest of the County.
- Provider selection will be based on the information contained in the bids, and incomplete or inaccurate information may result in disqualification of a proposal or a bidder.
- The Jones County Board of Commissioners reserves the right to amend or revise bid documents. It shall be the duty of each vendor to monitor the County's website (Vendor Registry) for any addenda that may be issued.
- The proposal submitted by each proposed service provider will be treated as best and final. There will be no opportunity to negotiate fees during the selection process.
- If you plan to use subcontractors to perform any of the work described above, please identify the subcontractors you plan to use and explain the role they would play in this project.
- The County does not guarantee the purchase of any/all equipment.
- The County reserves the right to terminate any contract for this equipment and/or services for any of the following reasons:



- a. If the equipment/service is not delivered/completed on an agreed-upon schedule.
- b. If the equipment/services delivered is not the same equipment/services bid.
- c. Receipt of substandard product/service.
- d. Poor workmanship.

DRUG FREE WORKPLACE CERTIFICATION

The signer of the Jones County Contract certifies that the provisions of code sections 50-24-1, through 50-24-6 of the Official Code of Georgia Annotated relating to the ** Drug Free Workplace Act ** have been complied with in full. The signer further certifies that:

- (1) A drug-free workplace will be provided for the contractor's employees during the performance of the contract: and
- (2) Each contractor who hires a subcontractor to work in a drug-free workplace shall secure from that subcontractor the following written certification:

Subcontractor certifies to the contractor that a drug-free workplace will be provided for the subcontractor's employees during the performance of this contract pursuant to paragraph (7) of subsection (b) of code section, 50-24-3. Also the signer further certifies that he will not engage in the unlawful manufacture, sale, distribution, dispensation, possession or use of a controlled substance or marijuana during the performance of the contract.



Proposal Submission Form

Checklist

- ☐ References attached
- ☐ Information about vendor's qualifications attached
- ☐ Detailed description of proposed fire engine attached
- ☐ Complies/Does Not Comply List Completed and Attached
- ☐ Detailed warranty information attached
- ☐ Bid Bond Included
- ☐ E-Verify Affidavit attached
- ☐ Application for Public Benefit attached

	Specification	Complies ?		Notes/Exceptions
		Yes	No	
1	MODEL YEAR			
2	CHASSIS			
3	MAXIMUM OVERALL LENGTH			
4	WHEELBASE			
5	GVW RATING			
6	FRAME			
7	FRONT AXLE			
8	FRONT SUSPENSION			
9	FRONT BRAKES			
10	TIRE BRAND			
11	TIRES, FRONT			
12	WHEELS, FRONT			
13	REAR AXLE			



	Specification	Complies ?		Notes/Exceptions
		Yes	No	
14	PARKING BRAKE			
15	REAR AXLE RATIO			
16	REAR SUSPENSION			
17	TIRES, REAR			
18	WHEELS, REAR			
19	TIRE PRESSURE MANAGEMENT			
20	FRONT HUB COVERS			
21	REAR HUB COVERS			
22	CHROME LUG NUT COVERS			
23	MUD FLAPS			
24	WHEEL CHOCKS			
25	WHEEL CHOCK BRACKETS			
26	ANTI-LOCK BRAKE SYSTEM			
27	AIR COMPRESSOR, BRAKE SYSTEM			
28	AIR DRYER			
29	AIR INLET			
30	ENGINE			
31	ENGINE ACCESSORIES			
32	RADIATOR			
33	HIGH IDLE			
34	ENGINE BRAKE			
35	AIR INTAKE, W/EMBER SEPARATOR			



	Specification	Complies ?		Notes/Exceptions
		Yes	No	
36	EXHAUST SYSTEM			
37	EXHAUST MODIFICATIONS			
38	COOLANT LINES			
39	FUEL TANK			
40	DIESEL EXHAUST FLUID TANK			
41	FUEL PRIMER PUMP			
42	AUXILIARY FUEL COOLING SYSTEM			
43	TRANSMISSION			
44	TRANSMISSION SHIFT CONTROL			
45	TRANSMISSION COOLER			
46	DRIVELINE			
47	STEERING			
48	BUMPER			
49	GRAVEL PAN			
50	CENTER HOSE TRAY			
51	TOW HOOKS			
52	CAB			
53	CAB GRILLE			
54	AIR INTAKE GRILLES			
55	MIRRORS			
56	CAB ACCESS STEPS			
57	COMPARTMENT, STORAGE			



	Specification	Complies ?		Notes/Exceptions
		Yes	No	
58	REEL COMPARTMENT			
59	STEP LIGHTS			
60	AIR CONDITIONING			
61	ENGINE COMPARTMENT LIGHTS			
62	STORAGE CONSOLE			
63	SEATING CAPACITY			
64	SEATING			
65	SEATING (CREW CAB)			
66	AIR BOTTLE HOLDERS			
67	SEAT BELT WEB LENGTH			
68	SEAT BELTS			
69	HELMET STORAGE PROVIDED BY FIRE DEPARTMENT			
70	PORTABLE HAND LIGHTS, PROVIDED BY FIRE DEPARTMENT			
71	CAB INSTRUMENTS			
72	EMERGENCY SWITCH PANEL			
73	"DO NOT MOVE APPARATUS" INDICATOR			
74	OPEN DOOR INDICATOR LIGHT			
75	WIPER CONTROL			
76	SPARE CIRCUIT 1			
77	SPARE CIRCUIT 2			
78	VEHICLE DATA RECORDER			
79	SEAT BELT MONITORING SYSTEM			



	Specification	Complies ?		Notes/Exceptions
		Yes	No	
80	RADIO ANTENNA MOUNT			
81	ELECTRICAL			
82	BATTERY SYSTEM			
83	BATTERY SYSTEM MODIFICATION			
84	MASTER BATTERY SWITCH			
85	BATTERY CHARGER			
86	AUTO EJECT FOR SHORELINE			
87	ALTERNATOR			
88	ELECTRONIC LOAD MANAGEMENT			
89	EXTERIOR LIGHTING			
90	INTERMEDIATE LIGHT			
91	REAR CLEARANCE/MARKER/ID LIGHTING			
92	REAR FMVSS LIGHTING			
93	LICENSE PLATE BRACKET			
94	LIGHTING BEZEL			
95	BACK-UP ALARM			
96	CAB PERIMETER SCENE LIGHTS			
97	PUMP HOUSE PERIMETER LIGHTS			
98	BODY PERIMETER SCENE LIGHTS			
99	STEP LIGHTS			
100	12 VOLT LIGHTING 1			
101	12 VOLT LIGHTING 2			



	Specification	Complies ?		Notes/Exceptions
		Yes	No	
102	12 VOLT LIGHTING 3			
103	HOSE BED LIGHTS			
104	REAR SCENE LIGHT(S)			
105	WALKING SURFACE LIGHT			
106	WATER TANK			
107	SLEEVE, PLUMBING, THROUGH TANK			
108	HOSE BED			
109	HOSE BED DIVIDER			
110	HOSE BED HOSE RESTRAINT			
111	RUNNING BOARDS			
112	TAILBOARD			
113	REAR WALL, SMOOTH ALUMINUM/BODY MATERIAL			
114	TOW BAR			
115	COMPARTMENTATION			
116	UNDERBODY SUPPORT SYSTEM (NO EXCEPTIONS)			
117	AGGRESSIVE WALKING SURFACE			
118	LOUVERS			
119	TESTING OF BODY DESIGN			
120	LEFT SIDE COMPARTMENTATION			
121	RIGHT SIDE COMPARTMENTATION			
122	SIDE COMPARTMENT ROLLUP DOOR(S)			
123	REAR COMPARTMENTATION			



	Specification	Complies ?		Notes/Exceptions
		Yes	No	
124	ROLLUP REAR COMPARTMENT DOOR			
125	COMPARTMENT LIGHTING			
126	MOUNTING TRACKS			
127	ADJUSTABLE SHELVES			
128	SLIDE-OUT FLOOR MOUNTED TRAY			
129	SWING OUT TOOLBOARD			
130	RUB RAIL			
131	BODY FENDER CROWNS			
132	BODY FENDER LINER			
133	HOSE TROUGHS			
134	HANDRAILS			
135	VERTICAL HANDRAILS			
136	HORIZONTAL HANDRAILS			
137	EXTINGUISHER/AIR BOTTLE/ STORAGE (TRIANGULAR)			
138	AIR BOTTLE COMPARTMENT STRAP			
139	AIR BOTTLE STORAGE (TRIPLE)			
140	AIR BOTTLE COMPARTMENT STRAP			
141	EXTENSION LADDER			
142	ROOF LADDER			
143	LADDER STORAGE			
144	FOLDING LADDER			
145	PIKE POLE PROVIDED BY FIRE DEPARTMENT			



	Specification	Complies ?		Notes/Exceptions
		Yes	No	
146	6' PIKE POLE PROVIDED BY FIRE DEPARTMENT			
147	PIKE POLE STORAGE			
148	STEPS			
149	REAR STEPS			
150	PUMP			
151	PUMP TRANSMISSION			
152	PUMPING MODE			
153	AIR PUMP SHIFT			
154	TRANSMISSION LOCK-UP			
155	AUXILIARY COOLING SYSTEM			
156	INTAKE RELIEF VALVE - PUMP			
157	PRESSURE CONTROLLER			
158	PRIMING PUMP			
159	PUMP MANUALS			
160	PUMP TEST			
161	PLUMBING, STAINLESS STEEL AND HOSE			
162	MAIN PUMP INLETS			
163	VALVES			
164	LEFT SIDE INLET			
165	RIGHT SIDE INLET			
166	INLET CONTROL			
167	INLET BLEEDER VALVE			



	Specification	Complies ?		Notes/Exceptions
		Yes	No	
168	TANK TO PUMP			
169	TANK REFILL			
170	LEFT SIDE DISCHARGE OUTLETS			
171	RIGHT SIDE DISCHARGE OUTLETS			
172	FRONT DISCHARGE OUTLET			
173	REAR DISCHARGE OUTLET			
174	FRONT OF HOSE BED DISCHARGE OUTLET			
175	DISCHARGE CAPS/ INLET PLUGS			
176	OUTLET BLEEDER VALVE			
177	LEFT SIDE OUTLET ELBOWS			
178	RIGHT SIDE OUTLET ELBOWS			
179	REAR OUTLET ELBOWS			
180	DISCHARGE OUTLET CONTROLS			
181	DELUGE RISER			
182	CROSSLAY HOSE BEDS			
183	CROSSLAY HOSE COVER			
184	BOOSTER HOSE REEL			
185	PUMP COMPARTMENT			
186	PUMP MOUNTING			
187	LEFT SIDE PUMP CONTROL PANELS			
188	IDENTIFICATION TAGS			
189	PUMP PANEL CONFIGURATION			



	Specification	Complies ?		Notes/Exceptions
		Yes	No	
190	PUMP AND GAUGE PANEL			
191	PUMP COMPARTMENT LIGHT			
192	THROTTLE READY GREEN INDICATOR LIGHT			
193	OK TO PUMP INDICATOR LIGHT			
194	AIR HORN BUTTON			
195	VACUUM AND PRESSURE GAUGES			
196	PRESSURE GAUGES			
197	WATER LEVEL GAUGE			
198	LIGHT SHIELD			
199	AIR HORN SYSTEM			
200	ELECTRONIC SIREN			
201	SPEAKER			
202	MECHANICAL SIREN, (AUXILIARY)			
203	FRONT ZONE UPPER WARNING LIGHTS			
204	FRONT ZONE LOWER LIGHTING			
205	FRONT WARNING LIGHT			
206	SIDE ZONE LOWER LIGHTING			
207	REAR ZONE LOWER LIGHTING			
208	REAR/SIDE ZONE UPPER WARNING LIGHTS			
209	ELECTRICAL SYSTEM GENERAL DESIGN FOR ALTERNATING CURRENT			
210	GENERATOR			
211	GENERATOR LOCATION			



	Specification	Complies ?		Notes/Exceptions
		Yes	No	
212	ELECTRIC START PROVISION			
213	LOAD CENTER AREA			
214	120 VOLT RECEPTACLE			
215	LOOSE EQUIPMENT			
216	PAINT PROCESS			
217	PAINT			
218	COMMERCIAL CHASSIS PAINT			
219	TWO-TONE CAB			
220	PAINT CHASSIS FRAME ASSEMBLY			
221	PUMP HOUSE			
222	COMPARTMENT INTERIOR PAINT			
223	REFLECTIVE STRIPES			
224	REFLECTIVE VINYL ON FRONT BUMPER			
225	REAR CHEVRON STRIPING			
226	CAB DOORS REFLECTIVE STRIPE			
227	CAB STRIPE			
228	LETTERING 1			
229	LETTERING 2			
230	LETTERING 3			
231	LETTERING 4			
232	LETTERING 5			
233	LETTERING 6			



	Specification	Complies ?		Notes/Exceptions
		Yes	No	
234	EMBLEM/S			
235	MANUAL, BODY PARTS ONLY			
236	SERVICE PARTS INTERNET SITE			
237	MANUALS, SERVICE			
238	MANUAL, CHASSIS OPERATION			
239	ONE (1) YEAR MATERIAL AND WORKMANSHIP			
240	CHASSIS WARRANTY			
241	PAINT WARRANTY			
242	COMPARTMENT LIGHT WARRANTY			
243	TRANSMISSION WARRANTY			
244	WATER TANK WARRANTY			
245	TEN (10) YEAR STRUCTURAL INTEGRITY			
246	ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY			
247	PUMP WARRANTY			
248	TEN (10) YEAR PUMP PLUMBING WARRANTY			
249	TEN (10) YEAR PRO-RATED PAINT AND CORROSION			
250	THREE (3) YEAR MATERIAL AND WORKMANSHIP			
251	VEHICLE STABILITY CERTIFICATION			
252	CAB INTEGRITY			
253	AMP DRAW REPORT			
254	THIRD-PARTY WEEKLY PROGRESS REPORTS AND INSPECTIONS			
255	LOOSE EQUIPMENT			



TOTAL AMOUNT PER VEHICLE: _____

TOTAL FOR 3 VEHICLES: \$ _____

Company: _____

Address: _____

Phone: _____ **Fax:** _____

Authorized Signature: _____



Receipt of Addenda

Number

Signature



References

Government/Company:

Contact Person:

Title:

Phone Number:

Project Description:

Date of Project:

Government/Company:

Contact Person:

Title:

Phone Number:

Project Description:

Date of Project:

Government/Company:

Contact Person:

Title:

Phone Number:

Project Description:

Date of Project:



Contractor Insurance Requirements

Contractor's Insurance Provisions: During the life of the contract and for such additional time as may be required, the contractor will provide, pay for, and maintain in full force and effect the insurance outlined here for coverages at not less than the prescribed minimum limits of liability, covering the contractor's activities, those of any and all subcontractors, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

Certificate of Insurance: Before starting work, the contractor will give the owner a certificate of insurance completed by a duly authorized representative of their insurer certifying that at least the minimum coverages required here are in effect and specifying that the liability coverages are written on an occurrence form and that the coverages will not be canceled, nonrenewed, or materially changed by endorsement or through issuance of other policy(ies) of insurance without 60 days advance written notice to:

Jones County Board of Commissioners
P. O. Box 1359
Gray, Ga. 31032

Failure of the owner to demand such certificate or other evidence of full compliance with these insurance requirements or failure of the owner to identify a deficiency from evidence provided will not be construed as a waiver of the contractor's obligation to maintain such insurance.

The acceptance of delivery by the owner of any certificate of insurance evidencing the required coverages and limits does not constitute approval or agreement by the owner that the insurance requirements have been met or that the insurance policies shown in the certificates of insurance are in compliance with the requirements.

If the contractor fails to maintain the insurance as set forth here, the owner will have the right, but not the obligation, to purchase said insurance at the contractor's expense. Alternately, the contractor's failure to maintain the required insurance may result in termination of this contract at owner's option.

Insurance Primary: All coverage required of the contractor will be primary over any insurance or self-insurance program carried by the owner.

No Reduction or Limit of Obligation: By requiring insurance, the owner does not represent that coverage and limits will necessarily be adequate to protect the contractor. Insurance affected or procured by the contractor will not reduce or limit the contractor's contractual obligation to indemnify and defend the owner for claims or suits which result from or are connected with the performance of this contract.



Duration of Coverage: All required coverage will be maintained without interruption during the entire term of this contract and following final acceptance of the property by the owner.

Subcontractor's Insurance: The contractor will cause each sub-contractor employed by contractor to purchase and maintain insurance of the types specified below. When requested by the owner, the contractor will furnish copies of certificates of insurance evidencing coverage for each subcontractor.

Insurance Limits and Coverage: To the extent applicable, the amounts and types of insurance will conform to the minimum terms, conditions, and coverages of Insurance Service Office (ISO) policies, forms, and endorsements.

If the contractor has any self-insured retentions, or deductible under any of the following minimum required coverages, the contractor must identify on the certificate of insurance the nature and amount of such self-insured retentions or deductible and provide satisfactory evidence of financial responsibility for such obligations. All self-insured retentions or deductible will be the contractor's sole responsibility.

Commercial General Liability: The contractor will maintain commercial general liability insurance covering all operations by or on behalf of the contractor on an occurrence basis against claims for personal injury (including bodily injury and death) and property damage (including loss of use). Such insurance will have these minimum limits and coverage:

Minimum limits: \$1,000,000 each occurrence
 \$2,000,000 general aggregate with dedicated limits per project site
 \$2,000,000 products and completed operations aggregate

Worker's Compensation: The contractor will maintain workers' compensation and employer's liability insurance.

Minimum limits: Workers' compensation – statutory limit
 Employer's liability:
 \$1,000,000 bodily injury for each accident
 \$1,000,000 bodily injury by disease for each employee
 \$1,000,000 bodily injury disease aggregate



Contractor Affidavit under O.C.G.A. § 13-10-91(b)(1)

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services on behalf of (Jones County) has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period and the undersigned contractor will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the information required by O.C.G.A. § 13-10-91(b). Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

Federal Work Authorization User Identification Number

Date of Authorization

Name of Contractor

Name of Project

Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, ___, 20___ in _____(city), _____(state).

Signature of Authorized Officer or Agent

Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE _____ DAY OF _____, 20___.

NOTARY PUBLIC

My Commission Expires:



Subcontractor Affidavit under O.C.G.A. § 13-10-91(b)(3)

By executing this affidavit, the undersigned subcontractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services under a contract with (name of contractor) on behalf of Jones County has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned subcontractor will continue to use the federal work authorization program throughout the contract period and the undersigned subcontractor will contract for the physical performance of services in satisfaction of such contract only with sub-subcontractors who present an affidavit to the subcontractor with the information required by O.C.G.A. § 13-10-91(b). Additionally, the undersigned subcontractor will forward notice of the receipt of an affidavit from a sub-subcontractor to the contractor within five business days of receipt. If the undersigned subcontractor receives notice that a sub-subcontractor has received an affidavit from any other contracted sub-subcontractor, the undersigned subcontractor must forward, within five business days of receipt, a copy of the notice to the contractor. Subcontractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

(THIS SHOULD BE 5 TO 6 NUMBERS)

Federal Work Authorization User Identification Number

Date of Authorization

Name of Subcontractor

Name of Project

Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, ___, 20___ in _____(city), _____(state).

Signature of Authorized Officer or Agent

Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE _____ DAY OF _____, 20___.

NOTARY PUBLIC

My Commission Expires:



**Affidavit Verifying Status
County Public Benefit Application
Jones County Board of Commissioners**

By executing this affidavit under oath, as an applicant for a Jones County Georgia Business Occupation Tax Certificate, Alcohol License, Taxi Permit or other public benefit as referenced in O.C.G.A. Section 50-36-1, I am stating the following with respect to my application for a Jones County Business Occupation Tax Certificate, Alcohol License, Taxi Permit or other public benefit for _____. [Name of natural person applying on behalf of individual, business, corporation, partnership, or other private entity]

1) _____ I am a United States citizen

OR

2) _____ I am a legal permanent resident 18 years of age or older or I am an otherwise qualified alien or non-immigrant under the Federal Immigration and Nationality Act 18 years of age or older and lawfully present in the United States.*

In making the above representation under oath, I understand that any person who knowingly and willfully makes a false, fictitious, or fraudulent statement or representation in an affidavit shall be guilty of a violation of Code Section 16-10-20 of the Official Code of Georgia.

Signature of Applicant:

Date

Printed Name:

SUBSCRIBED AND SWORN

BEFORE ME ON THIS THE

____ DAY OF _____, 20__

*

Alien Registration number for non-citizens

Notary Public _____

My Commission Expires: _____

***Note:** O.C.G.A. § 50-36-1(e)(2) requires that aliens under the federal Immigration and Nationality Act, Title 8 U.S.C., as amended, provide their alien registration number. Because legal permanent residents are included in the federal definition of "alien", legal permanent residents must also provide their alien registration number. Qualified aliens that do not have an alien registration number may supply another identifying number below:



OPTIONAL — FOR NON-BIDDERS ONLY

**JONES COUNTY BOARD OF COMMISSIONERS – PURCHASING DEPARTMENT
NO BID STATEMENT**

In an effort to make the procurement of goods and services for the County as competitive as possible, we are soliciting information from contractors and/or vendors who cannot bid. Your responsiveness and constructive comments will be appreciated. Completion of this form will assist us in evaluating factors which relate to the competitiveness of our bids. Please check any of the boxes below which may apply. Please explain any issues that you feel needs to be addressed.

- ☐ Specifications - Restrictive, too light", unclear, specialty item, geared toward one (1) brand or manufacturer only. *(Please explain in detail below).*
- ☐ Manufacturing - Unique item, production time for model has expired, etc.
- ☐ Bid Time - Insufficient time to properly respond to bid or proposal.
- ☐ Delivery Time - Specified delivery time cannot be met.
- ☐ Payment - Payment terms unacceptable. *(Please be specific)*
- ☐ Bonding - We are unable to meet bonding requirements.
- ☐ Insurance - We are unable to meet insurance requirements.
- ☐ Removal - Remove our firm from your bidders list for the particular commodity or service.
- ☐ Keep - Please keep our company on your bidders list for future reference.
- ☐ Project is: _____ / Too Large _____ / Too Small _____ / Site or Location is Too Distant
- ☐ Miscellaneous - Do not wish to bid, do not handle this type of item(s) or services, unable to compete, Contract clauses are unacceptable, etc. *(Please be specific)*
- ☐ Our company would only be interested in this project as a subcontractor or supplier.

VENDOR STATEMENT:

Bid Description: _____

Company Name: _____

Company Official Name: _____

Company Official Signature: _____

Telephone Number: _____

Email Address: _____

JONES COUNTY BOARD OF COMMISSIONERS – PURCHASING DEPARTMENT
(478) 986-6405 x 161
leslie.faulk@jonescountygga.org