

COUNTY OF PICKENS, SC  
PURCHASING DEPARTMENT  
BID/QUOTE PACKAGE INDEX

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BID/QUOTE NO. **013-09**

NOTICE

UPON EXECUTION THIS DOCUMENT, EXCEPTIONS, ADDITIONS, SPECIAL  
TERMS AND CONDITIONS SHALL CONSTITUTE A BINDING CONTRACT.

PLEASE READ "GENERAL INSTRUCTIONS TO BIDDERS" AND  
"INSTRUCTIONS TO BIDDERS" VERY THOROUGHLY.

BID/QUOTE NO. **013-09**

COUNTY OF PICKENS, SOUTH CAROLINA

PURCHASING DEPARTMENT

DATE: **February 8, 2010**

NOTICE

Sealed bids for furnishing:

**1 EA. 2009 OR NEWER PUMPER/TANKER TRUCK**

subject to the conditions and provisions set forth in the attached, bids (**3 copies**) will be received at this office until **2:00 PM on February 23,2010** then publicly opened. The commodities and/or services must be furnished as described and specified in this package. PICKENS COUNTY reserves the right to reject any or all bids. 5% Bid Bond will be required with your bid. Successful bidder must be willing to certify they do not employ any unauthorized aliens

**If you download this bid from our website and want to receive the addendums you must call our office and register to be eligible to bid.**

**BIDS will be opened in the BOARD ROOM OF THE ADMINISTRATION BUILDING, 222 McDaniel Avenue, Pickens, South Carolina.**

Please address mailed bids to:

**Pickens County Purchasing  
222 McDaniel Avenue, B-3  
Pickens, SC 29671  
Attn: Steve Grant**

**ENVELOPES SHOULD BE CONSPICUOUSLY MARKED IN THE LOWER LEFT HAND CORNER: BID NO. 013-09**

SIGNATURE: \_\_\_\_\_

Steve Grant  
Purchasing Director

BID AND/OR QUOTATION FORM

COUNTY OF PICKENS  
PURCHASING DEPARTMENT  
222 McDANIEL AVENUE, B-3  
PICKENS, SC 29671

\_\_\_\_\_

submits herewith our Bid and/or Quotation in response to bid/quote request number shown above and in compliance with the description and/or specifications numbered **013-09** and attached hereto for:

**1 EA. 2009 OR NEWER PUMPER/TANKER TRUCK**

- |   |                       |
|---|-----------------------|
| 1. Base Bid/ Quote:                               | \$ _____ ea.          |
| a. Make: _____                                    |                       |
| b. Model: _____                                   |                       |
| 2. Less Trade-In Allowance:<br>(where applicable) | \$ <u>  N/A  </u> ea. |
| 3. Sub Total:                                     | \$ _____ ea.          |
| 4. Other Charges (please specify)                 | \$ _____ ea.          |
| a. _____  | \$ _____ ea.          |
| b. _____  | \$ _____ ea.          |
| c. _____  | \$ _____ ea.          |
| 5. South Carolina Sales Tax:                      | \$ _____ ea.          |
| 6. Freight Charges:                               | \$ _____ ea.          |
| 7. Total Delivered Price:                         | \$ _____ ea.          |

Show any exception, deviation, extra computation, or information on Bid/Quotation Supplemental Form attached hereto.

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

BID AND/OR QUOTATION FORM

BIDDING ORGANIZATION: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

SIGNATURE OF BIDDER'S REPRESENTATIVE: \_\_\_\_\_

NAME: \_\_\_\_\_  
(please print)

TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_

PHONE: \_\_\_\_\_

FAX: \_\_\_\_\_

COUNTY OF PICKENS  
GENERAL INSTRUCTIONS TO BIDDERS

Unless otherwise stated, the following General Instructions will apply.

I. BID OPENING AND AWARD:

Bid proposals will be examined promptly after opening and each bid will be announced to all participating. It is not a practice to award any bid until the County Administrator, Purchasing Director and the interested Division/Department Head have had ample time to review each Bid Proposal. Award will be made, however, at the earliest possible date. No Bid Proposal(s) may be withdrawn for a period of **sixty (60) days** after bid opening date. If the mail is delayed beyond the date and hour set for the bid opening, Bid Proposal(s) thus delayed, will **NOT** be considered.

II. TAXES:

The County pays South Carolina State Sales Taxes. The County is exempt from Federal Excise Taxes and will issue exemption certificates when requested. All applicable taxes should be shown as separate line items on the bid form.

III. BASIS OF BID AWARD:

Award of bid shall be made to a responsible bidder meeting the Specifications, with consideration being given to the following:

- (a) Superior quality and specification adherence
- (b) Adequate maintenance and service
- (c) Delivery date and/or completion time
- (d) Company's reputation and financial status
- (e) Past experience and cost with similar or like equipment or service
- (f) Anticipated future cost and experience
- (g) Performance of bidder's equipment in hands of other agencies, plants and firms

IV. GUARANTEE WITH BID:

To protect the interest of the County, the Bidder guarantees that the equipment offered is standard new equipment, latest model of regular stock product, with parts regularly used for the type of equipment offered; also, that no attachment or part has been substituted or applied contrary to the manufacturer's recommendations and standard practices.

V. USE OF BRAND NAMES

Specifications contained herein, in some cases, may refer to brand names. Brand names and numbers are used ONLY to set forth and convey to prospective Bidders the general style, type, character and quality of equipment desired.

VI. USE OF BRAND NAMES IN BID

If the article bid upon has a trade or brand name, show name in the bid.

VII. SPECIFICATION DEVIATIONS BY THE BIDDER

Any deviation from this specification MUST be noted in detail and submitted in writing with this Bid Proposal. Completed specifications should be attached for any substitutions offered, or when amplifications are desirable or necessary. The absence of the specification deviation statement and accompanying specifications will hold the Bidder strictly accountable to the specifications as written herein. Failure to submit this document of specification deviation, if applicable, shall be grounds for rejection of the item(s) when offered for delivery. If specifications or descriptive papers are submitted with bids, the bidder's name should be clearly shown on each document.

The specifications, as listed herein, represent our preference in equipment, however, we are fully cognizant that no two pieces of equipment from different manufacturers are the same. Therefore, if your equipment is similar and/or same in size, function, and operation, but some of the specifications do not completely coincide with ours as listed, please list your exceptions and explanations separately. It is not our intent to write specifications for a piece of equipment that only one manufacturer can submit a bid.

VIII. SPECIFICATION CHANGES AFTER BID AWARD:

Any changes in specifications after the Purchase Order/Contract has been awarded, must be with written consent of the Purchasing Department, otherwise, the responsibility for such changes shall be with the vendor.

XI. BROCHURES:

Bid Proposals shall include adequate brochures, latest printed specifications and advertising literature describing the product(s) offered in such fashion as to permit ready comparison with the specifications on an item-to item basis where applicable.

X. SPECIFICATION CHANGES, ADDITIONS, AND DELETIONS:

All changes in specifications shall be in writing and furnished to ALL Bidders. Verbal information obtained otherwise will NOT be considered in awarding of bids.

XI. BID CHANGES:

Bids, amendments thereto or withdrawal requests received after the time advertised for bid opening, will be void regardless of when they were mailed.

XII. DELIVERY LOCATION:

**PICKENS COUNTY VEHICLE MAINTENANCE SHOP  
1509A WALHALLA HWY  
PICKENS, SC 29671**

XIII. TIE BIDS:

In the case of tie bids, the County reserves the right to make the award based on factors outlined in this bid package in what is considered to be in the best interest of the County.

XIV. INFORMATION:

Any questions or inquiry concerning this bid or the equipment this bid represents by any company or company representative must be **faxed** to the attention of:

**STEVE GRANT, Purchasing Director  
222 McDaniel Ave., B-3  
Pickens, SC 29671  
Phone: (864) 898-5921  
Fax: (864) 898-5924**

XV. OTHER CHARGES:

Bid prices shall include as separate line items all freight (transportation) and preparation charges, applicable taxes and any other applicable charges fully prepaid to the point of delivery so that the bid price is the total price to be paid for the item(s).

XVI. INSPECTION AND ACCEPTANCE:

Inspection and acceptance shall be conducted by one or more of the persons named below:

NAME:	TITLE:
<b>MR. J. CHAPPELL HURST JR.</b>	<b>COUNTY ADMINISTRATOR</b>
<b>MR. SCOTT SMITH</b>	<b>CROSSWELL FIRE CHIEF</b>
<b>MR. STEVE GRANT</b>	<b>PURCHASING DIRECTOR</b>

After delivery to the county, a careful inventory will be made by the designated personnel. They will have the absolute authority to accept or reject the item(s) for the county.

XVII. INVOICE (S), CERTIFICATES OF ORIGIN AND WARRANTIES AND GUARANTEES:

Invoice(s), certificates of origin and warranties and guarantees must be submitted at the time of delivery of the item(s).

The right is reserved to reject any and all bids, or to accept that deemed most advantageous to this office for value received.

XVIII. PAY SCHEDULE:

Pickens County issues payment checks on the 10th of the month following receipt of equipment, supplies and/or services.

SPECIAL INSTRUCTIONS TO BIDDER

In the event that any supplier should wish to submit a proposal but finds it impossible to comply with all the specifications set forth, their proposal will be received provided the following is adhered to:

Any exceptions, substitutions, deletions or any deviations from these specifications shall be explained in detail on a separate page entitled "Exceptions". Bidder must show proof that any exception is equal or superior to those specified. Failure to conform to the above requirement shall be cause for rejection of proposal. Bidder must submit detailed specifications with the proposal and drawings of each exception.

SILENCE OF SPECIFICATIONS:

The apparent silence of this specification and any supplemental specification as to any details or the omission from it of a detailed description concerning any point shall be regarded as meaning that only the best commercial practices are to prevail and that only materials of first quality and correct type, size, and design are to be used. All workmanship is to be first quality. All interpretations of this specification shall be made upon the basis of this statement.

Pickens County reserves the right to waive technicalities and reject any or all bids.

Requirements for Equal Employment Opportunity and Minority Business Enterprises are applicable to this contract.

**SEE FILE BELOW**

**FOR SPECS**

# Crosswell Fire District

Bidder  
Complies

Yes      No

## SPECIFICATIONS FOR AN IHC 2200 GALLON PUMPER/TANKER

### 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 and test to which the apparatus shall conform, together with certain details as to finish, equipment and appliances with which the successful bidder shall conform. Minor details of construction and materials, which are not otherwise specified, are left to the discretion of the contractor. The manufacturer shall provide loose equipment only when specified by the customer. Otherwise, in accordance with NFPA 1901, 2009 edition, the proposal shall specify whether the fire department or apparatus dealership shall provide required loose equipment.

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. Further, bidder shall maintain dedicated service facilities for the repair and service of products. Evidence of such a facility shall be included in bidder proposal.

Each bidder shall furnish satisfactory evidence of their ability to construct the apparatus specified and shall state the location of the factory where the apparatus is to be built. The bidder shall also show that the company is in position to render prompt service and to furnish replacement parts.

Each bid shall be accompanied by a detailed set of "Contractor's Specifications" consisting of a detailed description of the apparatus and equipment proposed, and to which the apparatus furnished under contract shall conform. These specifications shall indicate size, type, model and make of all component parts and equipment.

### QUALITY AND WORKMANSHIP

The design of the apparatus shall embody the latest approved automotive engineering practices. The workmanship shall be of the highest quality in its respective field. Special consideration shall be given to the following points: Accessibility of the various units which require periodic maintenance; ease of operation (including both pumping and driving); and symmetrical proportions. Construction shall be rugged and ample safety factors shall be provided to carry the loads specified and to meet both on and off road requirements and speed conditions as set forth under "Performance Tests and Requirements". Welding shall not be employed in the assembly of the apparatus in a manner that shall prevent the ready removal of any component part for service or repair. 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

# Crosswell Fire District

Bidder  
Complies

Yes      No

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 American Welding Society codes upon hire and every three (3) years thereafter.

**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 engineer representing the contractor shall deliver the apparatus and remain for a sufficient length of time to instruct personnel in the proper operation, care and maintenance of the equipment delivered.

**INFORMATION REQUIRED**

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

**SAFETY VIDEO**

Documentation provided at the time of delivery shall also include an apparatus safety video, in DVD format. 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: 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 axles 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% nor more than 50% of the weight on the front axle, and not less than 50% nor more than 75% 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.

# Crosswell Fire District

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

**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.

**SPECIFICATION BID REQUIREMENTS**

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

**Proposals taking total exception to specifications shall not be acceptable.**

Also, bidders shall submit a detailed proposal. A letter only, even though written on a company letterhead, shall not be sufficient. Bid proposals shall be submitted in the same sequence as specifications for ease of evaluation, comparison and checking of compliance. **An exception to these requirements shall not be tolerated.**

**EXCEPTIONS**

All exceptions shall be stated no matter how seemingly minor. Any exceptions not taken shall be assumed by the purchaser to be included in the proposal, regardless of the cost to the bidder.

**GENERAL CONSTRUCTION**

The apparatus shall be designed with due consideration to distribution of load between the front and rear axles. Weight balance and distribution shall

Crosswell Fire District	Bidder Complies															
	Yes	No														
<p>be in accordance with the recommendations of the National Fire Protection Association.</p> <p><b><u>COMMERCIAL GENERAL LIABILITY INSURANCE</u></b></p> <p>The successful bidder shall, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of commercial general liability insurance:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">Each Occurrence</td> <td style="text-align: right;">\$1,000,000</td> </tr> <tr> <td>Products/Completed Operations Aggregate</td> <td style="text-align: right;">\$1,000,000</td> </tr> <tr> <td>Personal and Advertising Injury</td> <td style="text-align: right;">\$1,000,000</td> </tr> <tr> <td>General Aggregate</td> <td style="text-align: right;">\$5,000,000</td> </tr> </table> <p>Coverage shall be written on a Commercial General Liability form. The policy shall be written on an occurrence form and shall include Contractual Liability coverage for bodily injury and property damage subject to the terms and conditions of the policy. The policy shall include owner as an additional insured when required by written contract.</p> <p><b><u>COMMERCIAL AUTOMOBILE LIABILITY INSURANCE</u></b></p> <p>The successful bidder shall, during the performance of the contract keep in force at least the following minimum limits of commercial automobile liability insurance:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">Each Accident Combined Single Limit:</td> <td style="text-align: right;">\$1,000,000</td> </tr> </table> <p>Coverage shall be written on a Commercial Automobile liability form.</p> <p><b><u>UMBRELLA/EXCESS LIABILITY INSURANCE</u></b></p> <p>The successful bidder shall, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of umbrella liability insurance:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">Aggregate:</td> <td style="text-align: right;">\$25,000,000</td> </tr> <tr> <td>Each Occurrence:</td> <td style="text-align: right;">\$25,000,000</td> </tr> </table> <p>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. Owner shall be included as an additional insured on the General Liability policy when required by written contract.</p> <p>The required limits can be provided by one or more policies provided all other insurance requirements are met.</p> <p>Coverage shall be provided by a carrier(s) rated A- or better by A.M. Bests.</p> <p>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</p>	Each Occurrence	\$1,000,000	Products/Completed Operations Aggregate	\$1,000,000	Personal and Advertising Injury	\$1,000,000	General Aggregate	\$5,000,000	Each Accident Combined Single Limit:	\$1,000,000	Aggregate:	\$25,000,000	Each Occurrence:	\$25,000,000		
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General Aggregate	\$5,000,000															
Each Accident Combined Single Limit:	\$1,000,000															
Aggregate:	\$25,000,000															
Each Occurrence:	\$25,000,000															

# Crosswell Fire District

Bidder  
Complies

Yes

No

purchaser as certificate holder. The Certificate of Insurance shall provide the following cancellation clause:

# Crosswell Fire District

Bidder  
Complies

Yes      No

Should any of the above described policies be cancelled before the expiration date thereof, the issuing insurer shall endeavor to mail 30 days written notice to the certificate holder named to the left, but failure to do so shall impose no obligation or liability of any kind upon the insurer, its agents or representatives.

**ISO COMPLIANCE**

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

**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.

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

**PUMP TEST**

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

**CUSTOMER SERVICE WEBSITE**

A Customer Service website shall be provided which offers the dealer and customer access to comprehensive information pertaining to the maintenance and service of the apparatus. The website shall consist of the following features:

- Ability for the dealer to access to truck detail information on the major components of the vehicle, warranty information, available vehicle

Crosswell Fire District	Bidder Complies	
	Yes	No
<p>photographs, vehicle drawings, sales options, applicable vehicle software downloads, etc.</p> <ul style="list-style-type: none"> <li>- Parts look-up capability for items sourced by the fire apparatus manufacturer</li> <li>- Ability to allow the dealer to submit electronically a parts order and warranty claims</li> <li>- Ability to information to allow the dealer to maintain communication with the customer on the status of orders, claims, and phone contacts</li> <li>- Access to all currently published Operation and Maintenance Manuals, Service Publications, Service Bulletins and Work Instructions</li> <li>- Ability to allow the dealer access to applicable on-line diagnostic software</li> <li>- Access to upcoming training classes offered by the fire apparatus manufacturer</li> <li>- Access to interactive electronic learning modules, covering the operation of major vehicle components</li> <li>- Access to training manuals used in the fire apparatus manufacturers training classes</li> <li>- Access to Customer Service Articles, Corporate News, Quarterly Newsletters, and Key Contacts within the Customer Service Department</li> </ul> <p><b><u>WARRANTY</u></b></p> <p>The following warranty shall be supplied with each bidder's proposal and be printed on company letterhead.</p> <p>The manufacturer shall warranty each piece of new fire or rescue apparatus to be free from defects in materials or workmanship under normal use and service. The manufacturer's obligation under this warranty is limited to repairing or replacing, as the company may elect, any parts thereof which are returned to them, with transportation costs prepaid and as to which examination is disclose to the company's satisfaction to have been defective. The part, or parts, shall be returned to the manufacturer not later than <b>one (1) year</b> from delivery of the apparatus. Such defective part, or parts, shall be repaired or replaced free of charge and without charge for installation to the original purchaser.</p> <p>This warranty shall not apply:</p> <ol style="list-style-type: none"> <li>1) To normal maintenance and adjustments.</li> <li>2) To any vehicle which has been repaired or altered outside of the factory in any way so that, in the manufacturer's judgment, it would affect the stability. Also it shall not apply to any vehicle which has been subject to</li> </ol>		

Crosswell Fire District	Bidder Complies	
	Yes	No
<p>misuse, neglect, or accident, or to any vehicle which shall operate at any speed exceeding the factory rated speed, or loaded beyond the factory rated load capacity.</p> <p>3) To commercial chassis and associated equipment furnished with the chassis, signaling devices, generators, batteries, or other trade accessories in which they are usually warranted separately by their respective manufacturers.</p> <p>This warranty is in lieu of all other warranties, expressed or implied, all others representations to the original purchaser and all other obligations or liabilities, including liability for incidental or consequential damages on the part of the company. The manufacturer neither assumes nor authorizes any other person to give or assume any other warranty or liability on the company's behalf, unless made or assumed in writing by the company.</p> <p><b><u>CHASSIS WARRANTY</u></b> The chassis warranty shall be for a total of <b>two (2) years/unlimited mileage.</b></p> <p><b><u>BID BOND</u></b> 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.</p> <p>Notwithstanding any document or assertion to the contrary, any surety bond related to the sale of a vehicle shall apply only to the Basic One (1) Year Limited Warranty for such vehicle. Any surety bond related to the sale of a vehicle shall not apply to any other warranties that are included within this bid (OEM or otherwise) or to the warranties (if any) of any third party of any part, component, attachment or accessory that is incorporated into or attached to the vehicle. In the event of any contradiction or inconsistency between this provision and any other document or assertion, this provision shall prevail.</p> <p><b><u>CONTINGENCY FUND</u></b> Each bidder must provide a Contingency Fund in the amount of \$69,000.00 for the purchase of loose equipment and/or additional options.</p> <p><b><u>SOUTH CAROLINA DEALER LICENSE</u></b> Each bidder must provide with bid a valid and current copy of their South</p>		

Crosswell Fire District	Bidder Complies	
	Yes	No
<p>Carolina Dealer License as issued by the South Carolina Department of Motor Vehicles. This license requirement is to assure the bidder is legally authorized to engage in the sale of motor vehicles within the State of South Carolina.</p> <p><b><u>LOCAL SERVICE FACILITY</u></b> Each bidder must provide with bid proof of dealer owned and operated Service Facility located within the State of South Carolina along with factory trained service personnel. Service personnel shall be factory trained to handle parts and warranty repair for their respective manufacturer. In addition, local Service Facility must have the capability to dispatch factory trained service technicians with dealer operated mobile service units to Department location for field service repairs.</p> <p><b><u>DEALER GARAGE LIABILITY</u></b> Bidder must provide at time of bid proof of dealer garage liability insurance with minimum coverage of \$1,000,000.00.</p> <p><b><u>FINAL INSPECTION</u></b> All bidder shall provide a Final Inspection trip to the manufacturing facility for (2) two Fire Department personnel. Travel expenses, meals, lodging shall be included.</p> <p><b><u>CHASSIS</u></b> The chassis shall be an International DuraStar 4400, or equal supplied with the following equipment:</p> <p><b><u>SEATING CAPACITY</u></b> The seating capacity in the cab shall be two (2).</p> <p><b><u>WHEELBASE</u></b> The wheelbase of the vehicle shall be no greater than 203".</p> <p><b><u>GVW RATING</u></b> The gross vehicle weight rating shall be a minimum of 44,000.</p> <p><b><u>FRAME</u></b> The frame rails shall be formed from 120,000 psi yield, heat treated alloy steel.</p> <p><b><u>FRONT AXLE</u></b> Front axle shall be an "I" beam type, made of forged steel. It shall be an International, model I-140S, with a ground rating capacity of 14,000 pounds.</p> <p><b><u>FRONT SUSPENSION</u></b> Spring Mounted: 8-Leaf, 54.00" x 4.00"</p>		

# Crosswell Fire District

Bidder  
Complies

Yes      No

Capacity at ground (2 springs): 14,000 pounds

Shock Absorbers: Double Acting

Shock absorbers shall be provided on the front axle.

**REAR AXLE**

The single reduction rear axle shall be an Dana Spicer, model S30-190, with a ground rating capacity of 30,000 pounds.

The brake chambers shall be forward mounted and brakes shall be 16.50" x 7.00", S-Cam type, with cast shoes.

**PARKING BRAKE**

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

**REAR AXLE RATIO**

A rear axle ratio shall be furnished to allow the vehicle to reach a top speed of 60 MPH.

**REAR SUSPENSION**

The rear suspension shall be spring mounted, 14-leaf with a capacity at ground of 31,000 pounds.

Auxiliaries shall be included and the deflection rate shall be variable.

**DUST SHIELDS**

The front and rear brakes shall be provided with dust shields.

**ANTI-LOCK BRAKE SYSTEM**

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

The system shall include Automatic Traction Control (ATC).

The system shall include Electronic Stability Control (ESC). When instability is detected, the ESC system shall automatically apply brakes to individual wheels (with no intervention from the driver) and may also reduce engine torque to help keep the vehicle on track.

Crosswell Fire District	Bidder Complies	
	Yes	No
<p><b><u>FRONT BRAKES</u></b> The front brakes shall be S-Cam, 16.50" x 5.00".</p> <p><b><u>EXHAUST BRAKE</u></b> International Diamond Logic electronically activated exhaust brake shall be installed with the control located on the instrument panel within easy reach of the driver.</p> <p><b><u>AIR COMPRESSOR, BRAKE SYSTEM</u></b> The air compressor shall be a Bendix TU-FLO 550 with 13.2 cubic feet per minute output.</p> <p><b><u>AIR DRYER</u></b> A Bendix AD-IP air dryer with a heater shall be provided.</p> <p><b><u>AIR INLET</u></b> A single air inlet with male coupling shall be provided. It shall allow station air to be supplied to the apparatus brake system through a shoreline hose. The inlet shall be located 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.</p> <p><b><u>ENGINE</u></b></p> <ul style="list-style-type: none"> <li>- Model: MaxxForce 9</li> <li>- Number of Cylinders: Six (6)</li> <li>- Bore and Stroke: 4.59" x 5.75"</li> <li>- Displacement: 570 cubic inches</li> <li>- Compression Ratio: 17.5:1</li> <li>- Rated Brake Horsepower: 330 at 2000 rpm</li> <li>- Peak Torque: 950 at 1200 rpm</li> <li>- Governed rpm: 2200</li> <li>- Turbocharger</li> <li>- Charge Air Cooled</li> <li>- Combustion System: Direct injection, electronically controlled</li> </ul> <p><b><u>ENGINE ACCESSORIES</u></b></p> <ul style="list-style-type: none"> <li>- Fan Clutch: Electric with nylon fan</li> <li>- Air Cleaner: Dry type, with restriction indicator in cab</li> <li>- Fuel Filters: Dual, with check valve</li> </ul>		

# Crosswell Fire District

Bidder  
Complies

Yes

No

- Governor: Limiting speed type
- Lube Oil Cooler
- Lube Oil Filter: Full flow
- Starting Motor: 12-volt

Crosswell Fire District	Bidder Complies	
	Yes	No
<p>- Oil Fill and Level Gauge</p> <p>- Hand Operated, Reprime Pump</p> <p><b><u>ENGINE WARRANTY</u></b>  The engine shall come with a <b>five (5) year</b> warranty provided by the engine manufacturer.</p> <p><b><u>ENGINE INSTALLATION CERTIFICATION</u></b>  The fire apparatus manufacturer shall provide, at the time of bid, a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The approval of the engine installation shall be at full horsepower rating in a continuous duty application under all operating conditions, including road and pump. No type of automatic horsepower reduction feature shall be allowed.</p> <p>There shall be no exception to any portion of the engine installation certification. Nonconformance shall lead to immediate rejection of bid.</p> <p><b><u>RADIATOR</u></b>  - Pressurized System, Tube, and Fin  - Deaeration Tank and Sight Glass  - Anti-Freeze Protection to -20 Degrees Fahrenheit.</p> <p><b><u>AIR INTAKE, w/EMBER SEPARATOR</u></b>  The air inlet shall be equipped with a stainless steel mesh to separate water and burning embers from the air intake system such that particulate matter larger than 0.039 in. (1.0 mm) in diameter cannot reach the air filter element.</p> <p>This shall comply with NFPA 1901 and 1906 standards.</p> <p><b><u>EXHAUST SYSTEM</u></b>  The exhaust system shall include a diesel particulate filter and a diesel oxidation catalyst to meet current EPA standards. The exhaust shall terminate with a horizontal tailpipe and diffuser ahead of the passenger side rear wheels.</p> <p>A heat deflector shield shall be provided where the tail pipe is routed under any side compartmentation.</p> <p><b><u>HIGH IDLE</u></b>  A high idle switch shall be provided, inside the cab, on the instrument panel, that shall automatically maintain a preset engine rpm. A switch shall be installed, at the cab instrument panel, for activation/deactivation.</p>		

# Crosswell Fire District

Bidder  
Complies

Yes      No

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".

**COOLANT LINES**

Premium rubber hose shall be used for all engine coolant lines installed by the chassis manufacturer.

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

**FUEL TANK**

A 50-gallon fuel tank shall be provided and mounted at the right-hand cab step. The tank shall be constructed of welded steel.

**TRANSMISSION**

An Allison, model 3000 EVS, electronic torque converting automatic transmission shall be provided.

Two (2) PTO openings shall be located at positions of 8 o'clock and 4 o'clock. In some configurations certain other components may block access to an available position.

A transmission temperature gauge or warning light shall be installed on cab instrument panel.

**TRANSMISSION SHIFT CONTROL**

A push button shift module shall be mounted to right of driver. Shift position indicator shall be indirectly lit for after dark operation.

The transmission shall be a 5 speed. The transmission ratio's shall be 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 COOLER**

A transmission oil cooler shall be provided in the lower tank of the radiator.

**TRANSMISSION WARRANTY**

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

Crosswell Fire District	Bidder Complies	
	Yes	No
<p><b><u>DRIVELINE</u></b> Drivelines shall be a heavy duty metal tube equipped with universal joints properly sized for the application. A splined slip joint shall be provided in each driveshaft.</p> <p><b><u>STEERING</u></b> Steering shall consist of a hydraulically driven Sheppard, model M100, steering system.  The steering wheel shall have a 18.00" diameter with tilt and telescoping features.</p> <p><b><u>TIRES, FRONT</u></b> Front tires shall be Michelin 12R22.50, XZY3, 16-ply, radials.</p> <p><b><u>WHEELS, FRONT</u></b> Wheels for the front axle shall be 22.50" x 8.25" steel disc, ten (10)-hole pattern.</p> <p><b><u>TIRES, REAR</u></b> Rear tires shall be Michelin 315/80R22.50 XZY-3, 20-ply.</p> <p><b><u>WHEELS, REAR</u></b> The rear wheels shall be 22.50" x 9.00" steel disc with a ten (10)-hole pattern.</p> <p><b><u>WHEEL CHOCKS, PROVIDED BY FIRE DEPARTMENT</u></b> NFPA 1901, 2009 edition, section 7.7.3.1 requires two or more wheel chocks mounted in readily accessible locations, that together shall hold the apparatus, when loaded to its GVWR or GCWR, on a hard surface with a 20 percent grade with the transmission in neutral and the parking brake released.  The wheel chocks are not on the apparatus as manufactured. The fire department shall provide and install these wheel chocks.</p> <p><b><u>WHEEL CHOCK BRACKETS, PROVIDED BY FIRE DEPARTMENT</u></b> The wheel chock brackets are not on the apparatus as manufactured. The fire department shall provide and install the wheel chock brackets.</p> <p><b><u>WHEEL COVERS</u></b> Real Wheels, American Road Series, stainless steel wheel covers with oval cut-outs, shall be furnished on the front wheels.</p>		

# Crosswell Fire District

Bidder  
Complies

Yes      No

**WHEEL LINERS**

One (1) pair of Real Wheels, American Road Series, stainless steel full depth wheel liners with oval cutouts, shall be provided on the rear wheels including a full hub cover and chromed lug nut covers.

**TIRE PRESSURE MANAGEMENT**

There shall be a VECSAFE LED tire alert pressure management system provided that shall monitor each tire's pressure. A chrome plated brass 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 20 and 120 psi. The sensor shall activate an integral battery operated LED when the pressure of that tire drops 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 blinking.

**CAB**

Type: Conventional (engine forward)

Construction: Welded Steel and Fiberglass

Accessories:

- Tinted Glass in all Windows
- Black Rubber Floormats
- Dual Sun-Visors
- 18.00" Cab Entrance Handrails - 1.28" diameter extruded aluminum with rubber inserts, one (1) each side
- Dome Light with Map Light
- Fresh Air Heater and Defroster
- Fiberglass Front End, Three (3) Piece Construction
- Hood Mounted Chrome Grille
- Composite Aero Design Halogen Headlights
- Daytime Running Lights
- Gray Vinyl Upholstery

**CAB INTEGRITY**

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

- ECE Regulation No.29

# Crosswell Fire District

Bidder  
Complies

Yes

No

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

Crosswell Fire District	Bidder Complies	
	Yes	No
<p><b><u>CAB ACCESS STEPS</u></b>  The cab access steps shall be provided by the apparatus manufacturer. The steps shall be a two (2) step design fabricated from bright aluminum treadplate. The step assembly shall enclose the area under the cab. The fuel tank fill cap shall be exposed for refueling. Access shall be provided to inspect the chassis batteries when located under the cab.</p> <p><b><u>MIRRORS</u></b>  Lang Mekra 15.75" x 7.09" mirrors, with breakaway type brackets, integral convex, heated, thermostatically controlled, clearance lights, both sides remote controlled and black finish, shall be provided.</p> <p><b><u>BUMPER</u></b>  A full-width, chrome plated steel bumper shall be attached to the front of the chassis frame. The bumper thickness shall be .142".</p> <p><b><u>BUMPER GAP</u></b>  The standard bumper furnished with the chassis shall be used.</p> <p><b><u>TOW HOOKS</u></b>  Two (2) painted, forged steel tow hooks shall be provided.</p> <p><b><u>SEATING</u></b>  Seating inside the cab shall consist of a non-suspension driver seat and a non-suspension officer seat.</p> <p><b><u>SEAT BELT WEB LENGTH</u></b>  The chassis seat belt web length as supplied by the commercial chassis manufacturer shall be compliant to NFPA 14.1.3.2 and 14.1.3.3.</p> <p><b><u>SEAT BELTS</u></b>  All seating positions in the cab and crew cab shall have red seat belts.</p> <p><b><u>SEAT BELT MONITORING SYSTEM</u></b>  A seat belt monitoring system (SBMS) shall be provided. The SBMS shall be capable of monitoring up to ten (10) sensors indicating the status of each seating position in the cab with green and red LED indicators as follows:</p> <p>Seat Occupied      Buckled      Green  Seat Occupied      Unbuckled      Red  No Occupant      Buckled      Red  No Occupant      Unbuckled      Not Illuminated</p>		

Crosswell Fire District	Bidder Complies	
	Yes	No
<p>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.</p> <p><b><u>HELMET STORAGE, PROVIDED BY FIRE DEPARTMENT</u></b>  NFPA 1901, 2009 edition, section 14.1.8.4.1 requires a location for helmet storage be provided.</p> <p>There is no helmet storage on the apparatus as manufactured. The fire department shall provide a location for storage of helmets.</p> <p><b><u>ENGINE COMPARTMENT LIGHTS</u></b>  Two (2) engine compartment lights shall be installed under the engine hood, of which the switches are an integral part.</p> <p><b><u>STEP LIGHTS</u></b>  There shall be four (4) Ri-Tar, Model M27, clear LED step lights provided. There shall be one (1) light installed at each cab door, one (1) light per doorstep.</p> <p>The lights shall be activated when the adjacent door is opened.</p> <p><b><u>AIR CONDITIONING</u></b>  International Blend-Air with integral heater and defroster shall be provided.</p> <p>The system shall deliver a 12,000 BTU/hour in the air conditioning mode when tested per SAE J1484 with inlet air conditions of 80 degrees F. dry bulb and 67 degrees F. wet bulb.</p> <p>The system includes Hydrofluorocarbon HFC-134A refrigerant.</p> <p><b><u>CAB INSTRUMENTS</u></b></p> <ul style="list-style-type: none"> <li>- Engine Temperature Gauge and Warning Buzzer</li> <li>- Engine Oil Pressure Gauge and Warning Buzzer</li> <li>- Speedometer with Odometer</li> <li>- Engine Tachometer</li> <li>- Engine Hourmeter</li> <li>- Fuel Level Gauge</li> <li>- Voltmeter: Low voltage red warning light and audible alarm</li> <li>- Air Brake Pressure Gauge</li> <li>- Air Restriction Indicator</li> <li>- Circuit Breakers: For overload protection of electric circuits</li> <li>- Ignition Switch: Keyless type</li> </ul>		

# Crosswell Fire District

Bidder  
Complies

Yes      No

**EMERGENCY SWITCH PANEL**

An emergency switch panel shall be provided in the cab.

**WIPER CONTROL**

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

**VEHICLE DATA RECORDER**

A vehicle data recorder (VDR) shall be provided. The VDR shall be capable of reading and storing vehicle information. The VDR shall be capable of operating in a voltage range from 8VDC to 16VDC. The VDR shall not interfere with, suspend, or delay any communications that may exist on the CAN data link during the power up, initialization, runtime, or power down sequence. The VDR shall continue operation upon termination of power or at voltages below 8VDC for a minimum of 10ms.

The information stored on the VDR can be downloaded through a USB port mounted in a convent location determined by cab model. A CD provided with the apparatus shall include 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 (1-6 Seating Capacity)  
Seat Belt Buckled Status -        Yes/No by Position (1-6 Seating Capacity)

Master Optical Warning Device Switch -        On/Off

Time -        24 Hour Time

Date -        Year/Month/Day

**BATTERY SYSTEM**

A single starting battery system shall be provided consisting of three (3) 12 volt, 650 CCA, maintenance-free, group 31 batteries.

The batteries system shall have a total of 1950 CCA with a minimum reserve capacity of 540 minutes.

Crosswell Fire District	Bidder Complies	
	Yes	No
<p><b><u>MASTER BATTERY SWITCH</u></b>  A master battery switch, to activate the battery system, shall be provided inside the cab within easy reach of the driver.</p> <p>The master battery disconnect switch shall be wired between the starter solenoid and the remainder of the electrical loads on the apparatus.</p> <p>A green “battery on” indicator light, visible from the driver’s position, shall be provided.</p> <p><b><u>BATTERY CHARGING RECEPTACLE</u></b>  The battery charging receptacle location shall be near the driver's side cab step area.</p> <p><b><u>ALTERNATOR</u></b>  The alternator shall be a 12V, 320 Amp, Leece Neville pad mount alternator.</p> <p><b><u>ELECTRONIC LOAD MANAGEMENT</u></b>  A Kussmaul Load Manager 2 shall be provided on the apparatus. The device is an electronic load management (ELM) system that monitors the vehicles 12-volt electrical system, and automatically reduces the electrical load in the event of a low voltage condition and by doing so, ensures the integrity of the electrical system.</p> <p>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.</p> <p><b><u>AMP DRAW REPORT</u></b>  The bidder shall provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system.</p> <p>The manufacturer of the apparatus shall provide the following:</p> <ol style="list-style-type: none"> <li>1) Documentation of the electrical system performance tests.</li> <li>2) A written load analysis, which shall include the following: <ol style="list-style-type: none"> <li>A) The nameplate rating of the alternator.</li> <li>B) The alternator rating under the conditions specified per:  Applicable NFPA 1901 or 1906 (Current Edition).</li> <li>C) The minimum continuous load of each component that is specified per:  Applicable NFPA 1901 or 1906 (Current Edition).</li> </ol> </li> </ol>		

Crosswell Fire District	Bidder Complies	
	Yes	No
<p>D) Additional loads that, when added to the minimum continuous load, determine the total connected load.</p> <p>E) Each individual intermittent load.</p> <p>All of the above listed items shall be provided by the bidder per the applicable NFPA 1901 or 1906 (Current Edition).</p> <p><b><u>EXTERIOR LIGHTING</u></b></p> <p>Exterior lighting shall meet or exceed Federal Department of Transportation, Federal Motor Vehicle Safety Standards and National Fire Protection Association requirements in effect at time of proposal.</p> <p>Front headlights shall be halogen type and comply to all FMVSS requirements.</p> <p>Five (5) clearance and marker lights shall be installed across the leading edge of the cab.</p> <p><b><u>WARNING LIGHTS (Cab Face)</u></b></p> <p>A pair of flush mounted, Whelen model 60*02F*R, flashing Super LED lights shall be provided on the cab face.</p> <p>The color of these lights shall be red Super LED/clear lens.</p> <p>These lights shall meet or exceed the NFPA required optical light output for the front lower zone.</p> <p>A switch shall be provided inside the cab on the switch panel for actuation.</p> <p>These lights shall be installed with a flange.</p> <p><b><u>BACK-UP ALARM</u></b></p> <p>An ECCO, Model SA917-PM2, 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 five (5) dBA above surrounding environmental noise levels.</p> <p><b><u>CD MANUAL, BODY PARTS ONLY</u></b></p> <p>A custom parts manuals for the factory installed parts only shall be provided in CD formatwith the completed unit.</p> <p>The manual shall contain the following:</p> <ul style="list-style-type: none"> <li>- Job number</li> <li>- Part numbers with full descriptions</li> <li>- Table of contents</li> <li>- Parts section sorted in functional groups reflecting a major system, component, or assembly</li> </ul>		

Crosswell Fire District	Bidder Complies	
	Yes	No
<p>- Parts section sorted in Alphabetical order</p> <p>- Instructions on how to locate a parts</p> <p>The manual shall be specifically written for the body model being purchased. It shall not be a generic manual for a multitude of different bodies.</p> <p><b><u>SERVICE PARTS INTERNET SITE</u></b></p> <p>The service parts information included in this manual are also available on the factory website. The website offers additional functions and features not contained in this manual, such as digital photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.</p> <p><b><u>MANUALS, SERVICE</u></b></p> <p>A CD format service manual supplement containing parts and service information on factory installed components shall be provided with the completed unit.</p> <p>The manual shall be specifically written for the unit being purchased. It shall not be a generic manual for a multitude of different units.</p> <p><b><u>MANUAL, CHASSIS OPERATION</u></b></p> <p>One (1) chassis operation (manufacturers standard) shall be provided with the completed unit.</p> <p><b><u>ELECTRICAL WIRING DIAGRAMS</u></b></p> <p>Two (2) electrical wiring diagrams, prepared for the model of chassis and body, shall be provided.</p> <p><b><u>WATER TANK</u></b></p> <p>The tank shall have a minimum capacity of 2200 U.S. gallons complete with a <b>lifetime</b> warranty. The tank shall be of a specified configuration, and so designed to be completely independent of the compartment and/or fender modules. When placed on the chassis, the tank shall meet or exceed all federal DOT regulations regarding weight distribution, axle loading, and horizontal and vertical center of gravity locations. The tank manufacturer shall mark the tank with the manufacturers name, date of manufacture, and serial number. The tank manufacturer shall furnish notice that indicates proof of warranty.</p> <p>The tank shall be constructed using a virgin polypropylene sheet with a minimum thickness of .50". This material shall be a high impact copolymer (HIC), non-corrosive, stress relieved thermoplastic, UV stabilized for maximum protection.</p>		

# Crosswell Fire District

Bidder  
Complies

Yes

No

All joints and seams shall be nitrogen welded and tested for maximum strength and integrity. All swash partitions shall interlock and be welded to each other as well as to the walls of the tank.

# Crosswell Fire District

Bidder  
Complies

Yes      No

The tank shall incorporate a manual fill tower with a 6.00" combination vent/overflow pipe. The fill tower shall be constructed of polypropylene and shall be large enough to provide filling by means of a conventional 2.50" hose nozzle. The tower shall be located near the center of the tank to minimize water surge during vehicle operation. The tower shall have a removable polypropylene screen and a polypropylene hinged cover. The vent/overflow pipe shall run through the tank and exit through the floor of the tank behind the rear axle.

The sides of the tank shall be covered with a smooth sheet of aluminum that is painted to match the body. This sheet shall provide a pleasing finished appearance.

**WATER TANK RESTRAINT**

A heavy-duty water tank restraint shall be provided to keep the water tank in position. This requirement is especially critical when the tank is empty and the apparatus is traveling over rough terrain.

**TOP OF TANK, ACCESS LADDER**

An access ladder constructed of aluminum tubing shall provided for access to the hosebed and/or tank dome. The ladder shall have a flexible mount attached to the tailboard. The ladder shall be located on the driver's of the truck at the rear.

**TANK OVERFLOW/VENT**

A 6.00" tube shall be installed through the shell of the tank. This tube shall function as an overflow to discharge water to the ground once the tank is filled to capacity. It shall also function as a vent to allow air to enter the tank when water is being dumped or pumped from the tank.

The tube shall be positioned to drain at the bottom of the truck near the center, behind the rear axle.

**PORTABLE TANK RACK**

A portable tank rack constructed of stainless steel tubing shall be installed on driver's of the truck, on top of the catwalk. The rack shall be hinged to allow the entire rack to fold down to a position adjacent to the side of the body where two (2) people can easily remove the tank. Two (2) heavy-duty latches shall be installed, one (1) on the front and one (1) on the rear, to lock the rack in the stored position. The rack shall be designed to carry a 2500 gallon Fol-Da-Tank brand portable tank.

The exterior of the rack shall be covered with aluminum treadplate to enclose the portable tank.

When the rack is in the lowered position, it shall activate the "Do Not Move Apparatus" light in the cab

# Crosswell Fire District

Bidder  
Complies

Yes      No

**REAR TANK FILL**

A 2.50" gated external tank fill shall be installed and properly labeled at the rear of the water tank, located passenger's side.

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

A 2.50" full flow ball valve with 2.50" piping and a 2.50" (F)NST chrome swivel shall be located at the inlet.

A 2.50" chrome plated 30 degree elbow and plug with VLH automatic pressure relieving thread technology shall be provided for the tank fill.

**REAR TANK DUMP VALVE**

One (1) 10.00" Newton Quick Dump shall be installed at the rear of the tank. The valve shall be operated manually by a lever control located on top of the valve.

A 90 degree, one (1) piece aluminum dump chute shall be provided. The chute shall be reversible to dump from both side's and removable for storage. The chute shall extend past the body side for dumping.

A chute support system shall also be provided. It shall be constructed of 2.00" X 2.00" aluminum tubing. Two (2) "receiver style" mounts shall be installed under the tailboard to allow the support system to be used for dumping to either side of the truck. The support shall store under the tailboard. A locking pin shall be provided.

**HOSE BED**

The hose bed shall be fabricated of .190"-5052 aluminum with a 38,000 psi tensile strength.

Hose body width shall be minimum of 78.00" inside.

Upper edges of side panels shall have a double break for rigidity, a split tube finish 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 .50" x 4.50" with spacing between slats for hose ventilation.

**HOSE RESTRAINT**

The hose in the hosebed shall be restrained by black nylon velcro straps at the top of the hosebed and a black nylon web strap netting at the top and rear of the hosebed. The netting shall include quick release fasteners.

**RUNNING BOARDS**

Running boards shall be fabricated of .125" bright aluminum treadplate.

Crosswell Fire District	Bidder Complies	
	Yes	No
<p>Each running board shall be supported by a welded 2.00" square tubing and channel assembly, which shall be bolted to the pump compartment substructure.</p> <p>Running boards shall be 12.75" deep and spaced .50" away from the pump panel.</p> <p>A splashguard shall be provided above the running board treadplate.</p> <p><b><u>TAILBOARD</u></b></p> <p>The tailboard shall be constructed of .125" bright aluminum treadplate supported by a structural steel assembly.</p> <p>The rear tailboard shall be 16.00" deep.</p> <p>The exterior side shall be flanged down and in. The flanges shall not be notched.</p> <p><b><u>TOW EYES</u></b></p> <p>Two (2) rear painted tow eyes shall be located at the rear of the apparatus and shall be mounted directly to the chassis frame rails. The inner and outer edges of the tow eyes shall have a radius.</p> <p><b><u>STRAP, VELCRO</u></b></p> <p>Two (2) hose trays shall have two (2) Velcro straps to secure items located in the hose tray. The location shall be one (1) in each side running board.</p> <p><b><u>HOSE TRAY</u></b></p> <p>Two (2) hose trays shall be recessed one (1) in each side running board.</p> <p>Capacity of the tray shall be 100' of 1.50" hose.</p> <p>Rubber matting shall be installed on the floor of the tray to provide proper ventilation.</p> <p><b><u>COMPARTMENTATION</u></b></p> <p>Body and compartments shall be fabricated of .125", 5052-H32 aluminum with a tensile strength range of 31,000 to 38,000 psi.</p> <p>Side compartments shall be an integral assembly with the rear fenders.</p> <p>Circular fender liners shall be provided for prevention of rust pockets and ease of maintenance.</p> <p>Compartment flooring shall be of the sweep out design with the floor higher than the compartment door lip.</p> <p>The compartment door opening shall be framed by flanging the edges in 1.75" and bending out again .75" to form an angle.</p>		

Crosswell Fire District	Bidder Complies	
	Yes	No
<p>Drip protection shall be provided above the doors by means of bright aluminum extrusion, formed bright aluminum treadplate or polished stainless steel.</p> <p>Front facing compartment walls shall be covered with bright aluminum treadplate.</p> <p>All screws and bolts which protrude into a compartment shall have acorn nuts on the ends to prevent injury.</p> <p><b><u>UNDERBODY SUPPORT SYSTEM</u></b></p> <p>Due to the severe loading requirements of this pumper a method of body and compartment support suitable for the intended load shall be provided.</p> <p>The backbone of the support system shall be the chassis frame rails which is the strongest component of the chassis and is designed for sustaining maximum loads.</p> <p>The support system shall include .375” thick steel vertical angle supports bolted to the chassis frame rails with .625” diameter bolts.</p> <p>Attached to the bottom of the steel vertical angles shall be horizontal angles, with gussets welded to the vertical members, which extend to the outside edge of the body.</p> <p>The body substructure shall result in a 500 pound equipment support rating per lower compartment.</p> <p>A design with body compartments hanging on the chassis in an unsupported fashion shall not be acceptable.</p> <p><b><u>AGGRESSIVE WALKING SURFACE</u></b></p> <p>All exterior surfaces designated as stepping, standing, and walking areas shall comply with the required average slip resistance of the current NFPA standards.</p> <p><b><u>LOUVERS</u></b></p> <p>All body compartments shall have a minimum of one (1) set of louvers stamped into a wall to provide the proper airflow inside the compartment and to prevent water from dripping into the compartment. These louvers shall be formed into the metal and not added to the compartment as a separate plate.</p> <p><b><u>TESTING OF BODY DESIGN</u></b></p> <p>Body structural analysis shall be fully tested. Proven engineering and test techniques such as finite element analysis, stress coating and strain gauging have been performed with special attention given to fatigue, life and structural integrity of the cab, body and substructure.</p> <p>Body shall be tested while loaded to its greatest in-service weight.</p> <p>The criteria used during the testing procedure shall include:</p>		

Crosswell Fire District	Bidder Complies	
	Yes	No
<p>- Raising opposite corners of the vehicle tires 9.00" to simulate the twisting a truck may experience when driving over a curb.</p> <p>- Making a 90 degree turn, while driving at 20 mph to simulate aggressive driving conditions.</p> <p>- Driving the vehicle at 35 mph on a "washboard" road.</p> <p>- Driving the vehicle at 55 mph on a smooth road.</p> <p>- Accelerating the vehicle fully, until reaching the approximate speed of 45 mph on rough pavement.</p> <p>Evidence of actual testing techniques shall be made available upon request.</p> <p><b><u>BODY WARRANTY</u></b></p> <p>A copy of the fire apparatus manufacturer's warranty shall be included with the bid. The warranty shall state that the body shall be free of structural failures caused by defective design or workmanship for a warranty period of <b>ten (10) years</b> from the date the new vehicle is first delivered <b>or 100,000 miles</b>, whichever occurs first and that defective parts, under the warranty, shall be repaired or replaced without charge to the original purchaser.</p> <p><b><u>COMPARTMENTATION, DRIVER'S SIDE</u></b></p> <p>One (1) vertically hinged double door compartment shall be provided in the area ahead of the rear wheels. The interior dimensions of the compartment shall be 63.00" wide x 26.00" high x 25.88" deep. The depth of the compartment shall be calculated with the compartment door closed. The clear door opening of the double door compartment shall be 58.50" wide x 25.00" high.</p> <p>Positive door holders shall be furnished with these compartments.</p> <p>A vertically hinged, single door compartment in the lower area behind the rear wheels shall be provided. The interior dimensions of this compartment shall be 15.50" wide x 26.00" high x 25.88" deep. The depth of the compartment shall be calculated with the compartment door closed. The clear door opening of this compartment shall be 14.00" wide x 25.00" high.</p> <p>A positive door holder shall be furnished with this compartment.</p> <p><b><u>COMPARTMENTATION, PASSENGER'S SIDE</u></b></p> <p>One (1) vertically hinged double door compartment shall be provided in the area ahead of the rear wheels. The interior dimensions of the compartment shall be 63.00" wide x 26.00" high x 25.88" deep. The depth of the compartment shall be calculated with the compartment door closed. The clear door opening of the double door compartment shall be 58.50" wide x 25.00" high.</p> <p>A vertically hinged, single door compartment in the lower area behind the rear wheels shall be provided. The interior dimensions of this compartment</p>		

# Crosswell Fire District

Bidder  
Complies

Yes

No

shall be 15.50" wide x 26.00" high x 25.88" deep. The depth of the compartment shall be calculated with the compartment door closed. The clear door opening of this compartment shall be 14.00" wide x 25.00" high.

Positive door holders shall be furnished with these compartments.

# Crosswell Fire District

Bidder  
Complies

Yes      No

**DOORS, SIDE COMPARTMENT**

All hinged compartment doors shall be lap style with double panel construction and shall be a minimum of 1.50" thick. To provide additional door strength, a "C" section reinforcement shall be installed between the outer and interior panels.

Doors shall be provided with a closed cell rubber gasket around the surface that laps onto the body. A second heavy-duty automotive rubber molding with a hollow core shall be installed on the door framing that seals onto the interior panel, to ensure a weather resisting compartment.

All compartment doors shall have polished stainless steel continuous hinge with a pin diameter of .1875", that is bolted or screwed on with stainless steel fasteners. A strip of dielectric isolation tape shall be provided between the hinge and door jamb.

All door lock mechanisms shall be fully enclosed within the door panels to prevent fouling of the lock in the event equipment inside shifts into the lock area.

Doors shall be latched with recessed, polished stainless steel "D" ring handles and Eberhard 106 locks.

To prevent corrosion caused by dissimilar metals, compartment door handles shall not be attached to outer door panel with screws. A rubber gasket shall be provided between the "D" ring handle and the door.

**PULL-OUT TRAY**

There shall be one (1) slide-out tray with 2.00" sides and a minimum capacity of 500 pounds provided. Capacity rating shall be in the extended position.

Slides shall be General Device ball bearing type for ease of operation and years of dependable service.

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

Tray location shall be in the DS compartment forward of the rear wheels.

Heavy-duty steel angle iron assembly shall support the body under the compartment floor. It shall be attached to the chassis frame for load transfer and to reduce stress on body.

**RUB RAIL**

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

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

Crosswell Fire District	Bidder Complies	
	Yes	No
<p>The rub rails shall not be an integral part of the body construction, which allows replacement in the event of damage.</p> <p><b><u>BODY FENDER CROWNS</u></b>  Stainless steel fender crowns shall be provided around the rear wheel openings.</p> <p>A rubber welting shall be provided between the body and the crown to seal the seam and restrict moisture from entering.</p> <p>A dielectric barrier shall be provided between the fender crown fasteners (screws) and the fender sheet metal to prevent corrosion.</p> <p><b><u>HARD SUCTION HOSE</u></b>  Two (2) lengths of 5.00" clear corrugated PVC hard suction hose, 10' in length, shall be provided. The hose shall be equipped with a long handle female coupling on one (1) end and a rocker lug male coupling on the other end. Couplings shall be hard coated aluminum.</p> <p><b><u>HOSE TROUGHS</u></b>  A total of two (2) trough(s) for hard suction hose shall be installed on the on the driver side and passenger side of the tank.</p> <p>Troughs shall be constructed of painted aluminum and shall have a nylon retaining strap at the rear. Each trough shall have a retaining tab at the forward end to prevent the hose from accidentally coming out of the trough. A Nylatron or similar material shall be provided on the bottom of the trough to aid in the removal and reinstallation of the hose.</p> <p>Hose troughs shall be adjustable up and down.</p> <p><b><u>HANDRAILS</u></b>  The handrails shall be 1.25" diameter anodized aluminum extrusion, with a ribbed design, to provide a positive gripping surface.</p> <p>Chrome plated end stanchions shall support the handrail. Plastic gaskets shall be used between end stanchions and any painted surfaces.</p> <p>Drain holes shall be provided in the bottom of all vertically mounted handrails.</p> <ul style="list-style-type: none"> <li>- Four (4) handrails shall be provided, two above each side pump panel.</li> <li>- One (1) vertical handrail shall be provided on the driver's side body, on the front bulkhead door frame.</li> </ul> <p><b><u>AIR BOTTLE STORAGE</u></b>  A total of four (4) air bottle compartments shall be provided, two (2) each side of the body. The air bottle compartment shall be in the form of a PVC</p>		

Crosswell Fire District	Bidder Complies	
	Yes	No
<p>round tube to accommodate different size air bottles. A Cast Products door with latch shall be provided to contain the air bottle.</p> <p><b><u>EXTENSION LADDER</u></b> There shall be a 24', two (2) section, Alco-Lite, Series PEL-24 extension ladder provided.</p> <p><b><u>ROOF LADDER</u></b> There shall be a 14' aluminum, Alco-Lite, Series PRL-14 roof ladder provided.</p> <p><b><u>LADDER BRACKETS</u></b> The ladders shall be installed on the passenger's side of the tank, above the catwalk, in lined brackets and held in place by chrome plated, quarter-turn spring loaded clamps. The clamps shall be such that when the roof ladder is removed, the clamps can be moved a half-turn to hold the extension ladder in place. The ladder brackets shall be adjustable up and down.</p> <p>The ladders to be carried on these brackets are Alco Lite 24' and Alco Lite 14' Roof.</p> <p><b><u>FOLDING LADDER</u></b> One (1) 10' aluminum, Series FL-10 folding ladder shall be installed on top of the right side compartment.</p> <p><b><u>PIKE POLE 6 FT, PROVIDED BY FIRE DEPARTMENT</u></b> NFPA 1901, 2009 edition, Section 7.7.3.1 requires one (1) 6 ft pike pole or plaster hook mounted in a bracket fastened to the apparatus.</p> <p>The pike pole is not on the apparatus as manufactured. The dealer shall provide and mount the pike pole.</p> <p><b><u>MIDSHIP FIRE PUMP</u></b> Midship fire pump shall be a Hale QPAK, 1000 gpm single (1) stage midship mounted centrifugal type.</p> <p>Pump shall be the class "A" type.</p> <p>Pump shall deliver the percentage of rated discharges at the pressures indicated below:</p> <ul style="list-style-type: none"> <li>- 100% of rated capacity at 150 psi net pump pressure.</li> <li>- 100% of rated capacity at 165 psi net pump pressure.</li> <li>- 70% of rated capacity at 200 psi net pump pressure.</li> <li>- 50% of rated capacity at 250 psi net pump pressure.</li> </ul> <p>Entire pump and both suction and discharge passages shall be hydrostatically tested to a pressure of 500 psi.</p>		

Crosswell Fire District	Bidder Complies	
	Yes	No
<p>Pump shall be fully tested at the pump manufacturer's factory to the performance requirements as outlined by the current NFPA 1901 standards and shall be free from objectionable pulsation and vibration.</p> <p>The pump body and related parts shall be of fine grain, alloy cast iron with a minimum tensile strength of 30,000 psi (2041.2 bar). All moving parts in contact with water shall be of high quality bronze or stainless steel. Pumps utilizing castings made of lower tensile strength cast iron shall not be acceptable.</p> <p>Pump body shall be split on a single plane for easy removal of entire impeller assembly, including wear rings and bearings from beneath the pump without disturbing pump piping or the mounting of the pump in the chassis.</p> <p>Pump impeller shall be hard, fine grain bronze of the mixed flow design; accurately machined, hand-ground, and individually balanced. The vanes of the impeller intake eyes shall be hand-ground and polished to a sharp edge. They shall be of sufficient size and design to provide ample reserve capacity utilizing minimum horsepower.</p> <p>Pump shaft shall be electric furnace heat-treated, corrosion resistant stainless. Pump shaft shall be sealed with double oil seal to keep road dirt and water out of drive unit.</p> <p>Pump shaft shall be rigidly supported by three (3) bearings for minimum deflection. The bearings shall be heavy duty, deep groove ball bearings in the gearbox and they shall be splash lubricated.</p> <p><b><u>MECHANICAL SEAL ON PUMP</u></b></p> <p>Only one (1) mechanical seal shall be required on the suction (inboard) side of the pump. The mechanical seal shall be two (2.00) inches in diameter and shall be spring loaded, maintenance-free, and self-adjusting.</p> <p>The mechanical seal construction shall be a carbon sealing ring, stainless steel coil spring, Viton rubber boot, and a tungsten carbide seat with a Teflon backup seal.</p> <p><b><u>PUMP TRANSMISSION</u></b></p> <p>The drive unit shall be cast and completely manufactured and tested at the pump manufacturer's factory. The pump drive unit shall be of sufficient size to withstand up to 16,000 foot/pound of torque from the engine in both road and pump operating conditions. The drive unit shall be designed with ample lubrication reserve to maintain the proper operating temperature.</p> <p>The gearbox drive shafts shall be of heat treated chrome nickel steel and at least 2.75 inches in diameter, on both the input and output drive shafts. They shall be designed to withstand the full torque of the engine in both road and pump operating conditions. All gears, both drive and pump, shall be of the highest quality, electric furnace, chrome nickel steel. Bores shall be ground to size and teeth integrated, crown-shaved and hardened, to give an</p>		

# Crosswell Fire District

Bidder  
Complies

Yes

No

extremely accurate gear for long life, smooth, quiet running and higher load carrying capability. An accurately cut spur design shall be provided to eliminate all possible end thrust.

Crosswell Fire District	Bidder Complies	
	Yes	No
<p>The pump ratio shall be selected by the apparatus manufacturer to provide the maximum performance with the engine and transmission selected. Three (3) green warning lights shall be provided to indicate to the operator(s) when the pump has completed the shift from Road to Pump position. Two (2) lights shall be located in the truck driving compartment and one (1) light on pump operator's panel, adjacent to the throttle control.</p> <p><b><u>AIR PUMP SHIFT</u></b></p> <p>Pump shift engagement shall be made by a two (2) position sliding collar, actuated pneumatically (by air pressure), with a three (3) position air control switch located in the cab.</p> <p>Two (2) indicator lights shall be provided adjacent to the pump shift inside the cab. One (1) green light shall indicate the pump shift has been completed and be labeled "pump engaged". The second green light shall indicate when the pump has been engaged and the chassis transmission is in pump gear. This indicator light shall be labeled "OK to pump".</p> <p>Another green indicator light shall be installed adjacent to the hand throttle on the pump panel and indicate either the pump is engaged and the road transmission is in pump gear, or the road transmission is in neutral and the pump is not engaged. This light shall be labeled "Warning: Do not open throttle unless light is on".</p> <p>The pump shift control in the cab shall be illuminated to meet NFPA requirements.</p> <p><b><u>TRANSMISSION LOCK-UP</u></b></p> <p>The direct gear transmission lock-up for the fire pump operation shall engage automatically when the pump shift control, in the cab, is activated.</p> <p><b><u>AUXILIARY COOLING SYSTEM</u></b></p> <p>A supplementary heat exchange cooling system shall be provided to allow the use of water from the discharge side of the pump for cooling the engine water. Heat exchanger shall be cylindrical type and shall be a separate unit. It shall be installed in the pump or engine compartment with the control located on the pump operator's control panel. Exchanger shall be plumbed to the master drain valve.</p> <p><b><u>INTAKE RELIEF VALVE</u></b></p> <p>An Elkhart relief valve shall be installed on the suction side of the pump preset at 125 psig.</p> <p>Relief valve shall have a working range of 75 psig to 250 psig.</p> <p>Outlet shall terminate below the framrails with a 2.50" National Standard hose thread adapter and shall have a "do not cap" warning tag.</p> <p>Control shall be located behind an access door at the right (passenger's) side pump panel.</p>		

# Crosswell Fire District

Bidder  
Complies

Yes      No

**RELIEF VALVE WITH INDICATOR LIGHT**

Pump shall be equipped with a Hale automatic pressure control device.

A single bronze, variable pressure setting relief valve shall be provided and be of ample capacity to prevent an undue pressure rise, as per NFPA pamphlet #1901.

Relief valve shall be normally closed and shall open against pump pressure. This relief valve shall include a control light to signal when the valve is open.

In the event of relief valve control failure, the pump shall remain operable for the complete range of the pump's rated capacity, without requiring the closing of any emergency (off/on) valves.

**HALE ESP PRIMING PUMP**

Priming pump shall be a positive displacement vane type, electrically driven, and conforming to standards outlined in NFPA pamphlet #1901.

One (1) priming control shall both open the priming valve and start the priming motor.

Primer shall be environmentally safe, self lubricating style.

**PUMP WARRANTY**

A **Hale five (5) year limited** warranty shall be provided for the pump. The standard five (5) year limited warranty includes parts and labor for the first two (2) years and parts only for years three (3), four (4), and five (5).

A copy of the five (5) year limited warranty document on OEM letterhead shall be furnished with bid to provide further explanation of the pump warranty.

**PUMP MANUALS**

Two (2) pump manuals from the pump manufacturer shall be furnished with the apparatus. Manuals 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.

Crosswell Fire District	Bidder Complies	
	Yes	No
<p>All lines to drain through either 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.</p> <p>All water carrying gauge lines shall be of flexible polypropylene tubing.</p> <p><b><u>PUMP PLUMBING WARRANTY</u></b></p> <p>The stainless steel plumbing components and ancillary brass fittings used in the construction of the water/foam plumbing system shall be warranted for a period of <b>ten (10) years or 100,000 miles</b>. This covers structural failures caused by defective design or workmanship, or perforation caused by corrosion, provided the apparatus is used in a normal and reasonable manner. This warranty is extended only to the original purchaser for a period of ten years from the date of delivery. A copy of the warranty shall be submitted with the bid. (no exception)</p> <p><b><u>MAIN PUMP INLETS</u></b></p> <p>A 5.00" 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.</p> <p>The main pump inlets shall have National Standard Threads with a long handle chrome cap.</p> <p>The cap shall be the VLH, which incorporates a Pierce exclusive thread design to automatically relieve stored pressure in the line when disconnected. (no exception)</p> <p><b><u>VALVES</u></b></p> <p>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.</p> <p>Valves shall have a ten (10) year warranty.</p> <p><b><u>INLET (Left side)</u></b></p> <p>On the left side pump panel shall be one (1) 2.50" auxiliary suction, terminating in 2.50" National Standard Hose Thread. The auxiliary suction shall be provided with a strainer, chrome swivel and plug.</p> <p>Inlet valve location shall be outside of the pump panel.</p> <p><b><u>INLET CONTROL</u></b></p> <p>Control for the side auxiliary inlet(s) shall be located at the inlet valve.</p>		

Crosswell Fire District	Bidder Complies	
	Yes	No
<p><b><u>INLET BLEEDER VALVE</u></b></p> <p>A .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.</p> <p><b><u>TANK TO PUMP</u></b></p> <p>The booster tank shall be connected to the intake side of the pump with heavy duty piping and a quarter turn 3.00" full flow line valve with the control remotely located at the operator's panel. Tank to pump line shall run straight (no elbows) from the pump into the front face of the water tank and angle down into the tank sump. A rubber coupling shall be included in this line to prevent damage from vibration or chassis flexing.</p> <p>A check valve shall be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.</p> <p><b><u>TANK REFILL</u></b></p> <p>A 2.00" combination tank refill and pump bypass line shall be provided using a quarter-turn full flow ball valve, controlled from the pump operator's panel.</p> <p><b><u>DISCHARGE OUTLETS (Left Side)</u></b></p> <p>There shall be one (1) discharge outlet with a 2.50" valve on the left side of the apparatus, terminating with a male 2.50" National Standard hose thread adapter.</p> <p><b><u>DISCHARGE OUTLETS (Right Side)</u></b></p> <p>There shall be two (2) discharge outlets 2.50" valve on the right side of the apparatus, terminating with a male 2.50" National Standard hose thread adapter.</p> <p><b><u>DISCHARGE OUTLET (Rear)</u></b></p> <p>There shall be one (1) discharge outlet piped to the rear of the hose bed, on passenger's side, installed so proper clearance is provided for spanner wrenches or adapters. Plumbing shall consist of 2.50" piping along with a 2.50" full flow ball valve with the control from the pump operator's panel.</p> <p><b><u>DISCHARGE CAPS</u></b></p> <p>Chrome plated, rocker lug, caps with chains shall be furnished for all side discharge outlets.</p>		

Crosswell Fire District	Bidder Complies	
	Yes	No
<p>The caps shall be the VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected. (no exception)</p> <p><b><u>OUTLET BLEEDER VALVE</u></b></p> <p>A .75" bleeder valve shall be provided for each outlet 1.50" or larger. Automatic drain valves are acceptable with some outlets if deemed appropriate with the application.</p> <p>The valves shall be located behind the panel with a 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.</p> <p><b><u>ELBOWS, LEFT SIDE OUTLETS</u></b></p> <p>The 2.50" discharge outlets, located on the left side pump panel, shall be furnished with a 2.50"(F) National Standard hose thread x 2.50"(M) National Standard hose thread, chrome plated, 45 degree elbow.</p> <p>The elbow shall be the VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected. (no exception)</p> <p><b><u>ELBOWS, RIGHT SIDE OUTLETS</u></b></p> <p>The 2.50" discharge outlets, located on the right side pump panel, shall be furnished with a 2.50"(F) National Standard hose thread x 2.50"(M) National Standard hose thread, chrome plated, 45 degree elbow.</p> <p>The elbow shall be the VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected. (no exception)</p> <p><b><u>ELBOWS, REAR OUTLETS</u></b></p> <p>The 2.50" discharge outlets, located at the rear of the apparatus, shall be furnished with a 2.50"(F) National Standard hose thread x 2.50"(M) National Standard hose thread, chrome plated, 45 degree elbow.</p> <p>The elbow shall be the VLH, which incorporates a Pierce exclusive thread design to automatically relieve stored pressure in the line when disconnected. (no exception)</p> <p><b><u>DISCHARGE OUTLET CONTROLS</u></b></p> <p>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.</p>		

Crosswell Fire District	Bidder Complies	
	Yes	No
<p>If a handwheel control valve is used, the control shall be a minimum of a 3.9" diameter chrome plated handwheel with a dial position indicator built in to the center of the handwheel.</p> <p><b><u>CROSSLAY HOSE BEDS</u></b></p> <p>Two 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. pipe and gated with a 2.00" quarter turn ball valve.</p> <p>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.</p> <p>The crosslay controls shall be at the pump operator's panel.</p> <p>The crosslay dividers shall be fabricated of .25" aluminum and shall provide adjustment from side to side. The divider shall be unpainted with a DA finish.</p> <p>Vertical scuffplates, constructed of stainless steel, shall be provided where hose may rub against painted surface.</p> <p>Crosslay bed flooring shall consist of removable perforated brushed aluminum.</p> <p><b><u>CROSSLAY/SPEEDLAY HOSE RESTRAINT</u></b></p> <p>An elastic netting shall be provided across the top and on the ends of two (2) crosslay(s)/speedlay(s) to secure the hose during travel.</p> <p><b><u>BOOSTER HOSE REEL</u></b></p> <p>A Hannay electric rewind booster hose reel shall be installed over the pump in a recessed open compartment on the left side of the apparatus.</p> <p>A polished stainless steel roller and guide assembly shall be mounted on the reel side of the apparatus.</p> <p>Discharge control shall be provided at the pump operator's panel. Plumbing to the reel shall consist of 1.50" Aeroquip hose and a 1.50" valve.</p> <p>The exterior finish of the reel shall be painted #269 gray from the reel manufacturer..</p> <p>Reel motor shall be protected from overload with a sized automatic reset circuit breaker.</p> <p>Electric rewind control shall be a rubber covered button installed on the reel side pump panel.</p> <p>Booster hose, 1.00" diameter and 150 feet, with chrome plated Barway, or equal couplings shall be provided.</p> <p>Working pressure of the booster hose shall be a minimum of 800 psi.</p>		

# Crosswell Fire District

Bidder  
Complies

Yes

No

Capacity of the hose reel shall be 200 feet of 1.00" booster hose.

# Crosswell Fire District

Bidder  
Complies

Yes      No

**PUMP COMPARTMENT**

The pump compartment shall be separate from the hose body and compartments so that each may flex independently of the other. It shall be a fabricated assembly of steel tubing, angles and channels which supports both the fire pump and the side running boards.

The pump compartment shall be mounted on the chassis frame rails with rubber biscuits in a four point pattern to allow for chassis frame twist.

Pump compartment, pump, plumbing and gauge panels shall be removable from the chassis in a single assembly.

**PUMP MOUNTING**

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

**PUMP CONTROL PANELS (Side Control)**

All pump controls and gauges shall be located at the left (driver's) side of the apparatus and properly marked.

The pump panel on the right (passenger's) side shall be removable with lift and turn type fasteners. The left (driver's) side shall be fastened with screws.

The control panels shall be 34.00" wide.

The gauge and control panels shall be two (2) separate panels for ease of maintenance.

Polished stainless steel trim collars shall be installed around all inlets and outlets.

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

All line pressure gauges shall be mounted in individual chrome plated castings with the identification tag recessed in the casting below the gauge. All remaining identification tags shall be mounted on the pump panel in chrome plated bezels. Mounting of the castings and identification bezels shall be done with a threaded peg cast on the back side of the bezel or screws.

**PUMP PANEL CONFIGURATION**

The pump panel configuration shall be neat and orderly.

Crosswell Fire District	Bidder Complies	
	Yes	No
<p><b><u>PUMP AND GAUGE PANEL</u></b></p> <p>The pump and gauge panels shall be constructed of black vinyl covered aluminum to allow easy identification of the gauges and controls and to eliminate glare.</p> <p>A polished aluminum trim molding shall be provided on both sides of the pump panel.</p> <p>The passenger's side pump panel shall be removable and fastened with swell type fasteners.</p> <p><b><u>PUMP PANEL GAUGES AND CONTROLS</u></b></p> <p>The following shall be provided on the pump and gauge panels in a neat and orderly fashion:</p> <ul style="list-style-type: none"> <li>- Class 1 Enfo 4 System: With LED display of the engine oil pressure, engine temperature and engine rpm. A warning alarm shall be provided for these items.</li> <li>- Tachometer: Electric</li> <li>- Voltmeter</li> </ul> <p>Also provided at the pump panel shall be the following:</p> <ul style="list-style-type: none"> <li>- Master Pump Drain Control</li> <li>- Engine Throttle</li> <li>- Check Transmission Warning Indicator Light</li> <li>- Stop Engine Warning Indicator Light</li> <li>- Check Engine Warning Indicator Light.</li> </ul> <p><b><u>GAUGES, VACUUM and PRESSURE</u></b></p> <p>The pump vacuum and pressure gauges shall be silicone filled and manufactured by Class 1, Inc.</p> <p>The gauges shall be a minimum of 4.00" in diameter and shall have white faces with black lettering, with a pressure range of 30.00"-0-600#.</p> <p>Gauge construction shall include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.</p> <p>The pump pressure and vacuum gauges shall be installed adjacent to each other at the pump operator's control panel.</p> <p>Test port connections shall be provided at the pump operator's panel. One shall be connected to the intake side of the pump, and the other to the discharge manifold of the pump. They shall have 0.25 in. standard pipe thread connections and non-corrosive polished stainless steel or brass plugs. They shall be marked with a label.</p>		

Crosswell Fire District	Bidder Complies	
	Yes	No
<p>This gauge shall include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.</p> <p><b><u>PRESSURE GAUGES</u></b></p> <p>The individual "line" pressure gauges for the discharges shall be interlube filled and manufactured by Class 1.</p> <p>They shall be a minimum of 2.00" in diameter and shall have white faces with black lettering.</p> <p>Gauge construction shall include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.</p> <p>Gauges shall have a pressure range of 30"-0-400#.</p> <p>The individual pressure gauge shall be installed as close to the outlet control as practical.</p> <p>This gauge shall include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.</p> <p><b><u>WATER LEVEL GAUGE</u></b></p> <p>An electronic water level gauge shall be provided on the operator's panel, that registers water level by means of five colored LED lights. The lights shall be durable, ultra-bright five LED design viewable through 180 degrees. The water level indicators shall be as follows:</p> <ul style="list-style-type: none"> <li>- 100% = Green</li> <li>- 75% = Yellow</li> <li>- 50% = Yellow</li> <li>- 25% = Yellow</li> <li>- Refill = Red</li> </ul> <p>The light shall flash when the level drops below the given level indicator to provide an eighth of a tank indication. To further alert the pump operator, the lights shall flash sequentially when the water tank is empty.</p> <p>The level measurement shall be based on the sensing of head pressure of the fluid in the tank.</p> <p>The display shall be constructed of a solid plastic material with a chrome plated die cast bezel to reduce vibrations that can cause broken wires and loose electronic components. The encapsulated design shall provide complete protection from water and environmental elements. An industrial pressure transducer shall be mounted to the outside of the tank. The field calibratable display measures head pressure to accurately show the tank level.</p>		

# Crosswell Fire District

Bidder  
Complies

Yes      No

**LIGHT SHIELD**

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.

Lights shall be installed under a stainless steel shield. A light shall come on above the pump panel light switch when the parking brake is set. This is to afford the operator some illumination when first approaching the control panel. A green pump engaged indicator shall come on at the operator's panel when the pump is shifted into gear from inside the cab. One pump panel light shall also come on at the operator's panel when the pump is shifted into gear from inside the cab. The remaining lights to be actuated from a switch located on the pump panel.

**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.

Crosswell Fire District	Bidder Complies	
	Yes	No
<p>(6) All electrical terminals in exposed areas shall have silicon (1890) applied completely over the metal portion of the terminal. All emergency light switches shall be mounted on a separate panel installed in the cab. A master warning light switch and individual switches to be provided to allow preselection of emergency lights. The light switches shall be "rocker" type with an internal indicator light to show when switch is energized. All switches shall be properly identified and mounted in a removable panel for ease in servicing. Identification of the switches shall be done by either printing or etching on the switch panel. The switches and identification shall be illuminated.</p> <p>All lights and reflectors, required to comply with Federal Motor Vehicle Safety Standard #108, shall be furnished. Rear identification lights shall be recessed mounted for protection. Lights and wiring mounted in the rear bulkheads shall be protected from damage by installing a false bulkhead inside the rear compartments.</p> <p>An operational test shall be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order.</p> <p>The results of the tests shall be recorded and provided to the purchaser at time of delivery.</p> <p><b><u>STEP LIGHTS</u></b></p> <p>Four (4) Ri-Tar, Model M27HW2 Super LED, step lights shall be provided. One (1) step light shall be provided on each side, on the front compartment face and two (2) step lights at the rear to illuminate the tailboard.</p> <p>These step lights shall be actuated with the pump panel light switch.</p> <p>All other steps on the apparatus shall be illuminated per the current edition of NFPA 1901.</p> <p><b><u>REAR FMVSS LIGHTING</u></b></p> <p>A pair of Weldon, Model 3884, three (3) lamp modules shall be provided. Each module shall include a stop-tail light, arrow directional light and backup light mounted in a polished aluminum housing.</p> <p>The lights shall be mounted on the face of the rear body compartments.</p> <p>Four (4) red reflectors shall be provided.</p> <p>A Weldon, Model 23882-2600-00 license plate bracket shall be mounted on the driver's side above the warning lights. A Weldon, Model 9186-23882-30, step lamp shall illuminate the license plate.</p> <p>The three (3) identification lights located at the rear shall be installed per the following:</p> <p>As close as practical to the vertical Centerline.</p>		

Crosswell Fire District	Bidder Complies	
	Yes	No
<p>Centers spaced not less than six (6) inches or more than twelve (12) inches apart.</p> <p>Red in color.</p> <p>All at the same height.</p> <p>The outside clearance lights located at the rear shall be installed per the following:</p> <p>To indicate the overall width of the vehicle.</p> <p>At least one (1) each side of the vertical Centerline.</p> <p>All at the same height.</p> <p>As near the top as practical.</p> <p>To be visible from the rear and the side.</p> <p>Per FMVSS 108 and CMVSS 108 requirements.</p> <p><b><u>"DO NOT MOVE APPARATUS" INDICATOR</u></b></p> <p>A flashing red indicator light (located in the driving compartment) shall be illuminated automatically per the current edition of NFPA. The light shall be labeled "Do Not Move Apparatus If Light Is On".</p> <p><b><u>OPEN DOOR INDICATOR LIGHT</u></b></p> <p>A red "open door" indicator light shall be provided inside the cab, in clear view of the driver, to warn of an open compartment door.</p> <p><b><u>COMPARTMENT LIGHTING</u></b></p> <p>6.00" diameter Truck-Lite, model 79384, light/s shall be provided in each enclosed compartment. Each light shall have a number 1076 one filament, two wire bulb.</p> <p>Opening the compartment door shall automatically turn compartment lighting on.</p> <p><b><u>PUMP COMPARTMENT LIGHT</u></b></p> <p>A compartment light shall be provided inside the pump enclosure.</p> <p><b><u>PERIMETER SCENE LIGHTS, CAB</u></b></p> <p>There shall be a Truck-Lite, model 60, grommet mount weatherproof light provided for each cab door. Lighting shall be designed to provide illumination on areas under the driver and officer riding area exits, which shall be activated automatically when the exit doors are opened and by the same means as the body perimeter lights.</p>		

# Crosswell Fire District

Bidder  
Complies

Yes

No

The lighting shall be capable of providing illumination at a minimum level of two (2) foot-candles on ground areas within 30.00" of the edge of the apparatus in areas which personnel climb in or out of the apparatus or descend from the apparatus to the ground level.

**PERIMETER SCENE LIGHTS, BODY**

There shall be a total of four (4) Truck-Lite, model 60, grommet mount weatherproof lights provided on the apparatus. Two (2) lights shall be provided under the rear step area and two (2) lights shall be provided under the pump panel running boards. The lights shall be spaced one (1) each side of apparatus and have a clear lens. The perimeter scene lights shall be activated by a rocker switch in the cab.

The lighting shall be capable of providing illumination at a minimum level of two (2) foot-candles on ground areas within 30.00" of the edge of the apparatus in areas designed for personnel to climb onto the apparatus or descend from the apparatus to the ground level.

**SCENE LIGHTS**

One (1) pair of Weldon 3010 Series rectangular scene lights shall be installed at the rear of the water tank. The lights shall have a clear lens with 26 degree internal optics.

The lights shall be controlled by control from the driver side switch panel

**12 VOLT LIGHTING**

The apparatus shall be equipped with two (2) lights, Extenda-Lite Day Maker. Three (3) dual filament 200,000 candle power spotlights or 100 watt lights shall be mounted on a pull-up telescopic pole. A three position flood-off-spot switch shall be provided on each light head

Each light head shall be chrome plated and shall swivel from side to side.

These lights shall be installed in the cargo area - one each side - for side pump panel control configurations, or one each side to the rear of the pump operator's panel for top mount control configurations.

**DECK LIGHTS**

Two (2)-6.00" Unity AG deck lights with swivel mount shall be provided at the rear of the hose bed, one (1) each side.

One (1) light shall be furnished with a 160,000 candle power halogen spot bulb and the other shall be furnished with a 6,000 candle power halogen flood bulb.

Crosswell Fire District	Bidder Complies	
	Yes	No
<p><b><u>PORTABLE HAND LIGHTS, PROVIDED BY FIRE DEPARTMENT</u></b>  NFPA 1901, 2009 edition, section 7.7.3.1 requires two portable hand lights mounted in brackets fastened to the apparatus.</p> <p>The hand lights are not on the apparatus as manufactured. The fire department shall provide and mount these hand lights.</p> <p><b><u>AIR HORN SYSTEM</u></b>  Two (2) Grover air horns shall be provided and located one (1) each side of the engine. The horn system shall be piped to the air brake system wet tank utilizing .38" tubing. A pressure protection valve shall be installed in-line to prevent the loss of air, in the air brake system.</p> <p><b><u>AIR HORN CONTROL</u></b>  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.</p> <p><b><u>ELECTRONIC SIREN</u></b>  A "Code 3", model 3692, electronic siren with noise canceling microphone shall be provided.</p> <p>Siren head shall be located in an accessible under dash position.</p> <p>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.</p> <p><b><u>SPEAKER</u></b>  There shall be one (1) speaker provided. Each speaker shall be a Code 3®, Model SL100, 100-watt. Each speaker shall be connected to the siren amplifier.</p> <p>The speaker(s) shall be mounted below the front bumper on the driver's side.</p> <p><b><u>LIGHTBAR</u></b>  One (1) 56.00" Whelen, Model: Justice LED lightbar shall be mounted on the cab roof.</p> <p>This lightbar shall include the following:</p> <p>Four (4) red flashing forward facing LED modules.</p> <p>Two (2) red flashing front corner LED modules.</p> <p>Two (2) red flashing rear corner LED modules.</p> <p>One (1) switch located in the cab on the switch panel shall control this lightbar.</p> <p>The lens color shall be clear.</p>		

Crosswell Fire District	Bidder Complies	
	Yes	No
<p><b><u>SIDE ZONE LOWER LIGHTING</u></b></p> <p>Four (4) Whelen Model 60*02F*R, flashing Super LED warning lights shall be located in the following positions:</p> <p>Two (2) lights, one (1) each side on the engine hood under 62.00".</p> <p>The color of these lights shall be red Super LED/clear lens each side.</p> <p>Two (2) lights, in the rear wheel well area.</p> <p>The color of these lights shall be red Super LED/clear lens each side.</p> <p>The above four (4) lights shall be required to meet or exceed the lower level optical warning and optical power requirements of NFPA.</p> <p>These lights shall be controlled by a lighted switch on the cab instrument panel.</p> <p>These lights shall be installed with a flange.</p> <p><b><u>REAR ZONE LOWER LIGHTING</u></b></p> <p>Two (2) Whelen model 60*02F*R flashing "Super" LED warning lights shall be located at the rear of the apparatus, required to meet or exceed the lower level optical warning and optical power requirements of NFPA.</p> <p>The color of these lights shall be red Super LED/clear lens.</p> <p>One (1) switch in the cab on the switch panel shall control these lights.</p> <p>These lights shall be installed with a flange.</p> <p><b><u>WARNING LIGHTS (Rear of Truck)</u></b></p> <p>Two (2) Whelen, Model: RB6T*P, warning lights shall be provided at the rear of the truck, located one (1) on each side.</p> <p>One (1) switch located in the cab on the switch panel shall control these lights.</p> <p>The color of the lights shall be driver side dome red and passenger side dome amber.</p> <p>The rear warning lights shall be mounted on stainless steel brackets with all wiring totally enclosed. These brackets shall also support the clearance/marker lights. The brackets shall be mounted low enough so the top of the warning light is no higher than the top of the body side sheet.</p> <p><b><u>LOOSE EQUIPMENT</u></b></p> <p>The following equipment shall be furnished with the completed unit:</p> <ul style="list-style-type: none"> <li>- One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit</li> </ul>		

# Crosswell Fire District

Bidder  
Complies

Yes      No

**NFPA REQUIRED LOOSE EQUIPMENT, PROVIDED BY FIRE DEPARTMENT**

The following loose equipment as outlined in NFPA 1901, 2009 edition, section 7.7.2.1, 7.7.2.2, and 7.7.3.1 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.

- 200 ft (60 m) of 2½" (65 mm) or larger fire hose.
- 400 ft (120 m) of 1½" (38 mm), 1¾" (45 mm), or 2" (52 mm) fire hose (if equipped with a fire pump).
- Two (2) handline nozzles, 95 gpm (360 L/min) minimum (if equipped with a fire pump).
- 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 two (2), 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.
- Two (2) combination spanner wrenches mounted in a bracket(s) fastened to the apparatus.
- One (1) hydrant wrench mounted in a bracket fastened to the apparatus.
- One (1) double female adapter, sized to fit 2½" (65 mm) or larger fire hose, mounted in a bracket fastened to the apparatus.
- One (1) double male adapter, sized to fit 2½" (65 mm) or larger fire hose, 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 (if equipped with a fire pump).
- 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 at the shoulders, two at the sides, and one at the front.
- Five (5) fluorescent orange traffic cones not less than 28" (711 mm) in height, each equipped with a 6" (152 mm) retro-reflective white band no more than 4" (152 mm) from the top of the cone, and an additional 4" (102 mm) retro-reflective white band 2" (51 mm) below the 6" (152 mm) band.
- Five (5) illuminated warning devices such as highway flares, unless the five (5) fluorescent orange traffic cones have illuminating capabilities.

Crosswell Fire District	Bidder Complies	
	Yes	No
<p>- One automatic external defibrillator (AED).</p> <p>- 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 in. (75 mm) shall include a pressure relief device that meets the requirements of 16.6.6 (if equipped with pump).</p> <p>- If the apparatus does not have a 2½” National Hose (NH) intake, an adapter from 2½” 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.</p> <p>- If the supply hose carried has other than 2½” National Hose (NH) threads, adapters shall be carried to allow feeding the supply hose from a 2½” NH thread male discharge and to allow the hose to connect to a 2½” NH female intake, mounted in brackets fastened to the apparatus if not already mounted directly to the discharge or intake.</p> <p><b><u>SOFT SUCTION HOSE, PROVIDED BY FIRE DEPARTMENT</u></b>  NFPA 1901, 2009 edition, section 7.6 requires a minimum of 20 ft of suction hose or 15 ft of supply hose.</p> <p>Hose is not on the apparatus as manufactured. The fire department shall provide suction or supply hose.</p> <p>- One (1)-5.00" National Standard hose thread barrel strainer, chrome plated</p> <p><b><u>DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT</u></b>  NFPA 1901, 2009 edition, section 7.7.3.1 requires one (1) approved dry chemical portable fire extinguisher with a minimum 80-B:C rating mounted in a bracket fastened to the apparatus.</p> <p>The extinguisher is not on the apparatus as manufactured. The fire department shall provide and mount the extinguisher.</p> <p><b><u>WATER EXTINGUISHER PROVIDED BY FIRE DEPARTMENT</u></b>  NFPA 1901, 2009 edition, section 7.7.3.1 requires one (1) 2.5 gallon or larger water extinguisher mounted in a bracket fastened to the apparatus.</p> <p>The extinguisher is not on the apparatus as manufactured. The fire department shall provide and mount the extinguisher.</p> <p><b><u>AXE, FLATHEAD, PROVIDED BY FIRE DEPARTMENT</u></b>  NFPA 1901, 2009 edition, Section 7.7.3.1 requires one (1) flathead axe mounted in a bracket fastened to the apparatus.</p> <p>The axe is not on the apparatus as manufactured. The fire department shall provide and mount the axe.</p>		

# Crosswell Fire District

Bidder  
Complies

Yes      No

**PAINT**

The exterior custom body painting finishing process as follows:

Manual Surface Preparation - All exposed metal surfaces on the custom body shall be thoroughly cleaned and prepared for painting. Surfaces that shall not be painted include all chrome plated, stainless steel, anodized aluminum and bright aluminum treadplate. Each imperfection on the exterior metal surface shall be removed or filled and then sanded smooth for a smooth appearance. All seams shall be sealed before painting.

Chemical Cleaning and Treatment - The metal surfaces shall be properly cleaned using a acid etching system. Surfaces are chemically cleaned to remove all dirt, oil, grease and metal oxides to ensure the subsequent coatings bond well. An ultra pure water final rinse shall be applied to all metal surfaces, excluding undercarriage components, at the conclusion of the metal treatment process.

Sealer Primer Coat - A two (2) component sealer primer coat shall be applied.

Topcoat Paint - Two (2) coats of an automotive grade, two (2) component acrylic urethane paint, shall also be applied.

All removable items such as brackets, compartment doors, door hinges, trim, etc. shall be removed and painted separately to insure paint behind all mounted items. Body assemblies that can not be finish painted after assembly shall be finish painted before assembly.

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

Prior to reassembly and reinstallation of lights, handrails, door hardware and any miscellaneous body items, an isolation tape or gasket material must be used to prevent damage to the finish painted surfaces (no exceptions). A nylon washer shall be installed under each acorn nut or metal screw that is fastened directly to a painted body surface.

**PAINT - ENVIRONMENTAL IMPACT**

Contractor shall meet or exceed all current State (his) 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 must be chrome and lead free.
- Metal treatment chemicals must be chrome free. The wastewater generated in the metal treatment process must be treated to remove any other heavy metals.

Crosswell Fire District	Bidder Complies	
	Yes	No
<p>- Particulate emissions from painting operations must be collected by a dry filter or water wash process.</p> <p>- Solvents used in clean-up operations must be collected, sent off-site for distillation and returned for reuse.</p> <p>Additionally, the finished apparatus shall not be manufactured with or contain products that have ozone depleting substances. Contractor shall, upon demand, present evidence that his manufacturing facility meets the above conditions and that it is in compliance with his State EPA rules and regulations.</p> <p><b><u>PAINT CHASSIS FRAME ASSEMBLY</u></b></p> <p>The chassis frame assembly shall remain the color and paint quality as received from the chassis manufacturer. The frame and components shall not be repainted.</p> <p>Components that are considered part of the "frame assembly" are frame rails, cross members, axles, suspension, steering gear and the fuel tank.</p> <p><b><u>WARRANTY - PAINT AND CORROSION</u></b></p> <p>The body exterior paint finish shall be warranted against blistering, peeling, corrosion, lack of adhesion or any other manufacturing or material defect for a period of ten <b>(10) years</b>.</p> <p>The body shall also be warranted against corrosion perforation for a period of <b>ten (10) years</b>.</p> <p>A copy of the manufacturer's warranty shall be included with the bid.</p> <p><b><u>PAINT, COMPARTMENT INTERIOR</u></b></p> <p>Interior of compartmentation shall be painted with a gray spatter type paint.</p> <p><b><u>REFLECTIVE BAND</u></b></p> <p>A 6.00" white reflective band shall be provided across the front of the vehicle and along the sides of the body.</p> <p>The reflective vinyl band shall be provided across the front bumper.</p> <p><b><u>CHEVRON STRIPING, REAR</u></b></p> <p>There shall be alternating chevron striping located on the rear-facing vertical surface of the apparatus. The entire rear surface shall be covered.</p> <p>The colors shall be red and fluorescent yellow diamond grade.</p> <p>Each stripe shall be 6.00" in width.</p> <p>This shall meet the requirements of NFPA 1901, 2009 edition, which states that 50% of the rear surface shall be covered with chevron striping.</p>		

# Crosswell Fire District

Bidder  
Complies

Yes

No

**REFLECTIVE STRIPE, CAB DOORS**

A white reflective stripe shall be provided on the interior of each cab door.

This stripe shall be a minimum of 96 in sq and shall meet the NFPA 1901 requirement.

**LETTERING**

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

**LAMINATION WARRANTY**

The manufacturer shall provide a **three (3) year** warranty against defects in material and workmanship with the graphics process. A copy of the fire apparatus manufacturer's warranty shall be included with the bid.

**LETTERING**

Forty-one (41) to sixty (60) genuine gold leaf lettering 3.00" high and outlining shall be provided.