

**Legal Notice**

TOWN OF BRANFORD  
REQUEST FOR BIDS

**BRANFORD FIRE DEPARTMENT**  
**CUSTOM RESCUE PUMPER**

The Town of Branford Fire Department is requesting bids for a Custom Rescue Pumper. Specifications may be obtained from the Finance Department, Branford Town Hall, 1019 Main Street, Branford, CT, on the Town's website at [www.branford-ct.gov](http://www.branford-ct.gov), or on the State of CT DAS website.

Bids are to be submitted in a sealed envelope marked "**CUSTOM RESCUE PUMPER**" to the Finance Department, Attention, Purchasing Clerk, 1019 Main Street, Branford, CT 06405 by **11:30 A.M. September 27, 2022**. Bids will be publicly opened immediately thereafter in the conference room located on the basement floor of Town Hall.

The Board of Selectmen or the majority reserves the right to select or reject any and/or all bids containing alternate proposals, to waive any informality in proposals and to reject any and/or all bids or accept such bid as shall, in their judgment, be in the best interest of the Town of Branford.

Tyechia Pettway  
Purchasing Clerk

		Bidder Complies	
		Yes	No
<p style="text-align: center;"><b><u>BRANFORD FIRE DEPARTMENT</u></b></p> <p style="text-align: center;"><b><u>CUSTOM RESCUE PUMPER</u></b></p> <p style="text-align: center;"><b><u>SEPTEMBER 8, 2022</u></b></p> <p>Sealed bids will be received by Branford Fire Department for the furnishing of all necessary labor, equipment and material for the Fire Apparatus and other equipment as outlined in the following specifications.</p> <p><b><u>INTENT OF SPECIFICATIONS</u></b></p> <p>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.</p> <p><b><u>INSTRUCTIONS TO BIDDERS</u></b></p> <p>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. <b>Omissions and variations shall result in immediate rejection of the bid.</b></p> <p>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 exception).</p> <p>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.</p> <p>Each bidder shall furnish satisfactory evidence of their ability to construct the apparatus specified.</p> <p>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 exception).</p>			

	Bidder Complies	
	Yes	No
<p>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. <b>An exception to this requirement shall not be acceptable.</b></p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p><b><u>EXCEPTIONS</u></b></p> <p>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.</p> <p>Bidders shall indicate in the "yes/no" column if their bid complies on each item (paragraph) specified.</p> <p>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.</p> <p>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</p>		

	Bidder Complies	
	Yes	No
<p>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". 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.</p> <p>Proposals that are found to have deviations without listing them or bids taking total exceptions to these advertised specifications will be rejected (no exception).</p> <p>Bids not including all exceptions is a material breach and shall result in the bid being immediately rejected (no exception).</p> <p><b><u>GENERAL DESIGN AND CONSTRUCTION</u></b></p> <p>The cab, chassis, pump module, and body are to be entirely designed, assembled and painted by the prime vehicle manufacturer, which minimizes third party involvement on engineering, design, service and warranty issues.</p> <p>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 welded cab assembly, the pump house module assembly, the chassis assembly, body and electrical system. Apparatus using any subcontracted cab, chassis, pump module, electrical system or body will not be acceptable.</p> <p>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.</p> <p>The bidder shall make accurate statements as to the apparatus weight and dimensions.</p> <p><b><u>QUALITY AND WORKMANSHIP</u></b></p> <p>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.</p>		

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	Yes	No
<p>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.</p> <p>To demonstrate the quality of the product and service, each bidder shall provide a list of at least ten (10) fire departments/municipalities in the region that have bought a second time from the representing dealer. <b>An exception to this requirement shall not be acceptable.</b></p> <p><b><u>DELIVERY</u></b></p> <p>Apparatus, to insure proper break in of all components while still under warranty, <b>shall be delivered under its own power</b> - rail or truck freight shall not be acceptable. A qualified delivery representative shall deliver the apparatus and remain for a sufficient length of time to instruct personnel in proper operation, care and maintenance of the equipment delivered.</p> <p><b><u>MANUALS AND SERVICE INFORMATION</u></b></p> <p>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 driver's compartment which specifies the quantity and type of fluid required including engine oil, engine coolant, transmission, pump transmission lubrication, pump primer and drive axle.</p> <p><b><u>SAFETY VIDEO</u></b></p> <p>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.</p> <p><b><u>PERFORMANCE TESTS AND REQUIREMENTS</u></b></p> <p>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:</p> <p>A) 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.</p>		

	Bidder Complies	
	Yes	No
<p>B) 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.</p> <p>C) 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.</p> <p>D) 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).</p> <p><b><u>FAILURE TO MEET TEST</u></b></p> <p>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.</p> <p><b><u>SERVICE AND WARRANTY SUPPORT (DEALERSHIP)</u></b></p> <p>TO INSURE FULL SERVICE AFTER DELIVERY, THE SELLING BIDDER/DEALERSHIP MUST BE CAPABLE OF PROVIDING SERVICE WHEN REQUIRED.</p> <p>The bidder/dealership shall show that the company is in position to render prompt service and to furnish replacement parts.</p> <p>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.</p> <p>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.</p>		

	Bidder Complies	
	Yes	No
<p><b><u>SERVICE AND WARRANTY SUPPORT (MANUFACTURER)</u></b></p> <p>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.</p> <p>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.</p> <p>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.</p> <p>The manufacturer must also maintain a 24 hour/ 7 day a week, toll free emergency hot line.</p> <p>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.</p> <p>The manufacturer must be capable of providing both in-house and on-site service for the apparatus.</p> <p>The manufacturer shall offer regional factory hands-on repair and maintenance training classes.</p> <p>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.</p> <p><b><u>LIABILITY</u></b></p> <p>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.</p>		

	Bidder Complies	
	Yes	No
<p><b><u>INSURANCE PROVIDED BY BIDDER</u></b></p> <p><b><u>COMMERCIAL GENERAL LIABILITY INSURANCE</u></b></p> <p>The successful bidder shall, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of commercial general liability insurance:</p> <p>Each Occurrence\$1,000,000</p> <p>Products/Completed Operations Aggregate\$1,000,000</p> <p>Personal and Advertising Injury\$1,000,000</p> <p>General Aggregate\$2,000,000</p> <p>Coverage shall be written on a Commercial General Liability form. The policy shall be written on an occurrence form and shall include Contractual Liability coverage for bodily injury and property damage subject to the terms and conditions of the policy. The policy shall include Owner as an additional insured when required by written contract.</p> <p><b><u>COMMERCIAL AUTOMOBILE LIABILITY INSURANCE</u></b></p> <p>The successful bidder shall, during the performance of the contract, keep in force at least the following minimum limits of commercial automobile liability insurance and coverage shall be written on a Commercial Automobile liability form:</p> <p>Each Accident Combined Single Limit: \$1,000,000</p> <p><b><u>UMBRELLA/EXCESS LIABILITY INSURANCE</u></b></p> <p>The successful bidder shall, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of umbrella liability insurance:</p> <p>Aggregate: \$3,000,000</p> <p>Each Occurrence: \$3,000,000</p> <p>The umbrella policy shall be written on an occurrence basis and at a minimum provide excess to the bidder's General Liability and Automobile Liability policies.</p> <p>The required limits can be provided by one (1) or more policies provided all other insurance requirements are met.</p> <p>Coverage shall be provided by a carrier(s) rated A- or better by A.M. Best.</p>		



	Bidder Complies	
	Yes	No
<p>All policies shall provide a 30-day notice of cancellation to the named insured. The Certificate of Insurance shall provide the following cancellation clause: Should any of the above described policies be cancelled before the expiration date thereof, notice shall be delivered in accordance with the policy provisions.</p> <p>Bidder agrees to furnish owner with a current Certificate of Insurance with the coverages listed above along with the bid. The certificate shall show the purchaser as certificate holder.</p> <p><b><u>INSURANCE PROVIDED BY MANUFACTURER</u></b></p> <p><b><u>PRODUCT LIABILITY INSURANCE</u></b></p> <p>The manufacturer shall, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of Product Liability insurance:</p> <p>Each Occurrence\$1,000,000</p> <p>Products/Completed Operations Aggregate\$1,000,000</p> <p>Coverage shall be written on a Commercial General Liability form. The policy shall be written on an occurrence form. The manufacturer's policy shall include the owner as additional insured when required by written contract between the Owner and a Pierce authorized dealer.</p> <p><b><u>UMBRELLA/EXCESS LIABILITY INSURANCE</u></b></p> <p>The manufacturer shall, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of umbrella liability insurance:</p> <p>Each Occurrence: \$25,000,000</p> <p>Aggregate: \$25,000,000</p> <p>The umbrella policy shall be written on an occurrence basis and provide excess to the manufacturer's General Liability/Products policies.</p> <p>The required limits can be provided by one (1) or more policies provided all other insurance requirements are met.</p> <p>Coverage shall be provided by a carrier(s) rated A- or better by A.M. Best.</p>		

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	Yes	No
<p>All policies shall provide a 30-day notice of cancellation to the named insured. The Certificate of Insurance shall provide the following cancellation clause: Should any of the above described policies be cancelled before the expiration date thereof, notice shall be delivered in accordance with the policy provisions.</p> <p>Manufacturer agrees to furnish owner with a current Certificate of Insurance with the coverages listed above along with the bid. The certificate shall show the purchaser as the certificate holder.</p> <p><b><u>SINGLE SOURCE MANUFACTURER</u></b></p> <p>Bids shall only be accepted from a single source apparatus manufacturer. The definition of single source is a manufacturer that designs and manufactures their products using an integrated approach, including the chassis, cab weldment, cab, pump house (including the sheet metal enclosure, valve controls, piping and operators panel) and body being designed, fabricated and assembled on the bidder's premises. The electrical system (hardwire or multiplex) shall be both designed and integrated by the same apparatus manufacturer. The warranties relative to these major components (excluding component warranties such as engine, transmission, axles, pump, etc.) must be from a single source manufacturer and not split between manufacturers (i.e. body, pump house, cab weldment and chassis). The bidder shall provide evidence that they comply with this requirement.</p> <p>The bidder shall state the location of the factory where the apparatus is to be built.</p> <p><b><u>NFPA 2016 STANDARDS</u></b></p> <p>This unit shall comply with the NFPA standards effective January 1, 2016, except for fire department directed exceptions. These exceptions shall be set forth in the Statement of Exceptions.</p> <p>Certification of slip resistance of all stepping, standing and walking surfaces shall be supplied with delivery of the apparatus.</p> <p>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.</p> <p>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.</p>		

	Bidder Complies	
	Yes	No
<p>The manufacturer shall have programs in place for training, proficiency testing and performance for any staff involved with certifications.</p> <p>An official of the company shall designate, in writing, who is qualified to witness and certify test results.</p> <p><b><u>NFPA COMPLIANCY</u></b></p> <p>Apparatus proposed by the bidder shall meet the applicable requirements of the National Fire Protection Association (NFPA) as stated in 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".</p> <p><b><u>PUMP TEST</u></b></p> <p>The pump shall be tested, approved, and certified at the manufacturer's expense. The test results and 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.</p> <p><b><u>VEHICLE INSPECTION PROGRAM CERTIFICATION</u></b></p> <p>To assure the vehicle is built to current NFPA 1901 standards, the apparatus, in its entirety, shall be third-party, independent, audit-certified through Underwriters Laboratory (UL) that it is built and complies to all applicable standards in the current edition. The certification includes: all design, production, operational, and performance testing of not only the apparatus, but those components that are installed on the apparatus (no exception).</p> <p>A placard shall be affixed in the driver's side area stating the third party agency, the date, the standard and the certificate number of the whole vehicle audit.</p> <p><b><u>INSPECTION TRIP(S)</u></b></p> <p>The bidder shall provide one (1) factory inspection trip(s) for Three BFD members. The inspection trip(s) shall be scheduled at times mutually agreed upon between the manufacturer's representative and the customer. All costs such as travel, lodging and meals shall be the responsibility of the bidder.</p> <p><b><u>BID BOND</u></b></p> <p>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</p>		

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	Yes	No
<p>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.</p> <p>Proposals received from bidders who do not manufacture the chassis shall provide a warranty that shall be issued jointly and severally by, and signed by, both the bidder and the chassis manufacturer.</p> <p>If the successful bidder does not manufacture the chassis, the bidder shall supply a warranty bond, in addition to their performance bond, along with their signed contract. This warranty bond shall guarantee all terms and conditions of the Basic One (1) Year Limited Warranty and names both the bidder and chassis manufacturer as co-principals. This warranty bond shall be issued for the contract amount and shall remain in force for a term which is consistent with the term of the Basic One (1) Year Limited Warranty.</p> <p>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.</p> <p><b><u>PERFORMANCE BOND</u></b></p> <p>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.</p> <p><b><u>APPROVAL DRAWING</u></b></p> <p>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.</p> <p>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.</p>		

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	Yes	No
<p><b><u>DRAWING, CAB TOP VIEW</u></b></p> <p>On the sales drawing a top view of the cab seating shall be provided. The top view shall be a reference only of the seating in the order.</p> <p><b><u>ELECTRICAL WIRING DIAGRAMS</u></b></p> <p>Two (2) electrical wiring diagrams, prepared for the model of chassis and body, shall be provided.</p> <p><b><u>CHASSIS</u></b></p> <p>The chassis provided shall be a new, tilt-type custom fire apparatus. The chassis shall be manufactured in the apparatus body builder's facility, eliminating any split responsibility. The chassis shall be designed and manufactured for heavy-duty service, with adequate strength and capacity for the intended load to be sustained and the type of service required.</p> <p><b><u>MAXIMUM OVERALL HEIGHT</u></b></p> <p>The maximum overall height of the apparatus shall be 9' 8" Max.</p> <p><b><u>WHEELBASE</u></b></p> <p>The wheelbase of the vehicle shall be no greater than 190.00".</p> <p><b><u>GVW RATING</u></b></p> <p>The gross vehicle weight rating shall be a minimum of 46,500.</p> <p><b><u>FRAME</u></b></p> <p>The chassis frame shall be built with two (2) steel channels bolted to five (5) cross members or more, depending on other options of the apparatus.</p> <p>The side rails shall have a 13.38" tall web over the front and mid sections of the chassis, with a continuous smooth taper to 10.75" over the rear axle.</p> <p>Each rail shall have a section modulus of 25.992 cubic inches and a resisting bending moment (rbm) of 3,119,040 in-lb. over the critical regions of the frame assembly, with a section modulus of 18.96 cubic inches with an rbm of 2,275,200 in-lb. over the rear axle.</p> <p>The frame rails shall be constructed of 120,000 psi yield strength heat-treated 0.38" thick steel with 3.50" wide flanges.</p> <p><b><u>FRONT NON DRIVE AXLE</u></b></p> <p>The front axle shall be of the independent suspension design with a ground rating of 19,500 lb.</p> <p>The axle shall have a turning angle of up to 45 degrees.</p>		

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	Yes	No
<p><b><u>FRONT SUSPENSION</u></b></p> <p>A front independent suspension shall be provided with a minimum ground rating of 19,500 lb.</p> <p><b><u>FRONT SHOCK ABSORBERS</u></b></p> <p>Heavy-duty telescoping shock absorbers shall be provided on the front suspension.</p> <p><b><u>FRONT OIL SEALS</u></b></p> <p>Oil seals with viewing window shall be provided on the front axle.</p> <p><b><u>FRONT TIRES</u></b></p> <p>Front tires shall be Michelin XZY3 425/65R22.50 radials, 20 ply all-position tread, rated for 22,800 lb. maximum axle load and 65 mph maximum speed.</p> <p>The tires shall be mounted on 22.50" x 12.25" steel disc type wheels with a ten (10) stud, 11.25" bolt circle.</p> <p><b><u>REAR AXLE MERITOR RS26-185</u></b></p> <p>The rear axle shall have a capacity of 27,000 lb.</p> <p><b><u>TOP SPEED OF VEHICLE</u></b></p> <p>A rear axle ratio shall be furnished to allow the vehicle to reach a top speed of 65 MPH.</p> <p><b><u>REAR SUSPENSION</u></b></p> <p>The rear suspension shall be semi-elliptical, 3.00" wide x 53.00" long, 12-leaf pack with a ground rating of 27,000 lb. The spring hangers shall be castings.</p> <p>The two (2) top leaves shall wrap the forward spring hanger pin, and the rear of the spring shall be a slipper style end that shall ride in a rear slipper hanger. To reduce bending stress due to acceleration and braking, the front eye shall be a berlin eye that shall place the front spring pin in the horizontal plane within the main leaf.</p> <p>A steel encased rubber bushing shall be used in the spring eye. The steel encased rubber bushing shall be maintenance free and require no lubrication.</p> <p><b><u>REAR OIL SEALS</u></b></p> <p>Oil seals shall be provided on the rear axle(s).</p> <p><b><u>REAR AXLE DRAIN PLUG</u></b></p> <p>The rear axle drain plug shall be magnetic.</p> <p><b><u>REAR DIFFERENTIAL VENT</u></b></p> <p>Rear differential vent shall be remote mounted between the frame rails, directly below the water tank.</p>		

	Bidder Complies	
	Yes	No
<p><b><u>REAR TIRES</u></b></p> <p>Rear tires shall be four (4) Michelin XDS 12R22.50 radials, 16 ply directional mud and snow tread, rated for 27,120 lb. maximum axle load and 65 mph maximum speed.</p> <p>The tires shall be mounted on 22.50" x 9.00" steel disc type wheels with a ten (10) stud, 11.25" bolt circle.</p> <p><b><u>TIRE BALANCE</u></b></p> <p>All tires shall be balanced with Counteract balancing beads. The beads shall be inserted into the tire and eliminate the need for wheel weights.</p> <p><b><u>TIRE PRESSURE MANAGEMENT</u></b></p> <p>There shall be a LED 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.</p> <p>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.</p> <p>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.</p> <p><b><u>CHROME LUG NUT COVERS</u></b></p> <p>Chrome lug nut covers shall be supplied on front and rear wheels.</p> <p><b><u>MUD FLAPS</u></b></p> <p>Mud flaps shall be installed behind the front and rear wheels of the apparatus.</p> <p><b><u>WHEEL CHOCKS</u></b></p> <p>There shall be one (1) pair of folding aluminum alloy wheel blocks, with easy-grip handle provided.</p> <p><b><u>Wheel Chock Brackets</u></b></p> <p>There shall be one (1) pair of horizontal mounting wheel chock brackets provided for the folding wheel chocks. The brackets shall be made of aluminum and consist of a quick release spring loaded rod to hold the wheel chocks in place. The brackets shall be mounted one (1) forward and one (1) rearward of the left side rear tire.</p> <p><b><u>ANTI-LOCK BRAKE SYSTEM</u></b></p> <p>The vehicle shall be equipped with an anti-lock braking system. The ABS shall provide a 4-channel anti-lock braking control on both the front and rear wheels. A digitally controlled</p>		

	Bidder Complies	
	Yes	No
<p>system that utilizes microprocessor technology shall control the anti-lock braking system. Each wheel shall be monitored by the system. When any particular wheel begins to lockup, a signal to be sent to the control unit. This control unit shall then 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.</p> <p><b><u>BRAKES</u></b></p> <p>The service brake system shall be full air type. The front brakes shall be 17.00" disc type.</p> <p>The rear brakes shall be 16.50" x 7.00" cam operated with automatic slack adjusters. Dust shields shall be provided.</p> <p><b><u>BRAKE SYSTEM AIR COMPRESSOR</u></b></p> <p>The air compressor shall have 18.7 cubic feet per minute output.</p> <p><b><u>BRAKE SYSTEM</u></b></p> <p>The brake system shall include:</p> <ul style="list-style-type: none"> <li>• Dual brake treadle valve</li> <li>• Heated automatic moisture ejector on air dryer</li> <li>• Total air system capacity of 4,362 cubic inches</li> <li>• Two (2) air pressure gauges with a red warning light and an audible alarm, that activates when air pressure falls below 60 psi</li> <li>• Spring set parking brake system</li> <li>• Parking brake operated by a push-pull style control valve</li> <li>• A parking "brake on" indicator light on instrument panel</li> <li>• Park brake relay/inversion and anti-compounding valve, in conjunction with a double check valve system, with an automatic spring brake application at 40 psi</li> <li>• A pressure protection valve to prevent all air operated accessories from drawing air from the air system when the system pressure drops below 80 psi (550 kPa)</li> <li>• 1/4 turn drain valve on each air tank</li> </ul> <p>The air tank shall be primed and painted to meet a minimum 750 hour salt spray test.</p> <p>To reduce the effects of corrosion, the air tank shall be mounted with stainless steel brackets (no exception).</p>		



		Bidder Complies																			
		Yes	No																		
<p><b><u>BRAKE SYSTEM AIR DRYER WABCO SYSTEM SAVER 1200</u></b></p> <p>The air dryer shall be properly sized for the brake system with spin-on coalescing filter cartridge and 100 watt heater.</p> <p><b><u>BRAKE LINES</u></b></p> <p>Color-coded nylon brake lines shall be provided. The lines shall be wrapped in a heat protective loom where necessary in the chassis.</p> <p><b><u>AIR INLET</u></b></p> <p>One (1) air inlet with 3D series 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 forward in the driver side lower step well of cab. 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 fitting shall also be provided with the loose equipment.</p> <p><b><u>ENGINE</u></b></p> <p>The chassis shall be powered by a Cummins electronically controlled engine as described below:</p> <table><tr><td>Power:</td><td>450 hp at 2100 rpm</td></tr><tr><td>Torque:</td><td>1250 lb-ft at 1400 rpm</td></tr><tr><td>Governed Speed:</td><td>2200 rpm</td></tr><tr><td>Emissions Level:</td><td>EPA 2021</td></tr><tr><td>Fuel:</td><td>Diesel</td></tr><tr><td>Cylinders:</td><td>Six (6)</td></tr><tr><td>Displacement:</td><td>543 cubic inches (8.9L)</td></tr><tr><td>Starter:</td><td>Heavy duty</td></tr><tr><td>Fuel Filters:</td><td>Spin-on style primary filter with water separator and water-in-fuel sensor. Secondary spin-on style filter.</td></tr></table> <p>The engine shall include On-board diagnostics (OBD), which provides self diagnostic and reporting. The system shall give the owner or repair technician access to state of health information for various vehicle sub systems. The system shall monitor vehicle systems, engine and after treatment. The system shall illuminate a malfunction indicator light on the dash console if a problem is detected.</p>				Power:	450 hp at 2100 rpm	Torque:	1250 lb-ft at 1400 rpm	Governed Speed:	2200 rpm	Emissions Level:	EPA 2021	Fuel:	Diesel	Cylinders:	Six (6)	Displacement:	543 cubic inches (8.9L)	Starter:	Heavy duty	Fuel Filters:	Spin-on style primary filter with water separator and water-in-fuel sensor. Secondary spin-on style filter.
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	Bidder Complies	
	Yes	No
<p><b><u>HIGH IDLE</u></b></p> <p>A high idle switch shall be provided, inside the cab, on the instrument panel, that shall automatically maintain a preset engine rpm. A switch shall be installed, at the cab instrument panel, for activation/deactivation.</p> <p>The high idle 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 illuminate when the above conditions are met. The light shall be labeled "OK to Engage High Idle."</p> <p><b><u>ENGINE BRAKE</u></b></p> <p>A Jacobs compression engine brake is to be installed with the controls located on the instrument panel within easy reach of the driver.</p> <p>The driver shall be able to turn the engine brake system on/off and have a high, medium and low setting.</p> <p>The engine brake shall activate when the system is on and the throttle is released.</p> <p>The high setting of the brake application shall activate and work simultaneously with the variable geometry turbo (VGT) provided on the engine.</p> <p>The engine brake shall be installed in such a manner that when the engine brake is slowing the vehicle the brake lights are activated.</p> <p>The ABS system shall automatically disengage the auxiliary braking device, when required.</p> <p><b><u>CLUTCH FAN</u></b></p> <p>A Horton Drive Master fan clutch shall be provided. The fan clutch shall be automatic when the pump transmission is in "Road" position, and fully engaged in "Pump" position.</p> <p><b><u>ENGINE AIR INTAKE</u></b></p> <p>An air intake with an ember separator (to prevent road dirt, burning embers, and recirculating hot air from entering the engine) shall be mounted at the front of the apparatus, on the passenger side of the engine.</p> <p>The ember separator shall be mounted in the air intake with flame retardant, roto-molded polyethylene housing. It shall be easily accessible by the hinged access panel at the front of the vehicle.</p>		

	Bidder Complies	
	Yes	No
<p><b><u>EXHAUST SYSTEM</u></b></p> <p>The exhaust system shall be stainless steel from the turbo to the engine's aftertreatment device, and shall be 4.00" in diameter. The exhaust system shall include a single module aftertreatment device to meet current EPA standards. An insulation wrap shall be provided on all exhaust pipes between the turbo and aftertreatment device to minimize the heat loss to the aftertreatment device. The exhaust shall terminate horizontally ahead of the right side rear wheels. A tailpipe diffuser shall be provided to reduce the temperature of the exhaust as it exits. Heat deflector shields shall be provided to isolate chassis and body components from the heat of the tailpipe diffuser.</p> <p><b><u>RADIATOR</u></b></p> <p>The radiator and the complete cooling system shall meet or exceed NFPA and engine manufacturer cooling system standards.</p> <p>For maximum corrosion resistance and cooling performance, the entire radiator core shall be constructed using long life aluminum alloy. The core shall be made of aluminum fins, having a serpentine design, brazed to aluminum tubes. The tubes shall be brazed to aluminum headers. No solder joints or leaded material of any kind shall be acceptable in the core assembly. The radiator core shall have a minimum frontal area of 1434 square inches. Supply tank made of glass-reinforced nylon and a return tank of cast aluminum alloy shall be crimped on to the core assembly using header tabs and a compression gasket to complete the radiator core assembly. The radiator shall be compatible with commercial antifreeze solutions.</p> <p>There shall be a full steel frame around the entire radiator core assembly. The radiator core assembly shall be isolated within the steel frame by rubber inserts to enhance cooling system durability and reliability. The radiator shall be mounted in such a manner as to prevent the development of leaks caused by twisting or straining when the apparatus operates over uneven ground. The radiator assembly shall be isolated from the chassis frame rails with rubber isolators.</p> <p>The radiator assembly shall include an integral de-aeration tank permanently mounted to the top of the radiator framework, with a readily accessible remote-mounted overflow tank. For visual coolant level inspection, the radiator shall have a built-in sight glass. The radiator shall be equipped with a 15 psi pressure relief cap.</p> <p>A drain port shall be located at the lowest point of the cooling system and/or the bottom of the radiator to permit complete flushing of the coolant from the system.</p>		

	Bidder Complies	
	Yes	No
<p>A heavy-duty fan shall draw in fresh, cool air through the radiator. Shields or baffles shall be provided to prevent recirculation of hot air to the inlet side of the radiator.</p> <p><b><u>COOLANT LINES</u></b></p> <p>Rubber hose shall be used for all engine coolant lines installed by the chassis manufacturer.</p> <p>Hose clamps shall be stainless steel "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.</p> <p><b><u>FUEL TANK</u></b></p> <p>A 65 gallon fuel tank shall be provided and mounted at rear of chassis. The tank shall be constructed of <b>stainless steel</b>. It shall be equipped with swash partitions and a vent. The exterior of the tank shall be unpainted. To reduce the effects of corrosion, the fuel tank shall be mounted with stainless steel straps. (No exception)</p> <p>A .75" drain plug shall be provided in a low point of the tank for drainage.</p> <p>A fill inlet shall be located on the left hand side of the body and be covered with a hinged, spring loaded, stainless steel door that is marked "Ultra Low Sulfur - Diesel Fuel Only".</p> <p>A .50" diameter vent shall be provided running from top of tank to just below fuel fill inlet.</p> <p>The tank shall meet all FHWA 393.67 requirements, including a fill capacity of 95 percent of tank volume.</p> <p>All fuel lines shall be provided as recommended by the engine manufacturer.</p> <p><b><u>DIESEL EXHAUST FLUID TANK</u></b></p> <p>A 4.5 gallon diesel exhaust fluid (DEF) tank shall be provided and mounted in the driver's side body rearward of the rear axle.</p> <p>A 0.50" drain plug shall be provided in a low point of the tank for drainage.</p> <p>A fill inlet shall be provided and marked "Diesel Exhaust Fluid Only". The fill inlet shall be located adjacent to the engine fuel inlet behind a common hinged, spring loaded, polished stainless steel door on the driver side of the vehicle.</p> <p>The tank shall meet the engine manufacturer's requirement for 10 percent expansion space in the event of tank freezing.</p> <p>The tank shall include an integrated heater unit that utilizes engine coolant to thaw the DEF in the event of freezing.</p>		

		Bidder Complies													
		Yes	No												
<p><b><u>FUEL PRIMING PUMP</u></b></p> <p>An automatic electronic fuel priming pump shall be integrated as part of the engine.</p> <p><b><u>FUEL SHUTOFF</u></b></p> <p>A fuel line shutoff valve shall be installed on both the inlet and outlet of the primary fuel filter.</p> <p><b><u>TRANSMISSION ALLISON 6<sup>TH</sup> GEN 3000 EVS P</u></b></p> <p>An electronic torque converting automatic transmission shall be provided.</p> <p>The transmission shall be equipped with prognostics to monitor oil life, filter life, and transmission health. A wrench icon on the shift selector's digital display shall indicate when service is due.</p> <p>Two (2) PTO openings shall be located on both sides of converter housing (positions 4 o'clock and 8 o'clock) as viewed from the rear.</p> <p>A transmission temperature gauge with amber light and audible alarm shall be installed on the cab dash.</p> <p><b><u>TRANSMISSION SHIFTER</u></b></p> <p>A five (5)-speed push button shift module shall be mounted to right of driver on console. Shift position indicator shall be indirectly lit for after dark operation.</p> <p>The transmission ratio shall be:</p> <table><tr><td>1st</td><td>3.49 to 1.00</td></tr><tr><td>2nd</td><td>1.86 to 1.00</td></tr><tr><td>3rd</td><td>1.41 to 1.00</td></tr><tr><td>4th</td><td>1.00 to 1.00</td></tr><tr><td>5th</td><td>0.75 to 1.00</td></tr><tr><td>R</td><td>5.03 to 1.00</td></tr></table> <p><b><u>TRANSMISSION PROGRAMMING</u></b></p> <p>The transmission shall be programmed to automatically shift the transmission to neutral when the parking brake is set to simplify operation and increase operational safety (no exception).</p> <p><b><u>TRANSMISSION COOLER</u></b></p> <p>A plate and fin transmission oil cooler shall be provided using engine coolant to control the transmission oil temperature.</p>		1st	3.49 to 1.00	2nd	1.86 to 1.00	3rd	1.41 to 1.00	4th	1.00 to 1.00	5th	0.75 to 1.00	R	5.03 to 1.00		
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	Bidder Complies	
	Yes	No
<p><b><u>DOWNSHIFT MODE (W/ENGINE BRAKE)</u></b></p> <p>The transmission shall be provided with an aggressive downshift mode.</p> <p>This shall provide earlier transmission downshifts to 2nd gear, resulting in improved engine braking performance.</p> <p><b><u>TRANSMISSION FLUID</u></b></p> <p>The transmission shall be provided with approved TES-668 heavy duty synthetic transmission fluid.</p> <p><b><u>DRIVELINE SPICER 1710</u></b></p> <p>Drivelines shall be a heavy-duty metal tube and be equipped with universal joints.</p> <p>The shafts shall be dynamically balanced before installation.</p> <p>A splined slip joint shall be provided in each driveshaft where the driveline design requires it.</p> <p><b><u>STEERING</u></b></p> <p>Dual Shepard M 110 steering gears, with integral heavy-duty power steering, shall be provided. For reduced system temperatures, the power steering shall incorporate an air to oil cooler and a hydraulic pump with integral pressure and flow control. All power steering lines shall have wire braded lines with crimped fittings.</p> <p>A tilt and telescopic steering column shall be provided to improve fit for a broader range of driver configurations.</p> <p><b><u>STEERING WHEEL</u></b></p> <p>The steering wheel shall be 18.00" in diameter, have tilting and telescoping capabilities, and a 4-spoke design.</p> <p><b><u>LOGO AND CUSTOMER DESIGNATION ON DASH</u></b></p> <p>The dash panel shall have an emblem containing the fire apparatus manufacturer's logo and customer name. The emblem shall have three (3) rows of text for the customer's department name. There shall be a maximum of eight (8) characters in the first row, 11 characters in the second row and 11 characters in the third row.</p> <p>The first row of text shall be: Branford</p> <p>The second row of text shall be: Fire</p> <p>The third row of text shall be: Department</p>		

	Bidder Complies	
	Yes	No
<p><b><u>BUMPER</u></b></p> <p>A one (1) piece bumper manufactured from 0.25" formed steel with a 0.38" bend radius shall be provided. The bumper shall be a minimum of 10.00" high with a 1.50" top and bottom flange, and shall extend 19.00 " from the face of the cab. The bumper shall be 102.00" wide with 45 degree corners and side plates.</p> <p>To provide adequate support strength, the bumper shall be mounted directly to the front of the C channel frame. The frame shall be a bolted modular extension frame constructed of 50,000 psi tensile steel.</p> <p><b><u>Gravel Pan</u></b></p> <p>A gravel pan, constructed of bright aluminum treadplate, shall be furnished between the bumper and the cab face. The pan shall be properly supported from the underside to prevent flexing and vibration.</p> <p><b><u>CENTER HOSE TRAY</u></b></p> <p>A hose tray, constructed of aluminum, shall be placed in the center of the bumper extension.</p> <p>The tray shall have a capacity of 150' of 1.75" double jacket cotton-polyester hose.</p> <p>Black rubber grating shall be provided at the bottom of the tray. Drain holes are also provided.</p> <p><b><u>Center Hose Tray Restraint</u></b></p> <p>There shall be one (1) pair of hose tray restraint straps located over the center mounted tray.</p> <p>The restraints shall be a pair of 2.00" wide black nylon straps with hook and loop fasteners provided. The strap(s) shall be used to secure the hose in the tray.</p> <p><b><u>LEFT SIDE TOOL BOX</u></b></p> <p>The front bumper extension shall have an aluminum tool box installed on the left side. The box shall be raised 1.50" above the gravel pan.</p> <p><b><u>Tool Box Cover</u></b></p> <p>A bright aluminum treadplate cover shall be provided.</p> <p>The cover shall be attached with a stainless steel hinge.</p> <p>A lift and turn latch shall secure the cover in the closed position and a pneumatic stay arm shall hold the cover in the open position.</p> <p><b><u>RIGHT SIDE TOOL BOX</u></b></p> <p>The front bumper extension shall have an aluminum tool/chain box installed on the right side. The box shall be raised 1.50" above the gravel pan.</p>		

	Bidder Complies	
	Yes	No
<p><b><u>Tool Box Cover</u></b></p> <p>A bright aluminum treadplate cover shall be provided.</p> <p>The cover shall be attached with a stainless steel hinge.</p> <p>A lift and turn latch shall secure the cover in the closed position and a pneumatic stay arm shall hold the cover in the open position.</p> <p><b><u>LIFT AND TOW MOUNTS</u></b></p> <p>Mounted to the frame extension shall be lift and tow mounts. The lift and tow mounts shall be designed and positioned to adapt to certain tow truck lift systems.</p> <p>The lift and tow mounts with eyes shall be painted the same color as the frame.</p> <p><b><u>TOW EYES</u></b></p> <p>Two (2) tow eyes shall be mounted through the top of the bumper extension. The inner and outer edges of the tow eyes shall have a .25" radius.</p> <p>The tow eyes 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 eyes shall not be used for lifting of the apparatus.</p> <p>The tow eyes shall be painted black.</p> <p><b><u>FRONT BUMPER COATING</u></b></p> <p>Protective black abrasive resistant coating shall be provided on the outside exterior of the top front bumper flange. It shall not be sprayed on the underside of the flange.</p> <p>The lining shall be properly installed by an authorized dealer.</p> <p><b><u>CAB</u></b></p> <p>The cab shall be designed specifically for the fire service and shall be manufactured by the chassis builder.</p> <p>To provide quality at the source and single source customer support, the cab shall be built by the apparatus manufacturer in a facility located on the manufacturer's premises (no exception).</p> <p>For reasons of structural integrity and enhanced occupant protection, the cab shall be of heavy duty design, constructed to the following minimal standards.</p> <p>The cab shall have 12 main vertical structural members located in the A-pillar (front cab corner posts), B-pillar (side center posts), C-pillar (rear corner posts) and rear wall areas. The A-pillar shall be constructed of 0.25" heavy wall extrusions joined by a solid A356-T6 aluminum joint</p>		



	Bidder Complies	
	Yes	No
<p>casting. The B-pillar and C-pillar shall also be constructed from 0.25" heavy wall extrusions. The rear wall shall be constructed of two (2) 4.00" x 2.00" outer aluminum extrusions and two (2) 3.00" x 2.00" inner aluminum extrusions. All main vertical structural members shall run from the floor to 7.50" x 3.50" x 0.125" thick roof extrusions to provide a cage-like structure with the A-pillar and roof extrusions being welded into a 0.75" thick corner casting at each of the front corners of the roof assembly.</p> <p>The front of the cab shall be constructed of a 0.25" thick firewall, covered with a 0.125" front skin (for a total thickness of 0.38"), and reinforced with 24.50" wide x 10.00" deep x 0.50" thick supports on each side of the engine tunnel. The cross-cab support shall be welded to the A-pillar, 0.25" firewall, and engine tunnel, on the left and right sides.</p> <p>The cab floors shall be constructed of 0.1875" thick aluminum plate and reinforced at the firewall with an additional 0.25" thick cross-floor support providing a total thickness of 0.44" of structural material at the front floor area. The front floor area shall also be supported with three (3) 0.50" plates bolted together that also provides the mounting point for the cab lift. This tubing shall run from the front of the cab to the 0.1875" thick engine tunnel, creating the structure to support the forces created when lifting the cab.</p> <p>The cab shall be a full-tilt style. A 3-point cab mount system with rubber isolators shall improve ride quality by isolating chassis vibrations from the cab.</p> <p>The crew cab shall be a totally enclosed design with the interior area completely open to improve visibility and verbal communication between the occupants.</p> <p>The forward cab section shall have an overall height (from the cab roof to the ground) of approximately 102.00". The crew cab section shall have a 10.00" raised roof, with an overall cab height of approximately 112.00". The raised portion shall start at the most forward point of the B-pillar and continue rearward to the back of the cab. The overall height listed shall be calculated based on a truck configuration with the lowest suspension weight ratings, the smallest diameter tires for the suspension, no water weight, no loose equipment weight, and no personnel weight. Larger tires, wheels, and suspension shall increase the overall height listed.</p> <p>The cab shall have an interior width of not less than 93.50". The driver and passenger seating positions shall have a minimum 24.00" clear width at knee level.</p> <p>To reduce injuries to occupants in the seated positions, proper head clearance shall be provided. The floor-to-ceiling height inside the forward cab shall be no less than 60.25". The floor-to-ceiling height inside the crew cab shall be no less than 62.95" in the center position and 68.75" in the outboard positions.</p>		

	Bidder Complies	
	Yes	No
<p>The crew cab shall measure a minimum of 57.50" from the rear wall to the backside of the engine tunnel (knee level) for optimal occupant legroom.</p> <p><b><u>CAB PUMP ENCLOSURE</u></b></p> <p>The rear of the cab shall be made to house the fire pump below the forward facing crew cab seats. The cab side panels shall be notched to accommodate the pump panel.</p> <p><b><u>INTERIOR CAB INSULATION</u></b></p> <p>The cab walls, ceiling and engine tunnel shall be insulated in all strategic locations to maximize acoustic absorption and thermal insulation. The cab shall be insulated with 2.00" insulation in the rear wall, 3.00" insulation in the side walls, and 1.50" insulation in the ceiling.</p> <p><b><u>FENDER LINERS</u></b></p> <p>Full-circular, aluminum inner fender liners in the wheel wells shall be provided.</p> <p><b><u>PANORAMIC WINDSHIELD</u></b></p> <p>A one (1)-piece, safety glass windshield with more than 2,802 square inches of clear viewing area shall be provided. The windshield shall be full width and shall provide the occupants with a panoramic view. The windshield shall consist of three (3) layers: the outer light, the middle safety laminate, and the inner light. The 0.114" thick outer light layer shall provide superior chip resistance. The middle safety laminate layer shall prevent the windshield glass pieces from detaching in the event of breakage. The inner light shall provide yet another chip resistant layer. The cab windshield shall be bonded to the aluminum windshield frame using a urethane adhesive. A custom frit pattern shall be applied on the outside perimeter of the windshield for a finished automotive appearance.</p> <p><b><u>WINDSHIELD WIPERS</u></b></p> <p>Three (3) electric windshield wipers with a washer, in conformance with FMVSS and SAE requirements, shall be provided. The wiper blades shall be 21.65" long and together shall clear a minimum of 1,783 square inches of the windshield for maximum visibility in inclement weather.</p> <p>The windshield washer fluid reservoir shall be located at the front of the vehicle and be accessible through the access hood for simple maintenance.</p> <p><b><u>FAST SERVICE ACCESS FRONT TILT HOOD</u></b></p> <p>A full-width access hood shall be provided for convenient access to engine coolant, steering fluid, wiper fluid, cab lift controls, headlight power modules, and ember separator. The hood shall also provide complete access to the windshield wiper motor and components. The hood shall be contoured to provide a sleek, automotive appearance. The hood shall be constructed of two (2) fiberglass panels bonded together and shall include reinforcing ribs for structural integrity. The hood shall include air cylinders to hold the hood in open and closed positions, and</p>		

	Bidder Complies	
	Yes	No
<p>a heavy duty latch system that shall meet FMVSS 113 (Hood Latch System). The spring-loaded hood latch shall be located at the center of the hood with a double-action release lever located behind the upper grille. The two (2)-step release requires the lever first be pulled to the driver side until the hood releases from the first latch (primary latch) then to the passenger side to fully release the hood (secondary latch).</p> <p><b><u>ENGINE TUNNEL</u></b></p> <p>To provide structural strength, the engine tunnel sidewalls shall be constructed of 0.50" aluminum plate that is welded to both the 0.25" firewall and 0.38" heavy wall extrusion under the crew cab floor. To maximize occupant space, the top edges shall be tapered.</p> <p>The back of the engine tunnel shall be no higher than 16.25" off the crew cab floor (no exception).</p> <p>The engine hood shall be insulated for protection from heat and sound. Perforated foil faced insulation shall be over a 1.00" thick closed cell foam affixed with pressure sensitive adhesive and further secured with mechanical fasteners. Thermal rating for this insulation shall be -40 degrees Fahrenheit to 300 degrees Fahrenheit. The noise insulation keeps the dBA level within the limits stated in the current NFPA 1901 standards.</p> <p><b><u>CAB REAR WALL EXTERIOR COVERING</u></b></p> <p>The exterior surface of the rear wall of the cab shall be overlaid with bright aluminum treadplate except for areas that are not typically visible when the cab is lowered.</p> <p><b><u>CAB LIFT</u></b></p> <p>A hydraulic cab lift system shall be provided, consisting of an electric-powered hydraulic pump, fluid reservoir, dual lift cylinders, remote cab lift controls and all necessary hoses and valves. The hydraulic pump shall have a backup manual override, for use in the event of an electrical failure.</p> <p>The cab lift controls shall be located at the driver side front of the cab, easily accessible under the full width front access hood. The controls shall include a permanently mounted raise/lower switch. For enhanced visibility during cab tilt operations, a remote control tether with on/off switch shall be supplied on a coiled cord that shall extend from 2.00' (coiled) to 6.00' (extended).</p> <p>The cab shall be capable of tilting 42 degrees and 80 degrees with crane assist to accommodate engine maintenance and removal. The cab pivots shall be located 46.00" apart to provide stability while tilting the cab.</p> <p>The rear of the cab shall be locked down by a two (2)-point, automatic, hydraulic, double hook mechanism that fully engages after the cab has been lowered (self-locking). The dual 2.25"</p>		

	Bidder Complies	
	Yes	No
<p>diameter hydraulic cylinders shall be equipped with a velocity fuse that protects the cab from accidentally descending when the cab is in the tilt position.</p> <p>For increased safety, a redundant mechanical stay arm shall be provided that must be manually put in place on the driver side between the chassis and cab frame when cab is in the raised position. This device shall be manually stowed to its original position before the cab can be lowered.</p> <p><b><u>Cab Lift Interlock</u></b></p> <p>The cab lift safety system shall be interlocked to the parking brake. The cab tilt mechanism shall be active only when the parking brake is set and the ignition switch is in the on position. If the parking brake is released, the cab tilt mechanism shall be disabled.</p> <p><b><u>GRILLE</u></b></p> <p>An aluminum mesh grille screen, inserted behind a formed grille surround, shall be provided on the front center of the cab, and shall serve as an air intake to the radiator. The mesh screen shall be painted black #101. The grille surround shall be painted black #101.</p> <p><b><u>DOOR JAMB SCUFFPLATES</u></b></p> <p>All cab door jambs shall be furnished with a polished stainless steel scuffplate, mounted on the striker side of the jamb.</p> <p><b><u>FRONT CAB TRIM</u></b></p> <p>There shall be stainless steel rectangular garnish plates installed behind the two (2) headlight bezels for an enhanced appearance. The plates shall be painted Black # 101.</p> <p>There shall be painted black stainless steel corner covers provided over the painted cab corner where the cab turn signals are located.</p> <p><b><u>SIDE OF CAB MOLDING</u></b></p> <p>Chrome molding shall be provided on both sides of cab.</p> <p><b><u>MIRRORS</u></b></p> <p>A dual vision, motorized, west coast style mirror with black finish shall be mounted on each side of the front cab door with chrome spring loaded retractable arms. The flat glass and convex glass shall be heated and adjustable with remote control within reach of the driver.</p> <p><b><u>FRONT CROSS VIEW MIRROR</u></b></p> <p>An 8.00" diameter round convex mirror shall be provided over the officer's side front corner of the cab. The mirror shall provide the driver with a view of the front bumper and the area several feet in front of the truck.</p>		

	Bidder Complies	
	Yes	No
<p>The mirror housing, tubing, clamps, and hardware shall be constructed of corrosion resistant stainless steel.</p> <p>The mirror shall be heated with the control inside the cab.</p> <p><b><u>CAB DOORS</u></b></p> <p>The forward cab and crew cab doors shall be the half-height style door. To enhance entry and egress to the cab, the forward cab doors shall be a minimum of 43.59" wide x 64.71" high. The crew cab doors shall measure a minimum of 37.87" wide x 73.75" high.</p> <p>The forward cab and crew cab doors shall be constructed of extruded aluminum with a nominal material thickness of 0.125". The exterior door skins shall be constructed from 0.090" aluminum.</p> <p>The forward cab door windows shall include a 7.50" high x 10.00" wide drop area at the front to enhance visibility.</p> <p>A customized, vertical, pull-down type door handle shall be provided on the exterior of each cab door. The finish of the door handle shall be chrome/black. The exterior handle shall be designed specifically for the fire service to prevent accidental activation, and shall provide 4.00" wide x 2.00" deep hand clearance for ease of use with heavy gloved hands.</p> <p>Each door shall also be provided with an interior flush, open style paddle handle that shall be readily operable from fore and aft positions, and be designed to prevent accidental activation. The interior handles shall provide 4.00" wide x 1.25" deep hand clearance for ease of use with heavy gloved hands.</p> <p>The cab doors shall be provided with both interior (rotary knob) and exterior (keyed) locks exceeding FMVSS standards. The locks shall be capable of activating when the doors are open or closed. The doors shall remain locked if locks are activated when the doors are opened, then closed.</p> <p>A full length, heavy duty, stainless steel, piano-type hinge with a 0.38" pin and 11 gauge leaf shall be provided on all cab doors. There shall be double automotive-type rubber seals around the perimeter of the door framing and door edges to ensure a weather-tight fit.</p> <p>A chrome grab handle shall be provided on the inside of each cab and crew cab door.</p> <p>A red webbed grab handle shall be installed on the crew cab door stop strap. The grab handles shall be securely mounted.</p>		

	Bidder Complies	
	Yes	No
<p>The cab steps at each cab door location shall be located below the cab doors and shall be exposed to the exterior of the cab.</p> <p><b><u>Door Panels</u></b></p> <p>The inner cab door panels shall be constructed out of brushed stainless steel. The cab door panels shall be removable.</p> <p><b><u>RECESSED POCKET WITH ELASTIC COVER</u></b></p> <p>To provide organized storage (clutter control) in the cab for miscellaneous equipment, the cab interior shall be provided with recessed storage pockets. The pockets shall be 5.63" wide x 2.00" high x 4.00" deep. The pockets shall be provided with a perforated elastic material cover to secure the equipment in the pocket. The pockets shall be installed in all available mounting locations of the overhead console.</p> <p><b><u>ELECTRIC WINDOW CONTROLS</u></b></p> <p>Each cab entry door shall be equipped with an electrically operated tempered glass window. A window control panel shall be located on the door panel within easy reach of the respective occupant. Each switch shall allow intermittent or auto down operation for ease of use. Auto down operation shall be actuated by holding the window down switch for approximately 1 second. The driver control panel shall contain a control switch for each cab door's window. All other door control panels shall contain a single switch to operate the window within that door.</p> <p>The window switches shall be connected directly to the battery power. This allows the windows to be raised and lowered when the battery switch is in the off position.</p> <p><b><u>CAB STEPS</u></b></p> <p>The forward cab and crew cab access steps shall be a full size two (2) step design to provide largest possible stepping surfaces for safe ingress and egress. The bottom steps shall be designed with a grip pattern punched into bright aluminum treadplate material to provide support, slip resistance, and drainage. The bottom steps shall be a bolt-in design to minimize repair costs should they need to be replaced. The forward cab steps shall be a minimum 31.00" wide, and the crew cab steps shall be 24.25" wide with an 8.00" minimum depth. The inside cab steps shall not exceed 18.00" in height and be limited to two (2) steps. Three (3) step entrance designs shall not be acceptable due to safety concerns.</p> <p>The vertical sides of the step well shall be sprayed with black polyurethane/polyurea elastomer abrasive resistant material.</p> <p><b><u>CAB EXTERIOR HANDRAILS</u></b></p> <p>A 1.25" diameter slip-resistant, knurled aluminum handrail shall be provided adjacent to each cab and crew cab door opening to assist during cab ingress and egress.</p>		

	Bidder Complies	
	Yes	No
<p><b><u>STEP LIGHTS</u></b></p> <p>There shall be four (4) white LED step lights provided. The lights shall be installed at each cab and crew cab door, one (1) per step. The lights shall be located in the driver side front doorstep, driver side crew cab doorstep, passenger side front doorstep and passenger side crew cab doorstep.</p> <p>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.</p> <p>The light(s) shall have a chrome housing.</p> <p>The lights shall be activated when the adjacent door is opened.</p> <p><b><u>FENDER CROWNS</u></b></p> <p>Rubber fender crowns shall be provided around the cab wheel openings.</p> <p>Crowns shall be black.</p> <p><b><u>INTERIOR CREW CAB DOOR HANDRAIL</u></b></p> <p>A handrail shall be provided on each interior crew cab door pan. The handrails shall be mounted at a 45 degree angle. These are in addition to the standard crew cab door handle.</p> <p><b><u>CAB ROOF DRIP RAIL</u></b></p> <p>For enhanced protection from inclement weather, a drip rail shall be furnished on the sides of the cab. The drip rail shall be constructed of bright polished extruded aluminum, and be bonded to the sides of the cab. The drip rail shall extend the full length of the cab roof.</p> <p><b><u>MOUNTING PLATE ON ENGINE TUNNEL</u></b></p> <p>Equipment installation provisions shall be installed on the engine tunnel.</p> <p>A .188" aluminum plate shall be bolted to the top the engine tunnel between the Officer and Driver. The plate shall be spaced off the engine tunnel .75" to allow for wire routing below the plate. The size of the plate shall be approximately from the transverse compartment forward. The mounting surface shall be painted to match the cab interior.</p> <p><b><u>MOUNTING SYSTEM</u></b></p> <p>There shall be six (6) section(s) of PAC equipment mounting systems located three sections each side located on the rear crew cab wall outboard of the forward-facing seats.</p>		

	Bidder Complies	
	Yes	No
<p>Mounts shall be certified to meet the latest NFPA requirements for mounting of equipment inside the cab.</p> <p><b><u>CAB INTERIOR</u></b></p> <p>With safety as the primary objective, the wrap-around style cab instrument panel shall be designed with unobstructed visibility to instrumentation. The dash layout shall provide the driver with a quick reference to gauges that allows more time to focus on the road.</p> <p>The center console shall be a high impact ABS polymer and shall be easily removable.</p> <p>The passenger side dashboard shall be constructed of painted aluminum for durability and low maintenance. For enhanced versatility, the passenger side dash shall include a flat working surface.</p> <p>To provide optional (service friendly) control panels, switches and storage modules, a painted aluminum overhead console shall also be provided.</p> <p>To complete the cab front interior design, painted aluminum modesty panels shall be provided under the dash on both sides of the cab. The driver side modesty panel shall provide mounting for the battery switch and diagnostic connectors, while the passenger side modesty panel provides a glove box, and ground access to the main electrical distribution panel via quick quarter turn fasteners.</p> <p>To provide a deluxe automotive interior, the engine tunnel shall be covered by leather grain vinyl that is resistant to oil, grease, and mildew. For durability and ease of maintenance, the cab interior side walls shall be painted aluminum. The rear wall shall be painted aluminum.</p> <p>The headliner shall be installed in both forward and rear cab sections. The headliner panel shall be a composition of an aluminum panel covered with a sound barrier and upholstery.</p> <p>The cab structure shall include designated raceways for electrical harness routing from the front of the cab to the rear upper portion of the cab. Raceways shall be extruded in the forward door frame, floor, walls and overhead in the area where the walls meet the ceiling. The raceways located in the floor shall be covered by aluminum extrusion, while the vertical and overhead raceways shall be covered by painted aluminum covers. The raceways shall improve harness integrity by providing a continuous harness path that eliminates wire chafing and abrasion associated with exposed wiring or routing through drilled metal holes. Harnesses shall be laid in place. Routing through holes in tubing shall not be accepted due to chaffing that installation causes.</p>		



	Bidder Complies	
	Yes	No
<p><b><u>CAB INTERIOR UPHOLSTERY</u></b></p> <p>The cab interior upholstery shall be 36 oz. dark silver gray vinyl. All cab interior materials shall meet FMVSS 302 (flammability of interior materials).</p> <p><b><u>CAB INTERIOR PAINT</u></b></p> <p>The following metal surfaces shall be painted black, vinyl textured paint:</p> <ul style="list-style-type: none"> <li>• Modesty panel in front of driver</li> <li>• Vertical surface of dash in front of the officer (not applicable for recessed dash)</li> <li>• Glove box in front of the officer (if applicable)</li> <li>• Power distribution in front of the officer</li> <li>• Rear heater vent panels</li> </ul> <p>The remaining cab interior metal surfaces shall be painted fire smoke gray, vinyl texture paint.</p> <p><b><u>CAB FLOOR</u></b></p> <p>The cab and crew cab floor areas shall be covered with floor mat consisting of a black pyramid rubber facing and closed cell foam decoupler.</p> <p>The top surface of the material has a series of raised pyramid shapes evenly spaced, which offer a superior grip surface. Additionally, the material has a 0.25" thick closed cell foam (no water absorption) which offers a sound dampening material for reducing sound levels.</p> <p><b><u>DEFROST/AIR CONDITIONING SYSTEM</u></b></p> <p>A ceiling mounted combination heater, defroster and air conditioning system shall be installed in the cab above the engine tunnel area.</p> <p><b><u>Cab Defroster</u></b></p> <p>A 54,000 BTU heater-defroster unit with 690 SCFM of air flow shall be provided inside the cab. The heater-defrost shall be installed in the forward portion of the cab ceiling. Air outlets shall be strategically located in the cab header extrusion per the following:</p> <ul style="list-style-type: none"> <li>• One (1) adjustable shall be directed towards the left side cab window</li> <li>• One (1) adjustable shall be directed towards the right side cab window</li> <li>• Six (6) fixed outlets shall be directed at the windshield</li> </ul> <p>The defroster shall be capable of clearing 98 percent of the windshield and side glass when tested under conditions where the cab has been cold soaked at 0 degrees Fahrenheit for 10 hours, and a 2 ounce per square inch layer of frost/ice has been able to build up on the exterior windshield. The defroster system shall meet or exceed SAE J382 requirements.</p>		

	Bidder Complies	
	Yes	No
<p><b><u>Cab/Crew Auxiliary Heater</u></b></p> <p>There shall be one (1) 31,000 BTU auxiliary heater with 560 SCFM of air flow provided in each outboard rear facing seat risers with a dual scroll blower. An aluminum plenum incorporated into the cab structure used to transfer heat to the forward positions.</p> <p><b><u>Air Conditioning</u></b></p> <p>A 19.10 cubic inch compressor shall be installed on the engine.</p> <p>A roof-mounted condenser with a 78,000 BTU output at 2,400 SCFM that meets and exceeds the performance specification shall be installed on the cab roof. The condenser cover to be painted to match the cab roof.</p> <p>The air conditioning system shall be capable of cooling the average cab temperature from 100 degrees Fahrenheit to 75 degrees Fahrenheit at 50 percent relative humidity within 30 minutes. The cooling performance test shall be run only after the cab has been heat soaked at 100 degrees Fahrenheit for a minimum of 4 hours.</p> <p>The evaporator unit shall be installed in the rear portion of the cab ceiling over the engine tunnel. The evaporator shall include one (1) high performance heating core, one (1) high performance cooling core with (1) plenum directed to the front and one (1) plenum directed to the rear of the cab.</p> <p>The evaporator unit shall have a 52,000 BTU at 690 SCFM rating that meets and exceeds the performance specifications.</p> <p>Adjustable air outlets shall be strategically located on the forward plenum cover per the following:</p> <ul style="list-style-type: none"> <li>• Four (4) shall be directed towards the seating position on the left side of the cab</li> <li>• Four (4) shall be directed towards the seating position on the right side of the cab</li> </ul> <p>Adjustable air outlets shall be strategically located on the evaporator cover per the following:</p> <ul style="list-style-type: none"> <li>• Five (5) shall be directed towards crew cab area</li> </ul> <p>A high efficiency particulate air (HEPA) filter shall be included for the system. Access to the filter cover shall be secured with four (4) screws.</p> <p>The air conditioner refrigerant shall be R-134A and shall be installed by a certified technician.</p>		

	Bidder Complies	
	Yes	No
<p><b><u>Climate Control</u></b></p> <p>An automotive style controller shall be provided to control the heat and air conditioning system within the cab. The controller shall have three (3) functional knobs for fan speed, temperature, and air flow distribution (front to rear) control.</p> <p>The system shall control the temperature of the cab and crew cab automatically by pushing the center of the fan speed control knob. Rotate the center temperature control knob to set the cab and crew cab temperature.</p> <p>The AC system shall be manually activated by pushing the center of the temperature control knob.</p> <p>Pushing the center of the air flow distribution knob shall engage the AC for max defrost, setting the fan speeds to 100 percent and directing all air flow to the overhead forward position.</p> <p><b><u>Gravity Drain Tubes</u></b></p> <p>Two (2) condensate drain tubes shall be provided for the air conditioning evaporator. The drip pan shall have two (2) drain tubes plumbed separately to allow for the condensate to exit the drip pan. No pumps shall be provided.</p> <p>The drain tubes shall terminate under the cab, on the inboard side of the front wheel wells.</p> <p><b><u>SUN VISORS</u></b></p> <p>Two (2) smoked polycarbonate sun visors shall be provided. The sun visors shall be located above the windshield with one (1) mounted on each side of the cab.</p> <p>There shall be no retention bracket provided to help secure each sun visor in the stowed position.</p> <p><b><u>GRAB HANDLE</u></b></p> <p>A black rubber covered grab handle shall be mounted on the door post of the driver side cab door to assist in entering the cab. The grab handle shall be securely mounted to the post area between the door and windshield.</p> <p>A long rubber grab handle shall be mounted on the dash board in front of the officer.</p> <p><b><u>ENGINE COMPARTMENT LIGHTS</u></b></p> <p>There shall be one (1) 12 volt DC, 3.00" white LED light(s) with chrome flange kit(s) installed under the cab to be used as engine compartment illumination.</p> <p>These light(s) shall be activated automatically when the cab is raised.</p>		

	Bidder Complies	
	Yes	No
<p><b><u>ACCESS TO ENGINE DIPSTICKS</u></b></p> <p>For access to the engine oil and transmission fluid dipsticks, there shall be a door on the engine tunnel, inside the crew cab. The door shall be on the rear wall of the engine tunnel, on the vertical surface. The door shall be 20.00" wide x 8.25" high and be flush with the wall of the engine tunnel.</p> <p>The engine oil dipstick shall allow for checking only. The transmission dipstick shall allow for both checking and filling. An additional port shall be provided for filling the engine oil.</p> <p>The door shall have a rubber seal for thermal and acoustic insulation. One (1) latch shall be provided on the access door.</p> <p><b><u>CAB SAFETY SYSTEM</u></b></p> <p>The cab shall be provided with a safety system designed to protect occupants in the event of a side roll or frontal impact, and shall include the following:</p> <ul style="list-style-type: none"> <li>• A supplemental restraint system (SRS) sensor shall be installed on a structural cab member behind the instrument panel. The SRS sensor shall perform real time diagnostics of all critical subsystems and shall record sensory inputs immediately before and during a side roll or frontal impact event.</li> <li>• A slave SRS sensor shall be installed in the cab to provide capacity for eight (8) crew cab seating positions.</li> <li>• A fault-indicating light shall be provided on the vehicle's instrument panel allowing the driver to monitor the operational status of the SRS system.</li> <li>• A driver side front air bag shall be mounted in the steering wheel and shall be designed to protect the head and upper torso of the occupant, when used in combination with the 3-point seat belt.</li> <li>• A passenger side knee bolster air bag shall be mounted in the modesty panel below the dash panel and shall be designed to protect the legs of the occupant, when used in combination with the 3-point seat belt.</li> <li>• Air curtains shall be provided in the outboard bolster of outboard seat backs to provide a cushion between occupant and the cab wall.</li> <li>• Suspension seats shall be provided with devices to retract them to the lowest travel position during a side roll or frontal impact event.</li> <li>• Seat belts shall be provided with pre-tensioners to remove slack from the seat belt during a side roll or frontal impact event.</li> </ul> <p><b><u>Frontal Impact Protection</u></b></p> <p>The SRS system shall provide protection during a frontal or oblique impact event. The system shall activate when the vehicle decelerates at a predetermined G force known to cause injury to</p>		

	Bidder Complies	
	Yes	No
<p>the occupants. The cab and chassis shall have been subjected, via third party test facility, to a crash impact during frontal and oblique impact testing. Testing included all major chassis and cab components such as mounting straps for fuel and air tanks, suspension mounts, front suspension components, rear suspensions components, frame rail cross members, engine and transmission and their mounts, pump house and mounts, frame extensions and body mounts. The testing provided configuration specific information used to optimize the timing for firing the safety restraint system. The sensor shall activate the pyrotechnic devices when the correct crash algorithm, wave form, is detected (no exception).</p> <p>The SRS system shall deploy the following components in the event of a frontal or oblique impact event:</p> <ul style="list-style-type: none"> <li>• Driver side front air bag</li> <li>• Passenger side knee bolster air bag</li> <li>• Air curtains mounted in the outboard bolster of outboard seat backs</li> <li>• Suspension seats shall be retracted to the lowest travel position</li> <li>• Seat belts shall be pre-tensioned to firmly hold the occupant in place</li> </ul> <p><b><u>Side Roll Protection</u></b></p> <p>The SRS system shall provide protection during a fast or slow 90 degree roll to the side, in which the vehicle comes to rest on its side. The system shall analyze the vehicle's angle and rate of roll to determine the optimal activation of the advanced occupant restraints.</p> <p>The SRS system shall deploy the following components in the event of a side roll:</p> <ul style="list-style-type: none"> <li>• Air curtains mounted in the outboard bolster of outboard seat backs</li> <li>• Suspension seats shall be retracted to the lowest travel position</li> <li>• Seat belts shall be pre-tensioned to firmly hold the occupant in place</li> </ul> <p><b><u>SEATING CAPACITY</u></b></p> <p>The seating capacity in the cab shall be four (4).</p> <p><b><u>DRIVER SEAT</u></b></p> <p>A cam action seat with air suspension shall be provided in the cab for the driver. For increased convenience, the seat shall include electric controls to adjust the rake, height and horizontal position. Electric controls shall be located below the forward part of the seat cushion. To provide flexibility for multiple driver configurations, the seat shall be furnished with an adjustable reclining back. The seat back shall be a high back style with manual lumbar adjustment lever, for lower back support, and shall include minimum 7.50" deep side bolster pads for maximum support. For optimal comfort, the seat shall be provided with dual density foam cushions designed with EVC (elastomeric vibration control).</p>		

	Bidder Complies	
	Yes	No
<p>The seat shall include the following features incorporated into the side roll protection system:</p> <ul style="list-style-type: none"> <li>• Side air curtain shall be mounted integral to the outboard bolster of the seat back. The air curtain shall be covered by a decorative panel when in the stowed position.</li> <li>• A suspension seat safety system shall be included. When activated, this system shall pretension the seat belt and retract the seat to its lowest travel position.</li> </ul> <p>The seat shall be furnished with a 3-point, shoulder type seat belt. The seat belt shall be furnished with dual automatic retractors that shall provide ease of operation in the normal seating position.</p> <p><b><u>OFFICER SEAT</u></b></p> <p>A cam action seat with air suspension shall be provided in the cab for the passenger. For increased convenience, the seat shall include a manual control to adjust the horizontal position. The manual horizontal control shall be a towel-bar style located below the forward part of the seat cushion. For optimal comfort, the seat shall be provided with dual density foam cushions designed with EVC (elastomeric vibration control). To ensure safe operation, the seat shall be equipped with seat belt sensors in the seat cushion and belt receptacle that shall activate an alarm indicating a seat is occupied but not belted.</p> <p>The seat back shall be an SCBA back style with 7.5 degree fixed recline angle, and shall include minimum 4.50" wide x 7.50" deep side bolster pads for maximum support. The SCBA cavity shall be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity shall be accomplished by unbolting, relocating, and re-bolting it in the desired location.</p> <p>The seat shall include the following features incorporated into the side roll protection system:</p> <ul style="list-style-type: none"> <li>• Side air curtain shall be mounted integral to the outboard bolster of the seat back. The air curtain shall be covered by a decorative panel when in the stowed position.</li> <li>• A suspension seat safety system shall be included. When activated, this system shall pretension the seat belt, then retract the seat to its lowest travel position.</li> </ul> <p>The seat shall be furnished with a 3-point, shoulder type seat belt. The seat belt shall be furnished with dual automatic retractors that shall provide ease of operation in the normal seating position.</p> <p><b><u>REAR FACING LEFT SIDE CABINET</u></b></p> <p>A rear facing cabinet shall be provided in the crew cab at the left side outboard position with interior and exterior access.</p>		

	Bidder Complies	
	Yes	No
<p>The cabinet shall be 24.00" wide x 40.50" high x 30.50" deep with one (1) ROM Series IV rollup door with anodized finish, non-locking. The frame to frame opening shall be 19.25" wide x 35.25" high. The minimum clear door opening shall be 16.50" wide x 29.37" high.</p> <p>The cabinet shall include one (1) infinitely adjustable shelf with a 0.75" up-turned lip with a dual action finish.</p> <p>The cabinet shall include louvers provided on the right side of the cabinet for ventilation.</p> <p>The cabinet shall also provide exterior access with one (1) double pan door painted to match the cab exterior with a non-locking D-ring latch. A pneumatic stay arm shall be provided as a door stop. The clear door opening shall 19.75" wide x 38.00" high.</p> <p>The exterior access shall be provided with a polished stainless steel scuff plate on the lower door frame.</p> <p>The cabinet shall be constructed of smooth aluminum and painted to match the cab interior.</p> <p><b><u>Cabinet Light</u></b></p> <p>There shall be LED lighting installed in the cabinet. The lights shall be controlled by an automatic door switch.</p> <p><b><u>REAR FACING RIGHT SIDE CABINET</u></b></p> <p>A rear facing cabinet shall be provided in the crew cab at the right side outboard position.</p> <p>The cabinet shall be 21.50" wide x 38.00" high x 26.50" deep with one (1) ROM Series IV rollup door with anodized finish, non-locking. The frame to frame opening shall be 16.75" wide x 32.75" high. The minimum clear door opening shall be 14.00" wide x 26.87" high.</p> <p>The cabinet shall include one (1) infinitely adjustable shelf with a 0.75" up-turned lip with a dual action finish.</p> <p>The cabinet shall include louvers provided on the left side of the cabinet for ventilation.</p> <p>The cabinet shall also provide access from outside the cab with one (1) double pan door painted to match the cab exterior with a non-locking D-ring latch. A pneumatic stay arm shall be provided as a door stop. The exterior clear door opening shall be 16.00" wide x 35.75" high. The door shall be located on the side of the cab over the wheel well.</p> <p>The exterior access shall be provided with a polished stainless steel scuff plate on the lower door frame.</p> <p>The cabinet shall be constructed of smooth aluminum and painted to match the cab interior.</p>		

	Bidder Complies	
	Yes	No
<p><b><u>Cabinet Light</u></b></p> <p>There shall be LED strip lighting provided. The lights shall be controlled by an automatic door switch.</p> <p><b><u>FORWARD FACING CENTER SEATS</u></b></p> <p>There shall be two (2) forward facing seats provided at the center position in the crew cab. For optimal comfort, the seats shall be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control). To ensure safe operation, the seats shall be equipped with seat belt sensors in the seat cushion and belt receptacle that shall activate an alarm indicating a seat is occupied but not buckled. The seat backs shall be an SCBA back style with 7.5 degree fixed recline angle, and shall include minimum 4.50" wide x 7.50" deep side bolster pads for maximum support. The SCBA cavity shall be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity shall be accomplished by unbolting, relocating, and re-bolting it in the desired location.</p> <p>The seats shall include the following feature incorporated into the side roll protection system:</p> <ul style="list-style-type: none"> <li>• A seat safety system shall be included. When activated, this system shall pretension the seat belts around the occupants to firmly hold them in place in the event of a side roll.</li> </ul> <p>The seats shall be furnished with 3-point, shoulder type seat belts. The seat belts shall be furnished with dual automatic retractors that shall provide ease of operation in the normal seating position.</p> <p><b><u>REAR FACING CENTER CABINET</u></b></p> <p>A rear facing cabinet shall be provided on the top rear of the engine tunnel.</p> <p>The cabinet shall be 47.00" wide x 18.00" high x 19.50" deep. The rear of the cabinet shall follow the angle of the engine tunnel. The interior door shall be web netting. The netting shall be made with 1.00" wide nylon material with 2.00" openings. The nylon webbing shall be permanently fastened at the bottom side of the cabinet and have 1.00" cam buckle fasteners on the opposite side to secure it. The clear door opening of the cabinet shall be 44.50" wide x 15.00" high.</p> <p>The cabinet shall include one (1) infinitely adjustable shelf with a 0.75" up-turned lip painted to match the cab interior.</p> <p>The cabinet shall include no louvers.</p> <p>The cabinet shall be constructed of smooth aluminum, and painted to match the cab interior.</p>		



	Bidder Complies	
	Yes	No
<p><b><u>Cabinet Light</u></b></p> <p>There shall be LED strip lighting provided. The lighting shall be controlled by a rocker switch on the front of the cabinet.</p> <p><b><u>SEAT UPHOLSTERY</u></b></p> <p>All seat upholstery shall be leather grain 36 oz. dark silver gray vinyl resistant to oil, grease and mildew. The cab shall have six (6) seating positions.</p> <p><b><u>AIR BOTTLE HOLDERS</u></b></p> <p>All SCBA type seats in the cab shall have a "Hands-Free" auto clamp style bracket in its backrest. For efficiency and convenience, the bracket shall include an automatic spring clamp that allows the occupant to store the SCBA bottle by simply pushing it into the seat back. For protection of all occupants in the cab, in the event of an accident, the inertial components within the clamp shall constrain the SCBA bottle in the seat and shall exceed the NFPA standard of 9G. Bracket designs with manual restraints (belts, straps, buckles) that could be inadvertently left unlocked and allow the SCBA to move freely within the cab during an accident, shall not be acceptable.</p> <p>There shall be a quantity of three (3) SCBA brackets.</p> <p><b><u>SEAT BELTS</u></b></p> <p>All seating positions in the cab, crew cab and tiller cab (if applicable) shall have red seat belts.</p> <p>To provide quick, easy use for occupants wearing bunker gear, the female buckle and seat belt webbing length shall meet or exceed the current edition of NFPA 1901 and CAN/ULC - S515 standards.</p> <p>The 3-point shoulder type seat belts shall also include a D-loop assembly to the shoulder belt system. This feature adds an extender arm to the D-loop location placing the D-loop in a closer, easier to reach location.</p> <p>Any flip up seats shall include a 3-point shoulder type belts only.</p> <p><b><u>SHOULDER HARNESS HEIGHT ADJUSTMENT</u></b></p> <p>All seating positions furnished with 3-point shoulder type seat belts shall include a height adjustment. This adjustment shall optimize the belts effectiveness and comfort for the seated firefighter.</p> <p>A total of six (6) seating positions shall have the adjustable shoulder harness.</p> <p><b><u>HELMET STORAGE PROVIDED BY FIRE DEPARTMENT</u></b></p> <p>NFPA 1901, 2016 edition, section 14.1.7.4.1 requires a location for helmet storage be provided.</p>		

	Bidder Complies	
	Yes	No
<p>There is no helmet storage on the apparatus as manufactured. The fire department shall provide a location for storage of helmets.</p> <p><b><u>CAB DOME LIGHTS</u></b></p> <p>There shall be four (4) dual LED dome lights with black bezels provided. Two (2) lights shall be mounted above the inside shoulder of the driver and officer and two (2) lights shall be installed and located, one (1) on each side of the crew cab.</p> <p>The color of the LED's shall be red and white.</p> <p>The white LED's shall be controlled by the door switches and the lens switch.</p> <p>The color LED's shall be controlled by the lens switch.</p> <p>In order to ensure exceptional illumination, each white LED dome light shall provide a minimum of 10.1 foot-candles (fc) covering an entire 20.00" x 20.00" square seating position when mounted 40.00" above the seat.</p> <p><b><u>ENHANCED SOFTWARE FOR CAB AND CREW CAB DOME LIGHTS</u></b></p> <p>The cab and crew cab dome lights shall remain on for 10 seconds for improved visibility after the doors are closed.</p> <p>The dome lights shall dim after 10 seconds or immediately if the vehicle's transmission is put into gear.</p> <p><b><u>PORTABLE HAND LIGHTS, PROVIDED BY FIRE DEPARTMENT</u></b></p> <p>NFPA 1901, 2016 edition, section 5.9.4 requires two portable hand lights mounted in brackets fastened to the apparatus.</p> <p>The hand lights are not on the apparatus as manufactured. The fire department shall provide and mount these hand lights.</p> <p><b><u>CAB INSTRUMENTATION</u></b></p> <p>The cab instrument panel shall consist of gauges, an LCD display, telltale indicator lights, alarms, control switches, and a diagnostic panel. The function of instrument panel controls and switches shall be identified by a label adjacent to each item. Actuation of the headlight switch shall illuminate the labels in low light conditions. Telltale indicator lamps shall not be illuminated unless necessary. The cab instruments and controls shall be conveniently located within the forward cab section directly forward of the driver. Gauge and switch panels shall be designed to be removable for ease of service and low cost of ownership.</p>		

	Bidder Complies	
	Yes	No
<p><b><u>Gauges</u></b></p> <p>The gauge panel shall include the following ten (10) black gauges with black bezels to monitor vehicle performance:</p> <ul style="list-style-type: none"> <li>• Voltmeter gauge (Volts) <ul style="list-style-type: none"> <li>○ Low volts (11.8 VDC) <ul style="list-style-type: none"> <li>▪ Amber indicator on gauge assembly with alarm</li> </ul> </li> <li>○ High volts (15 VDC) <ul style="list-style-type: none"> <li>▪ Amber indicator on gauge assembly with alarm</li> </ul> </li> <li>○ Very low volts (11.3 VDC) <ul style="list-style-type: none"> <li>▪ Amber indicator on gauge assembly with alarm</li> </ul> </li> <li>○ Very high volts (16 VDC) <ul style="list-style-type: none"> <li>▪ Amber indicator on gauge assembly with alarm</li> </ul> </li> </ul> </li> <li>• Tachometer (RPM)</li> <li>• Speedometer (Primary (outside) MPH, Secondary (inside) Km/H)</li> <li>• Fuel level gauge (Empty - Full in fractions) <ul style="list-style-type: none"> <li>○ Low fuel (1/8 full) <ul style="list-style-type: none"> <li>▪ Amber indicator on gauge assembly with alarm</li> </ul> </li> <li>○ Very low fuel (1/32) fuel <ul style="list-style-type: none"> <li>▪ Amber indicator on gauge assembly with alarm</li> </ul> </li> </ul> </li> <li>• Engine oil pressure gauge (PSI) <ul style="list-style-type: none"> <li>○ Low oil pressure to activate engine warning lights and alarms <ul style="list-style-type: none"> <li>▪ Red indicator on gauge assembly with alarm</li> </ul> </li> </ul> </li> <li>• Front air pressure gauge (PSI) <ul style="list-style-type: none"> <li>○ Low air pressure to activate warning lights and alarm <ul style="list-style-type: none"> <li>▪ Red indicator on gauge assembly with alarm</li> </ul> </li> </ul> </li> <li>• Rear air pressure gauge (PSI) <ul style="list-style-type: none"> <li>○ Low air pressure to activate warning lights and alarm <ul style="list-style-type: none"> <li>▪ Red indicator on gauge assembly with alarm</li> </ul> </li> </ul> </li> <li>• Transmission oil temperature gauge (Fahrenheit) <ul style="list-style-type: none"> <li>○ High transmission oil temperature activates warning lights and alarm <ul style="list-style-type: none"> <li>▪ Amber indicator on gauge assembly with alarm</li> </ul> </li> </ul> </li> <li>• Engine coolant temperature gauge (Fahrenheit) <ul style="list-style-type: none"> <li>○ High engine temperature activates an engine warning light and alarm <ul style="list-style-type: none"> <li>▪ Red indicator on gauge assembly with alarm</li> </ul> </li> </ul> </li> <li>• Diesel Exhaust Fluid Level Gauge (Empty - Full in fractions) <ul style="list-style-type: none"> <li>○ Low fluid (1/8 full) <ul style="list-style-type: none"> <li>▪ Amber indicator on gauge assembly with alarm</li> </ul> </li> </ul> </li> </ul>		

	Bidder Complies	
	Yes	No
<p>All gauges and gauge indicators shall perform prove out at initial power-up to ensure proper performance.</p> <p><b><u>Indicator Lamps</u></b></p> <p>To promote safety, the following telltale indicator lamps shall be integral to the gauge assembly and are located above and below the center gauges. The indicator lamps shall be "dead-front" design that is only visible when active. The colored indicator lights shall have descriptive text or symbols.</p> <p>The following amber telltale lamps shall be present:</p> <ul style="list-style-type: none"> <li>• Low coolant</li> <li>• Trac cntl (traction control) (where applicable)</li> <li>• Check engine</li> <li>• Check trans (check transmission)</li> <li>• Aux brake overheat (Auxiliary brake overheat)</li> <li>• Air rest (air restriction)</li> <li>• Caution (triangle symbol)</li> <li>• Water in fuel</li> <li>• DPF (engine diesel particulate filter regeneration)</li> <li>• Trailer ABS (where applicable)</li> <li>• Wait to start (where applicable)</li> <li>• HET (engine high exhaust temperature) (where applicable)</li> <li>• ABS (antilock brake system)</li> <li>• MIL (engine emissions system malfunction indicator lamp) (where applicable)</li> <li>• SRS (supplemental restraint system) fault (where applicable)</li> <li>• DEF (low diesel exhaust fluid level)</li> </ul> <p>The following red telltale lamps shall be present:</p> <ul style="list-style-type: none"> <li>• Warning (stop sign symbol)</li> <li>• Seat belt</li> <li>• Parking brake</li> <li>• Stop engine</li> <li>• Rack down</li> </ul> <p>The following green telltale lamps shall be provided:</p> <ul style="list-style-type: none"> <li>• Left turn</li> <li>• Right turn</li> </ul>		

	Bidder Complies	
	Yes	No
<ul style="list-style-type: none"> <li>Battery on</li> </ul> <p>The following blue telltale lamp shall be provided:</p> <ul style="list-style-type: none"> <li>High beam</li> </ul> <p><b><u>Alarms</u></b></p> <p>Audible steady tone warning alarm: A steady audible tone alarm shall be provided whenever a warning message is present.</p> <p>Audible pulsing tone caution alarm: A pulsing audible tone alarm (chime/chirp) shall be provided whenever a caution message is present without a warning message being present.</p> <p>Alarm silence: Any active audible alarm shall be able to be silenced by holding the ignition switch at the top position for three (3) to five (5) seconds. For improved safety, silenced audible alarms shall intermittently chirp every 30 seconds until the alarm condition no longer exists. The intermittent chirp shall act as a reminder to the operator that a caution or warning condition still exists. Any new warning or caution condition shall enable the steady or pulsing tones respectively.</p> <p><b><u>Indicator Lamp and Alarm Prove-Out</u></b></p> <p>Telltale indicators and alarms shall perform prove-out at initial power-up to ensure proper performance.</p> <p><b><u>Control Switches</u></b></p> <p>For ease of use, the following controls shall be provided immediately adjacent to the cab instrument panel within easy reach of the driver.</p> <p>Emergency master switch: A molded plastic push button switch with integral indicator lamp shall be provided. Pressing the switch shall activate emergency response lights and siren control. A green lamp on the switch provides indication that the emergency master mode is active. Pressing the switch again disables the emergency master mode.</p> <p>Headlight / Parking light switch: A three (3)-position maintained rocker switch shall be provided. The first switch position shall deactivate all parking lights and the headlights. The second switch position shall activate the parking lights. The third switch position shall activate the headlights.</p> <p>Panel backlighting intensity control switch: A three (3)-position momentary rocker switch shall be provided. The first switch position decreases the panel backlighting intensity to a minimum level as the switch is held. The second switch position is the default position that does not affect</p>		

	Bidder Complies	
	Yes	No
<p>the backlighting intensity. The third switch position increases the panel backlighting intensity to a maximum level as the switch is held.</p> <p>The following standard controls shall be integral to the gauge assembly and are located below the right hand gauges. All switches have backlit labels for low light applications.</p> <p>High idle engagement switch: A two (2)-position momentary rocker switch with integral indicator lamp shall be provided. The first switch position is the default switch position. The second switch position shall activate and deactivate the high idle function when pressed and released. The "Ok To Engage High Idle" indicator lamp must be active for the high idle function to engage. A green indicator lamp integral to the high idle engagement switch shall indicate when the high idle function is engaged.</p> <p>"Ok To Engage High Idle" indicator lamp: A green indicator light shall be provided next to the high idle activation switch to indicate that the interlocks have been met to allow high idle engagement.</p> <p>The following standard controls shall be provided adjacent to the cab gauge assembly within easy reach of the driver. All switches shall have backlit labels for low light applications.</p> <p>Ignition switch: A three (3)-position maintained/momentary rocker switch shall be provided. The first switch position shall deactivate vehicle ignition. The second switch position shall activate vehicle ignition. The third momentary position shall disable the Command Zone audible alarm if held for three (3) to five (5) seconds. A green indicator lamp shall be activated with vehicle ignition.</p> <p>Engine start switch: A two (2)-position momentary rocker switch shall be provided. The first switch position is the default switch position. The second switch position shall activate the vehicle's engine. The switch actuator is designed to prevent accidental activation.</p> <p>4-way hazard switch: A two (2)-position maintained rocker switch shall be provided. The first switch position shall deactivate the 4-way hazard switch function. The second switch position shall activate the 4-way hazard function. The switch actuator shall be red and includes the international 4-way hazard symbol.</p> <p>Heater, defroster, and air conditioning control panel.</p> <p>Turn signal arm: A self-canceling turn signal with high beam headlight and windshield wiper/washer controls shall be provided. The windshield wiper control shall have high, low, and intermittent modes.</p> <p>Parking brake control: An air actuated push/pull park brake control valve shall be provided.</p>		

	Bidder Complies	
	Yes	No
<p>Chassis horn control: Activation of the chassis horn control shall be provided through the center of the steering wheel.</p> <p><b><u>Custom Switch Panels</u></b></p> <p>The design of cab instrumentation shall allow for emergency lighting and other switches to be placed within easy reach of the operator thus improving safety. There shall be positions for up to four (4) switch panels in the overhead console on the driver's side, up to four (4) switch panels in the engine tunnel console facing the driver, up to four (4) switch panels in the overhead console on the officer's side and up to two (2) switch panels in the engine tunnel console facing the officer. All switches shall have backlit labels for low light applications.</p> <p><b><u>Diagnostic Panel</u></b></p> <p>A diagnostic panel shall be accessible while standing on the ground and located inside the driver's side door left of the steering column. The diagnostic panel shall allow diagnostic tools such as computers to connect to various vehicle systems for improved troubleshooting providing a lower cost of ownership. Diagnostic switches shall allow ABS systems to provide blink codes should a problem exist. The diagnostic panel shall include the following:</p> <ul style="list-style-type: none"> <li>• Engine diagnostic port</li> <li>• Transmission diagnostic port</li> <li>• ABS diagnostic port</li> <li>• SRS diagnostic port (where applicable)</li> <li>• Command Zone USB diagnostic port</li> <li>• ABS diagnostic switch (blink codes flashed on ABS telltale indicator)</li> <li>• Diesel particulate filter regeneration switch (where applicable)</li> <li>• Diesel particulate filter regeneration inhibit switch (where applicable)</li> </ul> <p><b><u>Cab LCD Display</u></b></p> <p>A digital four (4)-row by 20-character dot matrix display shall be integral to the gauge panel. The display shall be capable of showing simple graphical images as well as text. The display shall be split into three (3) sections. Each section shall have a dedicated function. The upper left section shall display the outside ambient temperature. The upper right section shall display odometer, trip mileage, PTO hours, fuel consumption, engine hours, and other configuration specific information. The bottom section shall display INFO, CAUTION, and WARNING messages. Text messages shall automatically activate to describe the cause of an audible caution or warning alarm. The LCD shall be capable of displaying multiple text messages should more than one caution or warning condition exist.</p>		

	Bidder Complies	
	Yes	No
<p><b><u>AIR RESTRICTION INDICATOR</u></b></p> <p>A high air restriction warning indicator light LCD message with amber warning indicator and audible alarm shall be provided.</p> <p>- Officer Speedometer, An analog speedometer shall be provided on the officer side.</p> <p><b><u>"DO NOT MOVE APPARATUS" INDICATOR</u></b></p> <p>A flashing red indicator light, located in the driving compartment, shall be illuminated automatically per the current NFPA requirements. The light shall be labeled "Do Not Move Apparatus If Light Is On."</p> <p>The same circuit that activates the Do Not Move Apparatus indicator shall activate chassis electric horn intermittently when the parking brake is released.</p> <p><b><u>DO NOT MOVE TRUCK MESSAGES</u></b></p> <p>Messages shall be displayed on the gauge panel LCD located forward of the steering wheel directly in front of the driver whenever the Do Not Move Truck light is active. The messages shall designate the item or items not in the stowed for vehicle travel position (parking brake disengaged).</p> <p>The following messages shall be displayed (where applicable):</p> <ul style="list-style-type: none"> <li>• Do Not Move Truck</li> <li>• DS Cab Door Open (Driver's Side Cab Door Open)</li> <li>• PS Cab Door Open (Passenger's Side Cab Door Open)</li> <li>• DS Crew Cab Door Open (Driver's Side Crew Cab Door Open)</li> <li>• PS Crew Cab Door Open (Passenger's Side Crew Cab Door Open)</li> <li>• DS Body Door Open (Driver's Side Body Door Open)</li> <li>• PS Body Door Open (Passenger's Side Body Door Open)</li> <li>• Rear Body Door Open</li> <li>• DS Ladder Rack Down (Driver's Side Ladder Rack Down)</li> <li>• PS Ladder Rack Down (Passenger's Side Ladder Rack Down)</li> <li>• Deck Gun Not Stowed</li> <li>• Lt Tower Not Stowed (Light Tower Not Stowed)</li> <li>• Hatch Door Open</li> <li>• Fold Tank Not Stowed (Fold-A-Tank Not Stowed)</li> <li>• Aerial Not Stowed (Aerial Device Not Stowed)</li> <li>• Stabilizer Not Stowed</li> <li>• Steps Not Stowed</li> <li>• Handrail(s) Not Stowed</li> </ul>		



	Bidder Complies	
	Yes	No
<p>Any other device that is opened, extended, or deployed that creates a hazard or is likely to cause major damage to the apparatus if the apparatus is moved shall be displayed as a caution message after the parking brake is disengaged.</p> <p><b><u>SWITCH PANELS</u></b></p> <p>The emergency light switch panel shall have a master switch for ease of use plus individual switches for selective control. Each switch panel shall contain up to six (6) rocker-type switches each rated for two hundred thousand (200,000) cycles. Panels with less than six (6) switches shall include indicators or blanks. The switch panel(s) shall be located in the "overhead" position above the windshield on the driver and passenger side to allow for easy access.</p> <p>The switches shall be rocker-type and include an integral indicator light. For quick, visual indication the switch shall be illuminated whenever the switch is active. A 2-ply, scratch resistant laser engraved label indicating the use of each switch shall be placed below the switches. The label shall allow light to pass through the letters for improved visibility in low light conditions. Switches and light source are integral to the switch panel assembly.</p> <p><b><u>WIPER CONTROL</u></b></p> <p>For simple operation and easy reach, the windshield wiper control shall be an integral part of the directional light lever located on the steering column. The wiper control shall include high and low wiper speed settings, a one (1)-speed intermittent wiper control and windshield washer switch. The control shall have a "return to park" provision, which allows the wipers to return to the stored position when the wipers are not in use.</p> <p><b><u>SPARE CIRCUIT</u></b></p> <p>There shall be one (1) dual USB fast charge socket mounts installed on the apparatus.</p> <p>The above wires shall have the following features:</p> <ul style="list-style-type: none"> <li>• The positive wire shall be connected directly to the battery power.</li> <li>• The negative wire shall be connected to ground.</li> <li>• Wires shall be protected to 4.8 amps at 12 volts DC.</li> <li>• The USB socket mount shall be center of the dashboard.</li> <li>• Termination shall be a dual USB charger socket.</li> <li>• Wires shall be sized to 125% of the protection.</li> </ul> <p>This circuit(s) may be load managed when the parking brake is applied.</p> <p><b><u>SPARE CIRCUIT</u></b></p> <p>There shall be two (2) pair of wires, including a positive and a negative, installed on the apparatus.</p>		

	Bidder Complies	
	Yes	No
<p>The above wires shall have the following features:</p> <ul style="list-style-type: none"> <li>• The positive wire shall be connected directly to the battery power</li> <li>• The negative wire shall be connected to ground</li> <li>• Wires shall be protected to 20 amps at 12 volts DC</li> <li>• Power and ground shall terminate behind officer seat and behind driver's seat</li> <li>• Termination shall be with a 10-place bus bar with screws and removable cover</li> <li>• Wires shall be sized to 125% of the protection</li> </ul> <p>This circuit(s) may be load managed when the parking brake is set.</p> <p><b><u>INFORMATION CENTER</u></b></p> <p>A LCD display integral to the cab gauge panel shall be included as outlined in the cab instrumentation area. The LCD display shall be programmed to read US Customary.</p> <p><b><u>COLLISION MITIGATION</u></b></p> <p>There shall be a Responder-to-Vehicle (R2V) collision avoidance system provided on the apparatus. The cellular transponder module shall be installed behind the cab windshield, as high and near to the center as practical, to allow clear visibility to the sky. The module dimensions are 5.40" long x 2.70" wide x 1.30" high, and operating temperature range is -40 degree C to 85 degree C.</p> <p>The transponder shall be connected to the vehicle's emergency master circuit and battery direct power and ground.</p> <p>While responding with emergency lights on, the transponder sends alert messages via cellular network to motorists in the vicinity of the responding truck that are equipped with the WAZE app.</p> <p>While on scene with emergency lights on, the transponder sends road hazard alerts to motorists in the vicinity of the truck that are equipped with the WAZE app.</p> <p>The Responder-to-Vehicle (R2V) collision avoidance system shall include the transponder and a 5 year cellular plan subscription.</p> <p>Activation of the Alert system requires a representative of the customer to accept the End User License Agreement (EULA) via an on-line portal.</p> <p><b><u>VEHICLE DATA RECORDER</u></b></p> <p>There shall be a vehicle data recorder (VDR) capable of reading and storing vehicle information provided.</p>		

	Bidder Complies	
	Yes	No
<p>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 will be available to download on-line.</p> <p>The vehicle data recorder shall be capable of recording the following data via hardwired and/or CAN inputs:</p> <ul style="list-style-type: none"> <li>• Vehicle Speed - MPH</li> <li>• Acceleration - MPH/sec</li> <li>• Deceleration - MPH/sec</li> <li>• Engine Speed - RPM</li> <li>• Engine Throttle Position - % of Full Throttle</li> <li>• ABS Event - On/Off</li> <li>• Seat Occupied Status - Yes/No by Position</li> <li>• Seat Belt Buckled Status - Yes/No by Position</li> <li>• Master Optical Warning Device Switch - On/Off</li> <li>• Time - 24 Hour Time</li> <li>• Date - Year/Month/Day</li> </ul> <p><b><u>Seat Belt Monitoring System</u></b></p> <p>A seat belt monitoring system (SBMS) shall be provided. The SBMS shall be capable of monitoring up to 10 seating positions indicating the status of each seat position per the following:</p> <ul style="list-style-type: none"> <li>• Seat Occupied &amp; Buckled = Green LED indicator illuminated</li> <li>• Seat Occupied &amp; Unbuckled = Red LED indicator with audible alarm</li> <li>• No Occupant &amp; Buckled = Red LED indicator with audible alarm</li> <li>• No Occupant &amp; Unbuckled = No indicator and no alarm</li> </ul> <p>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.</p> <p><b><u>INTERCOM SYSTEM</u></b></p> <p>There shall be digital, single radio interface, intercom located in the crew cab in the cab. The front panel shall have master volume, and squelch controls with illuminated indicators, allowing for independent level setting of radio and auxiliary audio devices.</p>		

	Bidder Complies	
	Yes	No
<p>There shall be one (1) radio listen only / transmit control with select, monitor, receive, and transmit indicators. There shall be one (1) auxiliary audio input with select, and receive indicators.</p> <p>Headset jacks shall be provided for the driver, officer, two (2) crew positions located at both forward facing seats.</p> <p><b><u>RADIO / INTERCOM INTERFACE CABLE</u></b></p> <p>The apparatus manufacturer shall supply and install the required radio interface cable before delivery of the vehicle.</p> <p><b><u>OVER THE HEAD, RADIO TRANSMIT HEADSET</u></b></p> <p>There shall be four (4) over the head, radio transmit headset(s) provided driver's seat, officer seat, driver's side inboard forward facing seat and driver's side outboard forward facing seat.</p> <p>Each headset shall feature:</p> <ul style="list-style-type: none"> <li>• Coiled cord with rugged angled plug</li> <li>• Noise cancelling electric microphone</li> <li>• Flex boom rotates for left or right dress</li> <li>• Adjustable volume control</li> <li>• ComLeather ear seals with 24dB noise reduction</li> <li>• Radio Push To Transmit button. Mic is always live for intercom communication</li> </ul> <p><b><u>HEADSET HANGERS</u></b></p> <p>There shall be four (4) headset hanger(s) installed driver's seat, officer's seat, driver's side inboard forward facing seat and passenger's side inboard forward facing seat. The hanger(s) shall meet NFPA 1901, Section 14.1.11, requirement for equipment mounting.</p> <p><b><u>RADIO ANTENNA MOUNT</u></b></p> <p>There shall be three (3) standard 1.125", 18 thread, NMO type antenna mounting base(s) installed on the lower cab roof over the driver and officer on the cab roof with high efficiency, low loss, coaxial cable(s) routed within the cab / crew area to the center dash board . A weatherproof cap shall be installed on the mount.</p> <p><b><u>ELECTRICAL POWER CONTROL SYSTEM</u></b></p> <p>The primary power distribution shall be located forward of the officer's seating position and be easily accessible while standing on the ground for simplified maintenance and troubleshooting. Additional electrical distribution centers shall be provided throughout the vehicle to house the vehicle's electrical power, circuit protection, and control components. The electrical distribution centers shall be located strategically throughout the vehicle to minimize wire length. For ease of</p>		

	Bidder Complies	
	Yes	No
<p>maintenance, all electrical distribution centers shall be easily accessible. All distribution centers containing fuses, circuit breakers and/or relays shall be easily accessible.</p> <p>Distribution centers located throughout the vehicle shall contain battery powered studs for supplying customer installed equipment thus providing a lower cost of ownership.</p> <p>Circuit protection devices, which conform to SAE standards, shall be utilized to protect electrical circuits. All circuit protection devices shall be rated per NFPA requirements to prevent wire and component damage when subjected to extreme current overload. General protection circuit breakers shall be Type-I automatic reset (continuously resetting). When required, automotive type fuses shall be utilized to protect electronic equipment. Control relays and solenoid shall have a direct current rating of 125 percent of the maximum current for which the circuit is protected per NFPA.</p> <p><b><u>SOLID-STATE CONTROL SYSTEM</u></b></p> <p>A solid-state electronics based control system shall be utilized to achieve advanced operation and control of the vehicle components. A fully computerized vehicle network shall consist of electronic modules, electronic control modules to include black housings, a power indicator and status indicator located near their point of use to reduce harness lengths and improve reliability. The control system shall comply with SAE J1939-11 recommended practices.</p> <p>The control system shall operate as a master-slave system whereas the main control module instructs all other system components. The system shall contain patented Mission Critical software that maintains critical vehicle operations in the unlikely event of a main controller error. The system shall utilize a Real Time Operating System (RTOS) fully compliant with OSEK/VDX™ specifications providing a lower cost of ownership.</p> <p>For increased reliability and simplified use the control system modules shall include the following attributes:</p> <ul style="list-style-type: none"> <li>• Green LED indicator light for module power</li> <li>• Red LED indicator light for network communication stability status</li> <li>• Control system self test at activation and continually throughout vehicle operation</li> <li>• No moving parts due to transistor logic</li> <li>• Software logic control for NFPA mandated safety interlocks and indicators</li> <li>• Integrated electrical system load management without additional components</li> <li>• Integrated electrical load sequencing system without additional components</li> <li>• Customized control software to the vehicle's configuration</li> <li>• Factory and field re programmable to accommodate changes to the vehicle's operating parameters</li> </ul>		

	Bidder Complies	
	Yes	No
<p>To assure long life and operation in a broad range of environmental conditions, the solid-state control system modules shall meet the following specifications:</p> <ul style="list-style-type: none"> <li>• Module circuit board shall meet SAE J771 specifications</li> <li>• Operating temperature from -40C to +70C</li> <li>• Storage temperature from -40C to +70C</li> <li>• Vibration to 50g</li> </ul> <p>IP67 rated enclosure (Totally protected against dust and also protected against the effect of temporary immersion between 15 centimeters and one (1) meter)</p> <p>Operating voltage from eight (8) volts to 32 volts DC</p> <p>The main controller shall activate status indicators and audible alarms designed to provide warning of problems before they become critical.</p> <p><b><u>Circuit Protection and Control Diagram</u></b></p> <p>Copies of all job-specific, computer network input and output (I/O) connections shall be provided with each chassis. The sheets shall indicate the function of each module connection point, circuit protection information (where applicable), wire numbers, wire colors and load management information.</p> <p><b><u>ON-BOARD ELECTRICAL SYSTEM DIAGNOSTICS</u></b></p> <p>The on-board diagnostic messages shall be provided to support rapid troubleshooting of the electrical power and control system. The diagnostic messages shall be displayed on the information center located at the driver's position.</p> <p>The on-board information center shall include the following diagnostic information:</p> <ul style="list-style-type: none"> <li>• Text description of active warning or caution alarms</li> <li>• Simplified warning indicators</li> <li>• Amber caution indication with intermittent alarm</li> <li>• Red warning indication with steady tone alarm</li> </ul> <p><b><u>TCU Module with WiFi</u></b></p> <p>An in cab module shall provide WiFi wireless interface and data logging capability (no exception). The WiFi interface shall comply with IEEE 802.11 b/g/n capabilities while communicating at 2.4 Gigahertz. The module shall communicate through a white WiFi antenna allowing a line of site communication range of up to 300 feet with a roof mounted antenna.</p> <p>The module shall transmit a password protected web page to a WiFi enabled device (i.e. most smart phones, tablets or laptops) allowing two levels of user interaction. The firefighter level</p>		

	Bidder Complies	
	Yes	No
<p>shall allow vehicle monitoring of the vehicle and firefighting systems on the apparatus. The technician level shall allow diagnostic access to inputs and outputs installed on the electrical control and information system.</p> <p>The TCU capability shall record faults from the engine, transmission, ABS, electrical control and information systems as they occur. No other data shall be recorded at the time the fault occurs. The TCU shall provide up to 2 Gigabytes of data storage.</p> <p>It shall provide a means to download TCU information and update software in the device.</p> <p><b><u>Indicator Light and Alarm Prove-Out System</u></b></p> <p>A system shall be provided which automatically tests basic indicator lights and alarms located on the cab instrument panel.</p> <p><b><u>Voltage Monitor System</u></b></p> <p>A voltage monitoring system shall be provided to indicate the status of the battery system connected to the vehicle's electrical load. The system shall provide visual and audible warning when the system voltage is below or above optimum levels.</p> <p>The alarm shall activate if the system falls below 11.8 volts DC for more than two (2) minutes.</p> <p><b><u>Dedicated Radio Equipment Connection Points</u></b></p> <p>There shall be three (3) studs provided in the primary power distribution center located in front of the officer for two-way radio equipment.</p> <p>The studs shall consist of the following:</p> <ul style="list-style-type: none"> <li>• 12-volt 40-amp battery switched power</li> <li>• 12-volt 60-amp ignition switched power</li> <li>• 12-volt 60-amp direct battery power</li> </ul> <p>There shall also be a 12-volt 100-amp ground stud located in or adjacent to the power distribution center.</p> <p><b><u>EMI/RFI Protection</u></b></p> <p>To prevent erroneous signals from crosstalk contamination and interference, the electrical system shall meet, at a minimum, SAE J551/2, thus reducing undesired electromagnetic and radio frequency emissions. An advanced electrical system shall be used to ensure radiated and conducted electromagnetic interference (EMI) or radio frequency interference (RFI) emissions are suppressed at their source.</p>		

	Bidder Complies	
	Yes	No
<p>The apparatus shall have the ability to operate in the electromagnetic environment typically found in fire ground operations to ensure clean operations. The electrical system shall meet, without exceptions, electromagnetic susceptibility conforming to SAE J1113/25 Region 1, Class C EMR for 10 KHz-1GHz to 100 Volts/Meter. The vehicle OEM, upon request, shall provide EMC testing reports from testing conducted on an entire apparatus and shall certify that the vehicle meets SAE J551/2 and SAE J1113/25 Region 1, Class C EMR for 10 KHz-1GHz to 100 Volts/Meter requirements. Component and partial (incomplete) vehicle testing is not adequate as overall vehicle design can impact test results and thus is not acceptable by itself.</p> <p>EMI/RFI susceptibility shall be controlled by applying appropriate circuit designs and shielding. The electrical system shall be designed for full compatibility with low-level control signals and high-powered two-way radio communication systems. Harness and cable routing shall be given careful attention to minimize the potential for conducting and radiated EMI/RFI susceptibility.</p> <p><b><u>ELECTRICAL SYSTEM PROGNOSTICS</u></b></p> <p>There shall be a software based vehicle tool provided to predict remaining life of the vehicles critical fluid and events.</p> <p>The system shall send automatic indications to the information center and/or wireless enabled devices to proactively alert of upcoming service intervals.</p> <p>Prognostics shall include the following:</p> <ul style="list-style-type: none"> <li>• Engine oil and filter</li> <li>• Transmission oil and filter</li> </ul> <p><b><u>TELEMATICS SYSTEM</u></b></p> <p>There shall be a cellular based vehicle telematics system consisting of a Telematic Control Unit (TCU) with external cellular WiFi and GPS antenna, and access to a web-based user interface portal provided.</p> <p>The TCU shall be fully integrated into the electrical system. It shall monitor the vehicle through the CAN data bus and transmit data through a secure 4G LTE cellular connection, and be provided with a 3 year subscription..</p> <p>After accepting the end user license agreement, the vehicle administrator shall have access to vehicle location information and vehicle data via a secure web-based interface portal.</p>		



	Bidder Complies	
	Yes	No
<p>The web-based interface will allow users to access vehicle data and configure monitoring tools, providing a global view of the location of each connected asset and a summary of fleet data, which include:</p> <ul style="list-style-type: none"> <li>• User defined interval notifications</li> <li>• User defined fault alerts</li> <li>• Remote access to Command Zone diagnostics</li> <li>• Vehicle analytics and activity monitoring</li> <li>• Vehicle system status</li> </ul> <p><b><u>ELECTRICAL</u></b></p> <p>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.</p> <p>Electrical wiring and equipment shall be installed utilizing the following guidelines:</p> <ol style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> <li>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).</li> <li>5. All lights that have their sockets in a weather exposed area shall have corrosion preventative compound added to the socket terminal area.</li> <li>6. All electrical terminals in exposed areas shall have silicon applied completely over the metal portion of the terminal.</li> </ol>		

	Bidder Complies	
	Yes	No
<p>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.</p> <p>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.</p> <p>The results of the tests shall be recorded and provided to the purchaser at time of delivery.</p> <p><b><u>BATTERY SYSTEM</u></b></p> <p>Six (6) 12 volt, group 31 batteries that include the following features shall be provided:</p> <ul style="list-style-type: none"> <li>• 950 CCA, cold cranking amps</li> <li>• 190 amp reserve capacity</li> <li>• High cycle</li> <li>• Rating of 5700 CCA at 0 degrees Fahrenheit</li> <li>• 1140 minutes of reserve capacity</li> <li>• SAE Posts</li> </ul> <p>Each battery case shall be a black polypropylene material with a vertically ribbed container for increased vibration resistance. The cover shall be manifold vented with a central venting location to allow a 45 degree tilt capacity.</p> <p>The inside of each battery shall consist of a "maintenance free" grid construction with poly wrapped separators and a flooded epoxy bottom anchoring for maximum vibration resistance.</p> <p><b><u>BATTERY SYSTEM</u></b></p> <p>There shall be a single starting system with an ignition switch and starter button provided and located on the cab instrument panel.</p> <p><b><u>MASTER BATTERY SWITCH</u></b></p> <p>There shall be a master battery switch provided within the cab within easy reach of the driver to activate the battery system.</p> <p>An indicator light shall be provided on the instrument panel to notify the driver of the status of the battery system.</p> <p><b><u>BATTERY COMPARTMENTS</u></b></p> <p>The batteries shall be stored in well-ventilated compartments that are located under the cab and bolted directly to the chassis frame. The battery compartments shall be constructed of 3/16" steel plate and be designed to accommodate a maximum of three (3) group 31 batteries in each</p>		

	Bidder Complies	
	Yes	No
<p>compartment. The compartments shall include formed fit heavy-duty roto-molded polyethylene battery tray inserts with drains on each side of the frame rails. The batteries shall be mounted inside of the roto-molded trays.</p> <p><b><u>JUMPER STUDS</u></b></p> <p>One (1) set of battery jumper studs with plastic color-coded covers shall be installed on the battery box on the driver's side. This shall allow enough room for easy jumper cable access.</p> <p><b><u>BATTERY CHARGER</u></b></p> <p>There shall be a Kussmaul, 1200, 091-187-12-Remote battery charger provided. A bar graph display indicating the state of charge shall be provided.</p> <p>The charger shall have a maximum output of 40 amps and a fully automatic regulation.</p> <p>The battery charger shall be wired to the AC shoreline inlet through an AC receptacle adjacent to the battery charger.</p> <p>Battery charger shall be located in the cab behind the driver seat, on the vertical wall of the EMS compartment.</p> <p>The battery charger indicator shall be located near the driver's seat riser with special bracketry.</p> <p><b><u>SHORELINE</u></b></p> <p>There shall be a 20 amp 120 volt AC straight blade shoreline inlet provided to operate the dedicated 120 volt AC circuits on the apparatus without the use of the generator.</p> <p>The shoreline inlet shall include a red flip up cover.</p> <p>The shoreline(s) shall be connected to battery charger and shoreline receptacles.</p> <p>There shall be a mating connector body supplied with the loose equipment.</p> <p>There shall be a label installed near the inlet(s) that state the following:</p> <ul style="list-style-type: none"> <li>• Line Voltage</li> <li>• Current Rating (amps)</li> <li>• Phase</li> <li>• Frequency</li> </ul> <p>The shoreline receptacle shall be located in the driver side lower step well of cab.</p>		

	Bidder Complies	
	Yes	No
<p><b><u>ALTERNATOR</u></b></p> <p>A Delco Remy 55SI alternator shall be provided that has a rated output current of 430 amps, as measured by SAE method J56. The alternator shall feature an integral regulator and rectifier system that has been tested and qualified to an ambient temperature of 257 degrees Fahrenheit (125 degrees Celsius). The alternator shall be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.</p> <p><b><u>ELECTRONIC LOAD MANAGER</u></b></p> <p>An electronic load management (ELM) system shall be provided that monitors the vehicles 12-volt electrical system, automatically reducing the electrical load in the event of a low voltage condition, and automatically restoring the shed electrical loads when a low voltage condition expires. This ensures the integrity of the electrical system.</p> <p>For improved reliability and ease of use, the load manager system shall be an integral part of the vehicle's solid state control system requiring no additional components to perform load management tasks. Load management systems which require additional components shall not be allowed.</p> <p>The system shall include the following features:</p> <ul style="list-style-type: none"> <li>• System voltage monitoring.</li> <li>• A shed load shall remain inactive for a minimum of five minutes to prevent the load from cycling on and off.</li> <li>• Sixteen available electronic load shedding levels.</li> <li>• Priority levels can be set for individual outputs.</li> <li>• High Idle to activate before any electric loads are shed and deactivate with the service brake. <ul style="list-style-type: none"> <li>○ If enabled: <ul style="list-style-type: none"> <li>▪ "Load Man Hi-Idle On" shall display on the information center.</li> <li>▪ Hi-Idle shall not activate until 30 seconds after engine start up.</li> </ul> </li> </ul> </li> <li>• Individual switch "on" indicator to flash when the particular load has been shed.</li> <li>• The information center indicates system voltage.</li> </ul> <p>The information center, where applicable, includes a "Load Manager" screen indicating the following:</p> <ul style="list-style-type: none"> <li>• Load managed items list, with priority levels and item condition.</li> <li>• Individual load managed item condition: <ul style="list-style-type: none"> <li>○ ON = not shed</li> <li>○ SHED = shed</li> </ul> </li> </ul>		

	Bidder Complies	
	Yes	No
<p><b><u>SEQUENCER</u></b></p> <p>A sequencer shall be provided that automatically activates and deactivates vehicle loads in a preset sequence thereby protecting the alternator from power surges. This sequencer operation shall allow a gradual increase or decrease in alternator output, rather than loading or dumping the entire 12 volt load to prolong the life of the alternator.</p> <p>For improved reliability and ease of use, the load sequencing system shall be an integral part of the vehicle's solid state control system requiring no additional components to perform load sequencing tasks. Load sequencing systems which require additional components shall not be allowed.</p> <p>Emergency light sequencing shall operate in conjunction with the emergency master light switch. When the emergency master switch is activated, the emergency lights shall be activated one by one at half-second intervals. Sequenced emergency light switch indicators shall flash while waiting for activation.</p> <p>When the emergency master switch is deactivated, the sequencer shall deactivate the warning light loads in the reverse order.</p> <p>Sequencing of the following items shall also occur, in conjunction with the ignition switch, at half-second intervals:</p> <ul style="list-style-type: none"> <li>• Cab Heater and Air Conditioning</li> <li>• Crew Cab Heater (if applicable)</li> <li>• Crew Cab Air Conditioning (if applicable)</li> <li>• Exhaust Fans (if applicable)</li> <li>• Third Evaporator (if applicable)</li> </ul> <p><b><u>HEADLIGHTS</u></b></p> <p>There shall be a kit that includes four (4) HiViz FT 4.00" high x 6.00" long rectangular LED lights with parking lamp illumination around the outside of the lamps mounted in the front quad style, chrome housing on each side of the cab grille:</p> <ul style="list-style-type: none"> <li>• the outside lamp on each side shall contain low beam LEDs</li> <li>• the inside lamp on each side shall contain high beam LEDs</li> <li>• the lights shall be controlled through the headlight switch</li> </ul>		

	Bidder Complies	
	Yes	No
<p><b><u>DIRECTIONAL LIGHTS</u></b></p> <p>There shall be two (2) LED combination directional/marker lights provided. The lights shall be located on the outside cab corners, next to the headlights.</p> <p>The color of the lenses shall be the same color as the LED's.</p> <p><b><u>INTERMEDIATE LIGHT</u></b></p> <p>There shall be two (2) 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.</p> <p><b><u>CAB CLEARANCE/MARKER/ID LIGHTS</u></b></p> <p>There shall be seven (7) amber LED lights provided to indicate the presence and overall width of the vehicle in the following locations:</p> <ul style="list-style-type: none"> <li>• Three (3) amber LED identification lights shall be installed in the center of the cab above the windshield.</li> <li>• Two (2) amber LED clearance lights shall be installed, one (1) on each outboard side of the cab above the windshield.</li> <li>• Two (2) amber LED marker lights shall be installed, one (1) on each side above the cab doors.</li> </ul> <p><b><u>REAR CLEARANCE/MARKER/ID LIGHTING</u></b></p> <p>There shall be three (3) LED lights used as identification lights located at the rear of the apparatus per the following:</p> <ul style="list-style-type: none"> <li>• As close as practical to the vertical centerline</li> <li>• Centers spaced not less than 6.00" or more than 12.00" apart</li> <li>• Red in color</li> <li>• All at the same height</li> </ul> <p>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:</p> <ul style="list-style-type: none"> <li>• To indicate the overall width of the vehicle</li> <li>• One (1) each side of the vertical centerline</li> <li>• As near the top as practical</li> <li>• Red in color</li> <li>• To be visible from the rear</li> <li>• All at the same height</li> </ul>		

	Bidder Complies	
	Yes	No
<p>There shall be two (2) LED lights installed on the side of the apparatus as marker lights as close to the rear as practical per the following:</p> <ul style="list-style-type: none"> <li>• To indicate the overall length of the vehicle</li> <li>• One (1) each side of the vertical centerline</li> <li>• As near the top as practical</li> <li>• Red in color</li> <li>• To be visible from the side</li> <li>• All at the same height</li> </ul> <p>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.</p> <p>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.</p> <p>Per FMVSS 108 and CMVSS 108 requirements.</p> <p><b><u>REAR FMVSS LIGHTING</u></b></p> <p>There shall be two (2) wrap around tri-cluster LED modules provided on the face of the rear body compartments.</p> <p>Each tri-cluster shall include the following:</p> <ul style="list-style-type: none"> <li>• One (1) LED stop/tail light</li> <li>• One (1) LED directional light</li> <li>• One (1) LED backup light</li> </ul> <p><b><u>LICENSE PLATE BRACKET</u></b></p> <p>One (1) license plate bracket constructed of stainless steel shall be provided at the rear of the apparatus.</p> <p>One (1) white LED light with chrome housing shall be provided to 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.</p>		

	Bidder Complies	
	Yes	No
<p><b><u>BACK-UP ALARM</u></b></p> <p>A 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.</p> <p><b><u>MARKER LIGHTS</u></b></p> <p>There shall be one (1) pair of amber and red, LED marker lights with rubber arm, located at the rear corners. The amber lens shall face the front and the red lens shall face the rear of the truck and be the most rearward marker light.</p> <p>These lights shall be activated with the running lights of the vehicle.</p> <p><b><u>CAB PERIMETER SCENE LIGHTS</u></b></p> <p>There shall be four (4) 20.00" white LED strip lights provided, one (1) for each cab door.</p> <p>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.</p> <p><b><u>PUMP HOUSE PERIMETER LIGHTS</u></b></p> <p>There shall be two (2) 12.00" LED weatherproof strip lights with brackets provided under the pump panel running boards, centered front to rear as much as possible, one (1) each side.</p> <p>The lights shall be activated when the battery switch is on, and controlled by the same means as the body perimeter lights.</p> <p><b><u>BODY PERIMETER SCENE LIGHTS</u></b></p> <p>There shall be two (2) 350 lumens, 20.00" long, white LED's, 12 volt DC lights provided at the rear step area of the body, one (1) each side shining to the rear.</p> <p>The perimeter scene lights shall be activated when the parking brake is applied.</p> <p><b><u>ENHANCED SOFTWARE FOR PERIMETER LIGHTS</u></b></p> <p>All perimeter lights and scene lights shall be deactivated when the parking brake is released.</p> <p>The cab and crew cab perimeter lights shall dim after 10 seconds or immediately if the vehicle's transmission is put into gear.</p> <p><b><u>STEP LIGHTS</u></b></p> <p>There shall be four (4) LED step lights provided at the rear to illuminate the tailboard/step area.</p> <p>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</p>		



	Bidder Complies	
	Yes	No
<p>minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light.</p> <p>These step lights shall be actuated with the perimeter scene lights.</p> <p>All other steps on the apparatus shall be illuminated per the current edition of NFPA 1901.</p> <p><b><u>12 VOLT LIGHTING</u></b></p> <p>There shall be a Whelen 72M** 72.00" long 32,400 lumens DC powered light provided on the front cab roof as far forward as practical. The painted parts of this light assembly to be black.</p> <p>The light shall include the following:</p> <ul style="list-style-type: none"> <li>• White scene LEDs</li> <li>• Two (2) amber LED modules as clearance lights that are not energized</li> <li>• Three (3) amber LED modules as identification lights that are not energized</li> <li>• Four (4) additional LED modules. The additional modules to be four (4) scene light modules with white LEDs</li> </ul> <p>The scene LEDs shall be activated when the battery switch is on and by a switch at the driver's side switch panel, by a switch at the left side pump panel and by a switch at the passenger's side switch panel.</p> <p>There shall be a switch in the cab on the switch panel to control the flashing or spot LED modules.</p> <p>Amber flashing LED modules shall be deactivated when the parking brake is released.</p> <p>The white scene and flashing LED modules may be load managed when the parking brake is applied.</p> <p><b><u>12 VOLT DC SCENE LIGHTS</u></b></p> <p>There shall be two (2) Whelen PCPSM2* 16,000 lumens 12 volt DC powered light(s) with white LEDs installed on the cab located, One light on each side of the cab above the EMS compartment doors.</p> <p>The surface mount housing(s) shall be provided with a chrome cover.</p> <p>The light(s) shall be activated by a switch at the driver's side switch panel, by a switch at the left side pump panel, by a switch at the passenger's side switch panel, when the cab or crew cab doors on the driver's side are open and when the cab or crew cab doors on the passenger's side are open.</p>		

	Bidder Complies	
	Yes	No
<p>The light(s) may be load managed when the parking brake is applied.</p> <p><b><u>12 VOLT LIGHTING</u></b></p> <p>There shall be one (1) Whelen SM30**, 12,960 lumens 30.00" 12 volt DC light(s) with white LEDs provided on the right side of the body located, recessed in the hatch compartment center of the body. The painted parts of this light assembly to be black.</p> <p>The light(s) shall include the following:</p> <ul style="list-style-type: none"> <li>• Six (6) scene light modules with white LEDs</li> <li>• Three (3) amber LEDs as marker lights</li> <li>• Two (2) additional LED modules. The additional modules to be two (2) scene light modules with white LEDs.</li> </ul> <p>The lights shall be activated per the following:</p> <ul style="list-style-type: none"> <li>• The amber marker lights not activated.</li> <li>• The scene LEDs shall be controlled by a switch at the left side pump panel, when the cab or crew cab doors on the passenger's side are open and by a switch in a center console switch panel between the driver and officer.</li> <li>• There shall be a switch in the cab on the switch panel to control the flashing or spot LED modules.</li> <li>• The light(s) may be load managed when the parking brake is applied.</li> </ul> <p><b><u>HOUSING TO MOUNT RECESSED LIGHT ONTO A HORIZONTAL SURFACE</u></b></p> <p>There shall be two (2) housings fabricated with painted aluminum installed on the apparatus on the sides of the hatch compartments for the 12 volt DC recessed lights.</p> <p><b><u>12 VOLT LIGHTING</u></b></p> <p>There shall be one (1), Whelen SM30** 12,960 lumens 30.00" 12 volt DC light(s) with white LEDs provided on the left side of the body located, recessed in the hatch compartment at the center of the body. The painted parts of this light assembly to be black.</p> <p>The light(s) shall include the following:</p> <ul style="list-style-type: none"> <li>• Six (6) scene light modules with white LEDs</li> <li>• Three (3) amber LEDs as marker lights</li> <li>• Two (2) additional LED modules. The additional modules to be two (2) scene light modules with white LEDs.</li> </ul> <p>The lights shall be activated per the following:</p>		

	Bidder Complies	
	Yes	No
<ul style="list-style-type: none"> <li>• The amber marker lights not activated.</li> <li>• The scene LEDs shall be controlled by a switch at the left side pump panel, when the cab or crew cab doors on the driver's side are open and by a switch in a center console switch panel between the driver and officer.</li> <li>• There shall be a switch in the cab on the switch panel to control the flashing or spot LED modules.</li> <li>• The light(s) may be load managed when the parking brake is applied.</li> </ul> <p><b><u>HOSE BED LIGHTS</u></b></p> <p>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.</p> <ul style="list-style-type: none"> <li>• Light strip(s) shall be installed along the upper edge of the left side of the hose bed.</li> <li>• Light strip(s) shall be installed along the upper edge of the right side of the hose bed.</li> </ul> <p>The lights shall be activated by a cup switch at the rear of the apparatus no more than 72.00" from the ground.</p> <p><b><u>REAR SCENE LIGHT(S)</u></b></p> <p>There shall be two (2), Whelen PCPSM1* 10,444 lumens scene light(s) with a chrome cover and white LEDs installed at the rear of the apparatus, one (1) each side high on rear body bulkhead.</p> <p>The light(s) shall be controlled by a switch at the driver's side pump panel, by a switch at the passenger's side pump panel and when the emergency master switch is activated and the transmission is shifted into reverse.</p> <p>The light(s) may be load managed when the parking brake is applied.</p> <p><b><u>WALKING SURFACE LIGHTS</u></b></p> <p>There shall be white 12 volt DC LED light strips with stainless steel protective cover, provided to light the cargo area.</p> <ul style="list-style-type: none"> <li>• One (1) light strip shall be installed the entire length of the driver's side of the cargo area.</li> <li>• One (1) light strip shall be installed the entire length of the passenger's side of the cargo area.</li> </ul> <p>The light shall be activated when the body step lights are on.</p> <p><b><u>WATER TANK</u></b></p> <p>Booster tank shall have a capacity of 750 gallons and be constructed of UV stabilized ultra high impact polypropylene plastic by a manufacturer with a minimum of 20 years' experience</p>		

	Bidder Complies	
	Yes	No
<p>building tanks, is ISO 9001:2000 certified in all its manufacturing facilities, and has over 50,000 tanks in service.</p> <p>The booster tank shall be a form-fitting design that serves to keep the tank height as low as possible. The tank shall be no wider than 39.00" at the base to allow for greater compartment depth and no wider than 53.00" at the top.</p> <p>Tank joints and seams shall be nitrogen welded inside and out.</p> <p>Tank shall be baffled in accordance with NFPA Bulletin 1901 requirements.</p> <p>Baffles shall have vent openings at both the top and bottom to permit movement of air and water between compartments.</p> <p>Longitudinal partitions shall extend from 4.00" off the bottom of the tank to the underside of the top cover.</p> <p>All partitions shall interlock and shall be welded to the tank bottom and sides.</p> <p>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.</p> <p>Tank top shall be sufficiently supported to keep it rigid during fast filling conditions.</p> <p>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.</p> <p>A sump that will be sized dependent on the tank to pump plumbing shall be provided at the bottom of the water tank.</p> <p>Sump shall include a drain plug and the tank outlet.</p> <p>Tank shall be installed in a fabricated cradle assembly constructed of structural steel.</p> <p>Sufficient cross members shall be provided to properly support bottom of tank. Cross members shall be constructed of steel bar channel or rectangular tubing.</p> <p>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.</p> <p>Stops or other provision shall be provided to prevent an empty tank from bouncing excessively while moving vehicle.</p>		

	Bidder Complies	
	Yes	No
<p>Mounting system shall be approved by the tank manufacturer.</p> <p>Fill tower shall be constructed of .50" polypropylene and shall be a minimum of 8.00" wide x 14.00" long.</p> <p>Fill tower shall be furnished with a .25" thick polypropylene screen and a hinged cover.</p> <p>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.</p> <p><b><u>WATER TANK RESTRAINT</u></b></p> <p>A heavy-duty water tank restraint shall be provided.</p> <p><b><u>BODY HEIGHT</u></b></p> <p>The height of the body shall be 89.00" from the bottom of the body to the top of the body.</p> <p><b><u>HOSE BED</u></b></p> <p>The hose bed shall be fabricated of .125"-5052 aluminum with a nominal 38,000 psi tensile strength.</p> <p>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.</p> <p>The hose bed walls shall be unpainted and with a brushed finish.</p> <p>Hose bed shall accommodate from the right side- bed #1-300' of 1.75", bed #2 200' of 1.75", bed #3 250' of 2.5", bed #4 1200' of 4" rubber hose, bed #5 300 of 3". Beds 1, 2 and 3 have front of hose bed discharge outlets.</p> <p><b><u>HOSE BED DIVIDER</u></b></p> <p>Four (4) hose-bed dividers shall be furnished for separating hose.</p> <p>Each divider shall be constructed of a .25" brushed aluminum sheet. Flat surfaces shall be sanded for uniform appearance, or constructed of brushed aluminum.</p> <p>Divider shall be fully adjustable by sliding in tracks, located at the front and rear of the hose bed.</p> <p>Divider shall be held in place by tightening bolts, at each end.</p> <p>Acorn nuts shall be installed on all bolts in the hose bed which have exposed threads.</p>		

	Bidder Complies	
	Yes	No
<p><b><u>HOSE BED HOSE RESTRAINT</u></b></p> <p>The hose in the hose bed shall be restrained by a pair of black nylon Velcro® straps 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.</p> <p>A quantity of one (1) notch(es) shall be provided in the right side hosebed side sheet for a lowered mounting for a handrail. This will keep the height of a handrail even with the rest of the side sheet height to maintain a lower overall height.</p> <p><b><u>RUNNING BOARDS</u></b></p> <p>A running board shall be provided on each side of the front body to allow access to the backboard/crosslay storage area. The running boards shall be designed with a grip pattern punched into .125" bright aluminum treadplate material providing support, slip resistance, and drainage.</p> <p>The running board shall have a flip out section design that allows easier access to the full width equipment area above. The flip out section shall be tied to the "do not move truck indicator" with a sensor when it is flipped out. There shall be a latch provided that secures the flip out section when not in use.</p> <p><b><u>TAILBOARD</u></b></p> <p>The tailboard shall be constructed of .125" bright aluminum treadplate and spaced .50" from the body, as well as supported by a structural steel assembly.</p> <p>The tailboard area shall be 16.00" deep and full width of the body. 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.</p> <p>The exterior side shall be flanged down and in for increased rigidity of tailboard structure.</p> <p><b><u>REAR WALL, BODY MATERIAL</u></b></p> <p>The rear wall shall be smooth and the same material as the body.</p> <p>The rear wall body material shall be painted. Unpainted aluminum overlays shall be provided to allow for chevron application and to provide continuously smooth rear wall panels.</p> <p>The outboard edges of the rear wall shall be trimmed in polished stainless steel.</p> <p><b><u>TOW BARS</u></b></p> <p>Two (2) tow bars shall be installed under the tailboard.</p>		

	Bidder Complies	
	Yes	No
<p>Tow bars shall be fabricated of 1.00" CRS bar rolled into a 3.00" radius.</p> <p>Tow bar assemblies shall be constructed of .38" structural angle. When force is applied to the bar, it shall be transmitted to the frame rail.</p> <p>Tow bar assemblies 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.</p> <p>Tow bar design shall have been fully tested and evaluated using strain gauge testing and finite element analysis techniques.</p> <p><b><u>HITCH RECEIVER</u></b></p> <p>A hitch receiver shall be installed at the rear and the sides of the apparatus. The side receivers shall be located to the rear of the wheels, under the rear platform.</p> <p>The hitch receivers shall be constructed of heavy steel tubing and reinforced to the truck framework, for the receiving portion. This shall be a Class III/IV trailer hitch. A class IV rating shall be obtained only when a weight distributing hitch is used.</p> <p>Slide-in portion shall be held in place by one (1) safety pin with clip.</p> <p><b><u>COMPARTMENTATION</u></b></p> <p>The apparatus body shall be built of aluminum construction using a minimum of 0.125" thick, 5052-H32 aluminum.</p> <p>The body panel assembly shall be constructed in a fixture and consist of formed sheet metal for the front and rear bulkheads, door frames, floors, ceilings, and back walls. These parts shall be welded together to ensure greatest longevity with no visible welds in compartment interior.</p> <p>Welded construction shall consist of 1.00" x 0.38" engineered plug weld holes that control the size, location, and the amount of weld required. The bodies shall be assembled and welded from engineered prints that call out the size, location, and type of weld required.</p> <p>In structural areas the sheet metal components shall have flanges for welding. No butt joints shall be allowed. Gussets and support posts shall be provided for additional strength where needed.</p> <p>The fender panel shall be an integral part of the complete welded body assembly. All light and compartment holes are pre punched prior to construction to provide accuracy and rounded corners to prevent stress risers in the material.</p> <p>Circular fender liners shall be provided. For prevention of paint chips and ease of suspension maintenance the fender liners shall be formed from brush finished 304L stainless steel, be unpainted, and removable for suspension maintenance (no exception).</p>		

	Bidder Complies	
	Yes	No
<p>Side compartment flooring shall be of the sweep out design with the floor minimum of 1.00" higher than the compartment door lip.</p> <p>Drip protection shall be provided above the doors by means of aluminum extrusion, or formed bright aluminum treadplate.</p> <p>The top of the compartment shall be sheet metal and covered with bright aluminum treadplate rolled over the edges on the front, and rear. These covers shall have the corners welded.</p> <p>The aluminum treadplate covers shall not make up the ceiling of the compartment (no exception).</p> <p>All screws and bolts, which are not Grade 8, shall be stainless steel and where they protrude into a compartment shall have acorn nuts on the ends to prevent injury.</p> <p><b><u>UNDERBODY SUPPORT SYSTEM</u></b></p> <p>Due to the severe loading requirements of this pumper a method of body and compartment support suitable for the intended load shall be provided.</p> <p>The backbone of the body support system shall begin with the chassis frame rails which is the strongest component of the chassis and is designed for sustaining maximum loads. The support system shall include lateral frame rail extensions that are formed from 0.375" 80k high strength steel and bolted to the chassis frame rails with .625" diameter Grade 8 bolts.</p> <p>The vertical and horizontal members of the frame rail extensions are to be reinforced with welded gussets and extend to the outside edge of the body. The lateral frame extensions shall be electro-coated for superior corrosion resistance.</p> <p>The floating substructure shall be separated from the lateral frame extensions with neoprene elastomer isolators. These isolators shall reduce the natural flex stress of the chassis from being transmitted to the body, and absorb road shock and vibration.</p> <p>The isolators shall have a broad load range, proven viability in vehicular applications, be of a failsafe design and allow for all necessary movement in three (3) transitional and rotational modes.</p> <p>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. Two (2) 3.50" diameter isolators are provided at the front of the body near the centerline of the vehicle above the chassis frame. A minimum of eight (8) - 2.55" diameter isolators shall be provided, two (2) under each front compartment and two (2) under each rear side compartment. A minimum of four (4) 3.50" diameter isolators shall be provided under the rear compartment.</p>		



	Bidder Complies	
	Yes	No
<p>A design with body compartments simply hanging/sitting on the chassis in an unsupported (cantilever) fashion shall not be acceptable.</p> <p><b><u>AGGRESSIVE WALKING SURFACE</u></b></p> <p>All exterior surfaces designated as stepping, standing, and walking areas shall comply with the required average slip resistance of the current NFPA standards. Documentation of the material meeting the standard shall be provided at time of delivery.</p> <p><b><u>LOUVERS</u></b></p> <p>All body compartments shall have a minimum of one (1) set of automotive style, dust resistant louvers pressed into a wall. The louvers shall incorporate a one (1)-way rubber valve that provides airflow out of the compartment and prevents water and dirt from gaining access to the compartment. Compartments over the wheel shall not have louvers.</p> <p><b><u>TESTING OF BODY DESIGN</u></b></p> <p>Body structural analysis shall be fully tested. Proven engineering and test techniques such as finite element analysis and strain gauging have been performed with special attention given to fatigue life and structural integrity of the body and substructure.</p> <p>The body shall be tested while loaded to its greatest in-service weight.</p> <p>The criteria used during the testing procedure shall include:</p> <ul style="list-style-type: none"> <li>• Raising opposite corners of the vehicle tires 9.00" to simulate the twisting a truck may experience when driving over a curb.</li> <li>• Making a 90 degree turn, while driving at 20 mph to simulate aggressive driving conditions.</li> <li>• Driving the vehicle on at 35 mph on a washboard road.</li> <li>• Driving the vehicle at 55 mph on a smooth road.</li> <li>• Accelerating the vehicle fully, until reaching the approximate speed of 45 mph on rough pavement.</li> </ul> <p>Evidence of the actual testing techniques shall be made available upon request.</p> <p>FEA shall have been performed on all substructure components.</p> <p><b><u>LEFT SIDE COMPARTMENTATION</u></b></p> <p>The left side compartmentation shall consist of three rollup door compartments.</p> <p>A full height, rollup door compartment ahead of the rear wheels shall be provided. The pump operator's panel shall be located in this compartment. The partition to the right of the pump operator's panel shall be 2.50" in width. The interior dimensions of the remaining space in this</p>		

	Bidder Complies	
	Yes	No
<p>compartment shall be 25.25" wide x 53.63" high x 26.00" deep. The clear door opening shall be a minimum of 59.25" wide x 53.63" high.</p> <p>A rollup door compartment over the rear wheels shall be provided. The interior dimensions of this compartment shall be 60.00" wide x 22.88" high x 26.00" deep. The clear door opening shall be a minimum of 57.25" wide x 22.88" high.</p> <p>A full height, rollup door compartment behind the rear wheels shall be provided. The interior dimensions of this compartment shall be 51.75" wide x 54.63" high x 26.00" deep. The clear door opening shall be a minimum of 49.25" wide x 54.63" high.</p> <p>The roll up door spool shall be installed in a recess above the compartment ceiling. All compartments shall include a drip pan below the roll of the door. The drip pan shall be installed level with the compartment ceiling. The interior height of the compartments shall be measured from the compartment floor to the ceiling. The depth of the compartments shall be measured from the back wall to the inside of the door frame.</p> <p>Closing of the doors shall not require releasing, unlocking, or unlatching any mechanism and shall easily be accomplished with one hand.</p> <p><b><u>RIGHT SIDE COMPARTMENTATION</u></b></p> <p>A full height, jump off compartment with a roll-up door ahead of the rear wheels shall be provided, as convenient large storage compartment for often used items for the crew. The interior dimensions of this compartment shall be 62.00" wide x 54.50" high x 25.88" deep. The area behind the roll up door spool shall be notched for exterior storage or larger capacity water tank tee. The depth of the compartment shall be calculated with the compartment door closed. The compartment interior shall be fully open from the compartment ceiling to the compartment floor and designed so that no permanent dividers are required between the upper and lower sections. The clear door opening of this compartment shall be 59.00" wide x 54.50 high.</p> <p>Closing of the door shall not require releasing, unlocking, or unlatching any mechanism and shall easily be accomplished with one hand.</p> <p>A roll-up door compartment over the rear wheels shall be provided. The interior dimensions of this compartment shall be 60.00" wide x 23.00" high x 25.88" deep. The area behind the roll up door spool shall be notched for exterior storage or larger capacity water tank tee. The depth of the compartment shall be calculated with the compartment door closed. The clear door opening of this compartment shall be 57.00" wide x 23.00" high.</p> <p>Closing of the door shall not require releasing, unlocking, or unlatching any mechanism and shall easily be accomplished with one hand.</p>		

	Bidder Complies	
	Yes	No
<p>A full height, roll-up door compartment behind the rear wheels shall be provided. The interior dimensions of this compartment shall be 52.00" wide x 54.50" high x 25.88" deep. The area behind the roll up door spool shall be notched for exterior storage or larger capacity water tank tee. The depth of the compartment shall be calculated with the compartment door closed. The compartment interior shall be fully open from the compartment ceiling to the compartment floor and designed so that no permanent dividers are required between the upper and lower sections. The clear door opening of this compartment shall be 49.00" wide x 54.50" high.</p> <p>Closing of the door shall not require releasing, unlocking, or unlatching any mechanism and shall easily be accomplished with one hand.</p> <p>All compartments shall include a drip pan below the roll of the door.</p> <p><b><u>SIDE COMPARTMENT ROLLUP DOOR(S)</u></b></p> <p>There shall be six (6) ROM Series IV compartment doors installed on the side compartments. The door shall be double faced, aluminum construction, painted one (1) color to match the lower portion of the body.</p> <p>The slats shall be double wall box frame extrusion. The exterior surface shall be flat and the interior surface shall be concave to help loose equipment fall to the ground and prevent it from jamming the door.</p> <p>Between each slat shall be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments.</p> <p>A non-locking liftbar to be provided for each roll-up door. The lift bar shall be located at the bottom of the door and have latches on the outer extrusion of the door frame. A ledge shall be supplied over the lift bar as additional area to aid in closing the door.</p> <p>Each door shall have a 4.00" counter balance to assist in lifting.</p> <p>A heavy-duty magnetic switch shall be used for the control of open compartment door warning lights.</p> <p><b><u>REAR COMPARTMENTATION</u></b></p> <p>A vertically hinged, double door compartment above the rear tailboard shall be provided.</p> <p>The interior dimensions of this compartment shall be 37.00" wide x 43.50" high x 25.88" deep. The interior height of the compartments shall be measured from the compartment floor to the ceiling. The depth of the compartments shall be measured from the back wall to the inside of the door frame.</p>		

	Bidder Complies	
	Yes	No
<p>A louvered, removable access panel shall be furnished on the back wall of the compartment.</p> <p>The rear compartment shall be open into the rear side compartments. The transverse opening shall be a minimum of approximately 22.00" wide x 29.00" high.</p> <p>The clear door opening of this compartment shall be 32.63" wide x 38.63" high.</p> <p>Closing of the door shall not require releasing, unlocking, or unlatching any mechanism and shall easily be accomplished with one hand.</p> <p>Each of the vertically hinged compartment doors shall be provided with a positive door holder.</p> <p><b><u>REAR COMPARTMENT DOORS</u></b></p> <p>All hinged compartment doors shall be lap style with double panel construction and shall be a minimum of 1.50" thick. To provide additional door strength, a "C" section reinforcement shall be installed between the outer and interior panels.</p> <p>Doors shall be provided with a closed cell rubber gasket around the surface that laps onto the body. A second heavy-duty automotive rubber molding with a hollow core shall be installed on the door framing that seals onto the interior panel, to ensure a weather resisting compartment.</p> <p>All compartment doors shall have polished stainless steel continuous hinge with a pin diameter of .25" that is bolted or screwed on with stainless steel fasteners. (Hinges which are welded on shall not be acceptable.) A strip of dielectric isolation tape shall be provided between the hinge and door jamb.</p> <p>All door lock mechanisms shall be fully enclosed within the door panels to prevent fouling of the lock in the event equipment inside shifts into the lock area.</p> <p>Doors shall be latched with recessed, polished stainless steel "D" ring handles and FMVSS approved locks.</p> <p>To prevent corrosion caused by dissimilar metals, compartment door handles shall not be attached to outer door panel with screws. A rubber gasket shall be provided between the "D" ring handle and the door.</p> <p>The right rear compartment door shall have a notch located in the right door of the B1 compartment.</p> <p><b><u>SCUFFPLATE, INSIDE DOOR PAN</u></b></p> <p>Two (2) compartment doors shall include a low friction, abrasion resistant, plastic scuffplate to on a portion of the inside door pan of each door. Each scuffplate shall cover the full height and width of the compartment door pan.</p>		

	Bidder Complies	
	Yes	No
<p>Scuffplate shall be located on the both doors door(s) B1 compartment.</p> <p><b><u>COMPARTMENT LIGHTING</u></b></p> <p>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).</p> <p>Any remaining compartments without light strips shall have a 6.00" diameter light. Each light shall have a number 1076 one filament, two wire bulb.</p> <p>Opening the compartment door shall automatically turn the compartment lighting on.</p> <p><b><u>HATCH COMPARTMENTS</u></b></p> <p>Hatch compartments with two (2) lift-up, top opening hatch doors shall be provided above the body compartments. Each hatch compartment shall extend the full length of the side body compartmentation the right side shall be 21.00" wide x 22.00" maximum depth the left side shall be 14.00" wide x 22.00" maximum depth.</p> <p>The compartments shall extend the full length of the side body compartmentation except for a 20.00" recessed step area at the rear of the compartment on the access ladder side.</p> <p>Sides of the compartments shall be constructed of the same material as the body and painted job color on the outside panels. A chrome and black vinyl molding shall be provided to cover the seam between the top of the body panel and the bottom of the hatch compartment. The vertical outboard seam at the center of the compartment shall have a 1.00" wide painted aluminum extrusion.</p> <p>Top of the compartments shall be constructed of bright aluminum treadplate.</p> <p>Two (2) lift-up, bright aluminum treadplate doors shall be provided on the top of each hatch compartment. Each door shall have a lever handle with a slam style latch to hold the doors in the closed position.</p> <p>These double pan doors shall have lipped edges with a rubber seal for weather resistance.</p> <p>Doors shall be hinged on the outboard side and shall be held open with pneumatic stay arms on the right side and with a chain on the left side.</p> <p>The compartments shall have a 3/4" drain that extends to below the body.</p> <p>Black rubber matting shall be provided to help prevent stored equipment in pooled water. Shall be provided on the compartment floor to stop wet equipment from sitting in water pools.</p>		

	Bidder Complies	
	Yes	No
<p>Handrails shall be provided at the step area to the rear of the hatch compartment. One (1) curved handrail shall be mounted on the outboard side of the step area at the rear and curve over the top. One (1) straight handrail shall be mounted vertically along the inboard side of the step area.</p> <p><b><u>HATCH COMPARTMENT LIGHTING</u></b></p> <p>There shall be LED strip lights mounted full length on the interior, hinged side of each compartment.</p> <p>Opening the hatch compartment door shall automatically turn the hatch compartment lighting on.</p> <p><b><u>MOUNTING TRACKS</u></b></p> <p>There shall be recessed tracks installed vertically to support the adjustable shelf(s).</p> <p>Tracks shall not protrude into any compartment in order to provide the greatest compartment space and widest shelves possible.</p> <p>The tracks shall be provided in each compartment except for the one that contains the pump operator's panel.</p> <p><b><u>ADJUSTABLE SHELVES</u></b></p> <p>There shall be five (5) shelves with a capacity of 500 lb. provided.</p> <p>The shelf construction shall consist of .188" aluminum painted spatter gray with 2.00" sides.</p> <p>Each shelf shall be infinitely adjustable by means of a threaded fastener, which slides in a track.</p> <p>The shelves shall be held in place by .12" thick stamped plated brackets and bolts.</p> <p>The location(s) shall be in RS2 centered between the floor and the ceiling, in RS1 centered between the floor and the ceiling to the right of the partition, in RS3 in the upper third, in RS1 in the lower third to the right of the partition and in LS3 in the upper third.</p> <p><b><u>ADJUSTABLE SHELVES</u></b></p> <p>There shall be one (1) shelf provided in the B1 compartment and the RS 2 compartment. The shelf construction shall consist of .188" aluminum painted spatter gray. A capacity rating shall not be available on this tray due to a reduced side height being less than 2.00". Each shelf shall be infinitely adjustable by means of a threaded fastener, which slides in a track.</p> <p>The shelves shall be held in place by .12" thick stamped plated brackets and bolts.</p> <p>The side height of the shelf/shelves shall be as follows:</p> <ul style="list-style-type: none"> <li>• Front: 1.00" down-turned flange</li> </ul>		

	Bidder Complies	
	Yes	No
<ul style="list-style-type: none"> <li>• Rear: 2.00" high</li> <li>• Left &amp; Right Sides: 1.00" high</li> </ul> <p><b><u>SLIDE-OUT ADJUSTABLE HEIGHT TRAY</u></b></p> <p>There shall be three (3) slide-out trays provided.</p> <p>Each tray shall have 4.00" high sides and a minimum capacity rating of 250 lb. in the extended position. Each tray shall be finished to match the compartment interior.</p> <p>Each tray shall be mounted on a pair of side mounted slides. The slide mechanisms shall have ball bearings for ease of operation and years of dependable service. The slides shall be mounted to shelf tracks to allow the tray to be adjustable up and down within the designated mounting location.</p> <p>An automatic lock shall be provided for both the in and out tray positions. The lock trip mechanism shall be located at the front of the tray and shall be easily operated with a gloved hand.</p> <p>The tray(s) shall be located in lower LS 1, LS 3 and RS 3.</p> <p><b><u>SLIDE-OUT FLOOR MOUNTED TRAY</u></b></p> <p>There shall be one (1) floor mounted slide-out tray(s) provided.</p> <p>Each tray shall have 2.00" high sides and a minimum capacity rating of 500 lb. in the extended position.</p> <p>Each tray shall be constructed of aluminum with a dual action finish</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>		

	Bidder Complies	
	Yes	No
<p>The location(s) shall be the RS1 compartment.</p> <p><b><u>DRAWER ASSEMBLY</u></b></p> <p>A slide-out drawer assembly shall be installed is in the LS3 compartment attached to the bottom of the mid height shelf.</p> <p>The clear dimensions of the drawer shall be 6.00" with a face plate that is 7.00" high x 21.00" deep and a maximum width of 36.00".</p> <p>The drawer shall be capable of holding 250 pounds.</p> <p>The drawer shall be mounted in a cabinet housing constructed of light gray powder coated aluminum with anodized aluminum frames. The housing shall be 24.00" deep, and completely enclose the drawer.</p> <p>A full-length aluminum extruded rail shall be provided at the top edge of each drawer. This rail shall act as the latching mechanism as well as the handle for each drawer.</p> <p>There shall be a total of one (1) provided.</p> <p><b><u>SWING OUT TOOLBOARD</u></b></p> <p>A swing out aluminum toolboard shall be provided.</p> <p>It shall be a minimum of .188" thick aluminum.</p> <p>Pac Trac tool mount material shall be provided on both sides of the toolboard.</p> <p>A 1.00" x 1.00" aluminum tube frame shall be welded to the edge of the pegboard.</p> <p>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.</p> <p>The board shall have positive lock in the stowed and extended position.</p> <p>The board shall be mounted on adjustable tracks from front to back within the compartment.</p> <p>There shall be One (1) toolboard(s) provided and installed in compartment LS 2.</p> <p><b><u>TOOLBOARD ADDED TO STANDARD DEPTH SLIDE-OUT TRAY</u></b></p> <p>An aluminum toolboard shall be provided and mounted in a standard depth slide-out tray (tray not included). The toolboard shall be constructed of 0.19" thick aluminum that is DA finished. The toolboard shall be provided with 0.20" diameter holes in a pegboard pattern with 1.00"</p>		



	Bidder Complies	
	Yes	No
<p>centers between holes. A 1.00" x 1.00" aluminum tube frame shall be welded to the edge of the pegboard.</p> <p>The toolboard shall span the full depth of the standard depth slide-out tray and shall be as tall as possible for the specified mounting location.</p> <p>The toolboard shall be mounted on aluminum tracks to allow for side to side adjustment within the tray.</p> <p>The total capacity rating of the toolboard shall vary depending on the tray it is mounted in (capacity rating for the toolboard shall match the capacity rating of the tray it is mounted in).</p> <p>A total of One (1) toolboard(s) shall be provided and mounted in the slide-out tray(s) located in the 24" tray in compartment RS 1.</p> <p>Two (2) partitions, vertically mounted in adjustable tracks, shall be installed in compartment RS 1.</p> <p><b><u>FRICTION REDUCING MATERIAL</u></b></p> <p>Black friction reducing material shall be provided on the floor of a total of one (1) tray(s)/shelf(ves) located on the shelf in the B1 compartment.</p> <p><b><u>EQUIPMENT MOUNTING SYSTEM</u></b></p> <p>A Pac Trac equipment mounting system shall be installed on the back wall of one (1) compartment(s), in compartment LS3 on the upper back wall approx. 24" x 24".</p> <p><b><u>RUB RAIL</u></b></p> <p>Bottom edge of the side compartments shall be trimmed with a bright aluminum extruded rub rail.</p> <p>Trim shall be 3.12" high with 1.50" flanges turned outward for rigidity.</p> <p>The rub rails shall not be an integral part of the body construction, which allows replacement in the event of damage.</p> <p>Rub rails shall be attached with bolts and spaced from the body with isolators that shall help to absorb any moderate impact without damaging the body.</p> <p><b><u>BODY FENDER CROWNS</u></b></p> <p>Rubber fender crowns shall be provided around the rear wheel openings.</p>		

	Bidder Complies	
	Yes	No
<p>A fender liner constructed of painted to match the lower body color shall be provided to avoid paint chipping. The liners shall be removable to aid in the maintenance of rear suspension components.</p> <p><b><u>HARD SUCTION HOSE</u></b></p> <p>Two (2) lengths of 6.00" clear corrugated PVC hard suction hose, 12' in length, shall be provided. The hose shall be equipped with a long handle female coupling on one (1) end and a rocker lug male coupling on the other end. Couplings shall be hard coated aluminum.</p> <p><b><u>HOSE TROUGHS</u></b></p> <p>Two (2) stainless steel hard suction hose troughs shall be provided.</p> <p>The troughs shall be installed in the hatch compartment located on the right side hatch compartment.</p> <p>The troughs shall be installed side by side with a smooth aluminum lift-up door at the rear. The door shall have a D-handle latch.</p> <p>A floor shall be provided above the hard suction hose inside the hatch compartment to allow storage of additional equipment in the compartment.</p> <p><b><u>HANDRAILS</u></b></p> <p>The handrails shall be 1.25" diameter knurled aluminum to provide a positive gripping surface.</p> <p>Chrome plated end stanchions shall support the handrail. Plastic gaskets shall be used between end stanchions and any painted surfaces.</p> <p>Drain holes shall be provided in the bottom of all vertically mounted handrails.</p> <p>Handrails shall be located on the front of the body in positions needed to meet NFPA requirements.</p> <p><b><u>HANDRAIL</u></b></p> <p>One (1) full width horizontal handrail shall be provided below the hose bed at the rear of the apparatus.</p> <p><b><u>AIR BOTTLE STORAGE (DOUBLE)</u></b></p> <p>A quantity of three (3) air bottle compartments, 15.25" wide x 7.75" tall x 26.00" deep, shall be provided on the left side forward of the rear wheels, on the right side forward of the rear wheels and on the right side rearward of the rear wheels . A polished stainless steel door with a D-Ring 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.</p>		

	Bidder Complies	
	Yes	No
<p>Inside the compartment, black rubber matting and "W" shaped insert formed of composite materials shall be provided.</p> <p><b><u>EXTENSION LADDER</u></b></p> <p>There shall be a Duo Safety 24' two-section aluminum extension ladder provided.</p> <p><b><u>ROOF LADDER</u></b></p> <p>There shall be a Duo Safety 14' aluminum roof ladder with hooks on both ends provided.</p> <p><b><u>LADDER STORAGE</u></b></p> <p>The ladders shall be stored inside the upper section of the left side compartments. This ladder rack shall reduce the depth of the upper section in the side compartments.</p> <p>A partition shall be installed inside the compartment on the side of the rack to allow for equipment storage and to conceal the ladders.</p> <p>The ladders shall be banked in separate storage troughs.</p> <p>The ladder storage assembly shall be fabricated of stainless steel track channels to aid in loading and removal of ladders.</p> <p>Rear of the ladder storage area shall have a vertically hinged smooth aluminum door with a D-handle latch to contain the ladders. The door shall be hinged along the outboard edge.</p> <p><b><u>FOLDING LADDER</u></b></p> <p>One Duo Safety (1) 10.00' aluminum folding ladder shall be installed.</p> <p><b><u>FOLDING LADDER TROUGH</u></b></p> <p>A stainless steel trough for the folding ladder shall be provided in the long tool storage compartment on the right side.</p> <p><b><u>PIKE POLE PROVIDED BY FIRE DEPARTMENT</u></b></p> <p>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.</p> <p>The pike pole is not on the apparatus as manufactured. The fire department shall provide and mount the pike pole.</p> <p>The pike pole(s) shall be a 10' pike pole.</p>		

	Bidder Complies	
	Yes	No
<p><b><u>PIKE POLE STORAGE</u></b></p> <p>An aluminum tube with a .75" standard notch for an 8' or longer pike pole shall be provided in the upper body compartment on the right side. One (1) pike pole shall require a tube provided in this location.</p> <p><b><u>6' PIKE POLE PROVIDED BY FIRE DEPARTMENT</u></b></p> <p>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.</p> <p>The pike pole is not on the apparatus as manufactured. The fire department shall provide and mount the pike pole.</p> <p>.</p> <p><b><u>TOP ACCESS LADDER</u></b></p> <p>A wide easy climbing access ladder, constructed of aluminum rungs and extruded aluminum rails, shall be provided on the right side at the rear of the apparatus. The inside climbing area of the ladder shall be 13.75" wide.</p> <p>The lower section of the ladder shall be retractable into the upper section to eliminate interference with the rear FMVSS lights. When lowered the bottom rung shall be lower than the body, approximately 16.00" to 20.00" from the ground to allow a lower first step height.</p> <p>The ladder shall be slanted when in use for easy access, and fold against the body for storage to reduce the overall length. Corrosion resistant, stainless steel spring-loaded locks shall hold the ladder in place.</p> <p>The ladder mounting brackets shall be built so the rear bulkhead lighting does not have to be recessed mounted. Lights shall be flush mounted.</p> <p>There shall be a "do not move truck" indicator activated in the cab if the ladder is not in the stowed position when the parking brake is disengaged.</p> <p><b><u>PUMP CONTROL PANELS (LEFT SIDE CONTROL)</u></b></p> <p>Pump controls and gauges shall be located midship at the left side of the apparatus and properly identified.</p> <p>The main pump operator's control panel shall be completely enclosed and located in the forward section of the body compartment, to protect against road debris and weather elements. The pump operator's panels shall be no more than 31.00" wide, and made in four (4) sections with the center section easily removable with simple hand tools. For the safety of the pump operator, there shall be no discharge outlets or pump inlets located on the main pump operators panel.</p>		

	Bidder Complies	
	Yes	No
<p>Layout of the pump control panel shall be ergonomically efficient and systematically organized. The upper section shall contain the master gauges. This section shall be angled down for easy visibility. The center section shall contain the pump controls aligned in two horizontal rows. The pressure control device, engine monitoring gauges, electrical switches, and foam controls (if applicable) shall be located on or adjacent to the center panel, on the side walls for easy operation and visibility. The lower section shall contain the outlet drains.</p> <p>Manual controls shall be easy moving 8" long lever style controls that operate in a vertical, up and down swing motion. These handles shall have a 2.25" diameter knob and be able to lock in place to prevent valve creep under any pressure. Bright finish bezels shall encompass the opening, be securely mounted to the pump operator's panel, and shall incorporate the discharge gauge bezel. Bezels shall be bolted to the panel for easy removal and gauge service. The left side discharges shall be controlled directly at the valve. There shall be no push-pull style control handles. (No exception)</p> <p>Identification tags for the discharge controls shall be recessed within the same bezel. The discharge identification tags shall be color coded, with each discharge having its own unique color.</p> <p>All remaining identification tags shall be mounted on the pump panel in chrome-plated bezels.</p> <p>All discharge outlets shall be color coded and labeled to correspond with the discharge identification tag.</p> <p>The pump panels for the midship discharge and intake ports shall be located ahead of the body compartments with no side discharge or intake higher than the frame rail. The pump panels shall be easily removable with simple hand tools.</p> <p>A recessed cargo area shall be provided at the front of the body, ahead of the water tank above the plumbing.</p> <p><b><u>PUMP</u></b></p> <p>Pump shall be a low profile, 1500 gpm single stage midship mounted centrifugal type, mounted below the cab. The pump shall have a 15 percent reserve capacity to allow for extended time between pump rebuild. To ensure efficient pump/vehicle design the capacity to weight ratio shall not be less than 1.5:1.</p> <p>The pump casing shall consist of three (3) discharge outlets, one (1) to each side in line with the impeller and one (1) to the rear. The pump casing shall incorporate two (2) water strippers to maintain radial balance.</p> <p>Pump shall be the Class A type.</p>		

	Bidder Complies	
	Yes	No
<p>Pump shall be certified to deliver the percentage of rated discharge from draft at pressure indicated below:</p> <ul style="list-style-type: none"> <li>• 100 percent of rated capacity at 150 psi net pump pressure</li> <li>• 70 percent of rated capacity at 200 psi net pump pressure</li> <li>• 50 percent of rated capacity at 250 psi net pump pressure</li> </ul> <p>The pump shall have the capacity to deliver the percentage of rated discharge from a pressurized source as indicated below:</p> <ul style="list-style-type: none"> <li>• 135 percent of rated capacity at 100 psi net pump pressure from a 5 psi source</li> </ul> <p>Pump body shall be fine-grained gray iron. Pump shall incorporate a heater/cooling jacket integral to the pump housing.</p> <p>The impeller shall be high strength vacuum cast bronze alloy accurately machine balanced and splined to a ten 10) spline stainless steel pump shaft for precision fit, exceptional durability, and efficiency. Double replaceable reverse flow labyrinth type bronze wear ring design shall help to minimize end thrust. The impeller shall be a twisted vane design to create higher lift. No keyed shafts shall be acceptable.</p> <p>The pump shall include O-ring gaskets throughout the pump.</p> <p>Deep groove radial type oversize ball bearings shall be provided. The bearings shall be protected at the openings from road dirt and water with an oil seal and water slinger.</p> <p>The pump shall have a flat, patterned area on the top of the pump intake wye to allow standing for plumbing maintenance. The main inlet manifold shall be 6.00" in diameter and shall have a low profile design to facilitate low crosslays and high flows.</p> <p>For ease of service, the pump housing, intake wye, impeller, mechanical seal, and gear case shall be accessible from above the chassis frame by tilting the cab. Removal of the main inlet wyres shall provide access to the impeller, mechanical seal, and wear ring (no exception).</p> <p>The tank to pump line and the primary discharge line shall be the only piping required to be removed for overhaul.</p> <p>For ease of service and overhaul there shall be no piping or manifolding located directly over the pump (no exception).</p> <p><b><u>PUMP MOUNTING</u></b></p> <p>Pump shall be mounted to the chassis frame rails directly below the crew cab, to minimize wheelbase and facilitate service, using rubber isolators in a modified V pattern that include one</p>		

	Bidder Complies	
	Yes	No
<p>(1) central mounted isolators located between the frame rails and one (1) on each side outside the frame rails. The mounting shall allow chassis frame rails to flex independently without damage to the fire pump. Each isolator shall be 2.55" in total outside diameter and shall be rated at 490 lb. The pump shall be completely accessible by tilting the cab with no piping located directly above the pump.</p> <p><b><u>MECHANICAL SEALS</u></b></p> <p>Silicon carbide mechanical seals shall be provided. The seals shall be spring loaded and self-adjusting. The seals shall have a minimum thermal conductivity of 126 W/m*K to run cooler. Seals shall have a minimum hardness of 2800 kg/mm2 to be more resistant to wear, and have thermal expansion characteristics of no more than 4.0 X106mm/mm*K to be more resistant to thermal shock.</p> <p><b><u>PUMP GEAR CASE</u></b></p> <p>The integrated pump transmission gear case shall use a pressure-lubricated system to cool, lubricate, and filter the oil. The gear case shall be constructed of lightweight aluminum, and impregnated with resin in accordance to MIL Spec MIL-I-17563. A sight glass, accessible by tilting the cab, shall be provided for easy fluid level checks.</p> <p>The gear case shall consist of three (3) gears to drive the pump.</p> <p><b><u>CLUTCH</u></b></p> <p>There shall be a heavy-duty hydraulic clutch mounted directly to the integrated pump transmission to engage and disengage the pump without gear clash. The clutch shall be a multiple disc design for maximum torque. The clutch shall be fully self-adjusting to provide automatic wear compensation, and consistent torque throughout the life of the clutch. Positive engagement and disengagement shall be provided through a high efficient and dependable hydraulic system to assure superior performance.</p> <p><b><u>LOW PRESSURE/HIGH TEMPERATURE LIGHTS</u></b></p> <p>Lights shall be provided to indicate when a high temperature or low pressure situation occurs. Lights shall be provided next to the master gauges at the pump panel as well as on the control panel in the cab. A pair of lights shall be provided in each location. One (1) light shall be provided to indicate high temperature. The second light shall be provided to indicate a low pressure. All lights shall be labeled accordingly.</p> <p><b><u>PUMPING MODE</u></b></p> <p>Pump shall provide for both pump and roll mode and stationary pumping mode.</p> <p>Stationary pumping mode shall be accomplished by stopping the vehicle, setting the parking brake and engaging the water pump switch on the cab switch panel. The transmission shall shift</p>		

	Bidder Complies	
	Yes	No
<p>to "Neutral" range automatically when the parking brake is set. The "OK to Stationary Pump" indicator shall also illuminate when the parking brake is set.</p> <p>If the vehicle is equipped with a suitable foam system or CAFS system, these systems shall be engaged from the cab switch panel as well.</p> <p>Pump and roll mode shall be accomplished by the use of the main pump and shall not require the use of a secondary pump. Pump and roll mode shall use the same operation sequence as stationary pumping mode with a few additional steps. After the vehicle is setup for stationary pumping, the operator shall leave the cab and setup the pump panel to discharge at the desired outlet(s). Upon returning to the cab, the operator shall disengage the parking brake. An "OK to Pump &amp; Roll" indicator shall illuminate on the cab switch panel. First gear on the transmission gear selector shall be selected by the operator for pump and roll operations. The operator as needed shall apply the foot throttle. Pump and roll mode shall be maintained unless the transmission shifts out of first gear.</p> <p>Stopping either stationary pumping mode or pump and roll mode shall be accomplished by pressing the "Water Pump" switch down to disengage the pump.</p> <p>A pump pressure reading shall be displayed in view of the driver.</p> <p><b><u>PUMP SHIFT</u></b></p> <p>Pump shall be engaged in not more than two steps, by simply setting the parking brake, which shall automatically put the transmission into neutral, and activating a rocker switch in the cab. Switches in the cab shall also allow for water, foam, or CAFS if equipped, and activate the appropriate system to preset parameters. The engagement shall provide simple two-step operation, enhance reliability, and completely eliminate gear clash. The shift shall include the indicator lights as mandated by NFPA. A direct override switch shall be located behind a door in the lower pump operator's panel. The switch shall automatically disengage when the door is closed.</p> <p>As the parking brake is applied, the pump panel throttle shall be activated and deactivate the chassis foot throttle for stationary operation.</p> <p><b><u>TRANSMISSION LOCK UP</u></b></p> <p>Transmission lock up is not required as transmission shall automatically shift to neutral as soon as the parking brake is set.</p>		



	Bidder Complies	
	Yes	No
<p><b><u>AUXILIARY COOLING SYSTEM</u></b></p> <p>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. A water-to-coolant heat exchanger shall be used.</p> <p><b><u>INTAKE RELIEF VALVE - PUMP</u></b></p> <p>There shall be One (1) relief valve(s) installed on the suction side of the pump preset at 125 psig.</p> <p>The relief valve shall have a working range of 75 psi to 250 psi.</p> <p>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.</p> <p>The relief valve pressure control shall be located behind the right side pump panel with a stainless steel access door.</p> <p><b><u>PRESSURE CONTROLLER</u></b></p> <p>An electronic pressure controller shall be provided.</p> <p>A pressure transducer shall be installed in the discharge side of the water pump. The transducer continuously monitors pump pressure sending a signal to the electronic pressure controller.</p> <p>The pressure controller can be used in two (2) modes of operation, RPM mode and pressure modes. The controller shall be programmed to turn on/default to No Mode/Default Press Setting mode.</p> <p>In the RPM mode, the controller can be activated after vehicle parking brake has been set. When in this mode, the controller shall maintain the set engine speed, regardless of engine load (within engine operation capabilities).</p> <p>In the pressure mode, the controller can be activated after vehicle parking brake has been set. When in this mode, the controller shall automatically maintain the discharge pressure set by the operator (within the discharge capabilities of the pump and water supply) regardless of flow.</p> <p>A 2.00" diameter throttle control knob with no mechanical stops, a serrated grip, and a red idle push button in the center shall be an integrated/part of the pressure controller. The throttle control knob shall be programmed for Clockwise rotation to increase engine speed.</p> <p>Individual LED indicators for ok to pump, throttle ready, pressure mode and rpm mode shall be located on the pressure controller for easy viewing.</p>		

	Bidder Complies	
	Yes	No
<p>A pump cavitation protection feature shall also be provided which shall return the engine to idle should the pump cavitate. Cavitation is sensed by the combination of pump pressure below 30 psi and engine speed above 2000 rpm for more than five (5) seconds.</p> <p>Other safety features include recognition of low water and no water conditions with an automatic programmed response and a push button to return the engine to idle.</p> <p>The pressure controller LCD screen shall be 4.20" in size with a minimum brightness of 750 nits. The LCD screen and LED intensity shall be automatically adjust for day and nighttime operation. The LCD screen intensity can also be manually adjusted if needed.</p> <p>The following information shall be provided/displayed on the LCD screen -</p> <ul style="list-style-type: none"> <li>• Engine RPM</li> <li>• Check engine and stop engine warning indicators</li> <li>• Engine oil pressure</li> <li>• Engine coolant temperature</li> <li>• Water pump temperature</li> <li>• Fuel Level</li> <li>• Water tank level</li> <li>• Battery voltage</li> <li>• Operating mode (RPM or pressure)</li> <li>• Pressure or RPM setting</li> </ul> <p>On screen messaging show diagnostic and warning messages as they occur. It shall show apparatus information, stored data, and program options when selected by the operator. It shall monitor inputs outputs and support audible and visual warning alarms for the following conditions -</p> <ul style="list-style-type: none"> <li>• High battery voltage</li> <li>• Low battery voltage/engine off</li> <li>• Low battery voltage/engine running</li> <li>• High water pump temperature</li> <li>• Low fuel</li> <li>• Low engine oil pressure</li> <li>• High engine coolant temperature</li> <li>• Water tank out of water (visual alarm only)</li> <li>• No engine response (visual alarm only)</li> </ul>		

	Bidder Complies	
	Yes	No
<p>The pressure controller shall store the accumulated operating hours for the pump and engine. These items are to be displayed within the pressure controller menu.</p> <p>The pressure controller shall include a USB port on the back of the controller for easy software upgrades if needed.</p> <p><b><u>PRIMING PUMP TRIDENT AIR PRIME</u></b></p> <p>The priming pump shall be a compressed air powered, high efficiency, multistage venturi based priming system, conforming to standards outlined in the current edition of NFPA 1901.</p> <p>All wetted metallic parts of the priming system are to be of brass and stainless steel construction.</p> <p>One (1) priming control shall open the priming valve and start the pump primer.</p> <p><b><u>PUMP MANUALS</u></b></p> <p>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.</p> <p><b><u>PLUMBING, STAINLESS STEEL AND HOSE</u></b></p> <p>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.</p> <p>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.</p> <p>Plumbing manifold bodies shall be ductile cast iron or stainless steel.</p> <p>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.</p> <p>All water carrying gauge lines shall be of flexible polypropylene tubing.</p> <p>All piping, hose and fittings shall have a minimum of a 500 PSI hydrodynamic pressure rating.</p> <p><b><u>FOAM SYSTEM PLUMBING</u></b></p> <p>All piping that is in contact with the foam concentrate or foam/water solution shall be stainless steel. The fittings shall be stainless steel or brass. Cast iron pump manifolds will be allowed.</p>		

	Bidder Complies	
	Yes	No
<p><b><u>MAIN PUMP INLETS</u></b></p> <p>A 6.00" pump manifold inlet shall be provided on each side of the vehicle. The suction inlets shall include screens that are designed to provide cathodic protection for the pump, thus reducing corrosion in the pump.</p> <p>Main pump inlets shall not be located on the main operator's panel and shall maintain a low connection height by terminating below the top of the chassis frame rail.</p> <p><b><u>SHORT SUCTION TUBE(S)</u></b></p> <p>The suction tube(s) on the water pump shall have short suction tube(s) installed to allow for installation of adapters, elbows or intake valves without excessive overhang.</p> <p><b><u>MAIN PUMP INLET CAP</u></b></p> <p>The main pump inlets shall have National Standard Threads with a long handle chrome cap.</p> <p>The cap shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).</p> <p><b><u>VALVES</u></b></p> <p>All discharges shall use in-line ball valves.</p> <p>The location of the valve for the one (1) inlet shall be recessed behind the pump panel.</p> <p><b><u>INLET CONTROL</u></b></p> <p>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.</p> <p><b><u>LEFT SIDE INLET</u></b></p> <p>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.</p> <p>The auxiliary inlet shall be provided with a strainer, chrome swivel and plug.</p> <p><b><u>ANODE, INLET</u></b></p> <p>A pair of sacrificial zinc anodes shall be provided in the water pump inlets to protect the pump from corrosion.</p> <p><b><u>INLET BLEEDER VALVE</u></b></p> <p>A 0.75" bleeder valve shall be provided for each side gated inlet.</p> <p>The valves shall be located behind the panel with a "T" swing style handle control extended to the outside of the panel.</p>		

	Bidder Complies	
	Yes	No
<p>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.</p> <p>The water discharged by the bleeders shall be routed below the chassis frame rails.</p> <p><b><u>TANK TO PUMP</u></b></p> <p>The booster tank shall be connected to the intake side of the pump with heavy duty 4.00" piping and a quarter turn 3.00" full flow line valve with the control located at the operator's panel. A rubber coupling shall be included in this line to prevent damage from vibration or chassis flexing.</p> <p>A check valve shall be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.</p> <p><b><u>TANK REFILL</u></b></p> <p>A 2.00" 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.</p> <p><b><u>DISCHARGE OUTLET CONTROLS</u></b></p> <p>The right side discharges shall incorporate a quarter-turn ball valve and be controlled by electric valve controllers provided on the pump operators panel. The electric controls must be of a true position feedback design, requiring no clutches in the motor or current limiting. The units must be completely sealed with momentary open, close as well and an optional one touch full open feature to operate their corresponding valve actuator. The controllers shall provide position indication on a full color, backlit LCD display. They shall have manual adjustment of the brightness as well as an auto dimming option. In addition to the valve controls, the electric valve controllers shall include a pressure display</p> <p>All other outlets shall have manual swing handles that operate in a vertical up and down motion. These handles shall be able to lock in place to prevent valve creep under pressure.</p> <p><b><u>LEFT SIDE DISCHARGE OUTLETS</u></b></p> <p>There shall be two (2) discharges with a 2.50" valves on the left side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter. Discharges shall be located below the cab, and shall be no higher than the top of the chassis frame rail. Discharges shall not be located on the pump operator's panel. Lever controls shall be provided at the valve.</p>		

	Bidder Complies	
	Yes	No
<p><b><u>LEFT SIDE OUTLET ELBOWS</u></b></p> <p>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, 30 degree elbow.</p> <p>The elbow shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).</p> <p><b><u>REDUCER</u></b></p> <p>There will be two (2) adapters with 2.50" FNST x 1.50" MNST threads and a 1.50" chrome plated cap installed on the driver's side discharges,</p> <p><b><u>RIGHT SIDE DISCHARGE OUTLETS</u></b></p> <p>There shall be One (1) discharge outlet with a 2.50" valve on the right side of the apparatus, terminating with a 2.50" MNST adapter. The discharge(s) shall be located below the crew cab and shall be no higher than the top of the chassis frame rail.</p> <p>There shall be electric valve controller(s) provided on the pump operators panel. The electric control(s) must be of a true position feedback design, requiring no clutches in the motor or current limiting. The unit(s) must be completely sealed with momentary open, close as well and an optional one touch full open feature to operate the valve actuator. The controller(s) shall provide position indication on a full color, backlit LCD display. They shall have manual adjustment of the brightness as well as an auto dimming option.</p> <p>In addition to valve position, each controller shall include a pressure display.</p> <p><b><u>RIGHT SIDE OUTLET ELBOWS</u></b></p> <p>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, 30 degree elbow.</p> <p>The elbow shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).</p> <p><b><u>LARGE DIAMETER DISCHARGE OUTLET</u></b></p> <p>There shall be a 4.00" discharge outlet with a 4.00" valve installed on the right side of the apparatus, terminating with 4.00" MNST threads. The discharge shall be located below the crew cab and shall be no higher than the top of the chassis frame rail.</p> <p>There shall be an electric valve controller provided on the pump operators panel. The electric control must be of a true position feedback design, requiring no clutches in the motor or current</p>		

	Bidder Complies	
	Yes	No
<p>limiting. The unit must be completely sealed with momentary open, close as well and an optional one touch full open feature to operate the valve actuator. The controller shall provide position indication on a full color, backlit LCD display. It shall have manual adjustment of the brightness as well as an auto dimming option.</p> <p>In addition to valve position, the controller shall include a pressure display.</p> <p><b><u>LARGE DIAMETER OUTLET 4.0" FNST X 4.0" STORZ WITH CAP AND CABLE</u></b></p> <p>The large diameter outlet shall have a National Standard hose thread adapter with a 4.00" rocker lug chrome plated cap and chain.</p> <p>The cap shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected.</p> <p><b><u>FRONT DISCHARGE OUTLET</u></b></p> <p>There shall be one (1) 1.50" discharge outlet piped to the front of the apparatus and located in the center bumper tray.</p> <p>Plumbing shall consist of 2.00" piping and flexible hose with a 2.00" ball 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 1.50" NST with 90 degree stainless steel swivel.</p> <p>There shall be T swing handle drains provided at all low points of the piping.</p> <p><b><u>HOSE BED DISCHARGE OUTLET</u></b></p> <p>There shall be Two (2) discharge outlets piped to the front of the hose bed, in the hose beds # 3 and 4, see hose bed capacity option for layout bed. Plumbing shall consist of 2.00" schedule 10 304L welded or formed stainless steel piping along with a 2.00" full flow ball valve with the control from the pump operator's panel. Discharge shall terminate with 1.50" NST thread.</p> <p><b><u>HOSE BED DISCHARGE OUTLET</u></b></p> <p>There shall be One (1) discharge outlet piped to the front of the hose bed, in the is hose bed # 5 bed. Plumbing shall consist of 3.00" schedule 10 304L welded or formed stainless steel piping along with a 2.50" full flow ball valve with the control from the pump operator's panel. Discharge shall terminate with 2.50" NST thread.</p> <p><b><u>DISCHARGE CAPS/ INLET PLUGS</u></b></p> <p>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.</p>		

	Bidder Complies	
	Yes	No
<p>Chrome plated, rocker lug, plugs with chain shall be furnished for all auxiliary inlets 1.00" thru 3.00" in size.</p> <p>The caps and plugs shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).</p> <p><b><u>OUTLET BLEEDER VALVE</u></b></p> <p>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.</p> <p>The valves shall be located behind the panel with a T swing style handle control extended to the outside of the side pump panel.</p> <p>The handles shall be chrome plated and provide a visual indication of valve position.</p> <p>The T swing handle shall provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage.</p> <p>Bleeders shall be located at the bottom of the pump panel. They shall be properly labeled identifying the discharge they are plumbed in to.</p> <p>The water discharged by the bleeders shall be routed below the chassis frame rails.</p> <p><b><u>DELUGE RISER</u></b></p> <p>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. A 3.00" valve shall be provided. The deluge riser shall allow flow for 1250 GPM.</p> <p>Any 3.00 inch or larger discharge valve shall be a slow-operating valve in accordance with NFPA 16.7.5.3.</p> <p><b><u>TELESCOPIC PIPING TFT XG-18 RISER</u></b></p> <p>The deluge riser piping shall include an 18.00" extension.</p> <p>This extension shall be telescopic to allow the deluge gun to be raised 18.00" increasing the range of operation.</p> <p>A triangular bracing structure shall be installed to support the piping. Aluminum tread plate shall be placed on the forward side of the bracing structure.</p> <p>A position sensor shall be provided on the telescopic piping that shall activate the "do not move vehicle" light inside the cab when the monitor is in the raised position.</p>		



	Bidder Complies	
	Yes	No
<p><b><u>DELUGE OUTLET SPECIAL INSTRUCTIONS</u></b></p> <p>The deluge gun outlet shall be located is in the dunnage area and set to not exceed the 9'8" maximum overall height when in the lowered position.</p> <p><b><u>MONITOR- ELKHART STINGER 8297-25</u></b></p> <p>A monitor shall be properly installed on the deluge riser.</p> <p>This monitor shall include both a fixed base and a portable base with two (2) 2.50" clappered inlets.</p> <p>The monitor shall be painted to match the body.</p> <p><b><u>MONITOR NOZZLEELKHART ST-194</u></b></p> <p>A stream shaper nozzle with quad stacked deluge tips shall be provided.</p> <p>Tip sizes shall be 1.375", 1.50", 1.75" and 2.0"</p> <p><b><u>MONITOR MOUNTING BASE</u></b></p> <p>An Elkhart Model 8298 deck mount base for an Elkhart "Stinger" monitor shall be properly installed on the deluge riser via the 3.00" four bolt flange. The base shall NOT BE PAINTED per the manufacturers recommendations.</p> <p><b><u>CROSSLAY MODULE</u></b></p> <p>The crosslay module shall be full width of the rear body.</p> <p>The forward, upper corners of the module shall have full body corners.</p> <p>The crosslay module shall be manufactured for installation of roll up doors on each side.</p> <p><b><u>ROLLUP DOOR, CROSSLAY ENDS</u></b></p> <p>The compartment doors shall be rollup style, double faced aluminum construction painted one (1) color to match the lower portion of the body.</p> <p>The slats shall be double wall box frame extrusion. The exterior surface shall be flat and the interior surface shall be concave to help loose equipment fall to the ground and prevent it from jamming the door.</p> <p>Between each slat shall be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments.</p> <p>A non-locking liftbar to be provided for each roll-up door. The lift bar shall be located at the bottom of the door and have latches on the outer extrusion of the door frame. A ledge shall be supplied over the lift bar as additional area to aid in closing the door.</p>		

	Bidder Complies	
	Yes	No
<p>Each door shall have a 4.00" counter balance to assist in lifting.</p> <p>A heavy-duty magnetic switch shall be used for the control of open compartment door warning lights.</p> <p>The crosslays shall have a drip pan below the roll of the door.</p> <p><b><u>CROSSLAY COMPARTMENT LIGHTING</u></b></p> <p>There shall be two (2) 12 volt DC light strips with white LEDs and mechanical fasteners, provide behind the front door frame on the crosslay compartments per the following:</p> <ul style="list-style-type: none"> <li>• One (1) strip light for the left side crosslay compartment door</li> <li>• One (1) strip light for the right side crosslay compartment door</li> </ul> <p>The lights shall be activated when the battery switch is on and the respective door is opened.</p> <p><b><u>CROSSLAY(S), LOWER</u></b></p> <p>There shall be two (2) lower crosslays provided.</p> <p><b><u>1.50" Crosslays</u></b></p> <p>There shall be two (2) 1.50" crosslays plumbed with 2.00" welded or formed schedule 10 304L stainless steel pipe.</p> <p>The crosslays shall be low mounted with the bottom of both crosslay trays no more than 11.00" above the frame rails for simple, safe reloading and deployment (no exception).</p> <p>There shall be a 1.50" National Standard hose thread 90-degree swivel provided in each hose bed, so that the hose may be removed from either side of apparatus. The swivel shall be as far outbound as possible for ease of changing hose.</p> <p>Each crosslay shall be gated with a 2.00" quarter turn ball valve with the controls located at the pump operator's panel.</p> <p>Each hose bed shall be capable of carrying 200' of 2.00" double jacket hose.</p> <p><b><u>Crosslay Hose Trays</u></b></p> <p>A removable tray shall be provided for each crosslay hose bed. The crosslay tray shall be constructed of black poly to provide a lightweight sturdy tray. Two (2) hand holes shall be in the floor and additional hand holes shall be provided in the sides for easy removal and installation from the compartment. The floor of the trays shall be perforated to allow for drainage and hose drying.</p>		

	Bidder Complies	
	Yes	No
<p>Trays shall be held in place by a mechanical spring-loaded stainless-steel latch that automatically deploys upon loading the trays to hold the trays in place during transit.</p> <p><b><u>PARTITION IN ENCLOSURE</u></b></p> <p>One (1) partition shall be bolted in the upper crosslay module enclosure at the front of the upper crosslay module closest the crew cab back wall.</p> <p><b><u>PIKE POLE STORAGE</u></b></p> <p>A quantity of four (4) pike poles aluminum tubes shall be provided and located will be determined at plan review in the upper crosslay module. The pike pole tube(s) shall be notched.</p> <p>If the head of a pike pole can come in contact with a painted surface, a stainless steel scuffplate shall be provided.</p> <p><b><u>STOKES BASKET STORAGE</u></b></p> <p>Mounting shall be provide for a stokes basket located in the upper crosslay module. The stokes basket shall be enclosed and removable from either side of the truck. A hook and loop strap shall be provided on each end of the storage. The stokes basket to be stored shall be 85" x 24" x 8".</p> <p><b><u>FOAM PROPORTIONER</u></b></p> <p>A foam proportioning system shall be provided that is an on demand, automatic proportioning, single point, direct injection system suitable for all types of Class A and B foam concentrates, including the high viscosity (6000 cps), alcohol resistant Class B foams. Operation shall be based on direct measurement of water flow, and remain consistent within the specified flows and pressures. The system shall automatically proportion foam solution at rates from 0.1 percent to 3 percent regardless of variations in water pressure and flow, up to the maximum rated capacity of the foam concentrate pump.</p> <p>The design of the system shall allow operation from draft, hydrant, or relay operation.</p> <p><b><u>System Capacity</u></b></p> <p>The system shall have the ability to deliver the following minimum foam solution flow rates at accuracies that meet or exceed NFPA requirements at a pump rating of 150 psi.</p> <p>100 gpm @ 3 percent</p> <p>300 gpm @ 1 percent</p>		

	Bidder Complies	
	Yes	No
<p>600 gpm @ 0.5 percent</p> <p>Class A foam setting in 0.1 percent increments from 0.1 percent to 1 percent. Typical settings of 1 percent, 0.5 percent and 0.3 percent (maximum capacity shall be limited to the plumbing and water pump capacity).</p> <p><b><u>Control System</u></b></p> <p>The system shall be equipped with a digital electronic control display located on the pump operators panel. Push button controls shall be integrated into the panel to turn the system on/off, control the foam percentage, and to set the operation modes.</p> <p>The percent of injection shall have a preset. This preset can be changed at the fire department as desired. The percent of injection shall be able to be easily changed at the scene to adjust to changing demands.</p> <p>Three (3) 0.50" high LEDs shall display the foam percentage in numeric characters. Three (3) indicator LEDs shall also be included, one (1) green, one (1) red, and one (1) yellow. The LEDs shall indicate various system operation or error states.</p> <p>The indications shall be:</p> <ul style="list-style-type: none"> <li>• Solid Green - System On</li> <li>• Solid Red - Valve Position Error</li> <li>• Solid Yellow - Priming System</li> <li>• Flashing Green - Injecting Foam</li> <li>• Flashing Red - Low Tank Level</li> <li>• Flashing Yellow - Refilling Tank</li> </ul> <p>The control display shall house a microprocessor, which receives input from the systems water flow meter while also monitoring the position of the foam concentrate pump. The microprocessor shall compare the values of the water flow versus the position/rate of the foam pump, to ensure the proportion rate is accurate. One (1) check valve shall be installed in the plumbing to prevent foam from contaminating the water pump.</p> <p><b><u>Hydraulic Drive System</u></b></p> <p>The foam concentrate pump shall be powered by an electric over hydraulic drive system. The hydraulic system and motor shall be integrated into one unit.</p> <p><b><u>Foam Concentrate Pump</u></b></p> <p>The foam concentrate pump shall be of positive displacement, self-priming; linear actuated design, driven by the hydraulic system. The pump shall be constructed of brass body; chrome</p>		

	Bidder Complies	
	Yes	No
<p>plated stainless steel shaft, with a stainless steel piston. In order to increase longevity of the pump, no aluminum shall be present in its construction.</p> <p>A relief system shall be provided which is designed to protect the drive system components and prevent over pressuring the foam concentrate pump.</p> <p>The foam concentrate pump shall have minimum capacity for 3 gpm with all types of foam concentrates with a viscosity at or below 6000 cps including protein, fluoroprotein, AFFF, FFFP, or AR-AFFF. The system shall deliver only the amount of foam concentrate flow required, without recirculating foam back to the storage tank. Recirculating foam concentrate back to the storage tank can cause agitation and premature foaming of the concentrate, which can result in system failure. The foam concentrate pump shall be self-priming and have the ability to draw foam concentrate from external supplies such as drums or pails.</p> <p><b><u>External Foam Concentrate Connection</u></b></p> <p>An external foam pick-up shall be provided to enable use of a foam agent that is not stored on the vehicle. The external foam pick-up shall be designed to allow continued operation after the on-board foam tank is empty, or the use of foam different than the foam in the foam tank.</p> <p><b><u>Panel Mounted External Pick-Up Connection / Valve</u></b></p> <p>A bronze three (3)-way valve shall be provided. The unit shall be mounted to the pump panel. The valve unit shall function as the foam system tank to pump valve and external suction valve. The external foam pick-up shall be one (1) 0.75" male connection GHT (garden hose thread) with a cap.</p> <p><b><u>Pick-Up Hose</u></b></p> <p>A 0.75" flexible hose with an end for insertion into foam containers shall be provided. The hose shall be supplied with a 0.75" female swivel GHT (garden hose thread) swivel connector. The hose shall be shipped loose.</p> <p><b><u>Discharges</u></b></p> <p>The foam system shall be plumbed to the center of front bumper.</p> <p><b><u>System Electrical Load</u></b></p> <p>The maximum current draw of the electric motor and system shall be no more than 55 amperes at 12 VDC.</p> <p><b><u>SINGLE FOAM TANK REFILL</u></b></p> <p>The foam system's proportioning pump shall be used to fill the foam tank. This shall allow use of the auxiliary foam pick-up to pump the foam from pails or a drum on the ground into the foam tank. A foam shut-off switch shall be installed in the fill dome of the tank to shut the system</p>		

	Bidder Complies	
	Yes	No
<p>down when the tank is full. The fill operation shall be controlled by a mode in the foam system controller. While the proportioner pump is filling the tank, the controller shall display a flashing yellow LED to indicate that the tank is filling. When the tank is full, as determined by the float switch in the tank dome, the pump shall stop and the controller shall shut the yellow LED off. If it attempted to use tank fill and the refill valve and suction valve are in the wrong position(s), then a red LED shall illuminate to indicate the improper valve position(s). When the valves are positioned properly, then filling shall commence.</p> <p><b><u>FOAM INLET/AUXILIARY PICK-UP</u></b></p> <p>There shall be one (1) foam inlet/auxiliary pick-up system installed on the on the left side pump panel. The foam inlet/auxiliary pick-up shall be plumbed to the the 30-gallon foam cell with a minimum of 1.00" S/S piping or flexible hose capable of resisting the corrosion caused by all foam concentrates. The foam inlet/auxiliary pick-up shall have a 1.00" inline brass ball valve with the control handle located near the foam inlet/auxiliary pick-up. The foam inlet/auxiliary pick-up shall terminate with a 0.75" connection.</p> <p>A 0.25" brass ball valve shall be provided for the foam inlet/auxiliary pick-up to allow flushing of the entire foam inlet/auxiliary pick-up piping. The valve control handle shall be located near the foam inlet/auxiliary pick-up connection.</p> <p>The foam inlet/auxiliary pick-up shall terminate with a S/S cam-lock style of quick disconnect male fitting with a matching female S/S dust cap.</p> <p>A 6ft long, 1.00", clear/reinforced foam inlet/auxiliary pick-up hose assembly shall be supplied in loose equipment for connecting to the foam inlet/auxiliary pick-up system. The hose assembly shall have a 1.00" female S/S cam-lock fitting with locking levers installed on one end of the hose with the other end of the hose having a wand style of fitting for insertion into foam containers/pails.</p> <p>The foam inlet/auxiliary pick-up will not be able to pick-up foam by the means of an on-board pumping system/source.</p> <p><b><u>FOAM CELL</u></b></p> <p>The foam cell shall be an integral portion of the polypropylene water tank. The cell shall have a capacity of 30 gallons of foam with the intended use of Class B foam. The brand of foam stored in this tank shall be Universal Green. The foam cell shall not reduce the capacity of the water tank. The foam cell shall have a screen in the fill dome and a breather in the lid.</p> <p><b><u>FOAM TANK DRAIN</u></b></p> <p>The foam tank drain shall be a 1.00" quarter turn drain valve located inside the pump/plumbing compartment.</p>		

	Bidder Complies	
	Yes	No
<p>The following drawing(s) shall be provided for approval by the customer. The drawing(s) shall be made for up One (01) Truck apparatus and/or similar Pierce job number.</p> <p><b><u>PUMP OPERATOR'S PANEL DRAWING</u></b></p> <p>A detailed drawing to scale of the pump operator's panel shall be provided for the customer to review. The drawing shall include all of the gauges, controls, switching, etc., located on the pump operator's panel. The customer will be allowed to make changes and/or mark-ups to this approval drawing. The fire apparatus manufacturer shall make revisions (If needed) to the drawing per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line.</p> <p>The finalized and signed customer approved pump operator's panel drawing shall become part of the contract documents.</p> <p>Due to the way drain(s), bleeder(s), operational/maintenance tag(s) and NFPA required warning tag(s) are placed on pump panel(s), these items will NOT be shown on any pump panel approval drawing(s). These item(s) will be placed on pump panel(s) at the fire apparatus manufacturer discretion.</p> <p><b><u>REMAINING PUMP PANEL(S)</u></b></p> <p>Detailed drawing(s) to scale of the remaining pump panel(s) shall be provided for the customer to review. The drawing(s) shall include all of the gauges, controls, switching, etc., located on the pump panel(s). The customer will be allowed to make changes and/or mark-ups to these approval drawing(s). The fire apparatus manufacturer shall make revisions (If needed) to the drawing(s) per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line.</p> <p>The finalized and signed customer approved pump panel drawing(s) shall become part of the contract documents.</p> <p>Due to the way drain(s), bleeder(s), operational/maintenance tag(s) and NFPA required warning tag(s) are placed on pump panel(s), these items will NOT be shown on any pump panel approval drawing(s). These item(s) will be placed on pump panel(s) at the fire apparatus manufacturer discretion.</p> <p><b><u>COLOR CODED TAGS</u></b></p> <p>A detailed drawing/chart of the colors used on all of the inlet(s) and outlet(s) shall be provided for the customer to review. The customer will be allowed to make changes and/or mark-ups to this approval drawing/chart. The fire apparatus manufacturer shall make revisions (If needed) to the drawing per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line.</p>		

	Bidder Complies	
	Yes	No
<p>The finalized and signed customer approved drawing/chart of the colors shall become part of the contract documents.</p> <p><b><u>SPECIAL TEXT/VERBIAGE TAGS</u></b></p> <p>A detailed drawing/chart of the text/verbiage used on all of the inlet(s) and outlet(s) shall be provided for the customer to review. The customer will be allowed to make changes and/or mark-ups to this approval drawing/chart. The fire apparatus manufacturer shall make revisions (If needed) to the drawing per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line.</p> <p>The finalized and signed customer approved drawing/chart of the text/verbiage shall become part of the contract documents.</p> <p><b><u>PUMP PANEL CONFIGURATION</u></b></p> <p>The pump panel configuration shall be arranged and installed in an organized manner that shall provide user-friendly operation.</p> <p><b><u>PUMP AND GAUGE PANEL</u></b></p> <p>The pump operator's panel and gauge panels shall be constructed of stainless steel with a brushed finish.</p> <p>The side control panels shall be constructed of stainless steel with a brushed finish for durability and ease of maintenance.</p> <p><b><u>PUMP AND PLUMBING ACCESS</u></b></p> <p>Simple access to the plumbing shall be provided through the front of the body area by raising the cab for complete plumbing service and valve maintenance. Access to valves shall not require removal of operator panels or pump panels. Access for rebuilding of the pump shall not require removal of more than the tank to pump line and a single discharge line. This access shall allow for fast, easy valve or pump rebuilding, making for reduced out of service times. Steps shall be provided for access to the top of the pump.</p> <p>Access to the pump shall be provided by raising the cab. The pump shall be positioned such that all maintenance and overhaul work can be performed above the frame and under the tilted cab. The service and overhaul work on the pump shall not require the removal of operator panels or pump panels. Complete pump casing and gear case removal shall require no more than removal of the intake and discharge manifolds, driveline, coolers and a single discharge line. The pump case and gear case shall be able to be removed by lifting upward without interference from piping and be removable in less than 3 hours.</p>		



	Bidder Complies	
	Yes	No
<p><b><u>PUMP COMPARTMENT LIGHT</u></b></p> <p>There shall be one (1) 3.00" white 12 volt DC LED light(s) with flange(s) installed in the plumbing area.</p> <p>The light(s) shall be activated by a toggle switch located in the pump compartment area.</p> <p>Engine monitoring graduated LED indicators shall be incorporated with the pressure controller.</p> <p><b><u>THROTTLE READY GREEN INDICATOR LIGHT</u></b></p> <p>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.</p> <p><b><u>AIR HORN SWITCH</u></b></p> <p>An air horn control switch shall be provided at the pump operator's control panel. This switch shall be red and properly labeled. The switch shall be located within easy reach of the operator in the electrical switch panel.</p> <p><b><u>VACUUM AND PRESSURE GAUGES</u></b></p> <p>The pump vacuum and pressure gauges shall be liquid filled.</p> <p>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#.</p> <p>Gauge construction shall include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.</p> <p>The pump pressure and vacuum gauges shall be installed adjacent to each other at the pump operator's control panel.</p> <p>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.</p> <p>This gauge shall include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.</p> <p><b><u>PRESSURE GAUGES</u></b></p> <p>The individual "line" pressure gauges for the discharges shall be interlube filled.</p> <p>They shall be a minimum of 2.00" in diameter and shall have white faces with black lettering.</p>		

	Bidder Complies	
	Yes	No
<p>Gauge construction shall include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.</p> <p>Gauges shall have a pressure range of 30"-0-400#.</p> <p>The individual pressure gauge shall be installed as close to the outlet control as practical.</p> <p>This gauge shall include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.</p> <p><b><u>FLOWMETERS FRC INSIGHT ULTIMATE FPA 400</u></b></p> <p>There shall be four (4), combination digital flowmeter and pressure indicator kit installed for the three hose bed discharges and the RS large diameter discharge.</p> <p>The module shall have a digital LED display for flow with super bright digits more than 3/8" high. Flow rate shall be displayed in GPM. The module shall have an analog display for pressure with an expanded scale in the normal operating range for more accurate readings. The pressure indicator input and movement shall be electronic. Pressure shall be displayed in PSI.</p> <p>A flow conditioner shall be installed in the plumbing for better flow readings.</p> <p><b><u>WATER LEVEL GAUGE</u></b></p> <p>An electric water level gauge shall be incorporated in the pressure controller that registers water level by means of 9 LEDs. They shall be at 1/8 level increments with a tank empty LED. The LEDs shall be a bright type that is readable in sunlight, and have a full 180-degree of clear viewing.</p> <p>To further alert the pump operator, the gauge shall have a warning flash when the tank volume is less than 25%, and shall have "Down Chasing LEDs when the tank is almost empty.</p> <p>The level measurement shall be ascertained by sensing the head pressure of the fluid in the tank or cell.</p> <p>There shall be a water level gauge provided on the Command Zone™, color display in the cab.</p> <p>There shall be a light driver module with this installation to power additional water level gauge(s) included on the apparatus.</p> <p><b><u>WATER LEVEL GAUGE</u></b></p> <p>There shall be three (3) additional Whelen PSTANK2 water level indicator(s), LED module with chrome trim, installed one (1) each side rearward of the crew cab doors and one (1) at the rear.</p>		

	Bidder Complies	
	Yes	No
<p>This light module(s) shall include four (4) colored levels, and function similar to the water level indicator located at the operators panel:</p> <ul style="list-style-type: none"> <li>• First green module indicates a full water level</li> <li>• Second blue module indicates a water level above 3/4 full</li> <li>• Third amber module indicates a water level above 1/2 full</li> <li>• Last red module indicates a water level above 1/4 full and empty <ul style="list-style-type: none"> <li>○ Above 1/4 this light shall be steady burning</li> <li>○ At empty this light shall be flashing</li> </ul> </li> </ul> <p>The flash rate shall be determined by the main water level tank sensor.</p> <p>This module shall be activated when the when either the pump is in gear, or the parking brake is applied.</p> <p><b><u>FOAM LEVEL GAUGE CLASS 1 GAAAR</u></b></p> <p>An electronic foam level gauge shall be provided on the operator's panel that registers foam 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 foam level indicators shall be as follows:</p> <ul style="list-style-type: none"> <li>• 100 percent = Green</li> <li>• 75 percent = Yellow</li> <li>• 50 percent = Yellow</li> <li>• 25 percent = Yellow</li> <li>• Refill = Red</li> </ul> <p>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 foam tank is empty.</p> <p>The level measurement shall be based on the sensing of head pressure of the fluid in the tank.</p> <p>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 foam and environmental elements. An industrial pressure transducer shall be mounted to the outside of the tank. The display shall be able to be calibrated in the field and shall measure head pressure to accurately show the tank level.</p>		

	Bidder Complies	
	Yes	No
<p><b><u>SIDE CONTROL PUMP OPERATOR'S/PUMP PANEL LIGHTING</u></b></p> <p>Illumination shall be provided for controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus and the equipment provided on it. External illumination shall be a minimum of five (5) foot-candles on the face of the device. Internal illumination shall be a minimum of four (4) footlamberts.</p> <p>The pump panels shall be illuminated by two (2) 6.00" x 2.00" oval white LED lights with grommets and chrome covers installed on the back of the cab, one (1) on the driver's side and one (1) on the passenger's side.</p> <p>The pump operator's panel shall utilize the same LED strip lighting at the forward doorframe as all other compartment lighting.</p> <p>There shall be a small white LED pump engaged indicator light installed overhead.</p> <p><b><u>AIR HORN SYSTEM</u></b></p> <p>Two (2) Hadley eTone, chrome air horns shall be recessed in the front bumper. The air horn system shall be piped to the air brake system wet tank utilizing 0.38" tubing. A pressure protection valve shall be installed to prevent the loss of air in the brake system.</p> <p><b><u>Air Horn Location</u></b></p> <p>The air horns shall be located on each side of the bumper, just outside of the frame rails.</p> <p><b><u>Air Horn Control</u></b></p> <p>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.</p> <p><b><u>ELECTRONIC SIREN</u></b></p> <p>A Whelen 295SLA1 electronic siren with noise canceling microphone shall be provided.</p> <p>This siren to be active when the battery switch is on and that emergency master switch is on.</p> <p>Electronic siren head shall be recessed in the driver side center switch panel.</p> <p>The electronic siren shall be controlled on the siren head only. No horn button or foot switches shall be required.</p>		

	Bidder Complies	
	Yes	No
<p><b><u>SPEAKERS</u></b></p> <p>There shall be two (2) Whelen SA315P black nylon composite, 100-watt, speakers with through bumper mounting brackets and black steel grille provided. Each speaker shall be connected to the siren amplifier.</p> <p>There shall be one (1) speaker recessed in the passenger side and one (1) speaker recessed in the driver side of the front bumper. The speakers shall be located in the angled corner area of the bumper.</p> <p><b><u>AUXILIARY MECHANICAL SIREN</u></b></p> <p>A black Federal Q2B mechanical siren shall be furnished.</p> <p>The control solenoid shall be powered up after the emergency master switch is activated.</p> <p>The mechanical siren shall be mounted on the bumper deck plate. It shall be mounted on the left side A reinforcement plate shall be furnished to support the siren.</p> <p><b><u>MECHANICAL SIREN CONTROL</u></b></p> <p>The mechanical siren shall be activated by the following:</p> <ul style="list-style-type: none"> <li>• Right side foot switch. The control to be available when the parking brake is released.</li> <li>• Left side foot switch. The control to be available when the parking brake is released.</li> </ul> <p>A momentary switch shall be included in the left side and right side overhead switch panels.</p> <p>There will be a red outline decal around the black rocker switch.</p> <p><b><u>FRONT ZONE UPPER WARNING LIGHTS</u></b></p> <p>There shall be three (3) Whelen Freedom IV Roto-Beam 23.00" LED lightbars mounted on the cab roof. One (1) shall be centered above the windshield and one (1) shall be on each side, above the driver's and passenger's door at a 45 degree angle off the front of the cab. These lightbars shall be installed as far forward as practical.</p> <p>Each lightbar shall include the following:</p> <ul style="list-style-type: none"> <li>• One (1) red flashing semi-circle LED module in the driver's side rear corner position.</li> <li>• One (1) red flashing semi-circle LED module in the driver's side front corner position.</li> <li>• One (1) white flashing semi-circle LED module in the front center position.</li> <li>• One (1) red flashing semi-circle LED module in the passenger's side front corner position.</li> </ul>		

	Bidder Complies	
	Yes	No
<ul style="list-style-type: none"> <li>One (1) red flashing semi-circle LED module in the passenger's side rear corner position.</li> </ul> <p>There shall be one (1) switch located in the cab on the switch panel to control these lightbars.</p> <p>There shall be clear lenses included on the lightbar.</p> <p>The white flashing LED modules shall be disabled when the parking brake is applied.</p> <p>The driver's side lightbar may have the red flashing LED modules in the passenger's side front and rear corner positions load managed when the parking brake is applied.</p> <p>The center lightbar may have the red flashing LED modules in the driver's side and passenger's side rear corner positions load managed when the parking brake is applied.</p> <p>The passenger's side lightbar may have the red flashing LED modules in the driver's side front and rear corner positions load managed when the parking brake is applied.</p> <p><b><u>CAB FACE WARNING LIGHTS</u></b></p> <p>There shall be four (4), Whelen M6** 4.31" high x 6.75" wide x 1.37" deep flashing LED warning lights installed on the cab face, above the headlights in a housing that matches the headlights per the following:</p> <ul style="list-style-type: none"> <li>The left side outside warning light to include red LEDs.</li> <li>The left side inside warning light to include red LEDs.</li> <li>The right side inside warning light to include red LEDs.</li> <li>The right side outside warning light to include red LEDs.</li> <li>The warning light lens color(s) to be clear.</li> <li>The housing to be polished and the trim shall be chrome.</li> </ul> <p>The lights shall be controlled per the following:</p> <ul style="list-style-type: none"> <li>A switch in the cab, on the switch panel shall control the lights.</li> <li>White LEDs shall be deactivated when the parking brake is applied.</li> <li>Amber LEDs shall be deactivated when the parking brake is released.</li> <li>Amber, blue, green or red LEDs in the inside positions may be load managed when the parking brake is applied.</li> </ul> <p><b><u>ROTATING LIGHT</u></b></p> <p>There shall be one black Roto-Ray rotating warning light provided on the front of the cab mounted through the top section of the front grille.</p> <p>This warning light shall include the following:</p>		

	Bidder Complies	
	Yes	No
<ul style="list-style-type: none"> <li>• Two (2) lights with red LEDs and clear lenses</li> <li>• One (1) light with white LEDs and a clear lens</li> </ul> <p>There shall be a switch in the cab on the switch panel to control this light.</p> <p>The rotation motor and the warning lights shall be deactivated when the parking brake is applied.</p> <p>The exterior parts of this assembly shall be painted black.</p> <p><b><u>HEADLIGHT FLASHER</u></b></p> <p>The high beam headlights shall flash alternately between the left and right side.</p> <p>There shall be a switch installed in the cab on the switch panel to control the high beam flash. This switch shall be live when the battery switch and the emergency master switches are on.</p> <p>The flashing shall automatically cancel when the hi-beam headlight switch is activated or when the parking brake is set.</p> <p><b><u>SIDE ZONE LOWER LIGHTING</u></b></p> <p>There shall be six (6) Whelen M6V2** 4.32" high x 6.75" long x 2.25" deep flashing LED warning and scene lights with chrome trim located in the following positions:</p> <ul style="list-style-type: none"> <li>• Two (2) lights, one (1) each side on the bumper extension. The side front lights to be red warning LEDs.</li> <li>• Two (2) lights, aft of the crew cab doors. The side middle lights to be red warning LEDs.</li> <li>• Two (2) lights, in the rear wheel wells. The side rear lights to be red warning LEDs.</li> <li>• The warning light lens colors to be the same as the LEDs.</li> </ul> <p>There shall be a switch in the cab on the switch panel to control the flashing warning lights.</p> <p>The scene LEDs shall be activated when the perimeter lights are activated, by the same switching that has been selected for the other side scene light(s) on the apparatus and when the left directional signal is activated, the left scene lights will activate. When the right directional signal is activated, the right scene lights will activate.</p> <p>The scene LEDs may be load managed when the parking brake is applied.</p> <p><b><u>SIDE WARNING LIGHTS</u></b></p> <p>There shall be two (2), Whelen M6** 4.31" high x 6.75" wide x 1.37" deep flashing LED warning light(s) with chrome trim provided, on the upper body at the front corner.</p> <p>The light(s) to include red flashing LEDs.</p>		

	Bidder Complies	
	Yes	No
<p>The warning light lens color(s) to be clear.</p> <p>There shall be a switch in the cab on the switch panel to control the lights.</p> <p>White LEDs shall be deactivated when the parking brake is applied.</p> <p>Amber, blue, green and red LEDs may be load managed when the parking brake is applied.</p> <p><b><u>REAR ZONE LOWER LIGHTING</u></b></p> <p>There shall be two (2) Whelen M6*C LED flashing warning lights with chrome trim located at the rear of the apparatus.</p> <ul style="list-style-type: none"> <li>• The driver's side rear light to be red</li> <li>• The passenger's side rear light to be red</li> </ul> <p>The lenses shall be clear.</p> <p>There shall be a switch located in the cab on the switch panel to control the lights.</p> <p><b><u>WARNING LIGHTS (REAR AND SIDE UPPER ZONES)</u></b></p> <p>There shall be four (4), 4.32" high x 6.75" long x 1.38" deep flashing LED warning lights with chrome trim provided at the rear of the apparatus per the following:</p> <ul style="list-style-type: none"> <li>• The side upper rear light on the left side to include red flashing LEDs.</li> <li>• The left side rear light to include blue LEDs to the outside and amber LEDs to the inside.</li> <li>• The right side rear light to include red LEDs to the outside and amber LEDs to the inside.</li> <li>• The side upper rear light on the right side to include red flashing LEDs.</li> <li>• The warning light lens color(s) to be clear.</li> </ul> <p>There shall be a switch in the cab to control the lights.</p> <p><b><u>TRAFFIC DIRECTING LIGHT</u></b></p> <p>There shall be one (1) Whelen TAL 65 36.00" long x 2.87" high x 2.25" deep, amber LED traffic directing light installed at the rear of the apparatus.</p> <p>The control head shall be included with this installation.</p> <p>The controller shall be energized when the battery switch is on.</p> <p>The auxiliary flash not activated.</p> <p>This traffic directing light shall be surface mounted over the rear door, inside a treadplate box at the rear of the apparatus as high as practical.</p>		



	Bidder Complies	
	Yes	No
<p>The traffic directing light control head shall be located in the driver side overhead switch panel in the right panel position.</p> <p><b><u>POWER OUTLET STRIP</u></b></p> <p>There shall be one (1) receptacle strip(s) with six (6) 15 amp 120 volt AC straight blade receptacles provided is behind the driver's seat.</p> <p>The strip(s) selected shall be powered from the shoreline inlet through a receptacle located adjacent to the strip(s).</p> <p>There shall be a label installed near the strip(s) that state the following:</p> <ul style="list-style-type: none"> <li>• Line Voltage</li> <li>• Current Rating (amps)</li> <li>• Phase</li> <li>• Frequency</li> </ul> <p><b><u>POWER OUTLET STRIP</u></b></p> <p>There shall be one (1) receptacle strip(s) with six (6) 20 amp 120 volt AC straight blade receptacles provided is in a compartment, exact location to be provided at plan review.</p> <p>The strip(s) selected shall be powered from the shoreline inlet through a receptacle located adjacent to the strip(s).</p> <p>There shall be a label installed near the strip(s) that state the following:</p> <ul style="list-style-type: none"> <li>• Line Voltage</li> <li>• Current Rating (amps)</li> <li>• Phase</li> <li>• Frequency</li> </ul> <p><b><u>LOOSE EQUIPMENT</u></b></p> <p>The following equipment shall be furnished with the completed unit:</p> <ul style="list-style-type: none"> <li>• One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit</li> </ul> <p><b><u>NFPA REQUIRED LOOSE EQUIPMENT PROVIDED BY FIRE DEPARTMENT</u></b></p> <p>The following loose equipment as outlined in NFPA 1901, 2016 edition, section 5.9.3 and 5.9.4 shall be provided by the fire department.</p> <ul style="list-style-type: none"> <li>• 800 ft. (60 m) of 2.50" (65 mm) or larger fire hose.</li> </ul>		

	Bidder Complies	
	Yes	No
<ul style="list-style-type: none"> <li>• 400 ft. (120 m) of 1.50" (38 mm), 1.75" (45 mm), or 2.00" (52 mm) fire hose.</li> <li>• One (1) handline nozzle, 200 gpm (750 L/min) minimum.</li> <li>• Two (2) handline nozzles, 95 gpm (360 L/min) minimum.</li> <li>• One (1) smoothbore or combination nozzle with 2.50" shutoff that flows a minimum of 250 gpm.</li> <li>• One (1) SCBA complying with NFPA 1981 for each assigned seating position, but not fewer than four (4), mounted in brackets fastened to the apparatus or stored in containers supplied by the SCBA manufacturer.</li> <li>• One (1) spare SCBA cylinder for each SCBA carried, each mounted in a bracket fastened to the apparatus or stored in a specially designed storage space(s).</li> <li>• One (1) first aid kit.</li> <li>• Four (4) combination spanner wrenches.</li> <li>• Two (2) hydrant wrenches.</li> <li>• One (1) double female 2.50" (65 mm) adapter with National Hose threads.</li> <li>• One (1) double male 2.50" (65 mm) adapter with National Hose threads.</li> <li>• One (1) rubber mallet, for use on suction hose connections.</li> <li>• Two (2) salvage covers each a minimum size of 12 ft. x 14 ft. (3.7 m x 4.3 m).</li> <li>• One (1) traffic vest for each seating position, each vest to comply with ANSI/ISEA 207, <i>Standard for High Visibility Public Safety Vests</i>, and have a five-point breakaway feature that includes two (2) at the shoulders, two (2) at the sides, and one (1) at the front.</li> <li>• Five (5) fluorescent orange traffic cones not less than 28.00" (711 mm) in height, each equipped with a 6.00" (152 mm) retro-reflective white band no more than 4.00" (152 mm) from the top of the cone, and an additional 4.00" (102 mm) retro-reflective white band 2.00" (51 mm) below the 6.00" (152 mm) band.</li> <li>• Five (5) illuminated warning devices such as highway flares, unless the five (5) fluorescent orange traffic cones have illuminating capabilities.</li> <li>• One (1) automatic external defibrillator (AED).</li> <li>• If the supply hose carried does not use sexless couplings, an additional double female adapter and double male adapter, sized to fit the supply hose carried, shall be carried mounted in brackets fastened to the apparatus.</li> <li>• If none of the pump intakes are valved, a hose appliance that is equipped with one or more gated intakes with female swivel connection(s) compatible with the supply hose used on one side and a swivel connection with pump intake threads on the other side shall be carried. Any intake connection larger than 3.00" (75 mm) shall include a pressure relief device that meets the requirements of 16.6.6.</li> </ul>		

	Bidder Complies	
	Yes	No
<ul style="list-style-type: none"> <li>• If the apparatus does not have a 2.50" National Hose (NH) intake, an adapter from 2.50" NH female to a pump intake shall be carried, mounted in a bracket fastened to the apparatus if not already mounted directly to the intake.</li> <li>• If the supply hose carried has other than 2.50" National Hose (NH) threads, adapters shall be carried to allow feeding the supply hose from a 2.50" NH thread male discharge and to allow the hose to connect to a 2.50" NH female intake, mounted in brackets fastened to the apparatus if not already mounted directly to the discharge or intake</li> </ul> <p><b><u>DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT</u></b>  NFPA 1901, 2016 edition, section 5.9.4 requires one (1) approved dry chemical portable fire extinguisher with a minimum 80-B:C rating mounted in a bracket fastened to the apparatus.</p> <p>The extinguisher is not on the apparatus as manufactured. The fire department shall provide and mount the extinguisher.</p> <p><b><u>WATER EXTINGUISHER PROVIDED BY FIRE DEPARTMENT</u></b>  NFPA 1901, 2016 edition, section 5.9.4 requires one (1) 2.5 gallon or larger water extinguisher mounted in a bracket fastened to the apparatus.</p> <p>The extinguisher is not on the apparatus as manufactured. The fire department shall provide and mount the extinguisher.</p> <p><b><u>FLATHEAD AXE PROVIDED BY FIRE DEPARTMENT</u></b>  NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) flathead axe mounted in a bracket fastened to the apparatus.</p> <p>The axe is not on the apparatus as manufactured. The fire department shall provide and mount the axe.</p> <p><b><u>PICKHEAD AXE PROVIDED BY FIRE DEPARTMENT</u></b>  NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) pickhead axe mounted in a bracket fastened to the apparatus.</p> <p>The axe is not on the apparatus as manufactured. The fire department shall provide and mount the axe.</p> <p><b><u>PAINT PROCESS</u></b>  The exterior custom cab and body painting procedure shall consist of a seven (7) step finishing process as follows:</p>		

	Bidder Complies	
	Yes	No
<p>1. <u>Manual Surface Preparation</u> - 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.</p> <p>2. <u>Chemical Cleaning and Pretreatment</u> - 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.</p> <p>3. <u>Surfacer Primer</u> - The Surfacer Primer shall be applied to a chemically treated metal surface to provide a strong corrosion protective basecoat. A minimum thickness of 2 mils of Surfacer Primer is applied to surfaces that require a Critical aesthetic finish. The Surfacer Primer is a two-component high solids urethane that has excellent sanding properties and an extra smooth finish when sanded.</p> <p>4. <u>Finish Sanding</u> - 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.</p> <p>5. <u>Sealer Primer</u> - The Sealer Primer is applied prior to the Basecoat 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.</p> <p>6. <u>Basecoat Paint</u> - Two coats of a high performance, two component high solids polyurethane basecoat shall be applied. The Basecoat shall be applied to a thickness that shall achieve the proper color match. The Basecoat shall be used in conjunction with a urethane clear coat to provide protection from the environment.</p> <p>7. <u>Clear Coat</u> - Two (2) coats of Clear Coat shall be applied over the Basecoat color. The Clear Coat is a two-component high solids urethane that provides superior gloss and durability to the exterior surfaces. Lap style and roll-up 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.</p> <p>After the cab and body are painted, the color shall be verified 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 shall be used to determine the color match. A Delta E reading shall be used to determine a good color match within each family color.</p>		

	Bidder Complies	
	Yes	No
<p>All removable items such as brackets, compartment doors, door hinges, and trim shall be removed and painted 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.</p> <p>The paint finish quality levels for critical areas of the apparatus (cab front and sides, body sides and doors, and boom lettering panels) are to meet or exceed Cadillac/General Motors GMW15777 global paint requirements. Orange peel levels are to meet or exceed the #6 A.C.T. standard in critical areas. These requirements must be met in order for the exterior paint finish to be considered acceptable. The manufacture's written paint standards shall be available upon request.</p> <p><b><u>Environmental Impact</u></b></p> <p>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:</p> <ul style="list-style-type: none"> <li>• Topcoats and primers shall be chrome and lead free.</li> <li>• 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.</li> <li>• Particulate emission collection from sanding operations shall have a 99.99 percent efficiency factor.</li> <li>• 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</li> <li>• Water from water wash booths shall be reused. Solids shall be removed on a continual basis to keep the water clean.</li> <li>• Paint wastes are disposed of in an environmentally safe manner.</li> <li>• Empty metal paint containers shall be recycled to recover the metal.</li> <li>• Solvents used in clean-up operations shall be recycled on-site or sent off-site for distillation and returned for reuse.</li> </ul> <p>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 his state EPA rules and regulations.</p> <p><b><u>CAB TWO-TONE PAINT</u></b></p> <p>The cab shall be painted two-tone, with the upper section painted Sikkens Silver # 590 and the lower section painted Sikkens MRed # 778. There shall be a standard two-tone cab paint break provided.</p>		

	Bidder Complies	
	Yes	No
<p>There shall be a standard cab shield provided.</p> <p><b><u>TWO-TONE BODY PAINT</u></b></p> <p>The body shall be painted two-tone with the upper section painted to match the upper section of the cab and the lower section painted to match the lower section of the cab. The body paint break shall be above the body compartment door openings.</p> <p><b><u>GALVANIZED CHASSIS FRAME ASSEMBLY</u></b></p> <p>The chassis frame assembly shall be hot dip galvanized before the installation of the cab and body, and before installation of the engine and transmission assembly, air brake lines, electrical wire harnesses, etc.</p> <p>Components that are included with the chassis frame assembly that shall be hot dip galvanized are:</p> <ul style="list-style-type: none"> <li>• Frame rails</li> <li>• Cross members</li> <li>• Front frame extension</li> </ul> <p>All galvanized components are inspected for compliance with ASTM specifications.</p> <p>Battery boxes shall be stainless steel.</p> <p>All components that are not galvanized shall be painted primer and gloss paint to match the lower job color.</p> <p><b><u>PAINT, FRONT WHEELS</u></b></p> <p>All wheel surfaces, inside and outside, shall be provided with powder coat paint #101 black.</p> <p><b><u>PAINT, REAR WHEELS</u></b></p> <p>All wheel surfaces, inside and outside, shall be provided with powder coat paint #101 black.</p> <p><b><u>AXLE HUB PAINT</u></b></p> <p>All axle hubs shall be painted black #101.</p> <p><b><u>HOT DIP GALVANIZED WATER TANK CRADLE</u></b></p> <p>The water tank cradle shall be treated through a hot dip galvanizing process. The cradle shall be immersed in molten zinc to provide a coating that shall help protect against the effects of corrosion.</p>		

	Bidder Complies	
	Yes	No
<p><b><u>HOT DIP GALVANIZED BUMPER EXTENSION SUBSTRUCTURE</u></b></p> <p>The bumper extension substructure shall be treated through a hot dip galvanizing process. These components shall be immersed in molten zinc to provide a coating that shall help protect against the effects of corrosion.</p> <p><b><u>HOT DIP GALVANIZED BODY SUBSTRUCTURE</u></b></p> <p>The compartment substructure shall be treated through a hot dip galvanizing process. These components shall be immersed in molten zinc to provide a coating that shall help protect against the effects of corrosion.</p> <p><b><u>HOT DIP GALVANIZED TOW EYES/TOW HOOKS/TOW BARS AND HITCH RECEIVER TUBES</u></b></p> <p>Any tow eyes, tow hooks, or tow bars as well as any hitch receiver tubes at the rear of the vehicle shall be treated through a hot dip galvanizing process. These components shall be immersed in molten zinc to provide a coating that shall help protect against the effects of corrosion.</p> <p><b><u>COMPARTMENT INTERIOR PAINT</u></b></p> <p>The interior of all compartments shall be painted with a gray spatter type paint.</p> <p><b><u>REFLECTIVE STRIPES</u></b></p> <p>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 6.00" black stripe with a 1.00" gap and a 1.00" black stripe on the bottom.</p> <p>The reflective band provided on the cab face shall be below the headlights on the fiberglass.</p> <p><b><u>REAR CHEVRON STRIPING</u></b></p> <p>There shall be alternating chevron striping located on the rear-facing vertical surface of the apparatus. The rear surface, excluding the rear roll up door, shall be covered.</p> <p>The colors shall be red and fluorescent yellow green diamond grade.</p> <p>Each stripe shall be 6.00" in width.</p> <p>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.</p> <p><b><u>"Z" JOG IN REFLECTIVE STRIPE</u></b></p> <p>There shall be one (1) "Z"-shaped jog(s) provided in the reflective stripe design.</p>		

	Bidder Complies	
	Yes	No
<p><b><u>INVERTED "V" CHEVRON STRIPING ON CAB AND CREW CAB DOORS</u></b></p> <p>There shall be alternating chevron striping located on the inside of each cab and crew cab door.</p> <p>The striping shall consist of the following colors:</p> <p>The first color shall be red diamond grade</p> <p>The second color shall be fluorescent yellow green diamond grade</p> <p>The size of the striping shall be 6.00".</p> <p><b><u>LETTERING</u></b></p> <p>The lettering shall be totally encapsulated between two (2) layers of clear vinyl.</p> <p><b><u>LETTERING</u></b></p> <p>Sixty-one (61) to eighty (80) genuine gold leaf lettering, 4.00" high, with outline and shade shall be provided.</p> <p><b><u>EMBLEM/S</u></b></p> <p>There shall be two (2) gold leaf emblem/s, installed on the crew cab doors. Emblem/s shall be modeled after the department patch.</p> <p><b><u>RUST PROOFING/UNDERCOATING</u></b></p> <p>The apparatus shall be properly treated by an authorized dealer.</p> <p>The underside of the apparatus shall be undercoated with an asphalt petroleum based material, dark in color.</p> <p>The undercoating material utilized on the apparatus shall be formulated to resist corrosion and deaden unwanted sound or road noise.</p> <p>Coating texture shall appear firm, flexible, and resistant to abrasion. Minimum dry film thickness shall be in the range of 8.00 to 12.00 mils.</p> <p>The material shall be applied to the following areas:</p> <p>Body and cab wheel well fender liners, on the back side only.</p> <p>Underside of body and cab sheet metal, and structural components.</p> <p>Underside and vertical sides of all sheet metal compartmentation, including support angles.</p> <p>Structural support members under running boards, rear platforms, battery boxes, walkways, etc.</p> <p>Inside surfaces of the pump heat enclosure, (when installed).</p>		



	Bidder Complies	
	Yes	No
<p><b><u>FIRE APPARATUS PARTS MANUAL</u></b></p> <p>There shall be one (1) custom parts manual(s) in USB flash drive format for the complete fire apparatus provided.</p> <p><b><u>Service Parts Internet Site</u></b></p> <p>The service parts information included in these manuals are also available on the Internet.</p> <p><b><u>CHASSIS SERVICE MANUALS</u></b></p> <p>There shall be one (1) chassis service manuals on USB flash drives containing parts and service information on major components provided with the completed unit.</p> <p>The manual shall contain the following sections:</p> <ul style="list-style-type: none"> <li>• Job number</li> <li>• Table of contents</li> <li>• Troubleshooting</li> <li>• Front Axle/Suspension</li> <li>• Brakes</li> <li>• Engine</li> <li>• Tires</li> <li>• Wheels</li> <li>• Cab</li> <li>• Electrical, DC</li> <li>• Air Systems</li> <li>• Plumbing</li> <li>• Appendix</li> </ul> <p>The manual shall be specifically written for the chassis model being purchased. It shall not be a generic manual for a multitude of different chassis and bodies.</p> <p><b><u>CHASSIS OPERATION MANUAL</u></b></p> <p>The chassis operation manual shall be provided on one (1) USB flash drive.</p> <p><b><u>ONE (1) YEAR MATERIAL AND WORKMANSHIP</u></b></p> <p>Each new piece of apparatus shall be provided with a minimum <b>one (1) year</b> 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.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p>		

	Bidder Complies	
	Yes	No
<p><b><u>THREE (3) YEAR MATERIAL AND WORKMANSHIP</u></b></p> <p>The new chassis shall be provided with a three (3) year material and workmanship limited warranty. The warranty shall cover such portions of the chassis built by the manufacturer as being free from structural failures caused by defects in material and workmanship that would arise under normal use and service.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><b><u>ENGINE WARRANTY</u></b></p> <p>A <b>five (5) year</b> limited engine warranty shall be provided. A copy of the warranty certificate shall be submitted with the bid package.</p> <p><b><u>STEERING GEAR WARRANTY</u></b></p> <p>A <b>three (3) year</b> limited steering gear warranty shall be provided. A copy of the warranty certificate shall be submitted with the bid package.</p> <p><b><u>FIFTY (50) YEAR STRUCTURAL INTEGRITY</u></b></p> <p>The chassis frame and crossmembers shall be provided with a fifty (50) year material and workmanship limited warranty. The warranty shall cover the chassis frame and crossmembers as being free from defects in material and workmanship that would arise under normal use and service.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><b><u>FRONT AXLE THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY</u></b></p> <p>Independent front suspension shall be provided with a <b>three (3) year</b> material and workmanship limited warranty. The manufacturer's warranty shall provide that the independent front suspension and steering gears be free from any defect related to material and workmanship on the portion of the apparatus built by the manufacturer that would arise under normal use and service. A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><b><u>SINGLE REAR AXLE FIVE (5) YEAR MATERIAL AND WORKMANSHIP WARRANTY</u></b></p> <p>A 5 year limited warranty shall be provided.</p> <p><b><u>BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY</u></b></p> <p>A <b>three (3) year</b> brake system limited warranty shall be provided.</p> <p><b><u>TEN (10) YEAR STRUCTURAL INTEGRITY</u></b></p> <p>The new cab shall be provided with a <b>ten (10) year</b> material and workmanship limited warranty. The warranty shall cover such portions of the cab built by the manufacturer as being free from</p>		

	Bidder Complies	
	Yes	No
<p>structural failures caused by defects in material and workmanship that would arise under normal use and service.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><b><u>TEN (10) YEAR PRO-RATED PAINT AND CORROSION</u></b></p> <p>Each new piece of apparatus shall be provided with a <b>ten (10) year</b> pro-rated paint and corrosion limited warranty on the apparatus cab. 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.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><b><u>FIVE (5) YEAR MATERIAL AND WORKMANSHIP</u></b></p> <p>The electronic modules and display(s) shall be provided with a five (5) year material and workmanship limited warranty. The warranty shall cover electronic modules to be free from failures caused by defects in material and workmanship.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><b><u>COMPARTMENT LIGHT WARRANTY</u></b></p> <p>A ten (10) year material and workmanship limited warranty shall be provided for the Pierce 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.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><b><u>TRANSMISSION WARRANTY</u></b></p> <p>The transmission shall have a <b>five (5) year/unlimited mileage</b> warranty covering 100 percent parts and labor. The warranty is to be provided by transmission supplier and not the apparatus builder.</p> <p><b><u>TRANSMISSION COOLER WARRANTY</u></b></p> <p>The transmission cooler shall carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty shall also be in effect for the first three (3) years of the warranty coverage and shall not exceed \$10,000 per occurrence. A copy of the warranty certificate shall be submitted with the bid package.</p> <p><b><u>WATER TANK WARRANTY</u></b></p> <p>The poly water tank shall be provided with a lifetime material and workmanship limited warranty.</p>		

	Bidder Complies	
	Yes	No
<p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><b><u>TEN (10) YEAR STRUCTURAL INTEGRITY</u></b></p> <p>Each new piece of apparatus shall be provided with a <b>ten (10) year</b> 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.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><b><u>ROLLUP DOOR MATERIAL AND WORKMANSHIP WARRANTY</u></b></p> <p>A rollup door limited warranty shall be provided. The mechanical components of the rollup door shall be warranted against defects in material and workmanship for a period of seven (7) years. The door ajar switch shall be warranted for a period of three (3) years and all other electrical components shall be warranted for a period of one (1) year. A seven (7) year limited warranty shall be provided on painted rollup doors.</p> <p>A copy of the warranty certificate shall be submitted with the bid package.</p> <p><b><u>SEVEN (7) YEAR PARTS, ONE (1) YEAR LABOR</u></b></p> <p>The pump and its components shall be provided with a seven (7) year parts and one (1) year labor limited warranty. The manufacturer's warranty shall provide that the pump and its components shall be free from failures caused by defects in material and workmanship that would arise under normal use and service.</p> <p>A copy of the warranty certificate shall be submitted with the bid package.</p> <p><b><u>TEN (10) YEAR PUMP PLUMBING WARRANTY</u></b></p> <p>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 <b>ten (10) years or 100,000 miles</b>. 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.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><b><u>FOAM SYSTEM WARRANTY</u></b></p> <p>A <b>one (1) year</b> material and workmanship limited warranty shall be provided on the foam system. A <b>five (5) year</b> material and workmanship limited warranty shall be provided on the foam system control head.</p>		

	Bidder Complies	
	Yes	No
<p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><b><u>TEN (10) YEAR PRO-RATED PAINT AND CORROSION</u></b></p> <p>Each new piece of apparatus shall be provided with a <b>ten (10) year</b> 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.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><b><u>THREE (3) YEAR MATERIAL AND WORKMANSHIP</u></b></p> <p>The gold leaf lamination shall be provided with a <b>three (3) year</b> 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.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><b><u>VEHICLE STABILITY CERTIFICATION</u></b></p> <p>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.</p> <p><b><u>ENGINE INSTALLATION CERTIFICATION</u></b></p> <p>The fire apparatus manufacturer shall provide a certification, along with a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The certification shall be provided at the time of delivery.</p> <p><b><u>POWER STEERING CERTIFICATION</u></b></p> <p>The fire apparatus manufacturer shall provide a certification stating the power steering system as installed meets the requirements of the component supplier. The certification shall be provided at the time of bid.</p> <p><b><u>CAB INTEGRITY CERTIFICATION</u></b></p> <p>The fire apparatus manufacturer shall provide a cab crash test certification with this proposal. Testing shall meet or exceed the requirements below:</p> <ul style="list-style-type: none"> <li>• SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks.</li> <li>• European Occupant Protection Standard ECE Regulation No.29.</li> <li>• SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks.</li> </ul>		

	Bidder Complies	
	Yes	No
<p>There shall be no exception to any portion of the cab integrity certification. Nonconformance shall lead to immediate rejection of bid.</p> <p><b><u>CAB DOOR DURABILITY CERTIFICATION</u></b></p> <p>Robust cab doors help protect occupants. Cab doors shall survive a 200,000 cycle door slam test where the slamming force exceeds 20 G's of deceleration. The bidder shall certify that the sample doors similar to those provided on the apparatus have been tested and have met these criteria without structural damage, latch malfunction, or significant component wear.</p> <p><b><u>WINDSHIELD WIPER DURABILITY CERTIFICATION</u></b></p> <p>Visibility during inclement weather is essential to safe apparatus performance. Windshield wipers shall survive a 3 million cycle durability test in accordance with section 6.2 of SAE J198 <i>Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles</i>. The bidder shall certify that the wiper system design has been tested and that the wiper system has met these criteria.</p> <p><b><u>ELECTRIC WINDOW DURABILITY CERTIFICATION</u></b></p> <p>Cab window roll-up systems can cause maintenance problems if not designed for long service life. The window regulator design shall complete 30,000 complete up-down cycles and still function normally when finished. The bidder shall certify that sample doors and windows similar to those provided on the apparatus have been tested and have met these criteria without malfunction or significant component wear.</p> <p><b><u>SEAT BELT ANCHOR STRENGTH</u></b></p> <p>Seat belt attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat belt anchor design shall withstand 3000 lb. of pull on both the lap and shoulder belt in accordance with FMVSS 571.210 Seat Belt Assembly Anchorages. The bidder shall certify that each anchor design was pull tested to the required force and met the appropriate criteria.</p> <p><b><u>SEAT MOUNTING STRENGTH</u></b></p> <p>Seat attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat mounting design shall be tested to withstand 20 G's of force in accordance with FMVSS 571.207 Seating Systems. The bidder shall certify that each seat mount and cab structure design was pull tested to the required force and met the appropriate criteria.</p> <p><b><u>PERFORMANCE CERTIFICATIONS</u></b></p> <p><b><u>Cab Air Conditioning</u></b></p> <p>Good cab air conditioning temperature and air flow performance keeps occupants comfortable, reduces humidity, and provides a climate for recuperation while at the scene. The cab air</p>		

	Bidder Complies	
	Yes	No
<p>conditioning system shall cool the cab from a heat-soaked condition at 100 degrees Fahrenheit to an average of 78 degrees Fahrenheit in 30 minutes. The bidder shall certify that a substantially similar cab has been tested and has met these criteria.</p> <p><b><u>Cab Defroster</u></b></p> <p>Visibility during inclement weather is essential to safe apparatus performance. The defroster system shall clear the required windshield zones in accordance with SAE J381 Windshield Defrosting Systems Test Procedure and Performance Requirements - Trucks, Buses, and Multipurpose Vehicles. The bidder shall certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.</p> <p><b><u>Cab Auxiliary Heater</u></b></p> <p>Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. An auxiliary cab heater shall warm the cab 77 degrees Fahrenheit from a cold-soak, within 30 minutes when tested using the coolant supply methods found in SAE J381. The bidder shall certify, at time of delivery, that a substantially similar cab has been tested and has met these criteria.</p> <p><b><u>AMP DRAW REPORT</u></b></p> <p>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.</p> <p>The manufacturer of the apparatus shall provide the following:</p> <ul style="list-style-type: none"> <li>• Documentation of the electrical system performance tests.</li> <li>• A written load analysis, which shall include the following: <ul style="list-style-type: none"> <li>○ The nameplate rating of the alternator.</li> <li>○ The alternator rating under the conditions specified per: <ul style="list-style-type: none"> <li>▪ Applicable NFPA 1901 or 1906 (Current Edition).</li> </ul> </li> <li>○ The minimum continuous load of each component that is specified per: <ul style="list-style-type: none"> <li>▪ Applicable NFPA 1901 or 1906 (Current Edition).</li> </ul> </li> <li>○ Additional loads that, when added to the minimum continuous load, determine the total connected load.</li> <li>○ Each individual intermittent load.</li> </ul> </li> </ul> <p>All of the above listed items shall be provided by the bidder per the applicable NFPA 1901 or 1906 (Current Edition).</p>		

**TOWN OF BRANFORD  
BID PROPOSAL SHEET**

Bid Proposal for:

**BRANFORD FIRE DEPARTMENT  
CUSTOM RESCUE PUMPER**

Date: \_\_\_\_\_

Total Bid Price:        \$\_\_\_\_\_

Please list the delivery time from date of order:

\_\_\_\_\_

Company Name: \_\_\_\_\_

Company Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
Signature of Authorized Representative

\_\_\_\_\_  
Date

\_\_\_\_\_  
Title



**TOWN OF BRANFORD**  
**OFFICE OF THE TREASURER**



1019 Main Street  
Post Office Box 150  
Branford, CT 06405

(203) 488-8394  
FAX: 315-3736

**General Requirements for Bidding  
and  
Instructions to Bidders**

**NOTICE**

Information provided in these specifications is ***CONFIDENTIAL*** and is to be used only for the purpose of preparing a proposal. It is further expected that each bidder will read these specifications with care, for failure to meet every one or a combination of specified conditions may invalidate the proposal.

The Town reserves the right to reject any or all bids or any portion thereof and to accept the bid deemed to be in the best interest of the Town of Branford.

Bidders are requested to submit quotations on the basis of these specifications. Alternate quotations will receive consideration providing such alternatives are clearly explained.

The information contained herein is believed to be accurate and is based upon the latest available information but is not to be considered in any way as a warranty.

Revised 5/2012  
Standard Form

## ***SECTION I - General Terms and Conditions***

### **A. Compliance with Laws**

The bidder shall at all times observe and comply with all laws, ordinances and regulations of the federal, state and local governments, which may in any way affect the preparation or the performance of the contract.

### **B. Timetable**

Price quoted must be valid for **90** days. Delivery and installation completion dates must be included in the bid proposal.

### **C. Consideration of Proposals**

The Board of Selectmen, or a majority of them, reserve the right to select or reject alternate proposals; to waive informality in proposals; and to reject any and all bids, or accept such bid as shall in its judgement be to the best interest of the Town of Branford.

### **D. Bid Bond *\*\*NOT REQUIRED\*\****

1. A certified check or bank draft made payable to the "Treasurer, Town of Branford", or a satisfactory bid executed by the bidder and a surety company in an amount no less than five percent (5%) of the base bid, may be required with each proposal.
2. Checks or drafts will be returned to unsuccessful bidders within ten (10) business days of the bid award.

### **E. Performance Bond *\*\*NOT REQUIRED\*\****

Successful bidders may be required to furnish a Performance and Payment Bond in the amount of 100% of the contract sum.

### **F. Protection of Work and Property**

Successful bidders shall be responsible for protection of their equipment and materials against theft, damage or deterioration on the site.

**G. Competency of Bidders**

1. Bidders shall have had proven experience in the field of work.
2. Bidders shall submit with their bid a listing of recent work performed within the State of Connecticut of the size equal to or greater than the work being bid. **\*\*NOT REQUIRED\*\***

**H. Alternates**

1. Any alternates to specified materials or workmanship must be separately listed and described in detail.
2. Alternates will be considered in awarding the contract only if they provide, as a minimum requirement, all features contained in the specifications.
3. The Town of Branford reserves the sole right to determine through its agents the equality of alternate products and/or installation procedures.

**I. Bid Requirements**

1. Each bidder shall return two (2) copies of the proposal sheet entitled "Bid Proposal". Each bid proposal must be signed by an authorized agent of the bidder.
2. Each bidder must complete and have notarized the "Non-Collusion Affidavit of Bidder" form. This form must accompany all bids being submitted.
3. Each bidder must be in good standing with the Town of Branford.
4. Successful bidders must obtain any required governmental approvals.

**J. Specifications – General**

The contract shall include all labor and materials, tools and equipment and services required for proper performance of the work as specified hereinafter and as may be required for proper completion of the work in accordance with the highest standards of the trades involved.

**K. Examination of Site**

Prior to submission of the bid, contractor shall visit the site, consult with the supervisor, and become thoroughly familiar with all conditions under which the work will be installed. The contractor will be responsible for any assumptions made regarding the site for the work to be performed.

## ***SECTION II - Insurance Requirements***

Bidder shall agree to maintain in force at all times during which services are to be performed the following coverages and shall name the Town of Branford as an Additional Insured on a primary and non-contributory basis to the Bidder's Commercial General Liability and Automobile Liability policies. **These requirements shall be clearly stated in the remarks section on the bidders Certificate of Insurance.** Insurance shall be written with Carriers approved in the State of Connecticut and with a minimum Best's Rating of "A"VIII-. In addition, all Carriers are subject to approval by the Town of Branford.

		(Minimum Limits)
General Liability	Each Occurrence	\$1,000,000
	General Aggregate	\$2,000,000
	Products/Completed Operations Aggregate	\$2,000,000
Excess/Umbrella Liability	Each Occurrence	\$1,000,000
	Aggregate	\$1,000,000
Professional Liability	Each Occurrence	\$1,000,000
	Aggregate	\$1,000,000
Cyber Liability <sup>(1)</sup>	Each Occurrence	\$1,000,000
	Aggregate	\$1,000,000
Workers' Compensation and Employers' Liability <sup>(2)</sup>	WC Statutory Limits	
	EL Each Accident	\$500,000
	EL Disease Each Employee	\$500,000
	EL Disease Policy Limit	\$500,000

If any policy is written on a "Claims Made" basis, the policy must be continually renewed for a minimum of two (2) years from the completion date of this contract. If the policy is replaced and/or the retroactive date is changed, then the expiring policy must be endorsed to extend the reporting periods for claims for the policy in effect during the contract for two (2) years from the completion date.

Original, completed Certificates of Insurance must be presented to the Town of Branford prior to purchase order/contract issuance. Bidder/Contractor/Vendor agrees to provide replacement/renewal certificates at least 30 days prior to the expiration date of the policies. Should any policy be cancelled for nonpayment of premium, 10 days written notice must be provided to the Town. Should any of the policies be cancelled for other reasons, limits reduced or, coverage altered, 30 days written notice must be given to the Town.

### **Notes**

- (1) Cyber Liability is required if Contractor is on Town's network or houses Town information on their network.
- (2) Workers Compensation is required if employees come onto Town property.

**Hold Harmless Requirements**

The contractor shall, at all times, indemnify and save harmless the Town of Branford, its officers, agents, and servants on account of any and all claims, damages, losses, litigation expense, counsel fees and compensation arising out of injuries (including death) sustained by or alleged to have been sustained by the public, any or all persons affected by the contractor's work, or by the contractor, any subcontractor, material, men or anyone directly or indirectly employed by them or any one of them while engaged in the performance of this contract. The Town of Branford shall be named as an additional insured on said policy of public liability insurance to cover all claims against the Town arising out of said contract.

## NON-COLLUSION AFFIDAVIT OF BIDDER

State of: \_\_\_\_\_

County of: \_\_\_\_\_, SS)

\_\_\_\_\_; being first duly sworn, deposes and says that:

- 1) S/he is (owner, partner, officer, representative or agent) of \_\_\_\_\_, the Bidder that has submitted the attached Bid:
- 2) S/he is fully informed regarding the preparation and contents of the attached Bid and of all pertinent circumstances regarding such Bid:
- 3) Such Bid is genuine and is not a collusive or sham Bid:
- 4) Neither the said Bidder nor any of its officers, partners, owner, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived, or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any Bidder, or to fix any overhead, profit or cost element of the bid price or the bid price of any other Bidder or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage with the Owner or any person interested in the proposed Contract.
- 5) The price quoted in the attached Bid is fair and proper and is not tainted by collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest.

Signed: \_\_\_\_\_

Title: \_\_\_\_\_

Subscribed and sworn before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

Notary Public: \_\_\_\_\_

My Commission expires \_\_\_\_\_, 20\_\_\_\_.