File No 7125 To furnish and deliver qty 1 (one) Custom Built 1250 GPM Foam Pumper- Thursday, February 4, 2016 @ 11:00 AM

Invitation for Bid	**Bid Deposit Required** **All bids shall be accompanied by a bid deposit in the form of a certified, treasurers check (no cash) issued by a responsible bank or trust company made payable to the City of Cambridge or a bid bond, in an amount not less than 5% of the value**
FILE NO: 7125	
COMMODITY: To Furnish and Deliver qty of one custom built 1250 GPM Foam Pumper-for the City of Cambridge Fire Department	
NAME OF BIDDER:	
BIDDER'S FED. ID.	

TO: Amy L. Witts Purchasing Agent PH: (617)349-4310 FX: (617)349-4008
795 Massachusetts Avenue, Room 303
Cambridge, MA 02139

The undersigned submits this sealed bid to provide the commodity or services identified above, described in the specifications herein and advertised in the **CAMBRIDGE CHRONICLE** on **THURSDAY**, **JANUARY 21, 2014** which is to be opened and publicly read at the Office of the Purchasing Agent, City Hall, 795 Mass. Ave., Room 303, Cambridge, MA at 11:00 a.m. on **THURSDAY, FEBRUARY 4, 2016. This bid may be downloaded from the City's web site, www.CambridgeMA.gov, Online Services, Purchasing Bid list, File no.7125. Parking is limited at this location. It is strongly recommended that bids are mailed or delivered in advanced of the due date and time. Late proposals will not be accepted.**

The undersigned certifies that this bid is made without collusion with any other person, firm or corporation making any other bid or who otherwise would make a bid. The undersigned agrees to furnish the commodity or services in strict accordance with the bid documents, which consist of this Invitation for Bid and all attachments hereto. The envelope containing the bid must be labeled: "This envelope contains a bid" **To Furnish and Deliver Qty of One (1) Custom Built 1250 GPM Foam Pumper" for the City of Cambridge Fire Department opened at 11:00 A.M. on Thursday, February 4, 2016". The bid and all documents submitted with it are public records.**

All bids shall be accompanied by a bid deposit in the form of a certified, treasurers check (no cash) issued by a responsible bank or trust company made payable to the City of Cambridge or a bid bond, in an amount not less than 5% of the value of the bid.

This bid process and the award of the contract are made in conformity with M.G.L. c. 30B, unless otherwise stated. See other side of this form for General Terms and Conditions that shall become part of any Contract awarded through this Invitation for Bid.

This bid includes addenda numbered:_____

SIGNATURE OF BIDDER:_____

TITLE OF SIGNATORY_____

ADDRESS OF BIDDER_____

TELEPHONE NUMBER_____**FAX NUMBER:**_____

Please check one of the following and insert the requested information:

( ) Corporation, incorporated in the State of:_____

( ) Partnership. Names of partners:_____

( ) Individual:_____

Name of Bidder: _____

GENERAL TERMS AND CONDITIONS

LAWS: All deliveries shall conform in every respect with all applicable laws of the Federal government, Commonwealth of Massachusetts and City of Cambridge.

EQUAL OPPORTUNITY: The Vendor in the performance of the contract shall not discriminate on the grounds of race, color, religious creed, national origin or ancestry, age, disability, sexual orientation, marital status, family status, military status, source of income, or sex in employment practices or in the selection or retention of subcontractors, and in the procurement of materials or rental of equipment. The City may cancel, terminate or suspend the contract in whole or in part for any violation of this paragraph

TAXES: Purchases made by the City are exempt from the payment of Federal excise tax and the payment of Commonwealth of Massachusetts sales tax (except for gasoline) and any such taxes must not be included in the bid prices.

QUANTITIES: Unless otherwise stated, the quantities set forth herein are ESTIMATES ONLY. The City reserves the right to purchase the commodity(ies) specified in any amount less than the estimated amount.

BID PRICES: Bid prices shall include transportation and delivery charges fully prepaid to the City of Cambridge destination. Where the unit price and the total price are at variance, the unit price will prevail.

DELIVERY AND PACKAGING: Deliveries must be made in such quantities as called for in the purchase order and in the manufacturer's original packages. All deliveries must be **"inside" delivery with no assistance from City personnel. Tailgate deliveries will not be accepted.** Rejected material will be returned to the vendor at the vendor's expense.

MODIFICATION OF BIDS: Prior to bid opening, a bidder may correct, modify or withdraw its bid by making the request in writing prior to the time and date for the bid opening. All corrections and modifications must be delivered to the Purchasing Department in a sealed envelope indicating that it contains a modification or correction of the original bid submitted for the particular commodity and indicating the time and date of the bid opening.

REJECTION OF BIDS: The City reserves the right to reject any and all bids if it is in best interest of the City to do so.

AWARD OF CONTRACT: Contract(s) will be awarded within forty-five days of the bid opening unless award date is extended by consent of all parties concerned.

INDEMNITY: Unless otherwise provided by law, the Vendor will indemnify and hold harmless the City against any and all liability, loss, damages, costs or expenses for personal injury or damage to real or tangible personal property which the City may sustain, incur or be required to pay, arising out of or in connection with the performance of the Contract by reason of any negligent action/inaction or willful misconduct by the Contractor, its agents, servants or employees

TERMINATION OF CONTRACT: Except as otherwise provided in the Articles of Agreement, the City may terminate the contract upon seven days notice.

ASSIGNABILITY: The Vendor shall not assign, sell, subcontract or otherwise transfer any interest in this contract without the prior written consent of the City.

MATERIAL SAFETY DATA SHEETS: Pursuant to M.G.L. c. 111F, ss. 8, 9, and 10, any vendor who receives a contract resulting from this invitation agrees to submit a Material Safety Data Sheet for each toxic or hazardous substance or mixture containing such substance when deliveries are made. The vendor agrees to comply with all requirements set forth in the pertinent laws above.

Name of Bidder: _____

City of Cambridge
Purchasing Department

TO: Amy L: Witts, Purchasing Agent
City Hall, Cambridge, Massachusetts 02139

The undersigned hereby proposes to furnish, and deliver Q**ty of One (1) Custom Built 1250 GPM Foam Pumper**-for the Cambridge Fire Department, all in accordance with the attached specifications and following proposal schedule.

Prices must remain FIRM during the entire contract period. One award will be made as a result of this Invitation for Bid. The contract will be awarded to the responsive and responsible bidder offering the lowest price for the Custom Built 1250 GPM Foam Pumper.

Contract will be awarded within forty-five days, unless award date is extended by consent of all parties concerned.

Prior to bid opening, a bidder may correct, modify or withdraw its bid by making the request in writing prior to the time and date for the bid opening. All corrections and modifications must be delivered to the Purchasing Department in a sealed envelope with a notation on the envelope indicating that it contains a modification or correction of the original bid submitted for the particular commodity and indicating the date and time of the bid opening.

A sample contract is attached hereto. The bidder must be willing to sign the City's contract. The City will not accept a bidder's terms & conditions.

Living Wage Requirements
The City of Cambridge has a Living Wage Requirement that establishes minimum hourly rates for all personnel providing contract services to the City. The City of Cambridge's Living Wage as of March 1, 2015 is $14.95 per hour. The Living Wage requirements are attached.

Attention is called to the insurance and bond requirements herein.

Please submit your bid in duplicate (One original and one copy). Do not submit bids in hard binders.

Bid Deposit
All bids shall be accompanied by a bid deposit in the form of a certified, treasurers check (no cash) issued by a responsible bank or trust company made payable to the City of Cambridge or a bid bond, in an amount not less than 5% of the value of the bid.

Performance Bond
The successful bidder will be required to furnish a Performance Bond in the amount of one hundred (100%) of the contract sum. Bonds shall be obtained from a surety licensed to do business in the Commonwealth of Massachusetts and the form shall be satisfactory to the City of Cambridge.

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.

If the successful bidder does not manufacture the chassis, the bidder shall supply a separate warranty bond, in addition to their performance bond, along with their signed contract. This warranty bond shall guarantee all terms and conditions of the 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 warranty quoted in the bid.

Name of Bidder: _____

Questions

Questions concerning this Invitation to Bid **including any exceptions to the specifications** must be submitted in writing and faxed to the Office of the Purchasing Agent, Amy L. Witts, Fax # 617-349-4008. All questions must be submitted no later than **Thursday, January 28, 2016 by 4:00 p.m.** An addendum will be posted to the website to notify all bidders of the questions and answers.

Please check the website for Addendums before submitting your bid to the City. Bidders will not be notified individually of Addendums. Please check the bidders list on the website. If your firm in not listed on the bidders list please click on "Registry" and notify us that you have downloaded the bid document.

Bid Results

The tab sheet and the contract award information will not be mailed to the bidders individually. A tab sheet with the bid results will be posted to the website soon after the bid opening. The tab sheet will include the "contract award" information as soon as it is determined.

Confidentiality and Public Records Law

All bids or other materials submitted by the vendor in response to this Invitation to Bid will be open for inspection by any person and in accordance with the Massachusetts Public Records Law.

Name of Bidder: _____

Quality Requirements

A "NO" response, a failure to respond, or a failure to meet any of the following Quality Requirements will result in a rejection of your bid.

Circle Yes or No for each of the following Quality Requirements.

1.	**Bidder has been in business for minimum of ten years.**	**Yes**	**No**
2.	**The warranty and repair facility must utilize NFPA certified Emergency Vehicle Technicians (EVT) to perform work on the City of Cambridge fire apparatus**	**Yes**	**No**
3.	**The successful bidder has and will maintain a factory authorized service center within 50 miles of the City of Cambridge Fire Headquarters located at 491 Broadway, Cambridge, MA**	**Yes**	**No**
4.	**Bidder can provide, upon request, proof of financial solvency.**	**Yes**	**No**
5.	**The bidder has the following qualifications:**		
	A. Minimum of eight years of continuous ownership and management.	**Yes**	**No**
	B. Bidder has access to sheet metal fabrication and assembly.	**Yes**	**No**
	C. In house paint facility large enough to accommodate Fire apparatus	**Yes**	**No**
	D. Certified pump mechanics.	**Yes**	**No**
	E. Certified welders.	**Yes**	**No**
	F. International air terminal within thirty mile for Receipt of air shipments of service parts.	**Yes**	**No**
	G. Available engineer with a minimum of 20 years experience in automotive fire apparatus and aerial design.	**Yes**	**No**
	H. PRO-LINK 9000 or equivalent diesel engine reader and analytical Device with ATEC Option for transmissions on Premises- owned by the service center.	**Yes**	**No**

Name of Bidder: _____

File No 7125 To furnish and deliver qty 1 (one) Custom Built 1250 GPM Foam Pumper- Thursday, February 4, 2016 @ 11:00 AM

Bid Submissions

Failure to submit documents requested may result in the determination that your bid is non- responsive unless the City deems such failure to be a minor informality.

1. Bidder shall furnish evidence satisfactory to the City of its ability to construct the apparatus specified and shall state the location of the factory where the apparatus is to be built.

_____
State

2. Bidder shall state minimum turn around time for repairs and parts.

_____

3. Bidder shall submit a set of contractor's specifications consisting of a detailed description of the apparatus and equipment proposed, indicated size, type, model and make of all component parts and equipment.

4. Bidder shall provide the location of the authorized service center within 50 miles of the City of Cambridge Fire Department Headquarters located at 491 Broadway, Cambridge MA.

_____
Address City State Zip code

5. Bidder shall submit copies of certificates referenced under quality requirements 5D and 5E.

6. **Bidder shall respond to the Cambridge Fire Apparatus specifications attached and shall "answer Bidder Complies yes or no" for each paragraph and submit all the pages with your bid.**

Price Proposal

Qty One (1) Custom Built 1250 GPM Foam Pumper $_____

Total Lump Sum in words:_____

Delivery charge must be included in proposal price.

All prices are to remain firm.

Signature of Bidder:_____

Instructions for acknowledging the attached Cambridge Fire Department Specifications.

Please refer to the attached Cambridge Fire Department Specifications and check Bidder Complies yes or no for each paragraph, sign each page of the specifications and submit with your bid.

Name of Bidder: _____

	Bidder Complies	
	Yes	No

Cambridge Fire Department

491 Broadway
Cambridge, Massachusetts 02138

SPECIFICATIONS FOR ONE (1) CUSTOM BUILT 1250 GPM FOAM PUMPER

INTENT OF SPECIFICATIONS

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

Images and illustrative material in this specification are as accurate as known at the time of publication,

INSTRUCTIONS TO BIDDERS

The City's standards for bidding automotive fire apparatus must be strictly adhered to, and all bid forms and questions must be complete and submitted with the bid. **Omissions and variations shall result in immediate rejection of the bid.**

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).

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.

Each bidder shall furnish satisfactory evidence of their ability to construct the apparatus specified.

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).

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

	Bidder Complies	
	Yes	No

the apparatus furnished under contract shall conform. These specifications shall indicate size, type, model and make of all components parts and equipment, providing proof of compliance with each and every item in the departments advertised specifications. A letter only, even though written on company letterhead, shall not be sufficient. **An exception to this requirement shall not be acceptable.**

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.

The City 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.

The City'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 City's specification will be considered a complete substitute and immediately rejected.

THE CITY 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 CITY.

EXCEPTIONS

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.

Bidders shall indicate in the "yes/no" column if their bid complies on each item (paragraph) specified.

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.

Exceptions shall be allowed if they are equal to or superior to that specified and provided they are listed and fully explained on a separate page. All deviations, no matter how slight, shall be clearly explained on a separate sheet, in the bid sequence, citing the page and paragraph number(s) of the specifications, how the proposal deviation is different, how the deviation meets or exceeds the specifications and why it is necessary, and entitled "EXCEPTIONS TO

	Bidder Complies	
	Yes	No

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.

Proposals that are found to have deviations without listing them or bids taking total exceptions to these advertised specifications will be rejected (no exception).

Bids not including all exceptions is a material breach and shall result in the bid being immediately rejected (no exception).

GENERAL DESIGN AND CONSTRUCTION

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.

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 pumphouse 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.

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.

The bidder shall make accurate statements as to the apparatus weight and dimensions.

QUALITY AND WORKMANSHIP

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.

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

	Bidder Complies	
	Yes	No

for design, manufacture, installation and service. A copy of the certificate of compliance shall be included with the bid.

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

DELIVERY

Apparatus, to insure proper break in of all components while still under warranty, **shall be delivered under its own power** - 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.

MANUALS AND SERVICE INFORMATION

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

SAFETY VIDEO

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.

PERFORMANCE TESTS AND REQUIREMENTS

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:

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.

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.

	Bidder Complies	
	Yes	No

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.

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).

FAILURE TO MEET TEST

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 City or its use by the City during the above-specified period with the permission of the bidder shall not constitute acceptance.

SERVICE AND WARRANTY SUPPORT (DEALERSHIP)

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

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

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.

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 Cambridge Fire Department.

The service center shall have the following minimum qualifications:

1. Minimum 10 years of continuous ownership and management
2. Total in-house body shop capability
3. Minimum 80’ down draft paint booth with environmental approval
4. Pump mechanics certified by the pump manufacturer
5. Automotive electricians trained by the apparatus factory
6. PRO-LINK 9000 analytical device with current software
7. Lap top shop computer with current multiplex analytical software and wireless modem for direct truck to factory communication

	Bidder Complies	
	Yes	No

8. Full time body repair and automotive paint staff
9. Certified Master **ASE** and **EVT** Technicians
10. Warranty center for International Harvester®, Ford®, Caterpillar®, Cummins®, Allison® Transmission, Hendrickson®, Meritor®, Waterous® and Hale® Pumps
11. Computerized parts listing
12. Factory Trained aerial and hydraulic repair specialists
13. 24 Hour Road & Towing service vehicle
14. Daily Parts Delivery to the customer location
15 DOT & Massachusetts Inspection Station
16 Hunter® Laser Truck Alignment System
17. Robinair® Air Conditioning Analyzer
18. Massachusetts Certified Air Conditioning Technician

Current Certifications shall be furnished at time of bid (NO EXCEPTIONS).

SERVICE AND WARRANTY SUPPORT (MANUFACTURER)

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.

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.

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.

The manufacturer must also maintain a 24 hour/ 7 day a week, toll free emergency hot line.

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.

The manufacturer must be capable of providing both in-house and on-site service for the apparatus.

The manufacturer shall offer regional factory hands-on repair and maintenance training classes.

	Bidder Complies	
	Yes	No

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.

LIABILITY

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. To ensure this will occur, the bidder shall carry the following minimum insurance.

COMMERCIAL GENERAL LIABILITY INSURANCE

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:

Each Occurrence	$1,000,000
Products/Completed Operations Aggregate	$1,000,000
Personal and Advertising Injury	$1,000,000
General Aggregate	$5,000,000

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.

COMMERCIAL AUTOMOBILE LIABILITY INSURANCE

The successful bidder shall, during the performance of the contract keep in force at least the following minimum limits of commercial automobile liability insurance:

Each Accident Combined Single Limit:	$1,000,000

Coverage shall be written on a Commercial Automobile liability form.

UMBRELLA/EXCESS LIABILITY INSURANCE

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:

Aggregate:	$25,000,000
Each Occurrence:	$25,000,000

	Bidder Complies	
	Yes	No

The umbrella policy shall be written on an occurrence basis and at a minimum provide excess to the Bidder's General Liability, Automobile Liability and Employer's Liability policies.

The required limits can be provided by one (1) or more policies provided all other insurance requirements are met.

Coverage shall be provided by a carrier(s) rated A- or better by A.M. Bests.

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 polices be cancelled before the expiration date thereof, notice shall be delivered in accordance with the policy provisions. Bidder agrees to furnish owner with a current Certificate of Insurance with the coverages listed above along with its bid. The certificate shall show the City as certificate holder.

SINGLE SOURCE MANUFACTURER

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, pumphouse (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, pumphouse, cab weldment and chassis). The bidder shall provide evidence that they comply with this requirement.

The bidder shall state the location of the factory where the apparatus is to be built.

NFPA 2009 STANDARDS

This unit shall comply with the NFPA standards effective January 1, 2009, except for fire department specifications that differ from NFPA specifications. These exceptions shall be set forth in the Statement of Exceptions.

Certification of slip resistance of all stepping, standing and walking surfaces shall be supplied with delivery of the apparatus.

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.

The manufacturer shall have programs in place for training, proficiency testing and performance for any staff involved with certifications.

	Bidder Complies	
	Yes	No

An official of the company shall designate, in writing, who is qualified to witness and certify test results.

NFPA COMPLIANCY

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".

VEHICLE INSPECTION PROGRAM CERTIFICATION

To assure the vehicle is built to current NFPA 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 of NFPA 1901. 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).

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.

PUMP TEST

The pump shall be tested, approved, and certified by Underwriter's Laboratory 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.

GENERATOR TEST

If the unit has a generator, the generator shall be tested, approved, and certified by Underwriters Laboratories at the manufacturer's expense. The test results shall be provided to the Fire Department at the time of delivery.

BREATHING AIR TEST

If the unit has breathing air, the apparatus manufacturer shall draw an air sample from the air system and certify that the air quality meets the requirements of NFPA 1989, *Standard on Breathing Air Quality for Fire and Emergency Services Respiratory Protection.*

REQUIREMENTS OF THE APPARATUS MANUFACTURER

The manufacturer of the apparatus must be fully owned and managed by a Parent Company, Corporation, Partnership, or that is a company 100% held in the United States of America.

Proposals from any manufacturer that is fully or partially owned and/or operated by a Foreign Company, Corporation, Partnership, or that is a company under any type of ownership,

	Bidder Complies	
	Yes	No

partnership, or any similar type of agreement shall be rejected immediately and their bid disqualified. (NO EXCEPTIONS).

TRAINING

A qualified training engineer shall be provided by the bidder. The training engineer shall instruct the Fire Department personnel in the operation and maintenance for four (4) days, FOAM Pumper chassis pump and foam operation for a period of not less than four (4) days.

CONTRACT

The contract for the specified apparatus shall be directly with the **City of Cambridge** and the manufacturer. Contracts with dealers or representatives of the manufacturer will not be executed.

NEW AND UNUSED

All components shall be new and unused (with the exception of use incidental to the construction, testing, transport and delivery of the apparatus). Any old or used components shall constitute grounds for automatic rejection of the entire apparatus.

Bidders must identify by manufacturer and model number purchased components utilized in the apparatus proposed in the bid submission. In order to make valid comparisons between bids, components must be accurately identified. Therefore any bid or technical proposal which does not so identify the components being offered will not be considered.

Any potential to utilize progress payment discounts must be defined clearly in the ("bidder's) proposal.

CONSTRUCTION REVIEW AND WEEKLY PROGRESS REPORTS

The successful bidder shall also provide weekly photographic progress reports and inspection services, provided by an independent third party for both apparatus.

1) Comprehensive review of the bid documents with the factory order to ensure accuracy.
2) Weekly progress reports including photographs of the apparatus or the major components as they are being constructed. The reports shall commence at the beginning of the manufacturing process and shall continue until just prior to the final inspection. The reports shall show the progress of the apparatus through the course of each week. Special attention shall be given to show the unique features and aspects of the apparatus as construction progresses.
3) In addition, after the final inspection has been completed by the customer or third party, the third party inspector shall review all items noted in the inspection for completion prior to the apparatus leaving the manufacturing facility for delivery to the local service area for pre-delivery service.

	Bidder Complies	
	Yes	No

AFTERMARKET SUPPORT WEBSITE

A Customer Service website shall provide authorized dealers access to comprehensive information pertaining to the maintenance and service of their customer's apparatus. This tool shall provide the authorized dealer the ability to service and support their customers to the best of their ability with factory support at their fingertips.

This website shall also be accessible to the end user through the guest login. Limited access is available and vehicle specific parts information accessible by entering a specific VIN number. All end users should see their local authorized dealer for additional support and service.

The website shall provide the following to the designated individuals:

- Authorized dealer only - ability to access truck detail information on the major components of the vehicle, warranty information, available vehicle photographs, vehicle drawings, sales options, applicable vehicle software downloads, etc.

- Authorized dealer and customer - parts look-up capability, with the aid of digital photographs, part drawings, and assembly drawings.

- Authorized dealer only - ability to electronically submit warranty claims directly to the factory for reimbursement.

- Authorized dealer only - accessibility to multiple dealer reports that allow the dealership to maintain communication with the customer on the status of orders, claims, and phone contacts.

- Authorized dealer and customer - access to all currently published Operation and Maintenance and Service publications.

- Authorized dealer only - access to manufacturer Service Bulletins and Work Instructions containing information on current service topics and recommendations provided.

- Authorized dealer and customer - access to upcoming training classes offered by the manufacturer.

- Authorized dealer only - access to interactive electronic learning modules (Operators Guides) covering the operation of major vehicle components.

- Authorized dealer only - access to customer service articles, corporate news, quarterly newsletters, and key contacts.

	Bidder Complies	
	Yes	No

BID BOND

All bidders shall provide a bid bond as security for the bid in the form of a **5%** bid bond to accompany their bid. This bid bond shall be issued by a Surety Company who is listed on the U.S. Treasury Departments list of acceptable sureties as published in Department Circular 570. The bid bond shall be issued by an authorized representative of the Surety Company and shall be accompanied by a certified power of attorney dated on or before the date of bid. The bid bond shall include language, which assures that the bidder/principal shall give a bond or bonds as may be specified in the bidding or contract documents, with good and sufficient surety for the faithful performance of the contract, including the Basic One (1) Year Limited Warranty, and for the prompt payment of labor and material furnished in the prosecution of the contract.

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.

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.

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.

PERFORMANCE BOND, 1 YEAR

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

Bidder and Bidder's surety agree that the Bond issued hereunder, whether expressly stated or not, also includes the surety's guarantee of the vehicle manufacturer's Basic One (1) Year Limited Warranty period included within this proposal. Owner agrees that the penal amount of this bond

	Bidder Complies	
	Yes	No

shall be simultaneously amended to 100% percent of the total contract amount upon satisfactory acceptance and delivery of the vehicle(s) included herein. Notwithstanding anything contained within this contract to the contrary, the surety's liability for any warranties of any type shall not exceed one (1) year from the date of such satisfactory acceptance and delivery, or the actual Basic One (1) Year Limited Warranty period, whichever is shorter.

APPROVAL DRAWING

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.

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

FOAM PUMPER WARRANTIES

The warranty on the apparatus shall begin upon transfer of title, certification of origin to the City.

ONE (1) YEAR MATERIAL AND WORKMANSHIP

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

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

The Cambridge Fire Department will perform warranty repairs at warranty rates with prior approval from the manufacturer.

FIFTY (50) YEAR STRUCTURAL INTEGRITY

The chassis frame shall be provided with a **fifty (50) year** material and workmanship limited warranty. The warranty shall cover the chassis frame as being free from defects in material and workmanship that would arise under normal use and service.

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

FRONT AXLE TWO (2) YEAR MATERIAL AND WORKMANSHIP WARRANTY

A Meritor™ Axle **two (2) year** limited warranty shall be provided.

	Bidder Complies	
	Yes	No

STEERING GEAR WARRANTY

A TRW **one (1) year** limited steering gear warranty shall be provided. A copy of the warranty certificate shall be submitted with the bid package.

REAR AXLE TWO (2) YEAR MATERIAL AND WORKMANSHIP WARRANTY

A Meritor™ Axle **two (2) year** limited warranty shall be provided.

ABS BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY

A Meritor Wabco™ ABS brake system **three (3) year** limited warranty shall be provided.

ENGINE WARRANTY

A Cummins **five (5) year** limited engine warranty shall be provided. A copy of the warranty certificate shall be submitted with the bid package.

TRANSMISSION WARRANTY

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

TEN (10) YEAR STRUCTURAL INTEGRITY

The new cab shall be provided with a **ten (10) year** material and workmanship limited warranty. The warranty shall cover such portions of the cab 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.

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

TEN (10) YEAR STRUCTURAL INTEGRITY

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

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

COMPARTMENT LIGHT WARRANTY

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

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

	Bidder Complies	
	Yes	No

TRANSMISSION COOLER WARRANTY

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.

WATER TANK WARRANTY

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

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

ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY

An AMDOR roll-up door limited warranty shall be provided. The roll-up door shall be warranted against manufacturing defects for a period of **ten (10) years**. A **five (5) year** limited warranty shall be provided on painted roll up doors.

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

SIX (6) YEAR MATERIAL AND WORKMANSHIP

The pump and its components shall be provided with a six (6) year material and workmanship 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.

A copy of the warranty certificate shall be submitted with the bid package (No Exception).

TEN (10) YEAR PUMP PLUMBING WARRANTY

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

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

FOAM SYSTEM WARRANTY

A **one (1) year** material and workmanship limited warranty shall be provided on the Husky 12 foam system. A **five (5) year** material and workmanship limited warranty shall be provided on the foam system control head.

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

	Bidder Complies	
	Yes	No

TEN (10) YEAR PAINT AND CORROSION NON PRO-RATED

Each new piece of apparatus shall be provided with a ten (10) year 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.

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

TWELVE (12) YEAR PAINT AND CORROSION NON PRO-RATED

Each new piece of apparatus shall be provided with a twelve (12) year 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.

A copy of the warranty certificate shall be submitted with the bid package (No Exception).

THREE (3) YEAR MATERIAL AND WORKMANSHIP

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

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

FOAM PUMPER CERTIFICATIONS

The certifications listed below shall be furnished with the bid.

VEHICLE STABILITY CERTIFICATION

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.

ENGINE INSTALLATION CERTIFICATION

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 bid.

POWER STEERING CERTIFICATION

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.

	Bidder Complies	
	Yes	No

CAB INTEGRITY CERTIFICATION

The fire apparatus manufacturer shall provide a cab crash test certification with this proposal. The certification shall state that a specimen representing the substantial structural configuration of the cab has been tested and certified by an independent third party test facility. Testing events shall be documented with photographs, real-time and high-speed video, vehicle accelerometers, cart accelerometers, and a laser speed trap. The fire apparatus manufacturer shall provide a state licensed professional engineer to witness and certify all testing events. Testing shall meet or exceed the requirements below:

- European Occupant Protection Standard ECE Regulation No.29.

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

- SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks.

- Roof Crush

The cab shall be subjected to a roof crush force of 22,500 lb. This value meets the ECE 29 criteria, and is equivalent to the front axle rating up to a maximum of ten (10) metric tons.

- Side Impact

The same cab shall be subjected to dynamic preload where a 13,275-lb moving barrier is slammed into the side of the cab at 5.50 mph, striking with an impact of 13,000 ft-lb of force. This test is part of the SAE J2422 test procedure and more closely represents the forces a cab shall see in a rollover incident.

- Frontal Impact

The same cab shall withstand a frontal impact of 32,600 ft-lb of force using a moving barrier in accordance with SAE J2420.

- Additional Frontal Impact

The same cab shall withstand a frontal impact of 65,200 ft-lb of force using a moving barrier. (Twice the force required by SAE J2420)

The same cab shall withstand all tests without any measurable intrusion into the survival space of the occupant area.

There shall be no exception to any portion of the cab integrity certification. Nonconformance shall lead to immediate rejection of bid.

	Bidder Complies	
	Yes	No

CAB DOOR DURABILITY CERTIFICATION

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.

WINDSHIELD WIPER DURABILITY CERTIFICATION

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 *Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles.* The bidder shall certify that the wiper system design has been tested and that the wiper system has met these criteria.

SEAT BELT ANCHOR STRENGTH

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.

SEAT MOUNTING STRENGTH

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, at time of delivery, that each seat mount and cab structure design was pull tested to the required force and met the appropriate criteria.

CAB DEFROSTER CERTIFICATION

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.

CAB HEATER CERTIFICATION

Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. The cab heaters 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.

	Bidder Complies	
	Yes	No

AMP DRAW REPORT

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.

The manufacturer of the apparatus shall provide the following:

- Documentation of the electrical system performance tests.
- A written load analysis, which shall include the following:
  - The nameplate rating of the alternator.
  - The alternator rating under the conditions specified per:
    - Applicable NFPA 1901 or 1906 (Current Edition).
  - The minimum continuous load of each component that is specified per:
    - Applicable NFPA 1901 or 1906 (Current Edition).
  - Additional loads that, when added to the minimum continuous load, determine the total connected load.
  - Each individual intermittent load.

All of the above listed items shall be provided by the bidder per the applicable NFPA 1901 or 1906 (Current Edition).

	Bidder Complies	
	Yes	No

CHASSIS

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, capacity for the intended load to be sustained, and the type of service required.

MAXIMUM OVERALL HEIGHT

The maximum overall height of the apparatus shall be 10' 2".

MAXIMUM OVERALL LENGTH

The maximum overall length of the apparatus shall be 32 feet.

WHEELBASE

The wheelbase of the vehicle shall be no greater than 181.00 inches.

GVW RATING

The gross vehicle weight rating shall be a minimum of 45,000 pounds.

FRAME

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. The side rails shall be heat-treated steel measuring 10.25" x 3.50" x .375".

Each rail shall have a section modulus of 16.00 cubic inches, yield strength of 120,000 psi, and a resisting bending moment (rbm) of 1,921,069 inch-pounds.

FRONT AXLE

The front axle shall be a reverse "I" beam type with inclined king pins. It shall be a Meritor™ axle, Model FL-941, with a rated capacity of 18,000 lb.

FRONT SUSPENSION

The front springs shall be a Standens, three (3)-leaf, taper leaf design, 54.00" long x 4.00" wide, with a ground rating of 18,000 lb.

The two (2) top leaves shall wrap the forward spring hanger pin. The top leaf shall also wrap the rear spring hanger pin. Both the front and rear eyes shall be Berlin style wraps that shall place the eyes in the horizontal plane within the main leaf. This shall reduce bending stress from acceleration and braking.

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.

	Bidder Complies	
	Yes	No

SHOCK ABSORBERS
Heavy-duty telescoping shock absorbers shall be provided on the front axle.

FRONT OIL SEALS
Oil seals with viewing window shall be provided on the front axle.

FRONT TIRES
Front tires shall be Goodyear® 385/65R22.5 radials, 18 ply G296 MSA tread, rated for 18,740 lb maximum axle load and 68 mph maximum speed.

The tires shall be mounted on 22.50" x 12.25" steel disc type wheels with a ten (10)-stud, 11.25" bolt circle.

TURNING RADIUS REPORT
Supplied with the bid shall be a turning radius analysis of the vehicle being proposed. This analysis shall provide the inside turning radius, the outside turning radius, the curb to curb turning radius, and the wall to wall turning radius.

REAR AXLE
The rear axle shall be a Meritor™, Model RS-26-185, with a capacity of 27,000 lb.

TOP SPEED OF VEHICLE
A rear axle ratio shall be furnished to allow the vehicle to reach a top speed of 67 MPH.

REAR SUSPENSION
The rear suspension shall be Standens, 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.

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.

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.

REAR OIL SEALS
Oil seals shall be provided on the rear axle.

REAR TIRES
Rear tires shall be four (4) Goodyear® 12R22.50 radials, 16 ply all season G622 RSD tread, rated for 27,120 lb maximum axle load and 75 mph maximum speed.

	Bidder Complies	
	Yes	No

The tires shall be mounted on Accuride® 22.50" x 8.25" steel disc type wheels with a ten (10) stud, 11.25" bolt circle.

TIRE BALANCE

All tires shall be balanced with Counteract balancing beads. The beads shall be inserted into the tire and eliminate the need for wheel weights.

TIRE PRESSURE MANAGEMENT

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

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.

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.

FRONT HUB COVERS

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

HUB COVERS (REAR)

Stainless steel baby moon covers shall be provided over the rear axle hubs.

AUTOMATIC TIRE CHAINS

One (1) pair of ONSPOT automatic tire chains shall be provided at the rear. System shall be electric over air operated with switch on cab instrument panel. System to be operable at speeds up to 35 mph.

MUD FLAPS

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

MUD FLAPS

Mud flaps shall be installed ahead of the rear wheels on the apparatus.

WHEEL CHOCKS

There shall be one (1) pair of folding Ziamatic, Model SAC-44-E, aluminum alloy, Quick-Choc wheel blocks with easy-grip handle provided.

	Bidder Complies	
	Yes	No

WHEEL CHOCK BRACKETS

There shall be one (1) pair of Zico, Model SQCH-44-H, horizontal mounting wheel chock brackets provided for the Ziamatic, Model SAC-44-E, 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 on the left (driver's) side one (1) ahead of the rear wheels and one (1) to the rear of the wheels.

ANTI-LOCK BRAKE SYSTEM

The vehicle shall be equipped with a Meritor WABCO 4S4M, 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 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 shall 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.

BRAKES

The service brake system shall be full air type by Meritor™.

Front brakes shall be Model EX225 Disc Plus, disc type with automatic pad wear adjustment and 17.00" ventilated rotors for improved stopping distance.

The rear brakes shall be Meritor™ 16.50" x 7.00" cam operated with automatic slack adjusters. Dust shields shall be provided.

BRAKE SYSTEM AIR COMPRESSOR

The air compressor shall be a Cummins/WABCO with 18.7 cubic feet per minute output.

BRAKE SYSTEM

The brake system shall include:

- Bendix® brake treadle valve with vinyl covered foot surface
- Heated automatic moisture ejector on air dryer
- Total air system minimum capacity of 4,272 cubic inches
- Two (2) air pressure gauges with a red warning light and an audible alarm, that activates when air pressure falls below 60 psi
- Spring set parking brake system
- Parking brake operated by a push-pull style control valve
- A parking "brake on" indicator light on instrument panel

	Bidder Complies	
	Yes	No

- 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
- 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)

The air tank shall be primed and painted to meet a minimum 750 hour salt spray test.

To reduce the effects of corrosion, the air tank shall be mounted with stainless steel brackets (no exception).

BRAKE SYSTEM AIR DRYER

The air dryer shall be a WABCO System Saver 1200 IWT, with internal wet tank, spin-on coalescing filter cartridge and 100 watt heater.

BRAKE LINES

Color-coded nylon brake lines shall be provided. The lines shall be wrapped in a heat protective loom where necessary in the chassis. The flexible lines to the front brake chambers shall be connected through the frame with bulkhead style fitting.

AIR INLET

One (1) air inlet with male coupling shall be provided. It shall allow station air to be supplied to the apparatus brake system through a shoreline hose. The inlet shall be located 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 coupling shall also be provided with the loose equipment.

AIR OUTLET

One (1) air outlet shall be installed with a female coupling and shut off valve, located on the driver side pump panel. This system shall tie into the "wet" tank of the brake system and include an 85-psi pressure protection valve in the outlet line to prevent the brake system from losing all air.

Female coupling and male fitting shall be .25" thread.

A mating male fitting shall be provided with the loose equipment.

COVER, OVER PARKING BRAKE KNOB

There shall be a stainless steel hinged cover provided over the on the dash extension infront of the (officer's) seat in area "A" underneath the GOLIGHT control parking brake knob to prevent accidental activation of the brake.

The cover shall be labeled "Emergency Parking Brake".

	Bidder Complies	
	Yes	No

PARK BRAKE CONTROL (ADDITIONAL)

A second park brake control valve shall be installed on the officer side of the instrument panel. This valve shall only activate the brakes if manually pulled out; low air pressure shall not activate this valve.

ENGINE

The chassis shall be powered by an electronically controlled engine as described below:

Make:	Cummins
Model:	ISL9
Power:	400 hp at 2100 rpm
Torque:	1250 lb-ft at 1400 rpm
Governed Speed:	2200 rpm
Emissions Level:	EPA 2015
Fuel:	Diesel
Cylinders:	Six (6)
Displacement:	543 cubic inches (8.9L)
Starter:	Delco Remy 39MT™
Fuel Filters:	Spin-on style primary filter with water separator and water-in-fuel sensor. Secondary spin-on style filter.
Coolant Filter:	Spin-on style with shut off valves on the supply and return line

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.

REPTO DRIVE

A rear engine power take off shall be provided to drive the water pump. A vibration dampener shall be provided between the REPTO and water pump. Transmission PTO's used to drive the water pump shall not be allowed due to their lower torque ratings. The rear engine power take off shall be the same as used extensively throughout the construction industry. Rear engine PTO's allow for continuous 240 hp and 480 lb-ft torque ratings needed for large pump applications. The rear engine power take off shall have the same warranty as the engine provided by the engine manufacturer.

	Bidder Complies	
	Yes	No
Based upon availability from Cummins at the time of booking, either an EPA 2015 or an EPA 2016 compliant engine shall be provided. **HIGH IDLE** 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. 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." **ENGINE BRAKE** A Jacobs® engine brake is to be installed with the controls located on the instrument panel within easy reach of the driver. The driver shall be able to turn the engine brake system on/off and have a high, medium and low setting. The engine brake shall activate when the system is on and the throttle is released. The high setting of the brake application shall activate and work simultaneously with the variable geometry turbo (VGT) provided on the engine. The engine brake shall be installed in such a manner that when the engine brake is slowing the vehicle the brake lights are activated. The ABS system shall automatically disengage the auxiliary braking device, when required. **CLUTCH FAN** A fan clutch shall be provided. The fan clutch shall be automatic when the pump transmission is in "Road" position, and constantly engaged when in "Pump" position. **FUEL SEPARATOR** The engine shall be equipped with a Racor in-line spin-on fuel and water separator in addition to the engine fuel filters. An in-bowl heater for cold weather starting shall be provided. The heater shall have an internal thermostat.		

	Bidder Complies	
	Yes	No

ENGINE AIR INTAKE

The engine air intake shall be located above the engine cooling package. It shall draw fresh air from the front of the apparatus through the radiator grille.

A stainless steel metal screen shall be installed at the inlet of the air intake system that shall meet NFPA 1901 requirements.

The air cleaner and stainless steel screen shall be easily accessible by tilting the cab.

EXHAUST SYSTEM

The exhaust system shall be stainless steel from the turbo to the inlet of the selective catalytic reduction (SCR) device, and shall be 4.00" in diameter. The exhaust system shall include a diesel particulate filter (DPF) and an SCR device to meet current EPA standards. An insulation wrap shall be provided on all exhaust pipes between the turbo and DPF to minimize the transfer of heat to the cab. The exhaust shall terminate horizontally ahead of the passenger 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.

EXHAUST MODIFICATION

The exhaust diffuser shall be reduced to 4.00" in the center to accommodate the fire department's air recovery system. There shall be a minimum of 4.00" clearance around the diffuser for proper cooling.

RADIATOR

The radiator and the complete cooling system shall meet or exceed NFPA and engine manufacturer cooling system standards.

For maximum corrosion resistance and cooling performance, the entire radiator core shall be constructed using long life aluminum alloy. The radiator core shall consist of aluminum fins, having a serpentine design, brazed to aluminum tubes. No solder joints or leaded material of any kind shall be acceptable in the core assembly.

The radiator core shall have a minimum front area of 1060 square inches.

Supply and return tanks shall be made of heavy duty glass-reinforced nylon that shall be crimped onto the core assembly using header tabs and a compression gasket to complete the radiator core assembly. There shall be a full steel frame around the inserts to enhance cooling system durability and reliability.

The radiator shall be compatible with commercial antifreeze solutions.

	Bidder Complies	
	Yes	No

The radiator assembly shall be isolated from the chassis frame rails with rubber isolators to prevent the development of leaks caused by twisting or straining when the apparatus operates over uneven terrain.

The radiator shall include a de-aeration/expansion 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.

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.

Shields or baffles shall be provided to prevent recirculation of hot air to the inlet side of the radiator.

COOLANT LINES

Gates, or Goodyear, rubber hose shall be used for all engine coolant lines installed by the chassis manufacturer.

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.

FUEL TANK

A **65 gallon** fuel tank shall be provided and mounted at rear of chassis. The tank shall be constructed of **unpainted stainless steel**. It shall be equipped with swash partitions and a vent. To reduce the effects of corrosion, the fuel tank shall be mounted with stainless steel straps. (no exception).

A .75" drain plug shall be provided in a low point of the tank for drainage.

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".

A .50" diameter vent shall be provided running from top of tank to just below fuel fill inlet.

The tank shall meet all FHWA 393.67 requirements, including a fill capacity of 95 percent of tank volume.

All fuel lines shall be provided as recommended by the engine manufacturer.

DIESEL EXHAUST FLUID TANK

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.

	Bidder Complies	
	Yes	No
A 0.50" drain plug shall be provided in a low point of the tank for drainage. 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. The tank shall meet the engine manufacturers requirement for 10 percent expansion space in the event of tank freezing. The tank shall include an integrated heater unit that utilizes engine coolant to thaw the DEF in the event of freezing. The stainless steel flip door for selecting between DEF fill and the diesel fill shall be spring loaded to default to covering the DEF fill. **FUEL SHUTOFF** A fuel line shutoff valve shall be installed on both the inlet and outlet of the primary fuel filter. The fuel filler door shall include a holder for the fuel fill cap. **FUEL DOOR LABEL** There shall be a label provided on the inside of the stainless steel fuel door, to read "Ultra Low Sulfur Diesel Fuel Only". **TRANSMISSION** An Allison 5th generation, Model EVS 3000P, electronic torque converting automatic transmission shall be provided. 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. 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. A transmission temperature gauge with red light and audible alarm shall be installed on the cab dash. **TRANSMISSION SHIFTER** 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. The transmission ratio shall be:		

	Bidder Complies	
	Yes	No

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

TRANSMISSION PROGRAMMING

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).

TRANSMISSION COOLER

A Modine plate and fin transmission oil cooler shall be provided using engine coolant to control the transmission oil temperature.

DRIVELINE

Drivelines shall be a heavy-duty metal tube and be equipped with Spicer® 1710 universal joints.

The shafts shall be dynamically balanced before installation.

A splined slip joint shall be provided in each driveshaft, slip joint shall be coated with Glidecoat® or equivalent.

STEERING

Dual steering gear, with integral heavy-duty power steering, shall be provided. For reduced system temperatures, the power steering shall incorporate an air to oil cooler and Vickers® V20NF hydraulic pump with integral pressure and flow control. All power steering lines shall have wire braded lines with crimped fittings.

A tilt and telescopic steering column shall be provided to improve fit for a broader range of driver configurations.

STEERING WHEEL

The steering wheel shall be 18.00" in diameter, have tilting and telescoping capabilities, and a 4-spoke design.

LOGO AND CUSTOMER DESIGNATION ON DASH

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.

	Bidder Complies	
	Yes	No

The first row of text shall be: CAMBRIDGE

The second row of text shall be: FIRE

The third row of text shall be: DEPARTMENT

AUTOMATIC CHASSIS LUBRICATION

A Vogel Automatic Lubrication System shall be provided. The lubrication shall be supplied while the vehicle ignition switch is active to allow a uniform application of grease to the locations listed. The electronic control unit that forms part of the system shall activate the pump after an adjustable interval time. The unit shall control and monitor pump operation and report any faults via an indicator light on the driver's dashboard of the cab.

The lubrication system reservoir, which requires a 15.00" wide x 14.50" high x 6.25" deep mounting area, shall be located with in the officer's side hatch compartment against the front bulkhead on the apparatus.

- Slack Adjusters
- Brake Cam Screws
- Steering Assist Cylinder (if applicable)
- Tie Rods
- Drag Link
- King Pins
- Spring Pins
- Shackle Pins
- Walking Beam Pins (tandem axle, if applicable)

BUMPER

A one (1) piece bumper manufactured from .25" formed steel with a .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 22.00" from the face of the cab. The bumper shall be 95.28" wide with 45 degree corners and side plates. The bumper shall be metal finished and painted job color.

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.

	Bidder Complies	
	Yes	No

GRAVEL PAN

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.

TOW HOOKS

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

LICENSE PLATE BRACKET

A non-illuminated license plate bracket shall be mounted on the front of the vehicle under the cab headlights on the on the left (driver's) side side of the vehicle. The bracket shall be formed from bright stainless steel.

SIGHT RODS

Two (2) Bores, model BG48-10, lighted sight rods shall be mounted to the outside corners of the front bumper extension. The rods shall be chrome plated. The lights shall be connected to the marker lights, plus to it's respective side directional.

LINE-X® COATING - FRONT BUMPER

Protective Line-X 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. The protective coating shall be red in color.

The lining shall be properly installed by an authorized Line-X dealer.

CAB

The cab shall be designed specifically for the fire service and manufactured by the chassis builder.

The cab shall be built by the apparatus manufacturer in a facility located on the manufacturer's premises (no exception).

For reasons of structural integrity and enhanced occupant protection, the cab shall be a heavy duty design, constructed to the following minimal standards.

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 solid A356-T5 aluminum castings. The B-pillar and C-pillar shall be constructed from 0.13" wall extrusions. The rear wall shall be constructed of two (2) 2.00" x

	Bidder Complies	
	Yes	No
2.00" outer aluminum extrusions and two (2) 2.00" x 1.00" inner aluminum extrusions. All main vertical structural members shall run from the floor to 4.625" x 3.864" x 0.090" thick roof extrusions to provide a cage-like structure with the A-pillar and roof extrusions being welded into a 0.25" thick corner casting at each of the front corners of the roof assembly. The front of the cab shall be constructed of a 0.13" firewall plate, covered with a 0.090" front skin (for a total thickness of 0.22"), and reinforced with a full width x 0.50" thick cross-cab support located just below the windshield and fully welded to the engine tunnel. The cross-cab support shall run the full width of the cab and weld to each A-pillar, the 0.13" firewall plate, and the front skin. The cab floors shall be constructed of 0.125" thick aluminum plate and reinforced at the firewall with an additional 0.25" thick cross-floor support providing a total thickness of 0.375" of structural material at the front floor area. The front floor area shall also be supported with two (2) triangular 0.30" wall extrusions that also provides the mounting point for the cab lift. This tubing shall run from the floor wireway of the cab to the engine tunnel side plates, creating the structure to support the forces created when lifting the cab. The cab shall be 96.00" wide (outside door skin to outside door skin) to maintain maximum maneuverability (no exception). The forward cab section shall have an overall height (from the cab roof to the ground) of approximately 99.00". The crew cab section shall have a 10.00" raised roof, with an overall cab height of approximately 109.00". The overall height listed shall be calculated based on a truck configuration with the lowest suspension weight rating, 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. The floor to ceiling height inside the crew cab shall be 63.50" in the center and outboard positions. The crew cab floor shall measure 46.00" from the rear wall to the back side of the rear facing seat risers. The medium block engine tunnel, at the rearward highest point (knee level), shall measure 61.50" to the rear wall. The big block engine tunnel shall measure 51.50" to the rear wall. The crew cab shall be a totally enclosed design with the interior area completely open to improve visibility and verbal communication between the occupants. The cab shall be a full tilt cab style.		

	Bidder Complies	
	Yes	No

A 3-point cab mount system with rubber isolators shall improve ride quality by isolating chassis vibrations from the cab.

CAB ROOF DRIP RAIL

For enhanced protection from inclement weather, a drip rail shall be furnished on the sides of the cab. The drip rail shall be painted to match the cab roof, and bonded to the sides of the cab. The drip rail shall extend the full length of the cab roof.

CAB PUMP ENCLOSURE

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.

INTERIOR CAB INSULATION

The cab shall include 1.00" insulation in the ceiling, 1.50" insulation in the side walls, and 2.00" insulation in the rear wall to maximize acoustic absorption and thermal insulation.

FENDER LINERS

Full circular inner fender liners in the wheel wells shall be provided.

PANORAMIC WINDSHIELD

A one (1)-piece safety glass windshield shall be provided with over 2,775 square inches of clear viewing area. The windshield shall be full width and shall provide the occupants with a panoramic view. The windshield shall consist of three (3) layers: outer light, middle safety laminate, and inner light. The 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.

WINDSHIELD WIPERS

Three (3) electric windshield wipers with washer shall be provided that meet FMVSS and SAE requirements.

The washer reservoir shall be able to be filled without raising the cab.

ENGINE TUNNEL

Engine hood side walls shall be constructed of 0.375" aluminum. The top shall be constructed of 0.125" aluminum and shall be tapered at the top to allow for more driver and passenger elbow room.

	Bidder Complies	
	Yes	No

The engine hood shall be insulated for protection from heat and sound. The noise insulation keeps the dBA level within the limits stated in the current NFPA 1901 standards.

The engine tunnel shall be no higher than 17.00" off the crew cab floor (no exception).

INTERIOR CREW CAB REAR WALL ADJUSTABLE SEATING (PATENT PENDING)

The interior rear wall of the crew cab shall have mounting holes every 2.75" to allow for adjustability of the forward facing crew cab seating along the rear wall. Seats shall be adjustable with use of simple hand tools allowing departments flexibility of their seating arrangement should their department needs change.

CAB REAR WALL EXTERIOR COVERING

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 .

CAB LIFT

A hydraulic cab lift system shall be provided consisting of an electric powered hydraulic pump, dual lift cylinders, and necessary hoses and valves.

Hydraulic pump shall have a manual override for backup in the event of electrical failure.

Lift controls shall be located on the right side pump panel or front area of the body in a convenient location.

The cab shall be capable of tilting 43 degrees to accommodate engine maintenance and removal.

The cab shall be locked down by a 2-point normally closed spring loaded hook type latch that fully engages after the cab has been lowered. The system shall be hydraulically actuated to release the normally closed locks when the cab lift control is in the raised position and cab lift system is under pressure. When the cab is completely lowered and system pressure has been relieved, the spring loaded latch mechanisms shall return to the normally closed and locked position.

For increased safety, a redundant mechanical stay arm shall be provided that must be manually put in place on the right side between the chassis and cab frame when the cab is in the raised position. This device shall be manually stowed to its original position before the cab can be lowered.

Cab Lift Interlock

The cab lift 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.

	Bidder Complies	
	Yes	No

GRILLE

A bright finished aluminum mesh grille screen, inserted behind a bright finished grille surround, shall be provided on the front center of the cab.

SCUFFPLATE

A polished stainless steel scuffplate shall be provided on the entire rear vertical surface of the engine tunnel.

DOOR JAMB SCUFFPLATES

All cab door jambs shall be furnished with a polished stainless steel scuffplate, mounted on the striker side of the jamb.

SIDE OF CAB MOLDING

Chrome molding shall be provided on both sides of cab.

MIRRORS

A Velvac®, Model 2010, west coast mirror shall be mounted on each side of the front cab door. Mirror dimensions shall be 7.00" wide x 16.00" high, and shall be heated and motorized. The shell shall be bright annealed stainless steel.

Both mirrors shall be heated and have a remote control that is convenient to the driver.

CONVEX MIRRORS

An 8.00" diameter round convex mirror shall be installed below each west coast mirror head.

DOORS

To enhance entry and egress to the cab, the forward cab door openings shall be a minimum of 37.50" wide x 63.37" high. The crew cab doors shall be located on the sides of the cab and shall be constructed in the same manner as the forward cab doors. The crew cab door openings shall be a minimum of 34.30" wide x 73.25" high.

The forward cab and crew cab doors shall be constructed of extruded aluminum with a nominal material thickness of 0.093". The exterior door skins shall be constructed from 0.090" aluminum.

A customized, vertical, pull-down type door handle shall be provided on the exterior of each cab door. 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.

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.

	Bidder Complies	
	Yes	No

The interior handles shall provide 4.00" wide x 1.25" deep hand clearance for ease of use with heavy gloved hands.

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.

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.

A chrome grab handle shall be provided on the inside of each cab door for ease of entry.

The bottom cab step at each cab door location shall be located below the cab doors and shall be exposed to the exterior of the cab.

DOOR PANELS

The inner cab door panels shall be constructed out of brushed stainless steel.

MANUAL CAB DOOR WINDOWS

All cab entry doors shall contain a conventional roll down window.

CAB STEPS

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 25.00" wide, and the crew cab steps shall be 21.65" wide with a 10.00" minimum depth. The inside cab steps shall not exceed 16.50" in height. A slip-resistant handrail shall be provided adjacent to each cab door opening to assist during cab ingress and egress.

The vertical surfaces of the step well shall be painted.

STEP LIGHTS

There shall be twelve (12) white LED step lights with chrome bezel installed for cab and crew cab access steps.

- Two (2) lights for the driver's access steps
- Four (4) lights for the driver's side crew cab access steps, two (2) lights per step
- Four (4) lights for the passenger's side crew cab access steps, two (2) lights per step

	Bidder Complies	
	Yes	No

- Two (2) lights for the passenger's side access step

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

The lights shall be activated when the battery switch is on and the adjacent door is opened.

FENDER CROWNS

Stainless steel fender crowns shall be installed at the cab wheel openings.

HANDRAILS (ADDITIONAL)

There shall be one (1) handrail(s) provided ship (1) loose . The handrail shall be an anodized aluminum extrusion with a ribbed design to provide a positive gripping surface.

HANDRAILS BELOW CAB WINDSHIELD

A 10.00" long x 1.25" diameter handrail shall be mounted below the front cab windshield, one (1) on each side. The handrails shall be extruded aluminum with a ribbed design to provide a positive gripping surface.

CREW CAB WINDOWS

One (1) fixed window with tinted glass shall be provided on each side of the cab, to the rear of the front cab door. The windows shall be sized to enhance light penetration into the cab interior. The windows shall measure 18.70" wide x 23.75" high.

MOUNTING PLATE ON ENGINE TUNNEL

Equipment installation provisions shall be installed on the engine tunnel.

A .25" smooth aluminum plate shall be bolted to the top surface of the engine tunnel. The plate shall follow the contour of the engine tunnel and shall run the entire length of the engine tunnel. The plate shall be spaced off the engine tunnel .75" to allow for wire routing below the plate.

The mounting surface shall be painted to match the cab interior.

CAB INTERIOR

The cab interior shall be constructed of primarily metal (painted aluminum) to withstand the severe duty cycles of the fire service.

The officer side dash shall be a flat faced design to provide easy maintenance and shall be constructed out of painted aluminum.

	Bidder Complies	
	Yes	No

The instrument cluster shall be surrounded with a high impact ABS plastic contoured to the same shape of the instrument cluster.

The engine tunnel shall be painted aluminum to match the cab interior.

The headliner shall be installed in both forward and rear cab sections. Headliner material shall be vinyl. A sound barrier shall be part of its composition. Material shall be installed on aluminum sheet and securely fastened to interior cab ceiling.

Forward portion of cab headliner shall permit easy access for service of electrical wiring or other maintenance needs.

All wiring shall be placed in metal raceways. Routing through holes in tubing shall not be accepted due to chaffing that installation shall cause.

CAB INTERIOR UPHOLSTERY

The cab interior upholstery shall be black.

CAB INTERIOR PAINT

The cab interior metal surfaces shall be painted black, vinyl texture paint.

CAB FLOOR

The cab and crew cab floor areas shall be covered with Polydamp™ acoustical floor mat consisting of a black pyramid rubber facing and closed cell foam decoupler.

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.

CAB DEFROSTER

To provide maximum defrost and heating performance, a 43,500 BTU heater-defroster unit with 350 CFM of air flow shall be provided inside the cab. The defroster unit shall be strategically located under the center forward portion of the vacuum formed instrument panel. For easy access, a removable vacuum formed cover shall be installed over the defroster unit. The defroster shall include an integral aluminum frame air filter, high performance dual scroll blowers, and ducts designed to provide maximum defrosting capabilities for the 1-piece windshield. The defroster ventilation shall be built into the design of the cab dash instrument panel and shall be easily removable for maintenance. 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.

	Bidder Complies	
	Yes	No

CAB/CREW CAB HEATER

Two (2) 44,180 BTU auxiliary heaters with 276 CFM (each unit) of air flow shall be provided inside the crew cab, one (1) in each outboard rear-facing seat riser. The heaters shall include high performance dual scroll blowers, one (1) for each unit. Outlets for the heaters shall be located below each rear facing seat riser and below the fronts of the driver and passenger seats, for efficient airflow. An extruded aluminum plenum shall be incorporated in the cab structure that shall transfer heat to the forward cab seating positions.

The heater/defroster and crew cab heaters shall be controlled by a single integral electronic control panel. The heater control panel shall allow the driver to control heat flow to the front and rear simultaneously. The control panel shall include variable adjustment for temperature and fan control, and be conveniently located on the dash in clear view of the driver. The control panel shall include highly visible, progressive LED indicators for both fan speed and temperature.

AIR CONDITIONING

A high performance, customized air conditioning system shall be furnished inside the cab and crew cab.

The air conditioning system shall be capable of cooling the average cab temperature from 100 degrees Fahrenheit to 75 degrees Fahrenheit within 30 minutes at 50 percent relative humidity. 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.

A radiator mounted condenser with a 59,644 BTU output that meets and exceed the performance specification shall be installed. Mounting the condenser below the cab or body would reduce the performance of the system and shall not be acceptable.

One (1) evaporator unit shall be installed in the center roof with two (2) cores, one (1) for the cab and one (1) for the crew cab. The evaporator unit shall have an adequate BTU rating to meet the performance specifications.

Adjustable air outlets shall be strategically located on the evaporator cover per the following:

- Four (4) shall be directed towards the driver's location
- Four (4) shall be directed towards the officer's location
- Seven (7) shall be directed towards the crew cab area

The air conditioner refrigerant shall be R-134A and shall be installed by a certified technician.

The air conditioner shall be controlled by a single electronic control panel. For ease of operation, the control panel shall include variable adjustment for temperature and fan control and be conveniently located on the dash in clear view of the driver.

	Bidder Complies	
	Yes	No

WINDOW DEFROST FANS

There shall be two (2) 12 volt DC fans mounted on the ceiling of the crew cab, located one (1) each side inboard of the rear facing seat positions, outboard on the roof cross tube where the AC would be located.

SUN VISORS

Two (2) smoked Lexan™ sun visors provided. The sun visors shall be located above the windshield with one (1) mounted on each side of the cab.

There shall be no retention bracket provided to help secure each sun visor in the stowed position.

GRAB HANDLES

A black rubber covered grab handle shall be mounted on the door post of the driver and officer's side cab door to assist in entering the cab. The grab handles shall be securely mounted to the post area between the door and windshield.

ENGINE COMPARTMENT LIGHTS

There shall be one (1) Whelen, Model 3SC0CDCR, 12 volt DC, 3.00" white LED light(s) with Whelen, Model 3FLANGEC, chrome flange kit(s) installed under the cab to be used as engine compartment illumination.

These light(s) shall be activated automatically when the cab is raised.

ACCESS TO ENGINE DIPSTICKS

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 engine oil dipstick shall allow for checking only. The transmission dipstick shall allow for both checking and filling.

The door shall have a rubber seal for thermal and acoustic insulation. One (1) flush latch shall be provided on the access door.

MAP BOX

A map box with four (4) bins, open from top, shall be installed ship loose. The map box shall be divided into four (4) bins, each being 12.50" wide x 2.25" high x 12.00" deep. Each bin shall slant 30 degrees from horizontal. The map box shall be constructed of .125" aluminum and shall be painted to match the cab interior.

	Bidder Complies	
	Yes	No

FRONTAL IMPACT PROTECTION

The cab shall be provided with a frontal impact protection system and shall include the following:

- 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 frontal impact event.
- 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.
- 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 three (3)-point seat belt.
- 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 three (3)-point seat belt.
- Driver and front passenger suspension seats shall be provided with devices to retract them to the lowest travel position during a frontal impact event.
- Driver and front passenger seat belts shall be provided with pre-tensioners to remove slack from the seat belt during frontal impact event.

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 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).

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

- Driver side front air bag.
- Passenger side knee bolster air bag.
- Driver and front passenger suspension seats shall be retracted to the lowest travel position.

	Bidder Complies	
	Yes	No

- Driver and front passenger seat belts shall be pre-tensioned to firmly hold the occupant in place.

SEATING CAPACITY

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

DRIVER SEAT

A seat shall be provided in the cab for the driver. The seat design shall be a cam action type, with air suspension. For increased convenience, the seat shall include a manual control to adjust the horizontal position (6.00" travel). The manual horizontal control shall be a towel-bar style located below the forward part of the seat cushion. To provide flexibility for multiple driver configurations, the seat shall have an adjustable reclining back. The seat back shall be a high back style with side bolster pads for maximum support. For optimal comfort, the seat shall be provided with 17.00" deep foam cushions designed with EVC (elastomeric vibration control).

OFFICER SEAT

A seat shall be provided in the cab for the passenger. The seat shall be a fixed type, with no suspension. For optimal comfort, the seat shall be provided with 17.00" deep 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 buckled.

The seat back shall be an SCBA back style with 5 degree fixed recline angle. 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.

The seat shall include the following features incorporated into the frontal impact protection system.

- A seat safety system shall be included. When activated, this system shall pretension the seat belt.

RADIO COMPARTMENT

A radio compartment shall be provided under the officer's seat.

The inside compartment dimensions shall be 16.00" wide x 7.50" high x 15.00" deep, with the back of the compartment angled up to match the cab structure.

A drop-down door with a chrome plated lift and turn latch shall be provided for access.

The compartment shall be constructed of smooth aluminum and painted to match the cab interior.

	Bidder Complies	
	Yes	No

REAR FACING DRIVER SIDE EMS COMPARTMENT

A rear facing EMS compartment shall be provided in the crew cab at the driver side outboard position.

The compartment shall be 23.00" wide x 44.00" high x 26.75" deep with one (1) Amdor rollup door, locking, with white finish. The clear door opening of the compartment shall be 15.00" wide x 33.75" high.

The compartment shall be constructed of smooth aluminum and painted to match the cab interior.

Compartment Light

There shall be two (2) white LED strip lights installed, one (1) each side of the compartment opening. The lights shall be controlled by an automatic door switch.

SHELVING

There shall be one (1) shelf provided. Each shelf shall be constructed of 0.090" aluminum with a 1.25" up-turned lip. Shelving shall be infinitely adjustable by means of a threaded tightener sliding in a track.

The location shall be centered with-in the EMS compartment.

REAR FACING PASSENGER SIDE OUTBOARD SEAT

There shall be one (1) rear facing seat provided at the passenger side outboard position in the crew cab. For optimal comfort, the seat shall be provided with 17.00" deep foam cushions designed with EVC (elastomeric vibration control).

The seat back shall be an SCBA back style with 5 degree fixed recline angle. 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.

FORWARD FACING CENTER SEATS

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 15.00" deep foam cushions designed with EVC (elastomeric vibration control).

The seat back shall be an SCBA style with 90 degree back. 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.

	Bidder Complies	
	Yes	No

SEAT UPHOLSTERY

All seat upholstery shall be black Imperial 1200 material.

AIR BOTTLE HOLDERS

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.

There shall be a quantity of four (4) SCBA brackets.

SEAT BELTS

All seating positions shall be furnished with a three (3)-point, shoulder type **orange seat belt**. Each seat belt shall include height adjustment. This adjustment shall optimize the belts effectiveness and comfort for the seated firefighter. To provide quick, easy use for occupants wearing bunker gear, the seat belt shall have a minimum 120.00" shoulder length and 55.00" lap length. The seat belt tongue shall be stored at waist position for quick application by the seat occupant. The seat belt receptacle shall be provided on a cable conveniently nested next to the seat cushion, providing easy accessibility. The seat belt shall be furnished with dual automatic retractors that shall provide ease of operation in the normal seating position.

The belts shall also include the Ready Reach® D-loop assembly to the shoulder belt system. The Ready Reach feature adds an extender arm to the D-loop location placing the D-loop in a closer, easier to reach location.

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 buckled.

SEAT BELT MONITORING SYSTEM

A seat belt monitoring system (SBMS) shall be provided. The SBMS shall be capable of monitoring up to ten (10) seat positions indicating the status of each seat position with a green or red LED indicator as follows:

- Seat Occupied & Buckled = Green
- Seat Occupied & Unbuckled = Red
- No Occupant & Buckled = Red
- No Occupant & Unbuckled = Not Illuminated

	Bidder Complies	
	Yes	No

Audible Alarm

The SBMS shall include an audible alarm that shall be activated when a red illumination condition exists and the parking brake is released, or a red illumination condition exists and the transmission is not in park.

HELMET HOLDER

There shall be a total of five (5) Zico, Model UHH-1, helmet holder bracket(s) provided in the cab. The brackets shall provide secure storage and quick access to each helmet. The location of the helmet holder bracket(s) shall be determined at the time of final inspection.

CAB DOME LIGHTS

There shall be four (4) Weldon 808* series, 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.

The color of the LED's shall be red and white.

The white LED's shall be controlled by the door switches and the lens switch.

The color LED's shall be controlled by the lens switch.

CAB INSTRUMENTATION

The cab instrument panel shall be a molded ABS panel and include gauges, telltale indicator lamps, control switches, alarms, and a diagnostic panel. The function of the 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, forward of the driver. The gauge assembly and switch panels are designed to be removable for ease of service and low cost of ownership.

GAUGES

The gauge panel shall include the following ten (10) black faced gauges with black bezels to monitor vehicle performance:

- Voltmeter gauge (volts):
  - Low volts (11.8 VDC)
    - Amber telltale light on indicator light display with steady tone alarm
  - High volts (15.5 VDC)
    - Amber telltale light on indicator light display with steady tone alarm
- Engine Tachometer (RPM)
- Speedometer MPH (Major Scale), KM/H (Minor Scale)
- Fuel level gauge (Empty - Full in fractions):

	Bidder Complies	
	Yes	No

- Low fuel (1/8 full)
  - Amber indicator light in gauge dial with steady tone alarm
- Engine Oil pressure Gauge (PSI):
  - Low oil pressure to activate engine warning lights and alarms
    - Red indicator light in gauge dial with steady tone alarm
- Front Air Pressure Gauges (PSI):
  - Low air pressure to activate warning lights and alarm
    - Red indicator light in gauge dial with steady tone alarm
- Rear Air Pressure Gauges (PSI):
  - Low air pressure to activate warning lights and alarm
    - Red indicator light in gauge dial with steady tone alarm
- Transmission Oil Temperature Gauge (Fahrenheit):
  - High transmission oil temperature activates warning lights and alarm
    - Amber indicator light in gauge dial with steady tone alarm
- Engine Coolant Temperature Gauge (Fahrenheit):
  - High engine temperature activates an engine warning light and alarms
    - Red indicator light in gauge dial with steady tone alarm
- Diesel Exhaust Fluid Level Gauge (Empty - Full in fractions):
  - Low fluid (1/8 full)
    - Amber indicator light in gauge dial

INDICATOR LAMPS

To promote safety, the following telltale indicator lamps shall be located on the instrument panel in clear view of the driver. The indicator lamps shall be "dead-front" design that is only visible when active. The colored indicator lights shall have descriptive text or symbols.

The following amber telltale lamps shall be present:

- Low coolant
- Trac cntl (traction control) (where applicable)
- Check engine
- Check trans (check transmission)
- Air rest (air restriction)
- DPF (engine diesel particulate filter regeneration)
- HET (engine high exhaust temperature) (where applicable)
- ABS (antilock brake system)
- MIL (engine emissions system malfunction indicator lamp) (where applicable)
- Regen inhibit (engine emissions regeneration inhibit) (where applicable)
- Side roll fault (where applicable)

	Bidder Complies	
	Yes	No

- Front air bag fault (where applicable)
- Aux brake overheat (auxiliary brake overheat) (where applicable)
- The following red telltale lamps shall be present:
- Ladder rack down
- Parking brake
- Stop engine
- The following green telltale lamps shall be present:
- Left turn
- Right turn
- Battery on
- Ignition
- Aux brake (auxiliary brake engaged) (where applicable)
- The following blue telltale lamps shall be present:
- High beam

ALARMS

Audible steady tone warning alarm: A steady audible tone alarm shall be provided whenever a warning condition is active.

INDICATOR LAMP AND ALARM PROVE-OUT

A system shall be provided which automatically tests telltale indicator lights and alarms located on the cab instrument panel. Telltale indicators and alarms shall perform prove-out for 3 to 5 seconds when the ignition switch is moved to the on position with the battery switch on.

CONTROL SWITCHES

For ease of use, the following controls shall be provided immediately adjacent to the cab instrument panel within easy reach of the driver. All switches shall have backlit labels for low light applications.

Headlight/Parking light switch: A three (3)-position maintained rocker switch shall be provided. The first switch position shall deactivate all parking and headlights. The second switch position shall activate the parking lights. The third switch shall activate the headlights.

Panel back lighting intensity control switch: A three (3)-position momentary rocker switch shall be provided. Pressing the top half of the switch, "Panel Up" increases the panel back lighting intensity and pressing the bottom half of the switch, "Panel Down" decreases the panel back lighting intensity. Pressing the half or bottom half of the switch several times shall allow back lighting intensity to be gradually varied from minimum to maximum intensity level for ease of use.

	Bidder Complies	
	Yes	No
Ignition switch: A three (3)-position maintained/momentary rocker switch shall be provided. The first switch position shall turn off and deactivate vehicle ignition. The second switch position shall activate vehicle ignition and shall perform prove-out on the telltale indicators and alarms for 3 to 5 seconds after the switch is turned on. A green indicator lamp is activated with vehicle ignition. The third momentary position shall temporarily silence all active cab alarms. An alarm "chirp" may continue as long as alarm condition exists. Switching ignition to off position shall terminate the alarm silence feature and reset function of cab alarm system. 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. Hazard switch shall be provided on the instrument panel or on the steering column. Heater and defroster controls. Turn signal arm: A self-canceling turn signal with high beam headlight controls. Windshield wiper control shall have high, low, and intermittent modes. Parking brake control: An air actuated push/pull park brake control. Chassis horn control: Activation of the chassis horn control shall be provided through the center of the steering wheel. High idle engagement switch: A maintained rocker switch with integral indicator lamp shall be provided. The switch shall activate and deactivate the high idle function. 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. "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. Emergency switching shall be controlled by multiple individual warning light switches for various groups or areas of emergency warning lights. An Emergency Master switch provided on the instrument panel that enables or disables all individual warning light switches is included.. An additional "Emergency Master" button shall be provided on the lower left hand corner of the gauge panel to allow convenient control of the "Emergency Master" system from inside the driver's door when standing on the ground.		

	Bidder Complies	
	Yes	No

CUSTOM SWITCH PANELS

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 lower instrument console and up to six (6) switch panels in the overhead visor console. All switches have backlit labels for low light conditions.

DIAGNOSTIC PANEL

A diagnostic panel shall be provided and accessible while standing on the ground. The panel shall be 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 engine and ABS systems to provide blink codes should a problem exist.

The diagnostic panel shall include the following:

- ENGINE/TRANSMISSION/ABS J1939 Diagnostic Port
- ABS Diagnostic Switch and Indicator - The switch and amber indicator shall allow access to diagnostic mode and display of standard ABS system fault blink codes that may be generated by the ABS system
- ENG DIAG (Engine Diagnostic Indicator) - A red indicator shall be provided that shall illuminate in a "STOP ENGINE" condition. (A switch with shall allow access to diagnostic mode and display of standard engine diagnostic blink codes.) (where applicable)
- DPF REGEN (Diesel Particulate Filter Regeneration Switch) (where applicable) shall be provided to request regeneration of the engine emission system. An amber indicator shall be provided on top of the switch that shall illuminate in a "CHECK ENGINE" condition
- REGEN INHIBIT (Diesel Particulate Filter Regeneration Inhibit Switch) (where applicable) shall be provided that shall request that regeneration be temporarily prevented. A green indicator shall be provided on top of the Regen Inhibit switch that shall illuminate when the Regen Inhibit feature is active. Regen Inhibit shall be disabled upon cycling of the ignition switch to the off state.

AIR RESTRICTION INDICATOR

A high air restriction warning indicator light (electronic) shall be provided.

- Officer Speedometer, A Class I digital display speedometer shall be provided on the officer side overhead position.

	Bidder Complies	
	Yes	No

"DO NOT MOVE APPARATUS" INDICATOR

There shall be a Whelen, Model 5SR00FRR, flashing red LED indicator light located in the driving compartment. The light shall be illuminated automatically per the current NFPA requirements and labeled "Do Not Move Apparatus If Light Is On".

The same circuit that activates the Do Not Move Apparatus indicator shall activate a steady tone alarm when the parking brake is released.

SWITCH PANELS

The built-in switch panels shall be located in the lower console or overhead console of the cab. Switches shall be rocker type with an indicator light, of which is an integral part of the switch.

WIPER CONTROL

Wiper control shall consist of a two (2)-speed windshield wiper control with intermittent feature and windshield washer controls.

The wipers shall be interlocked to the parking brake. The wipers shall terminate operation when the parking brake is set.

OVERRIDE SWITCH

A switch shall be provided to override the parking brake interlock for the windshield wiper controls. The switch shall allow the windshield wipers to operate with the parking brake set.

The switch shall be located adjacent to the wiper switch.

SPARE CIRCUIT

There shall be one (1) pair of wires, including a positive and a negative, installed on the apparatus.

The above wires shall have the following features:

- The positive wire shall be connected directly to the battery power.
- The negative wire shall be connected to ground.
- Wires shall be protected to 10 amps at 12 volts DC.
- Power and ground shall terminate on the right (officer's) side in the "power Point" area near item 132 on the instrument panel layout drawing.
- Termination shall be a Blue Sea Systems part number 1016 dual USB charger socket.
- Wires shall be sized to 125% of the protection.

This circuit(s) may be load managed when the parking brake is applied.

	Bidder Complies	
	Yes	No

SPARE CIRCUIT

There shall be one (1) pair of wires, including a positive and a negative, installed on the apparatus.

The above wires shall have the following features:

- The positive wire shall be connected directly to the battery power
- The negative wire shall be connected to ground
- Wires shall be protected to 15 amps at 12 volts DC
- Power and ground shall terminate on the right side of the instrument panel facing the officer's position as shown in the photograph (Ref Pics located Stage 3 and 7 Job-E-Folder IP photos) and located in area 132 as shown on the instrument panel
- Termination shall be with 15 amp, power point plug with rubber cover
- Wires shall be sized to 125 percent of the protection

The circuit(s) may be load managed when the parking brake is set.

SPARE CIRCUIT

There shall be one (1) pair of wires, including a positive and a negative, installed on the apparatus.

The above wires shall have the following features:

- The positive wire shall be connected directly to the battery power
- The negative wire shall be connected to ground
- Wires shall be protected to 30 amps at 12 volts DC
- Power and ground shall terminate [Location, Spare Wiring]
- Termination shall be with 3/8" studs and plastic covers
- Wires shall be sized to 125% of the protection

This circuit(s) may be load managed when the parking brake is set.

LABEL, EMERGENCY LIGHT SWITCHES

The emergency light switch labels shall have the "NFPA" text omitted. Each switch shall be labeled for its normal function (example: Roof Light, Front Warning, etc.).

VEHICLE DATA RECORDER

A vehicle data recorder (VDR) shall be provided. The VDR shall be capable of reading and storing vehicle information.

The information stored on the VDR can be downloaded through a USB port mounted in a convenient location determined by cab model. A CD provided with the apparatus shall include

	Bidder Complies	
	Yes	No

the programming to download the information from the VDR. A USB cable can be used to connect the VDR to a laptop to retrieve required information.

The vehicle data recorder shall be capable of recording the following data via hardwired and/or CAN inputs:

- Vehicle Speed - MPH
- Acceleration - MPH/sec
- Deceleration - MPH/sec
- Engine Speed - RPM
- Engine Throttle Position - % of Full Throttle
- ABS Event - On/Off
- Seat Occupied Status - Yes/No by Position (7-12 Seating Capacity)
- Seat Belt Buckled Status - Yes/No by Position (7-12 Seating Capacity)
- Master Optical Warning Device Switch - On/Off
- Time - 24 Hour Time
- Date - Year/Month/Day

TWO-WAY RADIO CABLE INSTALLATION

There shall be one (1) customer supplied two-way radio remote head cable(s) sent to the apparatus manufacturers preferred radio installer for installation. The cable shall be run Location sent to precision with cables - should run from the officer's seat radio box to the additional radio console..

Specific shipping requirements shall be followed.

RADIO ANTENNA MOUNT

There shall be one (1) standard 1.125", 18 thread antenna-mounting base(s) installed on the lower cab to the rear of the lightbar on the cab roof with high efficiency, low loss, coaxial cable(s) routed to behind the driver seat. A weatherproof cap shall be installed on the mount.

RADIO ANTENNA MOUNT

There shall be three (3) standard 1.125", 18 thread antenna-mounting base(s) installed on the lower cab to the rear of the lightbar on the cab roof with high efficiency, low loss, coaxial cable(s) routed to the radio box. A weatherproof cap shall be installed on the mount.

RADIO ANTENNA MOUNT

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

	Bidder Complies	
	Yes	No

ELECTRICAL POWER CONTROL SYSTEM

A compartment shall be provided in or under the cab to house the vehicle's electrical power and signal circuit protection and control components. The power and signal protection and control compartment shall contain circuit protection devices and power control devices. Power and signal protection and control components shall be protected against corrosion, excessive heat, excessive vibration, physical damage and water spray.

Serviceable components shall be readily accessible.

Circuit protection devices, which conform to SAE standard, shall be utilized to protect each circuit. All circuit protection devices shall be sized to prevent wire and component damage when subjected to extreme current overload. General protection circuit breakers shall be Type-I automatic reset (continuously resetting) and conform to SAE J553 or J258. When required, automotive type fuses conforming to SAE J554, J1284, J1888 or J2077 shall be utilized to protect electronic equipment.

Power control relays and solenoids shall have a direct current (dc) rating of 125 percent of the maximum current for which the circuit is protected.

Visual status indicators shall be supplied to identify control safety interlocks and vehicle status. In addition to visual status indicators, audible alarms designed to provide early warning of problems before they become critical shall be used.

VOLTAGE MONITOR SYSTEM

A voltage monitor system shall be provided to indicate the status of each battery system connected to the vehicle's electrical load. The monitor system shall provide visual and audio warning when the system voltage is above or below optimum levels.

POWER AND GROUND STUDS

Spare circuits shall be provided in the primary distribution center for two-way radio equipment.

The spare circuits shall consist of the following:

- One (1) 12-volt DC, 30 amp battery direct spare
- One (1) 12-volt DC ground and un-fused switched battery stud located in or adjacent to the power distribution center

EMI/RFI PROTECTION

The electrical system proposed shall include means to control undesired electromagnetic and radio frequency emissions. State of the art electrical system design and components shall be used to ensure radiated and conducted EMI (electromagnetic interference) and RFI (radio frequency interference) emissions are suppressed at their source.

	Bidder Complies	
	Yes	No

The apparatus proposed shall have the ability to operate in the electromagnetic environment typically found in fire ground operations. The contractor shall be able to demonstrate the EMI and RFI testing has been done on similar apparatus and certifies that the vehicle proposed meets SAE J551 requirements.

EMI/RFI susceptibility shall be controlled by applying immune circuit designs, shielding, twisted pair wiring and filtering. 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.

BATTERY SYSTEM

Six (6) 12 volt, Exide, Model 31S750X3W, group 31 batteries that include the following features shall be provided:

- 750 CCA, cold cranking amps
- 180 amp reserve capacity
- High cycle
- Rating of 4500 CCA at 0 degrees Fahrenheit
- 1080 minutes of reserve capacity
- Threaded stainless steel studs

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.

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.

BATTERY SYSTEM

There shall be a single starting system with an ignition switch and starter button provided and located on the cab instrument panel.

MASTER BATTERY SWITCH

There shall be a master battery switch provided within the cab within easy reach of the driver to activate the battery system.

An indicator light shall be provided on the instrument panel to notify the driver of the status of the battery system.

	Bidder Complies	
	Yes	No

BATTERY COMPARTMENTS

Batteries shall be placed on non-corrosive mats and be stored in well ventilated compartments located under the cab.

Heavy-duty battery cables shall be used to provide maximum power to the electrical system. Cables shall be color coded.

Battery terminal connections shall be coated with anti-corrosion compound. Battery solenoid terminal connections shall be encapsulated with semi-permanent rubberized compound.

JUMPER STUDS

One (1) set of battery jumper studs with plastic color-coded covers shall be included on the battery compartments.

BATTERY CHARGER/ AIR COMPRESSOR

There shall be a Kussmaul™ Pump Plus 1200, Model # 52-21-1100, single output battery charger/air compressor system shall be provided. A display bar graph indicating the state of charge shall be included.

The automatic charger shall maintain one (1) set of batteries with a maximum output current of 40 amps.

The 12-volt air compressor shall be installed to maintain the air system pressure when the vehicle is not in use.

The battery charger shall be wired directly to the AC shoreline inlet.

Battery charger/compressor shall be located in the front left body compartment.

The battery charger indicator shall be located on the driver's seat riser.

KUSSMAUL AUTO EJECT FOR SHORELINE

There shall be one (1) Kussmaul Model 091-55-15-120, 15 amp 120 volt AC shoreline inlet(s) provided to operate the dedicated 120 volt AC circuits on the apparatus without the use of the generator.

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

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

The shoreline(s) shall be connected to battery charger/compressor.

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

	Bidder Complies	
	Yes	No

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

- Line Voltage
- Current Ratting (amps)
- Phase
- Frequency

The shoreline receptacle shall be located in the driver side lower step well of cab.

BATTERY DESULFATOR

There shall be one (1) Canadus, Model HD-1224 battery desulfator installed in the chassis starting battery circuit.

BATTERY TRAYS

Plastic battery trays with drain tubes shall be provided, for the batteries to sit in. The drain tubes shall extend below the chassis frame rails.

ALTERNATOR

A C.E Niehoff, Model C531 alternator shall be provided. It shall have a rated output current of 360 amps, as measured by SAE method J56. It shall have a custom three (3)-set point voltage regulator, manufactured by C. E. Niehoff. The alternator shall be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.

ELECTRONIC LOAD MANAGEMENT

An electronic load management (ELM) system that monitors the vehicles 12-volt electrical system, and automatically reduces the electrical load in the event of a low voltage condition and by doing so, ensures the integrity of the electrical system.

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

HEADLIGHTS

There shall be four (4) rectangular halogen lights mounted in the front quad style, chrome housing on each side of the cab grille:

- The outside light on each side shall contain a halogen low and high beam module.
- The inside light on each side shall contain a halogen high beam module only.

	Bidder Complies	
	Yes	No

DIRECTIONAL LIGHTS

There shall be two (2) Whelen, Model 60A00TAR, amber LED populated arrow directional lights provided on the front of the cab, above the headlights. Each light shall be housed in the same quad common bezel as the front warning light.

BACK-UP ALARM

A PRECO, Model 1040, solid-state electronic audible back-up alarm that actuates when the truck is shifted into reverse shall be provided. The device shall sound at 60 pulses per minute and automatically adjust its volume to maintain a minimum ten (10) dBA above surrounding environmental noise levels.

ELECTRICAL WIRING DIAGRAMS

Two (2) electrical wiring diagrams, prepared for the model of chassis and body, shall be provided.

MANUAL, FIRE APPARATUS PARTS

Two (2) custom parts manuals for the complete fire apparatus shall be provided in hard copy with the completed unit.

One (1) compact disc (CD) shall also be provided that shall include all of the information from the above manual.

The manual shall contain the following:

- Job number

- Part numbers with full descriptions

- Table of contents

- Parts section sorted in functional groups reflecting a major system, component, or assembly

- Parts section sorted in Alphabetical order

- Instructions on how to locate parts

The manual shall be specifically written for the chassis and body model being purchased. It shall not be a generic manual for a multitude of different chassis and bodies.

SERVICE PARTS INTERNET SITE

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

	Bidder Complies	
	Yes	No

MANUALS, CHASSIS OPERATION

Two (2) chassis operation manuals shall be provided.

One (1) compact disk (CD) shall also be provided that shall include all of the information from the above manual.

CHASSIS SERVICE CD MANUALS

There shall be two (2) CD format chassis service manuals containing parts and service information on major components provided with the completed unit.

The manual shall contain the following sections:

- Job number
- Table of contents
- Troubleshooting
- Front Axle/Suspension
- Brakes
- EngineTires
- Wheels
- Cab
- Electrical, DC
- Air Systems
- Plumbing
- Appendix

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.

ENGINE MANUALS

There shall be one (1) service manual(s) provided for a Cummins ISL9 engine. The manual(s) shall be in a printed format.

	Bidder Complies	
	Yes	No

WATER TANK

Booster tank shall have a capacity of 500 gallons and be constructed of UV stabilized ultra high impact polypropylene plastic by a manufacturer with a minimum of 20 years experience building tanks, is ISO 9001:2000 certified in all its manufacturing facilities, and has over 50,000 tanks in service.

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" at the base to allow for greater compartment depth and no wider than 53" at the top.

Tank joints and seams shall be nitrogen welded inside and out.

Tank shall be baffled in accordance with NFPA Bulletin 1901 requirements.

Baffles shall have vent openings at both the top and bottom to permit movement of air and water between compartments.

Longitudinal partitions shall be constructed of .38" polypropylene plastic and shall extend from the bottom of the tank through the top cover to allow for positive welding.

Transverse partitions shall extend from 4.00" off the bottom of the tank to the underside of the top cover.

All partitions shall interlock and shall be welded to the tank bottom and sides.

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.

Tank top shall be sufficiently supported to keep it rigid during fast filling conditions.

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.

A sump that is 8.00" long x 8.00" wide x 6.00" deep shall be provided at the bottom of the water tank.

Sump shall include a drain plug and the tank outlet.

Tank shall be installed in a fabricated cradle assembly constructed of structural steel.

Sufficient crossmembers shall be provided to properly support bottom of tank. Crossmembers shall be constructed of steel bar channel or rectangular tubing.

	Bidder Complies	
	Yes	No

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.

Stops or other provision shall be provided to prevent an empty tank from bouncing excessively while moving vehicle.

Mounting system to be approved by the tank manufacturer.

Fill tower shall be constructed of .50" polypropylene and shall be a minimum of 8.00" wide x 14.00" long.

Fill tower shall be furnished with a .25" thick polypropylene screen and a hinged cover.

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.

HOT DIP GALVANIZED WATER TANK CRADLE

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.

DIRECT TANK FILL AUTOMATIC

There shall be a 2.50" gated external tank fill installed and integrated with the large diameter rear suction system. The tank fill shall use the suction pipe and connection as the water supply for the tank fill.

Piping, for the fill, shall be routed through the front wall of the tank and include a flow deflector to break up the stream of water entering the water tank.

An electrically controlled 2.50" full flow ball valve with 2.50" piping shall be located in the front plumbing area. The electric valve shall be wired to the water level indicator. When the water level falls to a point of approximately 1/2 the valve shall automatically open.When the water level returns to the full mark the valve shall close. A switch to enable and disable the auto fill and the standard valve controller shall be installed on the pump panel. The valve controls shall be mounted on the pump panel.

	Bidder Complies	
	Yes	No

BODY HEIGHT

The height of the body shall be 92.00" from the bottom of the body to the top of the body.

HOSE BED

The hose bed shall be fabricated of corrosion resistant, low carbon austenitic, brushed and painted **304L stainless steel**.Due to superior corrosion resistance of 300 stainless grades, other grades of austenitic stainless steels, or any grade of ferritic or martensitic stainless, shall not be acceptable.

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.

Hose bed shall accommodate 500' of 2.5" DJ - 850' of 2.5" DJ - 1000' of 4.0" DJ.

HOSEBED DIVIDER

Two (2) adjustable hosebed dividers shall be furnished for separating hose.

The divider shall be painted job color.

Each divider shall be constructed of a .125" brushed aluminum sheet fitted and fastened into a slotted, 1.50" diameter radiused extrusion along the top, bottom, and rear edge.

Divider shall be fully adjustable by sliding in tracks, located at the front and rear of the hose bed.

Divider shall be held in place by tightening bolts, at each end.

Acorn nuts shall be installed on all bolts in the hose bed which have exposed threads.

HOSE RESTRAINT

The hose in the hosebed shall be restrained by black nylon web strap netting at the rear of the hosebed. The netting shall include a stainless steel .50" diameter bar at the top and bottom of the net. The net is going to be attached with rings (similar to shower curtain) and buckles on the sides. They shall be able to release buckle on one side and slide it open. It shall be able to be opened from either side.

A cross-divider shall be provided at the very front of the hose bed area. The divider shall be bolted to the side sheet and painted.

HOSE BED COVER

A two (2) section hose bed cover, constructed of .125" bright aluminum treadplate shall be furnished. The cover shall be hinged with full length stainless steel piano hinge. The sides shall be slanted down with the center of the cover supported by a stationary bridgework support.

	Bidder Complies	
	Yes	No

The cover shall be reinforced so that it can support the weight of a man walking on the cover.

The cover is designed with the left cover opening first.

If access to water tank fill tower is blocked by the hose bed cover, then a hinged door shall be provided in it so that tank may be filled without raising cover doors.

Chrome grab handles and gas filled cylinders shall be provided to assist in opening and closing the cover. A handrail is to be provided at the rear, in the center of the support, to assist in opening the cover.

HOSE BED LIGHTS

There shall be four (4) Amdor LumaBar SuperBright, Model XX9951, 20.00" long white 12 volt DC LED light strips provided to light the hose bed area. These lights shall be installed under a full length stainless steel shield to protect the lights and wiring.

- One (1) shall be installed on the driver's side, side of the hose bed three (3) feet from the front of the hose bed.
- One (1) shall be installed on the driver's side, side of the hose bed three (3) feet from the rear of the hose bed.
- One (1) shall be installed on the passenger's side, side of the hose bed three feet from the rear of the hose bed.
- One (1) shall be installed on the passenger's side, side of the hose bed three (3) feet from the front of the hose bed.

The lights shall be controlled by a cup switch at the rear of the apparatus no more than 62.00" from the ground.

RUNNING BOARDS

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.

TAILBOARD

The tailboard shall be designed as a space saving work platform provided at the rear of the body. The platform shall fold up to reduce overall truck length, angle of departure, and create a clean safe working platform by keeping rain, snow, and ice off the platform during transit.

The platform shall be 35.50" wide x 21.00" deep. When folded up, the platform shall be the lower section of the rear compartment door. The external surface of the platform shall be

	Bidder Complies	
	Yes	No

covered in smooth aluminum. When folded down, the platform shall provide an aluminum treadplate stepping surface with a rated capacity of 500 lb.

REAR BUMPER

A two (2) piece rear bumper shall be provided at the rear of the apparatus.

The bumper shall be a two (2) piece design, allowing the folding platform to operate in the center of the unit.

The bumper shall be fabricated from bright aluminum treadplate and be 12.00" in depth.

REAR WALL, BODY MATERIAL, PUC

The rear wall shall be smooth and the same material as the body.

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.

The outboard edges of the rear wall shall be trimmed in polished stainless steel.

TOW BARS

Two (2) tow bars shall be installed under the tailboard.

Tow bars shall be fabricated of 1.00" CRS bar rolled into a 3.00" radius.

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.

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.

Tow bar design shall have been fully tested and evaluated using strain gauge testing and finite element analysis techniques.

HITCH RECEIVER

A hitch receiver shall be installed at the rear of the apparatus.

The hitch 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.

Slide-in portion shall be held in place by one (1) safety pin with clip.

The trailer electrical connection shall be a seven (7)-way flat blade recreational vehicle connector for trailer wiring compatible with electric brake systems, and a second connector with

	Bidder Complies	
	Yes	No
inverted ground meeting SAE J560 standards providing an auxiliary connection for warning devices.		

	Bidder Complies	
	Yes	No

COMPARTMENTATION

The apparatus body shall be built of corrosion resistant, low carbon austenitic, brushed and painted **304L stainless steel**. Due to superior corrosion resistance of 300 stainless grades, other grades of austenitic stainless steels, or any grade of ferritic or martensitic stainless, shall not be acceptable.

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.

Welded construction shall consist of .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.

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.

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.

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).

Compartment flooring shall be of the sweep out design with the floor 1.00" higher than the compartment door lip.

Drip protection shall be provided above the doors by means of aluminum extrusion, or formed bright aluminum treadplate.

The top of the compartment shall be covered with bright aluminum treadplate rolled over the edges on the front, and rear. These covers shall have the corners welded.

The aluminum treadplate covers shall not be used to form the compartment ceilings, but rather they shall be a separate component (no exception).

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.

UNDERBODY SUPPORT SYSTEM

Due to the severe loading requirements of this pumper a method of body and compartment support suitable for the intended load shall be provided.

	Bidder Complies	
	Yes	No

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 .375" 80k high strength steel and bolted to the chassis frame rails with .625" diameter Grade 8 bolts.

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.

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.

The isolators shall have a broad load range, proven viability in vehicular applications, be of a fail safe design and allow for all necessary movement in three (3) transitional and rotational modes.

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.

A design with body compartments simply hanging/sitting on the chassis in an unsupported (cantilever) fashion shall not be acceptable.

AGGRESSIVE WALKING SURFACE

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.

LOUVERS

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.

TESTING OF BODY DESIGN

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.

	Bidder Complies	
	Yes	No

The body shall be tested while loaded to its greatest in-service weight.

The criteria used during the testing procedure shall include:

- Raising opposite corners of the vehicle tires 9.00" to simulate the twisting a truck may experience when driving over a curb.

- Making a 90 degree turn, while driving at 20 mph to simulate aggressive driving conditions.

- Driving the vehicle on at 35 mph on a washboard road.

- Driving the vehicle at 55 mph on a smooth road.

- Accelerating the vehicle fully, until reaching the approximate speed of 45 mph on rough pavement.

Evidence of the actual testing techniques shall be made available upon request.

FEA shall have been performed on all substructure components.

COMPARTMENTATION, DRIVER'S SIDE

A full height, roll-up door compartment ahead of the rear wheels shall be provided. The pump operator's panel shall be located in this compartment. The interior dimensions of this compartment shall be 50.00" wide x 53.50" 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 47.00" wide x 53.50" high.

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

A roll-up door compartment over the rear wheels shall be provided. The interior dimensions of this compartment shall be 60.00" wide x 22.75" 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 22.75" high.

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

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

	Bidder Complies	
	Yes	No

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.

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

All compartments shall include a drip pan below the roll of the door.

COMPARTMENTATION, PASSENGER'S SIDE

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 50.00" 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 47.00" wide x 54.50" high.

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

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.

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

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.

	Bidder Complies	
	Yes	No

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

All compartments shall include a drip pan below the roll of the door.

ROLLUP DOOR, SIDE COMPARTMENTS

There shall be six (6) compartment doors installed on the side compartments, double faced, aluminum construction, painted one (1) color to match the lower portion of the body and manufactured by AMDOR™ brand rollup doors.

Door(s) shall be constructed using 1.00" extruded double wall aluminum slats which will feature a flat smooth interior surface to provide maximum protection against equipment hang-up. The slats shall be connected with a structural driven ball and socket hinge designed to provide maximum curtain diaphragm strength. Mounting and adjusting the curtain shall be done with a clip system that connects the curtain to the balancer drum allowing for easy tension adjustment without tools. The slats shall be mounted in reusable slat shoes with positive snap-lock securement.

Each slat will incorporate weather tight recessed dual durometer seals. One (1) fin will be designed to locate the seal within the extrusion. The second will serve as a wiping seal which will also allow for compression to prevent water ingression.

The doors shall be mounted in a one (1)-piece aluminum side frame with recessed side seals to minimize seal damage during equipment deployment. All seals including side frames, top gutters and bottom panel are to be manufactured utilizing non-marring materials.

Bottom panel flange of rollup door will be equipped with two (2) cut-outs to allow for easier access with gloved hands.

A stainless steel lift bar to be provided for opening the door and located at the bottom of each door with latches on the outer extrusion of the door frame. A ledge to be supplied over lift bar for additional area to aid in closing the door. The lift bar shall be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals.

All injection molded rollup door wear components will be constructed of Type 6 nylon.

Each rollup door shall have a 3.00 inch diameter balancer/tensioner drum to assist in lifting the door. A garage door style shall not acceptable.

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

	Bidder Complies	
	Yes	No

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

COMPARTMENTATION, REAR

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

Interior dimensions of this compartment shall be 36.75" wide x 36.38" high x 25.88" deep in the lower 28.00" of the compartment and 15.75" deep in the remaining upper portion. Depth of the compartment shall be calculated with the compartment door closed.

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

Rear compartment shall be open into the rear side compartments. The transverse opening shall be a minimum of 22.00" wide x 27.75" high.

Clear door opening of this compartment shall be 33.50" wide x 27.38" high.

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

ROLL-UP DOOR, REAR COMPARTMENT

The rear compartment shall have a swing down tailboard as the lower section of the door and a roll door for the upper section. The door shall be, double faced, aluminum construction, satin aluminum and manufactured by AMDOR™ brand roll-up doors.

The door shall be constructed using 1.00" extruded double wall aluminum slats which shall feature a flat smooth interior surface to provide maximum protection against equipment hang-up. The slats shall be connected with a structural driven ball and socket hinge designed to provide maximum curtain diaphragm strength. Mounting and adjusting the curtain shall be done with a clip system that connects the curtain to the balancer drum allowing for easy tension adjustment without tools. The slats shall be mounted in reusable slat shoes with positive snap-lock securement.

Each slat shall incorporate weather tight recessed dual durometer seals. One (1) fin shall be designed to locate the seal within the extrusion. The second shall serve as a wiping seal which shall also allow for compression to prevent water ingression.

The door shall be mounted in a one (1)-piece aluminum side frame with recessed side seals to minimize seal damage during equipment deployment. All seals including side frames, top gutters and bottom panel are to be manufactured utilizing non-marring materials.

Bottom panel flange of roll-up door shall be equipped with two (2) cut-outs to allow for easier access with gloved hands.

	Bidder Complies	
	Yes	No
A stainless steel lift bar to be provided for opening the door and located at the bottom of each door with latches on the outer extrusion of the door frame. A ledge to be supplied over lift bar for additional area to aid in closing the door. The lift bar shall be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers shall include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals. All injection molded roll-up door wear components shall be constructed of Type 6 nylon. The door shall have a 3.00 inch diameter balancer/tensioner drum to assist in lifting the door (garage door style) shall not acceptable. The header for the roll-up door assembly shall not exceed 4.00". A heavy-duty magnetic switch shall be used for control of open compartment door warning lights. **SCUFFPLATE** A polished stainless steel scuffplate shall be furnished around the opening for the fuel fill door to prevent chipping and fuel stain. **SCUFFPLATE** A stainless steel scuffplate shall be furnished around the opening for all of the air bottle compartments. **SCUFFPLATE** A polished stainless steel stainless steel scuffplate shall be provided around the ladder storage compartment opening. **SCUFFPLATE, PIKE POLE COMPARTMENT** Two (2) scuffplates shall be provided around the pike pole compartment opening(s). The scuffplate(s) shall be polished stainless steel . **COMPARTMENT LIGHTING** 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 compartment(s): on the inside lip of each equipment compartment (D1, D2, D3, P1, P2, P3, R1). Any remaining compartments without light strips shall have a 6.00" diameter Truck-Lite, Model: 79384 light. Each light shall have a number 1076 one filament, two wire bulb. Opening the compartment door shall automatically turn the compartment lighting on.		

	Bidder Complies	
	Yes	No

HATCH COMPARTMENTS

Hatch compartments with two (2) lift-up, top opening hatch doors shall be provided above the driver and passenger side body compartments. Each hatch compartment shall extend the full length of the side body compartmentation x 21.00" wide x 22.00" maximum depth. 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.

Sides of the compartments shall be constructed of the same material as the body and painted job color on the outside panels.

Top of the compartments shall be constructed of bright aluminum treadplate.

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.

These double pan doors shall have lipped edges with a rubber seal for weather resistance.

Doors shall be hinged on the outboard side and shall be held open with pneumatic stay arms.

The compartments shall have a 3/4" drain that extends to below the body.

Ribbed rubber matting shall be provided on the compartment floor to stop wet equipment from sitting in water pools.

HATCH COMPARTMENT LIGHTING

There shall be LED strip lights mounted full length on the interior, hinged side of each compartment.

Opening the hatch compartment door shall automatically turn the hatch compartment lighting on.

MOUNTING TRACKS

There shall be recessed tracks installed vertically to support the adjustable shelf(s).

Tracks shall not protrude into any compartment in order to provide the greatest compartment space and widest shelves possible.

The tracks shall be provided in each compartment except for the one that contains the pump operator's panel.

ADJUSTABLE SHELVES

There shall be 11 shelves, with a capacity of 500 lb provided. The shelf construction shall consist of .188" thick brushed aluminum with 2.00" sides. Each shelf shall as wide and as deep as the compartment space shall allow.

	Bidder Complies	
	Yes	No

Each shelf shall be infinitely adjustable by means of a threaded fastener, which slides in a track.

The shelves shall be held in place by .12" thick stamped plated brackets and bolts.

The location shall be (2) in each full height compartment (D1, D3, P1 one up and one low, P3 one up and one low), (1) each in D2, P2) and (1) in R1.

SLIDE-OUT ADJUSTABLE HEIGHT TRAY

There shall be three (3) slide-out trays provided.

Each tray shall have 2.00" high sides and a capacity rating of up to 500 lb in the extended position.

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.

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.

The tray(s) shall be located one (1) in the lower section of D-1, P-1, and P-3.

MATTING, COMPARTMENT FLOOR

Turtle Tile compartment matting shall be provided in seven (7) compartments on the compartment floor. The locations are, in each equipment compartment.

The Turtle Tile shall be red and the leading edge of the matting shall include the beveled edge. The beveled edge shall be red .

MATTING, COMPARTMENT SHELVING

Turtle Tile compartment matting shall be provided in 14 shelves. The locations are, in each shelf and slide-out tray.

The color of Turtle Tile shall be red.

EQUIPMENT STORAGE

An equipment storage area shall be provided to house two (2) backboards and one (1) Ferno Model 71 Stokes Basket. The two backboards will be stored inside the basket. Show the basket so it is open to the front. The door will be hinged at the rear edge of the compartment.. and sized for additional items such as long tools, or a stokes basket. It shall be located above the crosslays.

	Bidder Complies	
	Yes	No

This storage area shall be a fabricated aluminum enclosure. Slides for two backboards shall be provided. No additional equipment mounts or brackets shall be provided. There shall be a vertically hinged treadplate door on the driver's side and passenger's side of the truck to provide access.

The enclosure shall be removable for access to the plumbing.

One (1) partition shall be bolted in in the right (officer's) side hatch compartment to protect the Vogel Lube system. There shall be approximately 5.0" between the lube system and the partition.. Each partition shall be the full vertical height of the hatch compartment.

RUB RAIL

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

Trim shall be 3.12" high with 1.50" flanges turned outward for rigidity.

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

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.

BODY FENDER CROWNS

Polished stainless steel fender crowns shall be provided around the rear wheel openings.

A brushed stainless steel unpainted fender liner shall be provided to avoid paint chipping. The liners shall be removable to aid in the maintenance of rear suspension components.

A dielectric barrier shall be provided between the fender crown fasteners (screws) and the fender sheet metal to prevent corrosion.

The fender crowns shall be held in place with stainless steel screws that thread directly into a composite nut and not directly into the parent body sheet metal to eliminate dissimilar metals contact and greatly reduce the chance for corrosion.

HARD SUCTION HOSE

Hard suction hose shall not be required.

HANDRAILS

The handrails shall be 1.25" diameter anodized aluminum extrusion, with a ribbed design, to provide a positive gripping surface.

	Bidder Complies	
	Yes	No

Chrome plated end stanchions shall support the handrail. Plastic gaskets shall be used between end stanchions and any painted surfaces.

Drain holes shall be provided in the bottom of all vertically mounted handrails..

Handrails shall be located on the front of the body in positions needed to meet NFPA requirements.

- Two (2) vertical handrails shall be located at the rear, one on each side of the rear compartment.
- One (1) handrail, chrome plated grab handle, shall be provided mounted locate at the DS rear of HB cover.

AIR BOTTLE STORAGE (TRIPLE)

A quantity of two (2) air bottle compartments designed to hold (3) air bottles up to 7.25" in diameter x 26.00" deep shall be provided on the driver side forward of the rear wheels and on the passenger side forward 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.

Inside the compartment, black Dura-Surf friction reducing material shall be provided.

AIR BOTTLE COMPARTMENT STRAP

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

EXTENSION LADDER

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

ROOF LADDER

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

LADDER STORAGE

The ladders shall be stored inside the upper section of the passenger's side compartments. This ladder rack shall reduce the depth of the upper section in the side compartments.

A partition shall be installed inside the compartment on the side of the rack to allow for equipment storage and to conceal the ladders.

The ladders shall be banked in separate storage troughs.

	Bidder Complies	
	Yes	No

The ladder storage assembly shall be fabricated of stainless steel track channels to aid in loading and removal of ladders.

Rear of the ladder storage area shall have a vertically hinged smooth aluminum door with a D-handle latch to contain the ladders.

FOLDING LADDER

One (1) 10.00' aluminum, Series 585-A, Duo-Safety folding ladder shall be installed in the passenger side pike pole/folding ladder compartment.

PIKE POLE 8 FT

There shall be one (1) Fire Hooks Unlimited APH-8, 8 foot pike pole(s) with fiberglass handles and gas shut off end provided in the left (driver's) side pike pole compartment.

PIKE POLE, 6'

There shall be one (1) Fire Hooks Unlimited #APH-6, 6 foot pike pole(s) with fiberglass handles provided and located in the left (driver's) side pike pole compartment.

FOLDING LADDER/PIKE POLE COMPARTMENTS

One (1) folding ladder compartment shall be provided, recessed in the upper, inside part of body compartment on the passenger side. The compartment shall be equipped with a stainless steel trough for the folding ladder. The door shall be made of polished stainless steel and have a lift and turn latch.

One (1) pike pole compartment shall be provided, recessed in the upper, inside part of body compartment on the driver side. The compartment shall be equipped with two (2) aluminum tubes to hold two (2) pike poles. The door shall be made of polished stainless steel and have a lift and turn latch.

FMVSS LABEL IN CAB (ADDITIONAL)

An additional FMVSS yellow label shall be provided and attached to the driver's side cab door stainless steel panel. The label shall be enlarged to an 8.50" x 11.00" size and installed as far to the inside as possible, next to the web strap of the door.

LADDER, TOP ACCESS

A wide easy climbing access ladder, constructed of aluminum rungs and extruded aluminum rails, shall be provided on the left side at the rear of the apparatus. The inside climbing area of the ladder shall be 13.75" wide.

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.

	Bidder Complies	
	Yes	No
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. This ladder shall activate the Do Not Move Truck indicator, in the cab, if not in the stowed position when the parking brake is disengaged.		

	Bidder Complies	
	Yes	No

PUMP

Pump shall be a low profile, 1250 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.

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.

Pump shall be the Class A type.

Pump shall be certified to deliver the percentage of rated discharge from draft at pressure indicated below:

- 100 percent of rated capacity at 150 psi net pump pressure

-70 percent of rated capacity at 200 psi net pump pressure

-50 percent of rated capacity at 250 psi net pump pressure

The pump shall have the capacity to deliver the percentage of rated discharge from a pressurized source as indicated below:

- 135 percent of rated capacity at 100 psi net pump pressure from a 5 psi source

Pump body shall be fine-grained gray iron. Pump shall incorporate a heater/cooling jacket integral to the pump housing.

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.

The pump shall include o-ring gaskets throughout the pump.

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.

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.

	Bidder Complies	
	Yes	No
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. The intake wyes shall be removable without having to remove the main intake casting. Removal of the main inlet wyes shall provide access to the impeller, mechanical seal, and wear ring. (no exception). The tank to pump line and the primary discharge line shall be the only piping required to be removed for overhaul. For ease of service and overhaul there shall be no piping or manifolding located directly over the pump. (no exception) **PUMP MOUNTING** 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 two (2) 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. **MECHANICAL SEALS** 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. **PUMP GEARCASE** Pump gearcase shall be a pressure-lubricated gearcase to cool, lubricate, and filter the oil. The gearcase shall include an auxiliary PTO opening. The gearcase shall be constructed of lightweight aluminum, and impregnated with resin in accordance to MIL Spec MIL-I-17563. A dipstick, accessible by tilting the cab, shall be provided for easy fluid level checks. A filter screen shall be provided for long life. The gearcase shall consist of two (2) gears to drive the pump impeller and one (1) for the auxiliary PTO. The auxiliary PTO opening shall provide for the addition of PTO driven accessories. The pump shall be driven through the rear engine power take-off and clutch. The rear engine power take-off drive shall be live at all times to allow for pump and roll applications. Rear engine power take-off's allow for high horsepower and torque ratings needed for large pump		

	Bidder Complies	
	Yes	No
applications, and is a proven drive system throughout the rugged construction industry. (no exception). **CLUTCH** There shall be a heavy-duty electric clutch mounted directly to the front of the pump 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 magnetic system to assure superior performance. The clutch shall have a 500 lb-ft rating. Clutch shall be of a time-tested design used in critical military applications. (no exception). **PUMPING MODE** Pump shall provide for both pump and roll mode and stationary pumping mode. 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 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. If the vehicle is equipped with a foam system or CAFS system, these systems shall be engaged from the cab switch panel as well. Pump and roll mode shall be accomplished by the use of the main pump and shall not require the use of a secondary pump. The "OK to Pump & Roll" indicator shall be illuminated when the vehicle is in first gear. If pump and roll is desired by the operator, the operator shall engage the "Pump & Roll" and "Water Pump" switches on the cab switch panel. There shall be an automatic opening tank to pump valve and an automatic opening recirculation valve with the pump and roll mode so the operator does not have to leave the cab. The foot throttle shall be applied by the operator as needed. There shall be a 1200 engine rpm limit when in the pump and roll mode. Stopping pump and roll mode shall be accomplished by stopping the vehicle and setting the parking brake. The "OK to Pump & Roll" indicator shall turn off, the "OK to Stationary Pump" indicator shall illuminate and the transmission shall automatically shift to neutral. Stopping the stationary pump mode shall be accomplished by pressing the "Water Pump" switch down to disengage the pump. **PUMP SHIFT** 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		

	Bidder Complies	
	Yes	No

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.

As the parking brake is applied, the pump panel throttle shall be activated and deactivate the chassis foot throttle for stationary operation.

Pump and roll operation shall be available by releasing the parking brake with the pump in the pumping mode. Releasing the parking brake shall activate the chassis foot throttle, and deactivate the pump panel throttle. To protect from accidental pump overheating, the pump shall automatically disengage when the truck transmission shifts into second gear.

TRANSMISSION LOCK UP

Transmission lock up is not required as transmission shall automatically shift to neutral as soon as the parking brake is set.

AUXILIARY COOLING SYSTEM

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.

INTAKE RELIEF VALVE

An Akron relief valve shall be installed on the suction side of the pump preset at 125 psig.

Relief valve shall have a working range of 75 psig to 200 psig.

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.

Control shall be located behind an access door at the right (passenger's) side pump panel.

PRESSURE CONTROLLER

A Pressure Governor shall be provided. An electric pressure governor shall be provided which is capable of automatically maintaining a desired preset discharge pressure in the water pump. When operating in the pressure control mode, the system shall automatically maintain the discharge pressure set by the operator (within the discharge capabilities of the pump and water supply) regardless of flow, within the discharge capacities of the water pump and water supply.

A pressure transducer shall be installed in the water discharge of the pump. The transducer continuously monitors pump pressure sending a signal to the Electronic Control Module (ECM).

The governor can be used in two (2) modes of operation, RPM mode and pressure modes.

	Bidder Complies	
	Yes	No
In the RPM mode, the governor can be activated after vehicle parking brake has been set. When in this mode, the governor shall maintain the set engine speed, regardless of engine load (within engine operation capabilities). In the pressure mode, the governor system can only operate after the fire pump has been engaged and the vehicle parking brake has been set. When in the pressure mode, the pressure controller monitors the pump pressure and varies engine speed to maintain a precise pump pressure. The pressure controller shall use a quicker reacting J1939 database for engine control. A preset feature allows a predetermined pressure or rpm to be set. A pump cavitation protection feature is also 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. The throttle shall be a vernier style control, with a large control knob for use with a gloved hand. A throttle ready light shall be provided adjacent to the throttle control. A large 0.75" RPM display shall be provided to be visible at a glance. Check engine, and stop engine indicator lights shall be provided for easy viewing. Large 0.75" push buttons shall be provided for menu, mode, preset, and silence selections. The water tank level indicator shall be incorporated in the pressure governor. A fuel level indicator shall be incorporated in the pressure controller. A pump hour meter shall be incorporated in the pressure controller. The pressure controller shall incorporate monitoring for engine temperature, oil pressure, fuel level alarm, and voltage. Pump monitoring shall include, pump gearcase temperature, error codes, diagnostic data, pump service reminders, and time stamped data logging, to allow for fast accurate trouble shooting. It shall also notify the driver/engineer of any problems with the engine and the apparatus. Complete understandable messages shall be provided in a 20-character display, providing for fewer abbreviations in the messages. An automatic dim feature shall be included for night operations. The pressure controller shall include a USB port for easy software upgrades, which can be downloaded through a USB memory stick, eliminating the need for a laptop for software installations. A complete interactive manual shall be provided with the pressure controller.		

	Bidder Complies	
	Yes	No

PRIMING PUMP

The priming pump shall be a Trident Emergency Products compressed air powered, high efficiency, multistage venturi based AirPrime System, conforming to standards outlined in the current edition of NFPA 1901.

All wetted metallic parts of the priming system are to be of brass and stainless steel construction.

One (1) priming control shall open the priming valve and start the pump primer.

THERMAL RELIEF VALVE

A thermal relief valve shall be included on the pump that monitors pump water temperature and opens to relieve water to cool the pump when the temperature of the pump water exceeds 120 Degrees F (49 C).

The thermal protection system shall include a amber warning light and audible alarm mounted on the pump operator panel.

The discharge line shall be 3/8 inch diameter tubing plumbed to ground.

PUMP MANUALS

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) CDs. Each manual shall cover pump operation, maintenance, and parts.

PLUMBING

All inlet and outlet plumbing, 3.00" and smaller, shall be plumbed with either stainless steel pipe or synthetic rubber hose reinforced with high-tensile polyester braid. Small diameter secondary plumbing such as drain lines shall be stainless steel, brass or hose.

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.

Plumbing manifold bodies shall be ductile cast iron or stainless steel.

All lines shall drain through a master drain valve or shall be equipped with individual drain valves. All individual drain lines for discharges shall be extended with a hose to drain below the chassis frame.

All water carrying gauge lines shall be of flexible polypropylene tubing.

	Bidder Complies	
	Yes	No

MAIN PUMP INLETS

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

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.

MAIN PUMP INLET CAP

The main pump inlets shall have National Standard Threads with a long handle chrome cap.

The cap shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).

VALVES

All ball valves shall be Akron® Brass in-line valves. The Akron valves shall be the 8000 series heavy-duty style with a stainless steel ball and a simple two-seat design. No lubrication or regular maintenance is required on the valve.

Valves shall have a **ten (10) year** warranty.

LEFT SIDE INLET

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.

The auxiliary inlet shall be provided with a strainer, chrome swivel and plug.

The location of the valve for the one (1) inlet shall be recessed behind the pump panel.

ANODE, INLET

A pair of sacrificial zinc anodes shall be provided in the water pump inlets to protect the pump from corrosion.

INLET CONTROL

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.

LARGE DIAMETER REAR INLET

A 5.00" inlet with screen shall be provided using 5.00" piping and a 5.00" butterfly valve.

The screen shall provide cathodic protection against corrosion in the piping.

The piping shall contain only large radiused elbows, no mitered joints.

	Bidder Complies	
	Yes	No

The plumbing shall be routed to the rear below the water tank, between the frame rails, up the rear wall of the tank and into the passenger's side rear compartment.

The inlet shall terminate at the passenger's side rear bulkhead.

A bleeder valve shall be located at the threaded connection.

REAR INLET CAP

The rear inlet shall have a National Standard hose thread adapter with a rocker lug chrome plated cap.

The cap shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).

REAR INLET CONTROL

The rear inlet shall be gated with the control located at the pump operator's panel. The valve operating mechanism shall indicate the position of the valve or an indicator shall be provided to show when the valve is closed.

There shall be an Akron 9323 electric valve controller provided. The controller unit shall be of true position feedback design, requiring no clutches in the motor or current limiting. The controller shall be completely sealed with two (2) button open and close valve position capability and a full color LCD display with backlight.

INTAKE RELIEF VALVE

An intake relief valve, preset at 125 psig, shall be installed on the inlet side of the valve.

Relief valve shall have a working range of 75 psig to 250 psig.

Outlet shall terminate below the frame rails.

ELBOW, REAR INLET

The 5.00" inlet, located at the rear of the apparatus, shall be furnished with a 5.00" (F) National Standard hose thread x 4.00" Storz elbow/adapter with a Storz cap.

INLET BLEEDER VALVE

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

	Bidder Complies	
	Yes	No

TANK TO PUMP

The tank to pump line shall have a 3.00" Akron 8800 series full flow ball valve with "R-1" style handle. This valve shall be controlled by an air actuated cylinder. The cylinder shall be large enough to assure positive opening and closing of the valve. The controls shall be located on the left pump operator's panel, be properly labeled as it's function and feature "Green" valve open and "Red" valve closed indicator lights.

A 3.00" one-way full flow check valve shall be provided in the tank suction line to prevent back flow to the tank.

TANK REFILL

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

LEFT SIDE DISCHARGE OUTLETS

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.

RIGHT SIDE DISCHARGE OUTLETS

There shall be one (1) discharge outlet with a 2.50" valve on the right side of the apparatus, terminating with a male 2.50" National Standard hose thread adapter. The discharge shall be located below the crew cab, and shall be no higher than the top of the chassis frame rail.

There shall be an Akron® 9325 Navigator Pro electric valve controller provided at the pump panel. The controller unit shall be of true position feedback design, requiring no clutches in the motor or current limiting. The controller shall be completely sealed with two (2) button open and close valve position capability and a full color LCD display with backlight. In addition to valve position, each controller shall include a pressure display.

LARGE DIAMETER DISCHARGE OUTLET

There shall be a 4.00" discharge outlet with a 4.00" Akron valve body installed on the right side of the apparatus, terminating with a 4.00" (M) National Standard hose thread. The discharge shall be located below the crew cab, and shall be no higher than the top of the chassis frame rail.

There shall be an Akron 9325 Navigator Pro electric valve controller provided at the pump panel. The controller unit shall be of true position feedback design, requiring no clutches in the motor or current limiting. The controller shall be completely sealed with two (2) button open and close valve position capability and a full color LCD display with backlight. In addition to valve position, each controller shall include a pressure display.

	Bidder Complies	
	Yes	No

FRONT BUMPER TURRET PLUMBING

Plumbing consisting of 2.00" piping and flexible hose from the pump house to the center front bumper shall be provided. A fabricated weldment made of stainless steel pipe shall be used in the plumbing where appropriate.

There shall be Trident swing handle drains provided at all low points of the piping.

BUMPER TURRET

One (1) Akron 3463 Firefox electrically controlled monitor shall be provided on the front bumper extension. The monitor shall be capable of quick disconnect from the bumper extension. The monitor shall be provided with an Akron 3293 125-350 gpm @ 100 psi adjustable nozzle. Control for the monitor shall be a surface mounted joystick located between the driver and officer.

The turret shall have a horizontal rotation of 180 degrees and operate from 90 degrees above to 45 degrees below horizontal. The horizontal rotation shall be driven by a 12 volt DC direct drive motor/actuator.

An electric 2.00" full flow ball valve shall be provided at the pump. The valve shall be activated by the turret (monitor) controls described above.This valve location shall keep the turret plumbing line from being pressurized unless the turret is in use.

DISCHARGE CAPS

Chrome plated, rocker lug, caps with chains shall be furnished for all side discharge outlets.

The caps shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).

OUTLET BLEEDER VALVE

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.

The valves shall be located behind the panel with a swing style handle control extended to the outside of the side pump panel. The handles shall be chrome plated and provide a visual indication of valve position. The swing handle shall provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. Bleeders shall be located at the bottom of the pump panel. They shall be properly labeled identifying the discharge they are plumbed in to. The water discharged by the bleeders shall be routed below the chassis frame rails.

	Bidder Complies	
	Yes	No

LEFT SIDE OUTLET ELBOWS

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.

The elbow shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).

RIGHT SIDE OUTLET ELBOWS

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.

The elbow shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).

LARGE DIAMETER OUTLET ELBOWS

The 4.00" outlet shall be furnished with a 4.00" (F) National Standard hose thread x 4.00" Storz elbow adapter with Storz cap.

DISCHARGE OUTLET CONTROLS

The discharge outlets shall incorporate a quarter-turn ball valve with the control located at the pump operator's panel. The valve operating mechanism shall indicate the position of the valve or an indicator shall be provided to show when the valve is closed.

The passenger side discharges shall be controlled by an Akron 9325 Navigator Pro electric valve controllers with the manual override located on the passenger side pump panel. The controller unit shall be of true position feedback design, requiring no clutches in the motor or current limiting. The controller shall be completely sealed with two (2) button open and close valve position capability and a full color LCD display with backlight. In addition to valve position, each controller shall include a pressure display.

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.

DELUGE RISER

A 3.00" deluge riser shall be installed above the pump in such a manner that a monitor can be mounted and used effectively. 3.00" piping shall be installed securely so no movement develops when the line is charged. A 2.50" gated valve shall be installed and controlled at the pump operator's panel. The deluge outlet shall flow a minimum 1000 GPM.

	Bidder Complies	
	Yes	No

MONITOR

An Akron Model 3431 Apollo Hi-Riser monitor shall be properly installed on the deluge riser.

A fixed mounting base and a portable base with one (1) 4.00" Storz inlet shall be provided.

A position sensor shall be provided on the monitor that shall activate the "do not move apparatus" light inside the cab when the monitor is in the raised position.

The monitor shall be painted to match the body.

NOZZLE, DELUGE

Akron model #2499 Quad Stacked pyrolite deluge tips shall be provided.

The tip sizes shall be 1.375", 1.50", 1.75", and 2.00".

This shall include an Akron 3488 pyrolite stream shaper.

The deluge riser shall have a 3.00" four (4)-bolt stainless steel flange for mounting the monitor.

CROSSLAY HOSE BEDS

Two (2) crosslays with 1.50" outlets shall be provided. Each bed to be capable of carrying 200 feet of 1.75" double jacketed hose and shall be plumbed with 2.00" i.d. schedule 10 304L welded or formed stainless steel pipe and gated with a 2.00" quarter turn ball valve. Threaded pipe shall not be acceptable. 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)

Outlets to be equipped with a 1.50" National Standard hose thread 90-degree swivel located in the hose bed so that hose may be removed from either side of apparatus.

The crosslay controls shall be at the pump operator's panel.

A removable tray shall be provided for the crosslay hosebed. 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. 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.

CROSSLAY HOSE BED, 2.50"

One (1) crosslay with a 2.50" outlet shall be provided. The bed to be capable of carrying 200' of 2.5" hose and shall be plumbed with 2.50" i.d. schedule 10 304L welded or formed stainless steel pipe and gated with a 2.50" quarter turn ball valve. Threaded pipe shall not be acceptable.

	Bidder Complies	
	Yes	No
The outlet to be equipped with a 2.50" National Standard hose thread 90 degree swivel located above the hose bed so that hose may be removed from either side of apparatus. The crosslay shall be mounted above the lower 1.5" crosslays. The crosslay controls shall be at the pump operator's panel. A removable tray shall be provided for the crosslay hosebed. 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. Tray shall be held in place by a mechanical spring loaded stainless steel latch that automatically deploys upon loading the tray to hold the trays in place during transit. **CROSSLAY/DEADLAY HOSE RESTRAINT** A black 1.00" nylon webbing design with 2.00" box pattern shall be provided across each end of three (3) crosslay/deadlay(s) to secure the hose during travel. The webbing shall be permanently attached at the front of the crosslay/deadlay bed. Two (2) vertical metal bars the height of the crosslay/deadlay bed shall hook onto footman loops at the top of the bed and 1.00" web straps shall loop through footman loops located at the bottom of the crosslay/deadlay bed. The straps shall attach to the bottom of the bar with a 1.00" side release fastener.		

	Bidder Complies	
	Yes	No

FOAM PROPORTIONER

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 balance and proportion foam solution at rates from .1 percent to 9.9 percent regardless of variations in water pressure and flow, up to the maximum rated capacity of the foam concentrate pump.

The design of the system shall allow operation from draft, hydrant, or relay operation. This shall provide a versatile system to meet the demands at a fire scene.

SYSTEM CAPACITY

The system shall have the ability to deliver the following minimum foam solution flow rates that meet or exceed NFPA requirements at a pump rating of 250 psi.

200 gpm @ 6 percent

400 gpm @ 3 percent

1200 gpm @ 1 percent

The foam concentrate setting may be adjusted in .1 percent increments from .1 percent to 9.9 percent. Typical settings are .3 percent, .5 percent and 1.0 percent (The maximum capacity will be limited to the plumbing and water pump capacity).

CONTROL SYSTEM

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, direct which foam to use on a multi-tank system, and to set the operation modes (automatic, manual, draft, calibration, or flush).

The percent of injection shall have presets for Class A or Class B foam. These presets 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.

In order to minimize the use of abbreviations and interpretations, system information shall be displayed on the panel by way of .50 tall LEDs that total 14 characters (two (2) lines of seven (7) each). System on and foam pump on indicator lights shall also be included. Information displayed shall include mode of operation (automatic, manual, draft, calibration, or flush), foam supply selected (Class A or Class B), water total, foam total, foam percentage, remaining gallons, and time remaining.

	Bidder Complies	
	Yes	No
The control display shall direct 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.		
LOW LEVEL, FOAM TANK The control head shall display a warning message when the foam tank in use is below a quarter tank.		
HYDRAULIC DRIVE SYSTEM The foam concentrate pump shall be powered by a hydraulic drive system, which is automatically activated, whenever the vehicle water pump is engaged. A system that drives the foam pump via an electric motor shall not be acceptable. A large parasitic electric load used to power the foam pump can cause an overload of the chassis electrical system.		
Hydraulic oil cooler shall be provided to automatically prevent overheating of the hydraulic oil, which is detrimental to system components. The oil/water cooler shall be designed to allow continuous system operation without allowing hydraulic oil temperature to exceed the oil specifications.		
The hydraulic oil reservoir shall be of four (4) gallons minimum capacity and shall also be of sufficient size to minimize foaming and be located to facilitate checking oil level or adding oil without spillage or the need to remove access panels.		
FOAM CONCENTRATE PUMP The foam concentrate pump shall be of positive displacement, self-priming; linear actuated design, driven by the hydraulic motor. The pump shall be constructed of brass body; chrome 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.		
A relief system shall be provided which is designed to protect the drive system components and prevent over pressuring the foam concentrate pump.		
The foam concentrate pump shall have minimum capacity for 12 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.		

	Bidder Complies	
	Yes	No

EXTERNAL FOAM CONCENTRATE CONNECTION

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. The external foam pick-up shall be designed to allow use with training foam or colored water for training purposes.

PANEL MOUNTED STRAINER/EXTERNAL PICK-UP CONNECTION

A bronze body strainer/connector unit shall be provided. The unit shall be mounted to the pump panel. The external foam pick-up shall be one (1) 1.00" male connection with chrome-plated cap integrated to a 2.00" strainer cleanout cap. A check valve shall be installed in the pick-up portion of the cleanout cap. A basket style stainless steel screen shall be installed in the body of the strainer/connector unit. Removal of the 2.00" cleanout cap shall be all that is required to gain access to and remove the stainless steel basket screen. The strainer/connector unit shall be ahead of the foam concentrate pump inlet port to insure that all agent reaching the foam pump has been strained.

PICK-UP HOSE

A 1.00" flexible hose with an end for insertion into foam containers shall be provided. The hose shall be supplied with a 1.00" female swivel NST thread swivel connector. The hose shall be shipped loose.

DISCHARGES

The foam system shall be plumbed to the lower rear crosslay, lower front crosslay and front bumper turret.

SYSTEM ELECTRICAL LOAD

The foam proportioning shall not impose an electrical load on the vehicle electrical system any greater than five (5) amps at 12VDC.

FOAM SUPPLY VALVE

An electric valve shall be used for the foam supply valve. The foam supply valve shall be controlled at the foam system control head for ease of operation. The supply valve shall be electric, remote controlled, to eliminate air pockets in the foam tank supply hose.

MAINTENANCE MESSAGE

A message shall be displayed on the control head to advise when system maintenance needs to be performed. The message shall display interval for cleaning the foam strainer, cleaning for the water strainers, and changing the hydraulic oil.

FLUSH SYSTEM

The system shall be designed such that a flush mode shall be provided to allow the system to flush all foam concentrate with clear water. The flush circuit control logic shall ensure the foam

	Bidder Complies	
	Yes	No

tank supply valve is closed prior to opening the flush valve. The flush valve shall be operated at the foam system control head for ease of operation. The valve shall be electrically controlled and located as close to the foam tank supply valve as possible. A manual flush drain valve shall be labeled and conveniently located.

SINGLE FOAM TANK REFILL

The foam system's proportioning pump shall be used to fill the Class A 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 down when the tank is full. The fill operation shall be controlled by a mode in the foam system controller stating TANK FILL. While the proportioner pump is filling the tank, the controller shall display FILL TANK. When the tank is full, as determined by the float switch in the tank dome, the pump shall stop and the controller shall display TANK FULL.

FOAM TANK

The foam tank shall be an integral portion of the polypropylene water tank. The cell shall have a capacity of 200 gallons of foam with the intended use of Class B foam. The brand of foam stored in this tank shall be Ansulite 3% X 6 %.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.

FOAM TANK DRAIN

A system of 1.00" foam tank drains shall be provided, integrated into the foam systems strainer and tank to foam pump valve management system.The tank to pump hoses running from the tank(s) to the panel mounted strainer shall 1.00" diameter.The foam system controller shall have a mode that allows for a given foam valve to be opened at will. Flow of foam from the tank valve to the strainer shall be usable as a tank drain mode.

An adaptor shall be supplied, that allows the 1.00" foam intake screen to assembly to be used as a drain outlet. The standard supplied 1.00" foam pick up hose shall be attached to the screen assembly by way of the adapter. The drain mode shall allow the operator to open and close the tank valve as required from the control head, to drain foam and re-fill foam containers through the connected hose, without foam spillage beneath the vehicle.

	Bidder Complies	
	Yes	No

PUMP CONTROL PANELS (LEFT SIDE CONTROL)

Pump controls and gauges shall be located midship at the left (driver's) side of the apparatus and properly identified.

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.

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.

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 driver's side discharges shall be controlled directly at the valve. There shall be no push-pull style control handles. (no exception)

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.

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

All discharge outlets shall be color coded and labeled to correspond with the discharge identification tag.

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.

A recessed cargo area shall be provided at the front of the body, ahead of the water tank above the plumbing.

	Bidder Complies	
	Yes	No

PUMP PANEL CONFIGURATION

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

as close to their previous unit, #26499, as possible.

PUMP AND GAUGE PANEL

The pump operator's panel and gauge panels shall be constructed of stainless steel with a brushed finish.

The side control panels shall be constructed of stainless steel with a brushed finish for durability and ease of maintenance.

PUMP AND PLUMBING ACCESS

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.

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.

PUMP COMPARTMENT LIGHT

A pump compartment light shall be provided inside the plumbing area.

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

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

VACUUM AND PRESSURE GAUGES

The pump vacuum and pressure gauges shall be liquid filled and manufactured by Class 1 Incorporated ©.

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#.

	Bidder Complies	
	Yes	No
Gauge construction shall include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut. The pump pressure and vacuum gauges shall be installed adjacent to each other at the pump operator's control panel. 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. This gauge shall include a 10 year warranty against leakage, pointer defect, and defective bourdon tube. **PRESSURE GAUGES** The individual "line" pressure gauges for the discharges shall be interlube filled and manufactured by Class 1©. They shall be a minimum of 2.00" in diameter and shall have white faces with black lettering. Gauge construction shall include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut. Gauges shall have a pressure range of 30"-0-400#. The individual pressure gauge shall be installed as close to the outlet control as practical. This gauge shall include a 10 year warranty against leakage, pointer defect, and defective bourdon tube. **WATER LEVEL GAUGE** An electric water level gauge shall be incorporated in the pressure controller that registers water level by means of nine (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. To further alert the pump operator, the gauge shall have a warning flash when the tank volume is less than 25 percent, and shall have down chasing LEDs when the tank is almost empty. The level measurement shall be ascertained by sensing the head pressure of the fluid in the tank or cell.		

	Bidder Complies	
	Yes	No

MINI SLAVE UNIT

An electric water level gauge shall be provided in the cab that registers water level by means of five (5) LEDs. They shall be at 1/4 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.

The water level gauge in the cab shall be activated when the parking brake is set.

FOAM LEVEL GAUGE

An electric foam level gauge shall be provided on the operator's panel that registers foam level by means of nine (9) LEDs. There shall also be a mini foam level gauge with five (5) LEDs in the cab. 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. The gauge shall match the water level gauge in the pressure controller.

To further alert the pump operator, shall have a warning flash when the tank volume is less than 25 percent, and shall have Down Chasing LEDs when the tank is almost empty.

The level measurement shall be ascertained by sensing the head pressure of the fluid in the tank or cell. This method provides accuracy with an array of multi-viscosity foams.

The foam level gauge in the cab shall be activated by ignition switch is activated.

SIDE CONTROL PUMP OPERATOR'S/PUMP PANEL LIGHTING

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.

The pump panels shall be illuminated by four (4) Truck-Lite, Model 6060C white LED lights installed on the back of the cab, two (2) on the driver's side and two (2) on the passenger's side.

The pump operator's panel shall utilize the same LED strip lighting at the forward doorframe as all other compartment lighting.

There shall be a small white LED pump engaged indicator light installed overhead.

	Bidder Complies	
	Yes	No

ELECTRICAL

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

Electrical wiring and equipment shall be installed utilizing the following guidelines:

1. 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.
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.
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.
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).
5. All lights that have their sockets in a weather exposed area shall have corrosion preventative compound added to the socket terminal area.
6. All electrical terminals in exposed areas shall have silicon (1890) applied completely over the metal portion of the terminal.

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.

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.

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

	Bidder Complies	
	Yes	No

CAB CLEARANCE/MARKER/ID LIGHTS

There shall be five (5) amber LED lights provided to indicate the presence and overall width of the vehicle in the following locations:

- Three (3) amber LED identification lights shall be installed in the center of the cab above the windshield.
- Two (2) amber LED clearance lights shall be installed, one (1) on each outboard side of the cab above the windshield.

REAR CLEARANCE/MARKER/ID LIGHTING

There shall be three (3) Truck-Lite®, Model 35200R, LED lights used as identification lights located at the rear of the apparatus per the following:

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

There shall be two (2) Truck-Lite, Model 35200R, LED lights installed at the rear of the apparatus used as clearance lights located at the rear of the apparatus per the following:

- To indicate the overall width of the vehicle
- One (1) each side of the vertical centerline
- As near the top as practical
- Red in color
- To be visible from the rear
- All at the same height

There shall be two (2) Truck-Lite, Model 35200R, LED lights installed on the side of the apparatus as marker lights as close to the rear as practical per the following:

- To indicate the overall length of the vehicle
- One (1) each side of the vertical centerline
- As near the top as practical
- Red in color
- To be visible from the side
- All at the same height

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.

	Bidder Complies	
	Yes	No

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.

Per FMVSS 108 and CMVSS 108 requirements.

FRONT CAB SIDE DIRECTIONAL/MARKER LIGHTS

There shall be two (2) Weldon, Model 9186-8580-29, amber LED lights installed front of the cab door, one (1) on each side of the cab.

The lights shall activate as marker lights with the headlight switch and directional lights with the corresponding directional circuit.

INTERMEDIATE LIGHT

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

REAR FMVSS LIGHTING

There shall be the following stop/tail and directional lighting provided at the rear of the truck:

- Two (2) Whelen®, Model 60BTT*, red LED stop/tail lights with color lenses
- Two (2) Whelen, Model 60A00TAR, amber LED directional lights

The lights shall be mounted in a polished combination housing.

Two (2) Whelen Model 60C00VCR, LED backup lights shall be provided.

LICENSE PLATE BRACKET

One (1) license plate bracket constructed of stainless steel shall be provided at the rear of the apparatus.

One (1) white LED light shall be provided to illuminate the license plate. A polished stainless steel light shield shall be provided over the light that shall direct illumination downward, preventing white light to the rear.

LIGHTING BEZEL

Two (2) Whelen, Model CAST4V, four (4) light aluminum housings shall be provided for mounting four (4) Whelen 600 lights.

CAB PERIMETER SCENE LIGHTS

There shall be four (4) Truck-lite, Model 6060C, white LED lights with grommets provided, one (1) for each cab and crew cab door.

	Bidder Complies	
	Yes	No

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.

PUMP HOUSE PERIMETER LIGHTS

There shall be two (2) Truck-Lite, Model 6060C, 6.00" oval LED 12 volt DC weatherproof lights with grommets provided under the pump panel running boards, one (1) each side.

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

BODY PERIMETER SCENE LIGHTS

There shall be two (2) Truck-Lite, Model 6060C, 6.00" x 2.00" oval LED lights with Model 60700, grommets provided under at the rear step area of the body, one (1) each side shining to the rear.

The perimeter scene lights shall be activated when the parking brake is applied and either directional light is activated, activating all side facing perimeter lights.

STEP LIGHTS

There shall be two (2) white LED step lights shall be provided at the rear to illuminate the tailboard/step area.

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

These step lights shall be actuated with the perimeter scene lights.

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

12 VOLT LIGHTING

There shall be one (1) Whelen® Pioneer™, Model PCP2*, 12 volt LED combination spot/flood light(s) provided on the front visor, centered.

The painted parts of this light assembly to be white.

The light(s) shall be controlled by the following:

- a switch at the driver's side switch panel
- a switch at the pump operator's panel
- no additional switch location

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

	Bidder Complies	
	Yes	No

12 VOLT LIGHTING

There shall be one (1) Whelen® Pioneer™ Series, Model PCP2*, 12 volt LED combination spotlight and floodlight(s) installed in semi-recessed housing(s) Model PBA203, located [Location, 12/24 Volt Lights].

The painted parts of this light assembly to be white.

The light(s) selected above shall be controlled by the following:

- a switch at the driver's side switch panel
- a switch at the pump operator's panel
- no additional switch location
- no additional switch location

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

12 VOLT LIGHTING

There shall be one (1) Whelen Model PCP2, 12 volt LED combination spotlight and floodlight(s) installed in semi-recessed housing(s) Model PBA203 located on the right (officer's) side towards the front of the fire body.

The painted parts of this light assembly to be white.

The light(s) selected above shall be controlled by the following:

- a switch at the driver's side switch panel.
- a switch at the pump operator's panel.
- no additional switch location.
- no additional switch location.

These light(s) may be load managed when the parking brake is set

12 VOLT LIGHTING

There shall be two (2) Whelen, Model PCPSM1*, 12 volt surface mounted LED combination spot/flood light(s) located one (1) each side, high, on the rear of the fire body. The lights shall be mounted with chrome flange(s).

The light(s) selected above shall be controlled by the following:

- a switch at the driver's side switch panel
- no additional switch location
- no additional switch location
- a switch in a stainless steel cup located at the rear no more than 62.00" from the ground

	Bidder Complies	
	Yes	No

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

CAB SPOTLIGHT

There shall be one (1) Golight® Stryker™, Model 30**4, white LED spotlight located on the cab roof, centered between the lightbars to match their previous unit 26499 per Jeff Fournier. The spotlight shall be mounted on a painted pedestal.

This light may be load managed when the parking brake is applied.

SPOTLIGHT CONTROLLER

There shall be one (1) wired dash mounted remote provided for the spotlight.

SPOTLIGHT CONTROLLER LOCATION

The remote to control each spotlight shall be located within reach of the officer.

HAND HELD SPOTLIGHT

There shall be four (4) Streamlight, Model Survivor 90503, LED flashlights with chargers and AC/DC chords provided and installed Installed after delivery by the Cambridge Fire Department (shipped loose).

HAND HELD SPOTLIGHT

There shall be two (2) lights Streamlight, Model Survivor 90503, LED flashlights with chargers and AC/DC chords provided and installed Installed after delivery by the Cambridge Fire Department (shipped loose).

The flashlights shall be connected battery direct and shall charge when the chassis batteries are charging.

	Bidder Complies	
	Yes	No

AIR HORN SYSTEM

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

AIR HORN CONTROL

The air horns shall be actuated by two (2) foot switches, one (1) located on the officer's side and one (1) on the driver's side.

ELECTRONIC SIREN

A Federal, model 690010, PA300-012MSC, electronic siren with noise canceling microphone shall be provided.

This siren to be active when the battery switch is on and that emergency master switch is on.

Siren head shall be located on a swivel bracket mounted on the headliner so that it is accessible to both the driver and officer. The swivel bracket shall be capable of rotating a minimum of 180 degrees.

Siren shall be actuated by a foot switch on the officer's side and by the horn button in the steering wheel. The driver shall have the option to control the siren or the chassis horns from the horn button by means of a selector switch.

SPEAKER

There shall be one (1) speaker provided. Each speaker shall be a Federal, model CP100-S, 100 watt, with chrome finish. Each speaker shall be connected to the siren amplifier.

The speaker shall be mounted on top of the front bumper on the passenger's side.

The speaker shall be set back 2.00" from standard mounting.

AUXILIARY MECHANICAL SIREN

A Federal Q2B® siren shall be furnished. A siren brake button shall be installed on the switch panel.

The control solenoid shall be powered up after the emergency master switch is activated.

The mechanical siren shall be mounted on the bumper deckplate, set back 2.00" from the front face of the bumper. It shall be mounted on the left side. The siren mounting shall include a reinforcement plate.

	Bidder Complies	
	Yes	No
The mechanical siren shall be actuated by a foot switch on the officer's side and by the horn button in the steering wheel. The driver shall have the option to control the siren or the chassis horns from the horn button by means of a selector switch located on the instrument panel. **WEDGE STYLE FOOT SWITCH BRACKET** There shall be one (1) wedge style bracket provided at the on the left (driver's) side outboard side on cab the floor. The bracket shall be large enough to hold one (1) foot switch. The bracket shall be angled approximately 30 degrees. **BRACKET, FOOT SWITCHES** A wedge style bracket shall be provided on the driver and officer's side of cab floor. Each bracket shall be large enough to hold the foot switches picked in this order, in the following location: on the right (officer's) side inboard adjacent to the engine tunnel **LIGHTBARS (CAB ROOF)** There shall be two (2) 24.00" Whelen LED lightbars mounted on the cab roof, one (1) on each side, above the driver's and passenger's door, facing forward. Each lightbar shall include the following: • One (1) red flashing LED module facing forward. • Two (2) red flashing corner LED module, one (1) in each front corner. • One (1) red flashing LED module on the end facing to the side. All the lenses shall be the same color as the LED's. There shall be a switch located in the cab on the switch panel to control the lightbars. **FRONT ZONE LOWER LIGHTS** There shall be one (1) pair of Whelen, Model 60*02F*R, flashing LED lights installed on the cab face above the headlights, in a common bezel with the directional lights. The color of these lights shall be red Super LED/red lens. There shall be a switch located in the cab on the switch panel to control the lights.. **SIDE ZONE LOWER LIGHTING** There shall be six (6) Whelen®, Model 60*02F*R, flashing LED lights located at the following positions: • Two (2) lights located, one (1) each side on the bumper extension		

	Bidder Complies	
	Yes	No

- The color of these lights shall be red Super LED/red lens each side
- Two (2) lights located, [Location, Lights Mid Side]
- The color of these lights shall be red Super LED/rd lens each side
- Two (2) lights located, [Location, Lights Rear Side]
  - The color of these lights shall be red Super LED/red lens each side

There shall be a switch located in the cab on the switch panel to control the lights.

These lights shall be installed with three (3) pairs of flange kits.

REAR ZONE LOWER LIGHTING

There shall be two (2) Whelen®, Model 60*02F*R, red Super LED/red lens lights located at the rear of the apparatus.

Each light shall be mounted in a housing.

There shall be a switch located in the cab on the switch panel to control the lights.

REAR OF HOSE BED WARNING LIGHTS

There shall be two (2) Whelen Rota-Beam, Model R316*F, 4.00" high x 7.19" wide LED beacons provided.

- The driver's side beacon to include blue LED's.
- The passenger's side beacon to include red LED's.
- The lenses shall be the same color as the LED's.

The beacons shall rotate in an opposite direction and synchronized together.

There shall be a switch in the cab on the switch panel to control the beacons.

	Bidder Complies	
	Yes	No

LOOSE EQUIPMENT

The following equipment shall be furnished with the completed unit:

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

- One (1) extinguisher, 2.50 gallon pressurized water

- One (1) extinguisher, 10 pound, CO2

- One (1) extinguisher, Ansul, Model I-A-20-G, 20 lb., FORAY dry chemical

- One (1) 25’ length of 6.0” Snap-Tire ATX Dura Lite Hose 4.5” Female Swivel X 5.0” Female Swivel.

-One (1) 6.0” NST Female Swivel X 5.0” Male Adapter.

The extinguisher brackets will be the truck mount type with a “swing-out” clasp. The extinguishers will be able to filled by the fire department with no special adapters.

NFPA REQUIRED LOOSE EQUIPMENT PROVIDED BY FIRE DEPARTMENT

The following loose equipment as outlined in NFPA 1901, 2009 edition, section 5.8.2 and 5.8.3 shall be provided by the fire department. All loose equipment shall be installed on the apparatus before placed in emergency service, unless the fire department waives NFPA section 4.21.

- 800 ft (60 m) of 2.50" (65 mm) or larger fire hose.
- 400 ft (120 m) of 1.50" (38 mm), 1.75" (45 mm), or 2.00" (52 mm) fire hose.
- One (1) handline nozzle, 200 gpm (750 L/min) minimum.
- Two (2) handline nozzles, 95 gpm (360 L/min) minimum.
- One (1) playpipe with shutoff and 1.00" (25 mm), 1.125" (29 mm), and 1.25" (32 mm) tips.
- One (1) SCBA complying with NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire and Emergency Services*, 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.
- 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).
- One (1) first aid kit.
- Four (4) combination spanner wrenches mounted in bracket(s) fastened to the apparatus.
- Two (2) hydrant wrenches mounted in brackets fastened to the apparatus.

	Bidder Complies	
	Yes	No
• Four (4) ladder belts meeting the requirements of NFPA 1983, *Standard on Fire Service Life Safety Rope and System Components* (if equipped with an aerial device). • One (1) double female 2.50" (65 mm) adapter with National Hose threads, mounted in a bracket fastened to the apparatus. • One (1) double male 2.50" (65 mm) adapter with National Hose threads, mounted in a bracket fastened to the apparatus. • One (1) rubber mallet, for use on suction hose connections, mounted in a bracket fastened to the apparatus. • Two (2) salvage covers each a minimum size of 12 ft x 14 ft (3.7 m x 4.3 m). • One (1) traffic vest for each seating position, each vest to comply with ANSI/ISEA 207, *Standard for High Visibility Public Safety Vests*, 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. • 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. • Five (5) illuminated warning devices such as highway flares, unless the five (5) fluorescent orange traffic cones have illuminating capabilities. • One (1) automatic external defibrillator (AED). • 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. • 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. • 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. • 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. **SOFT SUCTION HOSE, PROVIDED BY DEALER** NFPA 1901, 2009 edition, section 5.7.2 requires a minimum of 20 ft of suction hose or 15 ft of supply hose.		

	Bidder Complies	
	Yes	No
Hose is not on the apparatus as manufactured. The dealer shall provide suction or supply hose. **DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT** NFPA 1901, 2009 edition, section 5.8.3 requires one (1) approved dry chemical portable fire extinguisher with a minimum 80-B:C rating mounted in a bracket fastened to the apparatus. The extinguisher is not on the apparatus as manufactured. The fire department shall provide and mount the extinguisher. **WATER EXTINGUISHER PROVIDED BY FIRE DEPARTMENT** NFPA 1901, 2009 edition, section 5.8.3 requires one (1) 2.5 gallon or larger water extinguisher mounted in a bracket fastened to the apparatus. The extinguisher is not on the apparatus as manufactured. The fire department shall provide and mount the extinguisher. **FLATHEAD AXE PROVIDED BY FIRE DEPARTMENT** NFPA 1901, 2009 edition, Section 5.8.3 requires one (1) flathead axe mounted in a bracket fastened to the apparatus. The axe is not on the apparatus as manufactured. The fire department shall provide and mount the axe. **PICKHEAD AXE PROVIDED BY FIRE DEPARTMENT** NFPA 1901, 2009 edition, Section 5.8.3 requires one (1) pickhead axe mounted in a bracket fastened to the apparatus. The axe is not on the apparatus as manufactured. The fire department shall provide and mount the axe.		

	Bidder Complies	
	Yes	No

PAINT

The exterior custom cab and body painting procedure shall consist of a seven (7) step finishing process as follows:

1. Manual Surface Preparation - All exposed metal surfaces on the custom cab and body shall be thoroughly cleaned and prepared for painting. Imperfections on the exterior surfaces shall be removed and sanded to a smooth finish. Exterior seams shall be sealed before painting. Exterior surfaces that shall not be painted include; chrome plating, polished stainless steel, anodized aluminum and bright aluminum treadplate.
2. Chemical Cleaning and Pretreatment - All surfaces shall be chemically cleaned to remove dirt, oil, grease, and metal oxides to ensure the subsequent coatings bond well. The aluminum surfaces shall be properly cleaned and treated using a high pressure, high temperature 4 step Acid Etch process. The steel and stainless surfaces shall be properly cleaned and treated using a high temperature 3 step process specifically designed for steel or stainless. The chemical treatment converts the metal surface to a passive condition to help prevent corrosion. A final pure water rinse shall be applied to all metal surfaces.
3. Surfacer Primer - 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.
4. Finish Sanding - The Surfacer Primer shall be sanded with a fine grit abrasive to achieve an ultra-smooth finish. This sanding process is critical to produce the smooth mirror like finish in the topcoat.
5. Sealer Primer - 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 topcoated.
6. Basecoat Paint - 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.
7. Clear Coat - 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 manufacture.

	Bidder Complies	
	Yes	No

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

The cab and body shall be two-tone, with the upper section painted white upper and lower section of the cab and body painted red so as to match the current Cambridge Apparatus.

PAINT - ENVIRONMENTAL IMPACT

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:

- Topcoats and primers shall be chrome and lead free.
- 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.
- Particulate emission collection from sanding operations shall have a 99.99% efficiency factor.
- 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 98.00%. Water wash systems shall be 99.97% efficient
- Water from water wash booths shall be reused. Solids shall be removed on a continual basis to keep the water clean.
- Paint wastes are disposed of in an environmentally safe manner.
- Empty metal paint containers shall be to recover the metal.
- Solvents used in clean-up operations shall be recycled on-site or sent off-site for distillation and returned for reuse.

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.

GALVANIZED CHASSIS FRAME ASSEMBLY

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.

Components that are included with the chassis frame assembly that shall be hot dip galvanized are:

- Frame rails

	Bidder Complies	
	Yes	No

- Cross members
- Front frame extension
- Battery boxes

All galvanized components are inspected for compliance with ASTM specifications.

All components that are not galvanized shall be painted red .

HOT DIP GALVANIZED COMPARTMENT SUBSTRUCTURE

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.

WHEELS, ACCENT STRIPE

All exposed outer edge wheel surfaces shall be painted with a silver accent stripe.

PAINT, FRONT WHEELS

All wheel surfaces, inside and outside, shall be provided with 193 red.

PAINT, REAR WHEELS

All wheel surfaces, inside and outside, shall be provided with powder coat paint #193 red.

COMPARTMENT INTERIOR FINISH

The interior of the body compartments shall be left unpainted and have the natural finish.

REFLECTIVE BAND

A 10.00" white reflective band shall be provided across the front of the vehicle and along the sides of the body.

The reflective band provided on the cab face shall be at the headlight level.

CHEVRON STRIPING, REAR

There shall be alternating chevron striping located on the rear-facing vertical surface of the apparatus. The rear surface including the swing down tailboard shall be covered. The rear roll up door shall not be covered.

The colors shall be red and fluorescent yellow green diamond grade.

Each stripe shall be 6.00" in width.

This shall meet the requirements of NFPA 1901, 2009 edition, which states that 50% of the rear surface shall be covered with chevron striping.

	Bidder Complies	
	Yes	No

STOP SIGN, REFLECTIVE, CAB DOORS

A 12.00" x 12.00" reflective stop sign shall be provided on the interior of each cab door. The stop sign shall be located on the stainless steel door panel.

This sign shall meet the NFPA 1901 requirement.

BODY STRIPE

There shall be a genuine gold leaf stripe provided on each side of the body, located along the top of the side compartmentation.

CAB STRIPE

There shall be a genuine gold leaf stripe located just below the window line on each side of the cab.

LETTERING

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

LETTERING

There shall be genuine gold leaf lettering, 4.00" high, with hightlight and double shade provided. There shall be 20 letters provided.

LETTERING

One (1) to twenty (20) non-reflective vinyl lettering, 2.00" high, with no outline or shade shall be provided.

LETTERING

One (1) to twenty (20) non-reflective vinyl lettering, 3.00" high, with no outline or shade shall be provided.

LETTERING

One (1) to twenty (20) reflective lettering, 3.00" high, with no outline or shade shall be provided.

LETTERING

Twenty-one (21) to forty (40) genuine gold leaf lettering, 8.00" high, with hightlight and double shade shall be provided.

LETTERING

There shall be genuine gold leaf lettering, 4.00" high, with outline and shade provided. There shall be two (2) letters provided.

LETTERING

There shall be reflective lettering, 18.00" high, with outline provided. There shall be two (2) letters provided.

	Bidder Complies	
	Yes	No
LETTERING One (1) to twenty (20) non-reflective vinyl lettering, 1.00" high, with no outline or shade shall be provided.		
LETTERING There shall be genuine gold leaf lettering, 6.00" high, with outline provided. There shall be one (1) letter provided.		
LETTERING, REFLECTIVE, "DIAL 911" There shall be two (2)8.00" high ruby red reflective decal "Dial 911" installed on D-1 and P-1. "Dial" shall be mounted vertically and "911" shall be horizontal.		
REFLECTIVE LETTERING There shall be one (1) set/s of reflective lettering, "KEEP BACK 300 FEET", supplied and installed on the on the rear roll-up door. The lettering shall be white in color and 3.00" in size.		
EMBLEM INSTALLATION There shall be one (1) reflective emblem provided and installed R-1.		
DECAL INSTALLATION There shall be one (1) pair of decals furnished by the fire department and applied by the apparatus manufacturer.		
EMBLEM, FLEUR DE LIS There shall be one (1) pair of fleur de lis emblems, comprised of genuine gold leaf material, provided and installed Cab corners. match 23918.		

Americans with Disabilities Act (42 U.S.C. 12131)
Section 504 of the Rehabilitation Act of 1973
Tax Compliance/Anti-Collusion Statement
Debarment Statement

The Americans with Disabilities Act (the "Act") applies to all employers of fifteen or more employees. All vendors that are subject to the Act must comply with its provisions. In further compliance with the Act, all Contractors who enter into contracts with the City are prohibited from discrimination against the City's employees, regardless of the size of the Contractor.

The Act protects against discrimination on the basis of "disability", which is defined as a physical or mental impairment that substantially limits at least one "major life activity"; discrimination against a person having a history or record of such impairment; and discrimination against an individual regarded - even if inaccurately - as having such an impairment. The Act also expressly prohibits discrimination that is based on an individual's relationship or association with a disabled person.

The Contractor shall not discriminate against any qualified employee or job applicant with a disability and will make the activities, programs and services covered by any contract awarded through this procurement readily accessible to and usable by individuals with disabilities. To be qualified for a job, or to avail oneself of the Contractor's services, the individual with the disability must meet the essential eligibility requirements for receipt of the Contractor's services or participation in the Contractor's programs or activities with or without: 1) reasonable modifications to the Contractor's rules, policies and practices; 2) removal of architectural, communication, or transportation barriers; or, 3) provisions of auxiliary aids and services.

By submitting its contract, the Contractor certifies to the City of Cambridge that it understands and will comply with all applicable provisions of the Act, including compliance with applicable provisions of Section 504 of the Rehabilitation Act of 1973, if the Contractor is receiving federal funds.

The undersigned certifies under penalties of perjury that this contract has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals

As required by M.G.L. c. 62C, §49A, the undersigned certifies under the penalties of perjury that the Contractor has complied with all laws of the commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

The undersigned certifies that it is not currently subject to any State or Federal debarment order.

Date: _____

_____
(Print Name of person signing bid)

_____
(Signature & Title)

This form must be submitted with your bid

Name of Bidder:_____

CORI COMPLIANCE FORM

Persons and businesses supplying goods and/or services to the City of Cambridge ("Vendors"), who are required by law to perform CORI checks, are further required by Section 2.112.060 of the Cambridge Municipal Code to employ fair policies, practices and standards relating to the screening and identification of persons with criminal backgrounds through the CORI system. Such Vendors, when entering into contracts with the City of Cambridge, must affirm that their policies, practices and standards regarding CORI information are consistent with the policies, practices and standards employed by the City of Cambridge as set forth in the City of Cambridge CORI Policy ("CORI Policy") attached hereto.

CERTIFICATION

The undersigned certifies under penalties of perjury that the Vendor employs CORI related policies, practices and standards that are consistent with the provisions of the attached CORI Policy. **All Vendors must check one of the three lines below**.

1. _____ CORI checks are not performed on any Applicants.

2. _____ CORI checks are performed on some or all Applicants. The Vendor, by affixing a signature below, affirms under penalties of perjury that its CORI policies, practices and standards are consistent with the policies, practices and standards set forth in the attached CORI Policy.

3. _____ CORI checks are performed on some or all Applicants. The Vendor's CORI policies, practices and standards are not consistent with the attached CORI Policy. Please explain on a separate sheet of paper.

_____ _____
(Typed or printed name of person signing quotation, bid or Proposal) Signature

_____
(Name of Business)

NOTE:
The City Manager, in his sole discretion may grant a waiver to any Vendor on a contract by contract basis.

Instructions for Completing CORI Compliance Form:
A Vendor should not check Line 1 unless it performs NO CORI checks on ANY applicant. A Vendor who checks Line 2 certifies that the Vendor's CORI policy conforms to the policies, practices and standards set forth in the City's CORI Policy. A Vendor with a CORI policy that does NOT conform to the City's CORI Policy must check Line 3 and explain the reasons for its nonconformance in writing. Vendors, who check Line 3, will not be permitted to enter into contracts with the City, absent a waiver by the City Manager.

This form must be submitted with your bid

Name of Bidder:_____

City of Cambridge CORI Policy

1. Where Criminal Offender Record Information (CORI) checks are part of a general background check for employment or volunteer work, the following practices and procedures will generally be followed.

2. CORI checks will only be conducted as authorized by Criminal History Systems Board (CHSB). All applicants will be notified that a CORI check will be conducted. If requested, the applicant will be provided with a copy of the CORI policy.

3. An informed review of a criminal record requires adequate training. Accordingly, all personnel authorized to review CORI in the decision-making process will be thoroughly familiar with the educational materials made available by the CHSB.

4. Prior to initiating a CORI check, the City will review the qualifications of the applicant to determine if the applicant is otherwise qualified for the relevant position. The City will not conduct a CORI check on an applicant that is not otherwise qualified for the relevant position.

5. Unless otherwise provided by law, a criminal record will not automatically disqualify an applicant. Rather, determination of suitability based on CORI checks will be made consistent with this policy and any applicable law or regulations.

6. If a criminal record is received from CHSB, the authorized individual will closely compare the record provided by CHSB with the information on the CORI request form and any other identifying information provided by the applicant, to ensure the record relates to the applicant.

7. If, in receiving a CORI report, the City receives information it is not authorized to receive (e.g. cases with dispositions such as not guilty or dismissal, in circumstances where the City is only authorized to receive convictions or case-pending information), the City will inform the applicant and provide the applicant with a copy of the report and a copy of CHSB's *Information Concerning the Process in Correcting a Criminal Record* so that the applicant may pursue correction with the CHSB.

8. If the City of Cambridge is planning to make an adverse decision based on the results of the CORI check, the applicant will be notified immediately. The applicant shall be provided with a copy of the criminal record and the City's CORI policy, advised of the part(s) of the record that make the individual unsuitable for the position and given an opportunity to dispute the accuracy and relevance of the CORI record.

9. Applicants challenging the accuracy of the criminal record shall be provided a copy of CHSB's *Information Concerning the Process in Correcting a Criminal Record.* If the CORI record provided does not exactly match the identification information provided by the applicant, the City of Cambridge will make a determination based on a comparison of the CORI record and documents provided by the applicant. The City of Cambridge may contact CHSB and request a detailed search consistent with CHSB policy.

10. If the City of Cambridge reasonably believes the record belongs to the applicant and is accurate, then the determination of suitability for the position will be made. Unless otherwise provided by law, factors considered in determining suitability may include, but not be limited to the following:

    (a) Relevance of the crime to the position sought;
    (b) The nature of the work to be performed;
    (c) Time since the conviction;
    (d) Age of the candidate at the time of offense;
    (e) Seriousness and specific circumstances of the offense;
    (f) The number of offenses;
    (g) Whether the applicant has pending charges;
    (h) Any relevant evidence of rehabilitation or lack thereof;
    (i) Any other relevant information, including information submitted by the candidate or requested by the City.

11. The Personnel Department will assist affected departments, in assessing the suitability of candidates in accordance with paragraph 10 a through i above, to ensure consistency, fairness, and protection of employment opportunities

Name of Bidder:_____

and the public interest.

12. The City of Cambridge will notify the applicant of the decision and the basis of the decision in a timely manner.

13. CORI information shall not be disseminated or shared with any unauthorized employees or other, but shall be maintained in confidence consistent with the obligations of law.

Revised May 5, 2007

Name of Bidder:_____

ORDINANCE NUMBER 1312

Final Publication Number 3155. First Publication in the Chronicle on December 13, 2007.

City of Cambridge

In the Year Two Thousand and Eight

AN ORDINANCE

In amendment to the Ordinance entitled "Municipal Code of the City of Cambridge"

Be it ordained that Cambridge Municipal Code Chapter 2.112 is hereby amended by adding a new Section 2.112.060 entitled "CORI Screening by Vendors of the City of Cambridge" as follows:

Adding after Section 2.112.050 the following new sections:

SECTION 2.112.060

CORI SCREENING BY VENDORS OF THE CITY OF CAMBRIDGE

Sections:

2.112.061 Purpose

These sections are intended to ensure that the persons and businesses supplying goods and/or services to the City of Cambridge deploy fair policies relating to the screening and identification of persons with criminal backgrounds through the CORI system.

2.112.062 Definitions

Unless specifically indicated otherwise, these definitions shall apply and control.

Awarding Authority means the City of Cambridge Purchasing Agent or designee.

Vendor means any vendor, contractor, or supplier of goods and/or services to the City of Cambridge.

2.112.063 CORI-Related Standards of the City of Cambridge

The City of Cambridge employs CORI-related policies, practices and standards that are fair to all persons involved and seeks to do business with vendors that have substantially similar policies, practices and standards. The City of Cambridge will do business only with vendors who, when required by law to perform CORI checks, employ CORI-related policies, practices, and standards that are consistent with policies, practices and standards employed by the City of Cambridge. The awarding authority shall consider any vendor's deviation from policies, practices and standards employed by the City of Cambridge as grounds for rejection, rescission, revocation, or any other termination of the contract.

Name of Bidder:_____

2.112.064 Waiver

The City Manager may grant a waiver to anyone who or which has submitted a request for waiver if it is objectively reasonable; and the City Manager, or a delegate, shall report promptly in writing to the City Council all action taken with respect to every request for a waiver and the reasons for the decision.

2.112.065 Applicability

If any provision of these sections imposes greater restrictions or obligations than those imposed by any other general law, special law, regulation, rule, ordinance, order, or policy then the provisions of these sections shall control.

In City Council January 28, 2008.
Passed to be ordained by a yea and nay vote:-
Yeas 9; Nays 0; Absent 0.
Attest:- D. Margaret Drury, City Clerk.

A true copy;

ATTEST:-
D. Margaret Drury
City Clerk

Name of Bidder:_____

Chapter 2.121

LIVING WAGE ORDINANCE

Sections:

2.121.010 Title and Purpose.

This Chapter shall be known as the "Cambridge Living Wage Ordinance". The purpose of this ordinance is to assure that employees of the City of Cambridge and employees of City contractors, subcontractors and beneficiaries of tax abatements, loans, grants, subsidies and other assistance provided by the City earn an hourly wage that is needed to support a family of four.

2.121.020 Definitions.

For the purposes of this ordinance, the term:

(a) "Applicable Department" means the Personnel Department for employees of the City of Cambridge, the Purchasing Department, with the advice and assistance of the appropriate department which receives the services, for Covered Employers who contract or subcontract with the City of Cambridge, the School Department for employees, contractors and subcontractors of the School Department, and the City Manager's Office for any other Person who is a Beneficiary of assistance other than a contract or subcontract.

(b) "Assistance" means:

(1) any grant, loan, tax incentive, bond financing, subsidy, or other form of assistance valued at least $10,000 that an employer receives by or through the authority or approval of the City of Cambridge, including, but not limited to, c. 121A tax abatements, industrial development bonds, Community Development Block Grant (CDBG) loans and grants, Enterprise Zone designations awarded after the effective date of this Chapter, and the lease of city owned land or buildings below market value; and

(2) any service contract, as defined herein, of at least $10,000 with the City of Cambridge that is made with an employer to provide services pursuant to G.L.c. 30B or other public procurement laws, awarded, renegotiated or renewed after the effective date of this Chapter.

(3) any service subcontract, as defined herein, of at least $10,000.

(c) "Beneficiary" means:

(1) any person who is a recipient of Assistance;

(2) any company or person that is a tenant or sub-tenant, leaseholder or sub-leaseholder of a recipient of Assistance, provided that said company or person employs at least 25 persons and occupies property or uses equipment or property that is improved or developed as a result of Assistance, after the effective date of this Chapter; and

(d) "Covered Employer" means the City of Cambridge or a Beneficiary of Assistance.

(e) "Covered Employee" means:

(1) a person employed by the City of Cambridge except for persons in those positions listed in Section 2.121.040(j) of this ordinance; and

Name of Bidder:_____

(2) a person employed by a Covered Employer, or a person employed by an independent contractor doing business with a Covered Employer, who would directly expend any of his or her time on the activities funded by the contract or the activities for which the Beneficiary received the Assistance, except for persons in those positions listed in Section 2.121.040(j) of this ordinance..

(f) "Living Wage" has the meaning stated in Section 2.121.030.

(g) "Person" means one or more of the following or their agents, employees, servants, representatives, and legal representatives: individuals, corporations, partnerships, joint ventures, associations, labor organizations, educational institutions, mutual companies, joint-stock companies, trusts, unincorporated organizations, trustees, trustees in bankruptcy, receivers, fiduciaries, and all other entities recognized at law by the Commonwealth of Massachusetts.

(h) "Service Contract" means a contract let to a contractor by the City of Cambridge for the furnishing of services, to or for the City, except contracts where services are incidental to the delivery of products, equipment or commodities. A contract for the purchase or lease of goods, products, equipment, supplies or other property is not a "service contract" for the purposes of this definition.

(i) "Service Subcontract" means a subcontract primarily for the furnishing of services, to or for a recipient of Assistance, except where services are incidental to the delivery of products, equipment or commodities. A contract for the purchase or lease of goods, products, equipment, supplies or other property is not a "service subcontract" for the purposes of this definition.

2.121.030 Living Wage.

(a) Applicability. Covered Employers shall pay no less than the Living Wage to their employees.

(b) Amount of wage. The Living Wage shall be calculated on an hourly basis and shall be no less than $10.00, subject to adjustment as provided herein. The Living Wage shall be upwardly adjusted each year no later than March first in proportion to the increase at the immediately preceding December 31 over the year earlier level of the Annual Average Consumer Price Index for All Urban Consumers (CPI -U) Boston-Lawrence-Salem, MA - NH, as published by the Bureau of Labor Statistics, United States Department of Labor applied to $10.00.

(c) No reduction in collective bargaining wage rates. Nothing in this Chapter shall be read to require or authorize any beneficiary to reduce wages set by a collective bargaining agreement.

(d) Cuts in non-wage benefits prohibited. No Beneficiary will fund wage increases required by this Chapter, or otherwise respond to the provisions of this Chapter, by reducing the health, insurance, pension, vacation, or other non-wage benefits of any of its employees.

2.121.040 Waivers and Exceptions.

(a) Waivers. A Covered Employer may request that the City Manager grant a partial or whole waiver to the requirements of this Chapter.

(b) General Waivers. Waivers may be granted where application of this Chapter to a particular form of Assistance is found by the City Solicitor to violate a specific state or federal statutory, regulatory or constitutional provision or provisions, and the City Manager approves the waiver on that basis.

(c) Hardship Waivers for certain not-for-profit employers. An employer, who has a contract with the City of Cambridge which is not subject to the provisions of G.L. c. 30B, may apply to the City Manager for a specific waiver where payment of the Living Wage by a not-for-profit Covered Employer would cause a substantial hardship to the Covered Employer.

(d) Chapter 30B contract waivers. Prior to issuing an invitation for bids for a procurement contract subject to the provisions of G.L. c. 30B, any Applicable Department may apply to the City Manager for a waiver of the application of the Living Wage to the contract where payment of the Living Wage by a Covered Employer would make it inordinately expensive for the City to contract for the services or would result in a significant loss of services, because the contracted work cannot be segregated from the other work of the Covered Employer.

(e) General Waiver Request Contents. All General Waiver requests shall include the following:

Name of Bidder:_____

(1) The nature of the Assistance to which this Chapter applies;

(2) The specific or official name of the Assistance and Assistance program, the statutory or regulatory authority for the granting of the Assistance, and a copy of that authority;

(3) The conflicting statutory, regulatory, or constitutional provision or provisions that makes compliance with this Chapter unlawful, and a copy of each such provision; and

(4) A factual explication and legal analysis of how compliance with this Chapter would violate the cited provision or provisions, and the legal consequences that would attach if the violation were to occur.

(f) Hardship Waiver Request Contents. All Hardship Waiver requests shall include the following:

(1) The nature of the Assistance to which this Chapter applies;

(2) A detailed explanation of why payment of the Living Wage would cause a substantial hardship to the Covered Employer; and

(3) A statement of proposed wages below the Living Wage.

(g) Chapter 30B Contract Waiver Request Contents. A Chapter 30B contract waiver request shall include the following:

(1) The nature of the Assistance to which this Chapter applies;

(2) A detailed explanation of why the contracted work cannot be segregated from the other work of the bidding Covered Employers thereby making the cost of the contract with the payment of the Living Wage inordinately expensive or would result in a significant loss of services;

(h) Community Advisory Board review and recommendation regarding waiver requests. The Community Advisory Board, as described in Section 2.121.070 of this ordinance, shall consider waiver requests along with their supporting documentation and analysis, and may hold a public hearing to consider the views of the public before making a recommendation to the City Manager regarding the waiver request. For a hardship waiver, the Community Advisory Board shall offer an opportunity to be heard to employees of the Covered Employer. After reviewing the recommendation of the Community Advisory Board, the City Manager may approve and grant or deny all or part of a request. The City Manager may in his or her discretion grant a temporary hardship waiver pending the hearing before the Community Advisory Board. For Chapter 30B contract waivers, the Community Advisory Board shall make its recommendation to the City Manager no more than thirty days after it is notified of the request for a Chapter 30B contract waiver.

(i) Terms of exceptions. If an employer is subject to this Chapter as a result of its receipt of more than one kind of Assistance covered by this Chapter, and if the City Manager grants a waiver with respect to one form of Assistance, the City Manager need not find that this Chapter is inapplicable to the employer with respect to another form of Assistance received by the employer.

(j) Exceptions. The following positions will be excepted from the requirement of the payment of the Living Wage upon certification in an affidavit in a form approved by the Applicable Department and signed by a principal officer of the Covered Employer that the positions are as follows:

(1) youth hired pursuant to a city, state, or federally funded program which employs youth as defined by city, state, or federal guidelines, during the summer, or as part of a school to work program, or in other related seasonal or part-time program;

(2) work-study or cooperative educational programs;

(3) trainees who are given a stipend or wage as part of a job training program that provides the trainees with additional services, which may include, but are not limited to, room and board, case management, or job readiness services.

(4) persons working in a recognized supported employment program that provides workers with additional services, which may include, but are not limited to, room and board, case management, counseling, or job coaching:

(5) positions where housing is provided by the employer;

(6) employees who are exempt from federal or state minimum wage requirements; and

(7) individuals employed by the City of Cambridge where the employment of such individuals is intended primarily to provide a benefit or subsidy to such individuals, although the City is compensating them for work performed.

2.121.050 Notification Requirements.

All Applicable Departments shall provide in writing an explanation of the requirements of this ordinance in all requests for bids for service contracts and to all persons applying for Assistance as defined by this ordinance. All persons who have signed a service contract with the City of Cambridge or a contract for Assistance shall forward a copy of such requirements to any person submitting a bid for a subcontract on the Assistance contract.

2.121.060 Duties of Covered Employers.

Name of Bidder:_____

(a) Notification Requirements. Covered employers shall provide each Covered employee with a fact sheet about this ordinance and shall post a notice about the ordinance in a conspicuous location visible to all employees. The fact sheet and poster shall be provided to the Covered Employer by the Applicable Department and shall include:

(1) notice of the Living Wage amount;

(2) a summary of the provisions of this ordinance;

(3) a description of the enforcement provisions of the ordinance;

(4) the name, address, and phone number of a person designated by the Applicable Department to whom complaints of noncompliance with this ordinance should be directed.

(b) Contract for Assistance. At the time of signing a contract for assistance with the City of Cambridge or with a Beneficiary, the contract must include the following:

(1) the name of the program or project under which the contract or subcontract is being awarded;

(2) a local contact name, address, and phone number for the Beneficiary;

(3) a written commitment by the Beneficiary to pay all Covered Employees not less than the Living Wage as subject to adjustment under this ordinance and to comply with the provisions of this ordinance;

(4) a list of Covered Employees under the contract with the employees' job titles;

(5) a list of all subcontracts either awarded or that will be awarded to Beneficiaries with funds from the Assistance. Upon signing any subcontracts, the Covered Employer shall forward a copy of the subcontract to the Applicable Department.

(c) Maintenance of payroll records. Each Covered Employer shall maintain payrolls for all Covered Employees and basic records relating thereto and shall preserve them for a period of three years. The records shall contain the name and address of each employee, the job title and classification, the number of hours worked each day, the gross wages, deductions made, actual wages paid, and copies of social security wage and withholding reports, and evidence of payment thereof and such other data as may be required by the Applicable Department from time to time.

(d) Applicable Department duties. The Applicable Department shall cause investigations to be made as may be necessary to determine whether there has been compliance with this Ordinance. The Applicable Department shall report the findings of all such investigations to the Community Advisory Board.

(e) Covered Employer to cooperate. The Covered Employer shall submit payroll records on request to the Applicable Department. The Covered Employer shall permit City representatives to observe work being performed upon the work site, to interview employees and to examine the books and records relating to the payrolls being investigated to determine payment of wages.

(f) City Assistance Reports. Each Applicable Department shall file a City Assistance Report with the City Manager and the Community Advisory Board by July 31 of each year The report shall include, for each Assistance package or contract approved during the preceding fiscal year:

(1) the name of the Applicable Department (awarding agency), the name of the specific program under which the Assistance was awarded, and the origin of funds for Assistance;

(2) a description of the purpose or project for which the Assistance was awarded;

(3) the name, address, and phone number of a local contact person for the Covered Employer;

(4) the total cost to the City of Assistance provided to each Beneficiary, including both face-value of Assistance, as well as revenue not collected as a result of the Assistance.

2.121.070 Community Advisory Board.

(a) Purpose. The purpose of the Community Advisory Board shall be to review the effectiveness of this Ordinance at creating and retaining Living Wage jobs, to make recommendations to the City Manager regarding the granting of Waivers to Covered Employers, to review the implementation and enforcement of this ordinance, and to make recommendations from time to time in connection therewith.

(b) Composition. The Community Advisory Board shall be composed of nine members and shall include representatives of labor unions, community organizations and the business community. All members will be appointed by the City Manager. Members of the Board shall serve a three-year term. Whenever a vacancy shall occur the City Manager shall appoint a replacement within thirty days of said vacancy.

(c) Meetings. The Community Advisory Board shall meet quarterly and in special session as required. All meetings of the Board shall be open to the public and will allow for public testimony on the uses of the City Assistance generally, and on specific instances of Assistance or proposed Assistance as received or sought by individual enterprises.

Name of Bidder:_____

(d) Conflict of Interest. No member of the Community Advisory Board shall participate in any proceeding concerning a Beneficiary, a Covered Employer or a Covered Employee, or applicant for waiver or exemption, if the member or any member of his or her immediate family has a direct or indirect financial interest in the outcome of said proceeding.

2.121.080 Enforcement.

(a) Enforcement powers. In order to enforce this Chapter, the Applicable Department may, with the approval and assistance of the City Solicitor, issue subpoenas, compel the attendance and testimony of witnesses and production of books, papers, records, and documents relating to payroll records necessary for hearing, investigations, and proceedings. In case of failure to comply with a subpoena, the City may apply to a court of appropriate jurisdiction for an order requiring the attendance and testimony of witnesses and the productions of books, papers, records, and documents. Said court, in the case of a refusal to comply with any such subpoena, after notice to the person subpoenaed, and upon finding that the attendance or testimony of such witnesses or the production of such books, papers, records, and documents, as the case may be, is relevant or necessary for such hearings, investigation, or proceedings, may issue an order requiring the attendance or testimony of such witnesses or the production of such documents and any violation of the court's order may be punishable by the court as contempt thereof.

(b) Complaint procedures. An employee who believes that he or she is a Covered Employee or an applicant for a position to be filled by a Covered Employee who believes that his or her employer is not complying with requirements of this Chapter applicable to the employer may file a complaint with the Applicable Department or with the Community Advisory Board. Complaints of alleged violations may also be filed by concerned citizens or by the City Council. Complaints of alleged violations may be made at any time, but in no event more than three years after the last date of alleged violation, and shall be investigated promptly by the Applicable Department. Statements written or oral, made by an employee, shall be treated as confidential and shall not be disclosed to the Covered Employer without the consent of the employee.

(c) Investigations and hearings. The Applicable Department shall investigate the complaint, and may, in conjunction with the City Solicitor, and in accordance with the powers herein granted, require the production by the employer of such evidence as required to determine compliance. Prior to ordering any penalty the applicable Department shall give notice to the employer and conduct a hearing. If at any time during these proceedings, the employer voluntarily makes restitution of the wages not paid to the employee making the complaint and to any similarly situated employees, by paying all back wages owed plus interest at the average prior year Massachusetts passbook savings bank rate, or otherwise remedies the violation alleged if the violation involves matters other than wages, then the Applicable Department shall thereafter dismiss the complaint against the employer.

(d) Remedies. In the event that the Applicable Department, after notice and hearing, determines that any Covered Employer has failed to pay the Living Wage rate or has otherwise violated the provisions of this Chapter, the Applicable Department may order any or all of the following penalties and relief:

(1) Fines up to the amount of $300 for each Covered Employee for each day that the Covered Employer is in violation of this Ordinance, except if the violation was not knowing and willful, then the total fine shall not exceed the amount of back wages plus interest owed;

(2) Suspension of ongoing contract and subcontract payments;

(3) Ineligibility for future City Assistance for up to three years beginning when all penalties and restitution have been paid in full. In addition, all Covered Employers having any principal officers who were principal officers of a barred beneficiary shall be ineligible under this section; and

(4) Any other action deemed appropriate and within the discretion and authority of the city.

Remedies in this section shall also apply to the party or parties aiding and abetting in any violation of this chapter.

(e) Private right of action. Any Covered Employee, or any person who was formerly employed by a Beneficiary, may bring an action to enforce the provisions of this Chapter to recover back pay and benefits, attorneys fees and costs, by filing suit against a Beneficiary in any court of competent jurisdiction.

(f) Remedies herein non-exclusive. No remedy set forth in this Chapter is intended to be exclusive or a prerequisite for asserting a claim for relief to enforce the right granted under this Chapter in a court of law. This Chapter shall not be construed to limit an employee's right to bring a common law cause of action for wrongful termination.

(g) Retaliation and discrimination barred. A Covered Employer shall not discharge, reduce the compensation or otherwise retaliate against any employee for making a complaint to the City, otherwise asserting his or her rights under this Chapter, participating in any of its proceedings or using any civil remedies to enforce his or her rights under the Chapter. The City shall investigate allegations of retaliation or discrimination and shall, if found to be true, after notice and a hearing, order appropriate relief as set out in paragraphs (c) and (d) herein

Name of Bidder:_____

2.121.090 Severability.

In the event any provision of this ordinance shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provisions hereof.

2.121.100 Effective Date.

This law shall be effective sixty (60) after final passage.

The Living Wage Ordinance (2.121) provides, at 1.121.030(b) that the wage shall be upwardly adjusted each year no later than March 1st in proportion to the increase in the Annual Average Consumer Price Index for the prior calendar year for All Urban Consumers (CPI-U) in the Boston area, as published by the federal Bureau of Labor Statistics.

For calendar year 1999, the CPI-U increased by 2.5%. Therefore the new living wage, as of March 1, 2000 is $10.25.

For calendar year 2000, the CPI-U increased by 4.3%. Therefore the new living wage, as of March 1, 2001 is $ 10.68.

For calendar year 2001, the CPI-U increased by 4.3%. Therefore the new living wage, as of March 1, 2002 is $11.11.

For calendar year 2002, the CPI-U increased by 2.6% . Therefore the new living wage, as of March 1, 2003 is $11.37.

The City Council has voted to amend the section of the Living Wage Ordinance (1.121.030 (b) that provides the method for calculating cost of living increases each year. As a result of this change, the living wage as of March 30, 2003 is $11.44.

For calendar year 2003, the CPI-U increased by 3.76%. Therefore the new living wage, as of March 1, 2004 is $11.87.

For calendar year 2004, the CPI-U increased by 2.7%. Therefore the new living wage, as of March 1, 2005 is $12.19.

For calendar year 2005, the CPI-U increased by 3.3%. Therefore the new living wage, as of March 1, 2006 is $12.59.

For calendar year 2006 the CPI-U increased by 3.1 %. Therefore the new living wage, as of March 1, 2007 is $12.98.

For calendar year 2007 the CPI-U increased by 1.9 %. Therefore the new living wage, as of March 1, 2008 is $13.23.

For calendar year 2008 the CPI-U increased by 3.5 %. Therefore the new living wage, as of March 1, 2009 is $13.69.

For calendar year 2009 the CPI-U decreased by .67 %. Therefore the new living wage, as of March 1, 2010 will remain at $13.69.

For calendar year 2010 the CPI-U increased by 1.57%. Therefore the new living wage, as of March 1, 2011 is $13.90.

For calendar year 2011 the CPI-U increased by 2.71%. Therefore the new living wage, as of March 1, 2012 is $14.28.

For calendar year 2012 the CPI-U increased by 1.58%. Therefore the new living wage, as of March 1, 2013 is $14.51.

For calendar year 2013 the CPI-U increased by 1.37%.Therefore the new living wage, as of March 1, 2014 is $14.71.

For calendar year 2012 the CPI-U increased by 1.58%. Therefore the new living wage, as of March 1, 2013 is $14.51.

For calendar year 2013 the CPI-U increased by 1.37%.Therefore the new living wage, as of March 1, 2014 is $14.71.

For calendar year 2014 the CPI-U increased by 1.61% Therefore the new living wage, as of March 1, 2015 is $14.95.

Name of Bidder:_____

File No 5906 To Furnish and Deliver Qty of One (1) new. Custom Built 105' Heavy Duty Aerial Ladder
Thursday, September 27, 2012 @ 11:00 AM

City of Cambridge
Articles of Agreement **SAMPLE SAMPLE SAMPLE SAMPLE**

Commodity:
File Number:

This agreement is made and entered into this _____, by and between the **City Of Cambridge** ("the CITY"), a municipal corporation organized and existing under the laws of the Commonwealth of Massachusetts, and _____, existing under the laws of the State of _____ ("the Contractor").
Address:
Telephone, Fax, E-mail:

Article I. Definition. "This Contract" as used herein shall mean these Articles of Agreement and "the bid documents," which include, but are not limited to, the instructions to bidders, the Contractor's bid or proposal, the specifications, the general conditions, the requirements, the applicable addenda, and all documents and forms submitted with the Contractor's bid or proposal that were accepted by the City.

Article II. Duration. The Contractor shall commence the performance of this contract for the period beginning on _____ and ending on _____**.**

Article III. Terms. The Contractor agrees to provide the services all in accordance with the bid documents of (bid opening date) or (proposal if appropriate).

Contract Value:

Article IV. Payment. The City agrees to pay to Contractor the sum set forth in the Contractor's bid or proposal. **Contractor shall invoice department to which it provided the service, not the Purchasing Department.**

Article V. Termination. The following shall constitute events of default under this Contract requiring immediate termination: a) any material misrepresentation made by the Contractor, b) any failure by the Contractor to perform any of its obligations under this Contract including, but not limited to, the following: (i) failure to commence performance of this Contract at the time specified in this Contract due to a reason or circumstance within the Contractor's reasonable control, (ii) failure to perform this Contract with sufficient personnel and equipment or with sufficient material to ensure the completion of this Contract within the specified time due to a reason or circumstance within the Contractor's reasonable control, (iii) failure to perform this Contract in a manner reasonably satisfactory to the City, (iv) failure to promptly re-perform within reasonable time the services that were rejected by the City as erroneous or unsatisfactory, (v) discontinuance of the services for reasons not beyond the Contractor's reasonable control, (vi) failure to comply with a material term of this Contract, including, but not limited to, the provision of insurance and nondiscrimination, and (vii) any other acts specifically and expressly stated in this Contract as constituting a basis for termination of this Contract.

Except as otherwise provided in the Articles of Agreement, the City may terminate the contract upon seven days notice.

Article VI . Damages. From any sums due to the Contractor for services, the City may keep for its own the whole or any part of the amount for expenses, losses and damages as directed by the Purchasing Agent, incurred by the City as a consequence of procuring services as a result of any failure, omission or mistake of the Contractor in providing services as provided in this Contract.

Article VII. Conflict. In the event there is a conflict between these Articles and the bid documents, the bid documents shall supersede these articles.

Name of Bidder: _____

Article VIII. Governing laws and ordinances. This Contract is made subject to all the laws of the Commonwealth and the Ordinances of the City and if any such clause thereof does not conform to such laws or ordinances, such clause shall be void (the remainder of the Contract shall not be affected) and the laws or ordinances shall be operative in lieu thereof.

Article IX. Performance Security. Upon execution of this Contract by the Contractor, the Contractor shall furnish to the City security for the faithful performance of this Contract in the amount of **100%** of the value of the bid in the form of a performance bond issued by a surety satisfactory to the city or in the form of a certified check.

Article X. Equal Opportunity. the Contractor in the performance of all work under this contract will not discriminate on the grounds of race, color, sex, age, religious creed, disability, national origin or ancestry, sexual orientation, marital status, family status, military status, or source of income in the employment practices or in the selection or retention of subcontractors, and in the procurement of materials and rental of equipment. The city may cancel, terminate or suspend the contract in whole or in part for any violation of this article.

Article XI. Assignability. the Contractor shall not assign, sell, subcontract or transfer any interest in this contract without prior written consent of the city.

In witness whereof the parties have hereto and to three other identical instruments set their hands the day and year first above written.

Approved as to Form:

_____
Nancy E. Glowa
City Solicitor

_____
Richard C. Rossi
City Manager

The Contractor:

_____
Signature and Title

_____
Amy L. Witts
Purchasing Agent

Name of Bidder: _____