

REQUEST FOR PROPOSALS
#16-04
Commercial Cab Fire Engine
Oconee County



Oconee County, SC
Issued: December 7, 2016

Procurement Office
415 South Pine Street
Walhalla, SC 29691

Phone: (864) 638-4141
Fax: (864) 638-4142

OCONEE COUNTY, SOUTH CAROLINA

Commercial Cab Fire Engine – Oconee County

RFP DUE DATE/TIME: **January 19, 2017 at 2:00pm EST**

RFP NUMBER: **16-04**

POINT OF RECEIPT: Procurement Office, Room 100
Attn: Robyn Courtright
Procurement Director
Oconee County Administration Offices
415 South Pine Street
Walhalla, SC 29691

Inquiries - All inquiries concerning this proposal shall be addressed to the Procurement Office. **Contact with other departments or County representatives without permission of the Procurement Director may render your proposal void.**

An **original and six (6) bound copies** of your proposal shall be submitted by the due date above. Outside of package must be clearly marked with RFP number and project description above.

If downloading this solicitation from our website, it is the responsibility of the Proposer to email our office at rcourtright@oconeesc.com to be registered as a potential proposer to receive any subsequent amendments.

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SECTION 1

GENERAL INFORMATION & INSTRUCTIONS

1) DEFINITIONS:

- a) Oconee County hereinafter will be referred to as “County.”
- b) “Proposer” shall be any entity or individual submitting a proposal for the pending solicitation.
- c) All references to days in this solicitation mean calendar days, unless otherwise stated.
- d) All references to “shall,” “must,” and “will” are to be interpreted as mandatory language.
- e) Request for Proposals is a procurement method selected for this pending solicitation and will be referred to as the “RFP.”
- f) The Contract shall include this entire solicitation, all applicable amendments, the successful Proposer’s proposal and the purchase order.
- g) “Successful Proposer” shall be the successful Proposer with whom the Contract for the purchase of a “Commercial Cab Fire Engine – Oconee County” is entered by the County.

2) PURPOSE

- a) The County seeks proposals from qualified organizations to provide a Commercial Cab Fire Engine for the West Union Rural Fire Department, Oconee County, in accordance with the specifications and conditions contained in this RFP Package.
- b) This RFP has been compiled for the purpose of providing information, requirements, guidelines, specifications, and other data that can be used by Proposers who wish to submit a proposal for consideration.

3) INSTRUCTIONS

- a) The Proposer shall submit seven (7) sealed proposals, one clearly marked as “Original”, and six (6) copies, enclosed and secured in an envelope/package. The Proposer shall clearly mark and display the Proposer’s name and address, the RFP number and the project identification on outside of envelope/package. Oconee County **shall not** be responsible for unidentified proposals. Proposals shall be addressed to:

Robyn Courtright, Procurement Director
Oconee County Procurement Office
Room 100
415 South Pine Street
Walhalla, SC 29691

Hand delivered proposals should be delivered to the same above-referenced address.

- b) The Proposer shall submit the proposal to the Oconee County Procurement Office no later than **January 19, 2017 at 2:00 PM EST** at which time all proposals will be opened and **only the names of the Proposers will be announced**. Proposals received later than the deadline will not be considered and will be returned unopened. Proposers mailing their proposal must allow a sufficient mail delivery period to insure timely receipt of their proposal. Oconee County is not responsible for proposals delayed by mail and delivery services.
- c) Prices and quotations included in the proposal shall remain firm for not less than one hundred twenty (120) calendar days from proposal deadline stated above.
- d) The County shall not be liable for any costs associated with the preparation of responses to this solicitation; therefore, all costs shall be borne by the Proposer.

- e) **There will not be a pre-proposal conference. All prospective Proposers should review the RFP document and all Attachments and submit all questions and/or requests for additional information by the deadline of December 21, 2016, at 2:00 pm EST.**
- f) It is the intent and purpose of the County that this solicitation promotes competition. It shall be the Proposer's responsibility to advise the Procurement Director, in writing, if any language or requirements, or any combination thereof, inadvertently restricts or limits this solicitation to a single source. Such notification shall be submitted in writing, and must be received by the Procurement Director at least five calendar (5) days prior to proposal receipt date. A review of such notification shall be made by the Procurement Director.
- g) Prior to submitting a proposal, each Proposer shall carefully examine the RFP document, study and thoroughly familiarize himself/herself with the specifications/requirements of the RFP and the Contract Documents and notify Oconee County of any conflicts, errors, or discrepancies.
- h) By submission of a proposal, the Proposer guarantees that all goods and services meet the requirements of the RFP during the contract period.
- i) Failure to submit all required information may be determined as a non-responsive proposal.
- j) Any Proposer may withdraw its proposal prior to the closing time for the receipt of proposals. Correction or withdrawal of inadvertently erroneous proposals before or after the opening date, or cancellation of awards or contracts based on such mistakes, may be permitted subject to the following:
 - i) Appropriate mistakes discovered by the Proposer before proposal opening may be modified or withdrawn by submitting written notice to the Procurement Department prior to the time set for proposal opening.
 - ii) After opening, no changes in prices or other provisions of proposals prejudicial to the interest of the County shall be permitted.
 - iii) Except as otherwise provided by regulation, all decisions to permit the correction or withdrawal of proposals, or to cancel awards, or contracts, after award but prior to performance shall be supported by a written determination made by the Procurement Director.
- k) The Proposer shall follow the following directions for proposal preparation:
 - i) All proposals shall be complete and carefully worded, and must convey all of the information requested by the County. If significant errors are found in the proposal, or if the proposal fails to conform to the essential requirements of the RFP, the County and the County alone will be the judge as to whether that variance is significant enough to reject the proposal.
 - ii) Proposals are to be prepared simply and in a manner designed to provide the County with a straightforward presentation of the Proposer's capability to satisfy the requirements of this RFP. The Proposer's proposal must, therefore, follow the RFP format, utilizing the same section titles, schedules, and paragraphs.
 - iii) The Proposer must clearly mark as "***Confidential***" each part of their proposal which they consider to be proprietary information that could be exempt from disclosure under the South Carolina Freedom of Information Act (SCFOIA) as set forth in Chapter 4, Title 30, of the South Carolina Code of Laws, 1976, as amended. The County reserves the right to determine whether this information should be exempt from disclosure and no legal action may be brought against the County or its agents for its determination in this regard.
 - iv) The Proposer shall make its proposal in the official name of the entity or individual under which business is conducted (showing official business address).
 - v) The Proposer shall include all applicable requested information and is encouraged to include any additional information the Proposer wishes to be considered. If the proposal includes any comments over and above the specific information requested in our RFP, the Proposer shall include this information as a separate appendix to the proposal.

- vi) The Proposer shall clearly write in ink or type-write all prices and quotations
- vii) A person duly authorized to legally bind the Proposer shall execute all required documents in ink.
- viii) Each copy of the proposal should be bound in a single volume where practical.
- l) A Request for Proposals may result in additional negotiations. To maintain the integrity of the procurement process, all contacts and discussions shall be directed to the Procurement Director.
- m) Verbal comments or discussions by County personnel relative to this solicitation shall not be binding on the County.

4) EVALUATION AND AWARD CRITERIA

a) EVALUATION TEAM

A duly appointed Evaluation Team will conduct proposal evaluations.

b) AWARD CRITERIA

The Evaluation Team shall evaluate each of the Proposals using the criteria set forth in **Exhibit A** attached hereto. The County reserves the right to request Proposers to appear for an additional presentation followed by a question and answer period, in order to further evaluate qualifications. The additional presentations, if any, will also be scored and combined with prior scoring to determine the successful Proposer. The County is not obligated to accept the lowest cost proposal. The award of the contract, if awarded, will be made to the Proposer providing the most responsive, responsible proposal that provides the best overall value and service. The award, if awarded, will take into consideration several factors, including the soundness and flexibility of the proposal, functional capability, quality of performance, quality of service, ability to provide support, overall cost, and the Proposer's references. **The County reserves the right to reject all proposals or accept such proposals, as appears in its own best interest, and to waive technicalities or irregularities of any kind in the proposal.** The Evaluation Team will make their recommendation to the full County Council, if applicable. The County Council has the right to accept or refuse the Evaluation Team's recommendation.

c) NOTICE OF AWARD

If awarded, the Notice of Award will be posted on the County's website at www.oconeesc.com/procurement.

5) PRELIMINARY MATTERS

a) DELIVERY OF REQUIRED DOCUMENTS.

The Successful Proposer shall deliver the required Contract Documents (Payment Bonds, Performance Bonds, and Certificates of Insurance etc) to the County within ten (10) Calendar Days after the Notice of Award has been received by the Proposer.

6) GENERAL INFORMATION AND REQUIREMENTS

a) AFFIRMATIVE ACTION.

The Successful Proposer shall take affirmative action in complying with all Federal, State and County requirements concerning fair employment, employment of the handicapped, and concerning the treatment of all employees, without regard to or discrimination by reasons of race, color, sex, religion, national origin and/or physical handicap.

b) AMBIGUOUS OFFERS.

Proposals that are uncertain as to terms, delivery, compliance requirements, and/or specifications, may be rejected or otherwise disregarded.

c) EXPLANATION TO PROSPECTIVE PROPOSERS.

- i) Every effort has been made to ensure that all information needed is included in this RFP. If the Proposer finds that he/she cannot complete his/her response without additional information, he/she may submit written questions to the issuing office on or before the deadline set forth herein. No further questions will be accepted after that date.
- ii) Any prospective Proposer desiring an explanation or interpretation of the RFP, shall request in writing, five (5) days prior to proposal receipt date, which will allow a reply to reach all prospective Proposers before submission of their proposal.
- iii) Oral explanations and/or instructions given before the award of the contract shall not be binding. Any information given to a prospective Proposer about this solicitation shall be promptly furnished to other prospective Proposers as an amendment, if that information is necessary in submitting proposals or if the lack of it would be prejudicial to other prospective Proposers.

d) AMENDMENTS.

All amendments to and interpretations of this solicitation shall be in writing and signed by the County. Any amendments or interpretations that are not signed and in writing shall not legally bind the County or its agents. It is the Proposer's responsibility to acknowledge receipt of amendments by signing and returning one (1) copy of the amendment by letter, scanned email, or fax to the Procurement Director.

e) DISCUSSIONS.

By a submission of a response to this solicitation, Proposer agrees that during the time following issuance of the solicitation and prior to final award of contract, Proposer shall not discuss this procurement with any party except the Procurement Director. Proposer shall not attempt to negotiate with any other parties, and shall not discuss any aspects of the procurement without prior written approval of the Procurement Director.

f) AWARDING POLICY.

- i) The award of the contract shall be made in accordance with provisions of the Code of Ordinances of Oconee County, South Carolina, to the responsive, responsible Proposer whose proposal is determined to be the most advantageous to the County based on the criteria discussed above. However, the County reserves the right to reject any and all proposals received, and in all cases, the County shall be the sole judge as to whether a Proposer's proposal has or has not satisfactorily met the requirements of this RFP.
- ii) If awarded, this contract will be awarded to the responsible and responsive Proposer whose proposal is determined in writing to be in the best interest of Oconee County. Oconee County will be the sole judge as to whether a proposal has or has not satisfactorily met the requirements of this RFP. The document that will form the contract shall include this entire solicitation, all applicable amendments, the successful Proposer's proposal and the purchase order.

g) REJECTION OR ACCEPTANCE OF PROPOSALS; WAIVER OF TECHNICALITIES AND IRREGULARITIES.

- i) The County shall reserve the unqualified right to reject any and all proposals or accept such proposals, as appears in the County's own best interest.
- ii) The County shall reserve the unqualified right to waive technicalities or irregularities of any kind in solicitations made pursuant to this RFP.
- iii) In all cases, the County shall be the sole judge as to whether a proposer's proposal has or has not satisfactorily met the requirements to solicitations made pursuant to this RFP.
- iv) The County may reject any proposal that fails to conform to the essential requirements of the RFP.
- v) The County may reject any proposal that does not conform to the applicable *specifications* unless the RFP authorized the submission of alternate Proposals and the services offered as alternates meet

the requirements specified in the RFP.

- vi) The County may reject any proposal that fails to conform to any delivery schedule or permissible alternates stated in the RFP.
- vii) The County may reject a proposal when the Proposer imposes conditions that would modify requirements of the invitation or limit the Proposer's liability to the County, since to allow the Proposer to impose such conditions would be prejudicial to other Proposers. For example, the County may reject proposals in which the Proposer:
 - (1) Protects against future changes in conditions, such as increased costs, if total possible costs to the County cannot be determined;
 - (2) Fails to state a fee schedule, if one is required.
- viii) A Proposer may be requested to delete objectionable conditions from a proposal provided the conditions do not go to the substance, as distinguished from the form of the proposal, or work an injustice on other Proposers. A condition goes to the substance of a proposal where it affects price, quality, or delivery of the services offered.
- ix) Any proposal may be rejected if the Procurement Director determines in writing that it is unreasonable as to price. Unreasonableness of price includes not only the total price of the proposal, but the prices for any individual line items as well.
- x) Any proposal may be rejected if the prices for any line items or sub-line items are materially unbalanced.
- xi) Proposals received from any person or concern that is suspended, debarred, proposed for debarment or declared ineligible as of the proposal opening date shall be rejected unless a compelling reason determination is made.
- xii) The Procurement Director must reject Proposals received from entities determined to be non-responsible.
- xiii) The originals of all rejected Proposals, and any written findings with respect to such rejections, shall be preserved with the papers relating to the RFP.
- h) After submitting a proposal, if all of a Proposer's assets or that part related to the proposal are transferred during the period between the proposal opening and the award, the transferee may not be able to take over the proposal. Accordingly, the Procurement Director shall reject the proposal unless merger, operation of law or other means not barred by law effects the transfer.
- i) **PROTEST PROCEDURE**
 - i) **Right to Protest.** Any actual or prospective offeror or Proposer who is aggrieved in connection with the solicitation or award of a contract may protest to the Procurement Director, except as otherwise stated in this section. The protest shall be submitted in writing within seven (7) calendar days after such aggrieved prospective offeror, or Proposer knows or should have known of the facts giving rise thereto.
 - ii) **Authority to Resolve Protests.** The Procurement Director shall have authority to settle and resolve a protest by an aggrieved offeror or Proposer, actual or prospective, concerning the solicitation or award of a contract.
 - iii) **Decision on Protests.** If the protest is not resolved by mutual agreement, the Procurement Director shall issue a decision in writing within ten (10) calendar days. The decision shall: (a) state the reasons for the action taken; and (b) inform the protestant of the protestant's rights to appeal the decision of the Procurement Director as provided in this Section.
 - iv) **Notice of Decision on Protests.** A copy of the decision of this Section shall be mailed or otherwise furnished to the protestant.
 - v) **Finality of Decision on Protests.** A decision under this Section shall be final and conclusive, unless

a business adversely affected by the decision appeals administratively to the County Council in accordance with the Oconee County Code of Ordinances.

j) COMPLETE DOCUMENTS.

All supplementary documents and attachments are essential parts of this RFP and requirements occurring in one are as binding as though occurring in all.

k) CONTRACT ADMINISTRATION.

Questions or problems arising after award of this contract shall be directed to the Procurement Director by calling 864-638-4141. Copies of all correspondence concerning this contract shall be sent to the Procurement Director, 415 S. Pine Street, Walhalla, SC 29691. All change orders must be authorized in writing by the Procurement Director. Oconee County shall not be bound to any change in the original purchase order or contract without prior written approval of the Procurement Director.

l) COVENANT AGAINST CONTINGENT FEES.

The Proposer warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Proposer for the purpose of securing business. For breach or violation of this warranty, the County shall have the right to annul this agreement without liability or in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

m) DEFAULT.

In case of default by the Successful Proposer, the County reserves the right to purchase any or all services in open market, charging said Proposer with any excess costs. Should such charges be assessed, no subsequent Proposals of the defaulting Proposer shall be considered until the assessed charges have been satisfied.

n) SUBCONTRACTS.

Proposer shall not subcontract work hereunder without the prior written consent of the County, and any such subcontract without consent of the County shall be null and void. If Proposer proposes to subcontract any of the work hereunder, it shall submit to the County the name of each proposed Subcontractor, with the proposed scope of work which its Subcontractor is to undertake. The County shall have the right to reject any Subcontractor which it considers unable or unsuitable to satisfactorily perform its duties. Proposer shall not enter into any cost reimbursable agreements with any proposed Subcontractor without County's prior written authorization. Notwithstanding any consent by the County to a proposed subcontract, Proposer shall remain responsible for all subcontracted work and services. Proposer agrees it shall be as fully responsible to the County for the acts and omission of its Subcontractors, their agents, representatives, and persons either directly or indirectly employed by them as it is for the acts and omissions of persons directly employed by Proposer. Neither this provision, the agreement, the County's authorization of Proposer's agreement with Subcontractor, County's inspection of a subcontractor's facilities or work, or any other action taken by the County in relation to a Subcontractor shall create any contractual relationship between any Subcontractor and the County. Proposer shall include in each of its subcontracts a provision embodying the substance of this provision and shall exhibit a copy thereof to the County before commencement of any work by a Subcontractor. Proposer's violation of this provision shall be grounds for the County's termination of this agreement for default, without notice or opportunity for cure.

In addition, Proposer indemnifies and holds the County harmless from and against any claims (threatened, alleged, or actual) made by any Subcontractor of Proposer (of any tier) for compensation, damages, or otherwise, including any cost incurred by the County to investigate, defend, or settle any such claim.

o) **INSURANCE REQUIREMENTS**

The Successful Proposer shall procure, maintain, and provide proof of insurance coverage for injuries to persons and/or property damage as may arise from, or in conjunction with, the work performed on behalf of the County by the Successful Proposer, his agents, representatives, employees or subcontractors. A Certificate of Insurance shall be submitted within ten (10) Calendar Days after the Notice of Award has been received by the Proposer and such coverage shall be maintained by the Successful Proposer for the duration of the contract period; for occurrence policies.

Commercial General Liability

Coverage shall be as broad as: Comprehensive General Liability endorsed to include Broad Form, Commercial General Liability Form including Products/Completed Operations.

Minimum Limits:

- \$2,000,000 General Aggregate Limit
- \$1,000,000 Products & Completed Operations
- \$1,000,000 Personal & Advertising Injury
- \$1,000,000 Each Occurrence Limit
- \$50,000 Fire Damage Limit
- \$5,000 Medical Expense Limit

Business Commercial Automobile Liability

Coverage sufficient to cover all vehicles owned, used, or hired by the Successful Proposer, his agents, representatives, employees or subcontractors.

Minimum Limits:

- \$1,000,000 Combined Single Limit
- \$1,000,000 Each Occurrence Limit
- \$5,000 Medical Expense Limit

Garagekeeper's Liability

\$1,000,000.00 Garage Liability Insurance

Workers' Compensation

Limits as required by the Workers' Compensation Act of SC, to include state's endorsement for businesses outside of SC. Employer's Liability, \$1,000,000.

Professional Liability (if Engineering or Professional Services are required)

Minimum limits are \$1,000,000 per occurrence.

Insurance Coverage Provisions

- i) All deductibles or self-insured retention shall appear on the certificate(s).
- ii) Oconee County, its' officers/ officials, employees, agents and volunteers shall be added as "additional insured" as their interests may appear. This provision does not apply to Professional Liability or Workers' Compensation/Employers' Liability.
- iii) The Successful Proposer's insurance shall be primary over any applicable insurance or self-insurance maintained by the County.
- iv) Shall provide 30 days written notice to the County before any cancellation, suspension, or void of coverage in whole or part, where such provision is reasonable.
- v) All coverage for subcontractors of the Successful Proposer shall be subject to all of the requirements stated herein.
- vi) All deductibles or self-insured retention shall appear on the certificate(s) and shall be subject to approval by the County. At the option of the County, either; the insurer shall reduce or eliminate such deductible or self-insured retention; or the Successful Proposer shall be required to procure a bond guaranteeing payment of losses and related claims expenses.

- vii) Failure to comply with any reporting provisions of the policy(s) shall not affect coverage provided the County, its officers/officials, agents, employees and volunteers.
- viii) The insurer shall agree to waive all rights of subrogation against the County, its' officers/officials, agents, employees or volunteers for any act, omission or condition of premises which the parties may be held liable by reason of negligence.
- ix) The Successful Proposer shall furnish the County certificates of insurance including endorsements affecting coverage. The certificates are to be signed by a person authorized by the insurance company(s) to bind coverage on its behalf, if executed by a broker, notarized copy of authorization to bind, or certify coverage must be attached.
- x) All insurance shall be placed with insurers who are lawfully authorized to do business in the state of SC, and who maintain an A.M. Best rating of no less than an A:VII. If A.M. Best rating is less than A:VII, approval must be received from the County's Risk Manager.

p) **ASSIGNMENT OF AGREEMENT.**

No agreement may be assigned, sublet, or transferred without the prior written consent of the County. This RFP package, the negotiated results documented in writing, and the winning Proposer's proposal shall constitute the entire agreement.

q) **STATEMENT OF COMPLIANCE AND ASSURANCES.**

- i) Proposers to be eligible for consideration shall be required to certify in writing, that the firm or agency represented in the proposal submitted, complies with all applicable federal and state laws/regulations and County ordinances.
- ii) Proposers shall be required to provide with each proposal, a written assurance of non-collusion and understanding and acceptance of any and all provisions stated in this agreement.
- iii) A statement of Assurance, Compliance and Non-collusion, a copy of which is attached hereto as **Exhibit B**, along with other statements and certifications shall be provided to Proposers and be part of each solicitation and shall be part of this agreement.

r) **DRUG FREE WORKPLACE ACT.**

It is the intent of the County to comply with the requirements set forth in Title 44, Code of Laws of South Carolina, 1976, Chapter 107, and shall apply to all procurement actions involving an award for FIFTY THOUSAND dollars, (\$50,000.00) or more. Proposers shall be required to execute a statement certifying that they understand and are in full compliance with the Drug Free Workplace Act, a copy of which is attached hereto as **Exhibit C**. Failure to comply with this requirement shall result in rejection of a proposal.

s) **EXAMINATION OF RECORDS.**

The Oconee County Administrator or his duly authorized representative(s), and/or duly authorized representative from the Procurement Office shall until three (3) years after final payment under the agreement resulting from this RFP, have access to and the right to papers and other records involving transactions related to the agreement to be awarded hereunder.

t) **\$300 SOUTH CAROLINA SALES TAX FOR VEHICLES.**

Oconee County is subject to a maximum tax of \$300 for any vehicle purchase. By submission of a signed bid, the Proposer is certifying, under penalties of perjury, that the Proposer complies with Title 12, Chapter 36, Article 1 of the SC Code of Laws 1976, as amended, relating to payment of any applicable taxes. The Proposer's signature below will certify to the County the Proposer's compliance.

u) **FAILURE TO SUBMIT PROPOSAL.**

Recipients of this solicitation not responding with a proposal should return the "No Proposal" form attached as **Exhibit D** hereto. If a recipient does not submit a proposal or fails to respond by submitting a "no proposal" for three (3) consecutive proposals for the same commodity, they shall be removed

from the applicable Proposer list.

v) NON-APPROPRIATION

In case of non-appropriation of funds from the County, the federal government or otherwise, the County may terminate the Contractor Agreement in whole or in part without further obligation to the Proposer.

w) FORCE MAJEURE.

The Proposer shall not be liable for any excess costs if the failure to perform the agreement resulting from this RFP arises out of causes beyond the control and without fault or negligence of the Proposer, including an act of God, earthquake, flood, cyclone or other cataclysmic phenomenon of nature, a rain, windstorm, high water or other natural phenomenon of unusual intensity for the locality where the Work is to be performed, but which might reasonably have been anticipated from historical records of the general locality shall not be construed as an act of God, the act of the public enemy, fire, explosion, perils of the sea, war, riot, sabotage, acts of governmental authorities, embargo, or any other circumstances of like or different character beyond the reasonable control of the Proposer, or by interruption or delay in transportation, labor trouble of a supplier from whatever cause arising and whether or not the demands of the employees involved are reasonable and within the affected party's power to concede or compliance with any order or request of any governmental officer, department, agency or committee. Provided; however, that any failure which the Proposer intends to rely upon as an excuse for failure to perform or failure to perform in a timely manner, shall only be considered by the County if the Proposer has given the County written notice of intention to rely upon such act within ten (10) Calendar Days after the occurrence giving rise to the delay. Upon the occasion of such event, the parties shall meet and confer and any additional time necessary shall be fixed by the County, which determination shall be final.

x) IMPROPER INFLUENCE AND PROHIBITION OF GRATUITIES.

i) Soliciting of special interest groups or appointed and elected officials with the intent to influence contract awards or to overturn decisions of the Procurement Director is hereby prohibited. Violation of this provision may result in suspension or debarment.

ii) Section 8-13-720, as amended, of the 1976 Code of Laws of South Carolina states:

No person may offer or pay to a public official, public member, or public employee and no public official, public member, or public employee may solicit or receive money in addition to that received by the public official, public member, or public employee in his official capacity for advice or assistance given in the course of his employment as a public official, public member, or public employee.

y) INDEMNIFICATION.

Proposer shall indemnify, defend and hold harmless the County, its employees, council members, agents, attorneys, and officers, each from and against all loss, damage, claims, and actions, and all expenses, including, but not limited to, attorney's fees and costs, incidental to such claims or actions, including but not limited to liability as a result of injury to or death of any person, based upon or arising out of damage to property or injuries to persons or other tortious acts caused or contributed to by the Proposer or anyone acting under its direction or control or in its behalf in the course of its performance under the agreement to be entered hereunder, and directly or indirectly caused, in whole or in part, by acts or omissions, negligence or otherwise, of Proposer or an agent of the Proposer or an employee of anyone of them, regardless of the negligence of the County or its employees, be it active or passive, except where such loss, cost, damage, claim, expense, or liability arises from the sole gross negligence or willful misconduct of the County. Upon request of the County, Proposer shall, at no cost or expense to the County, defend any suit asserting a claim for any loss, damage or liability specified above, and Proposer shall pay any cost and attorneys' fees that may be incurred by the County in connection with any such claim or suit or in enforcing the indemnity granted above.

z) PROPOSER'S QUALIFICATIONS.

Proposals shall be considered only from Proposers who are regularly established in the business called for, and who in the judgment of the County are financially responsible and able to show evidence of their reliability, ability, experience, facility and personnel directly employed or supervised by the Proposer. Proposer must be able to render prompt and satisfactory service in the volume called for under the agreement. County may make such investigation, as it deems necessary to determine the ability of the Proposer to perform the work. The Proposer shall furnish to the County all such information and data as the County may request, including, if requested, a detailed description of the method and program of the work which the Proposer proposes to use. The County reserves the right to reject any proposal if the evidence submitted by, or investigation of, such Proposer fails to satisfy the County that such Proposer is properly qualified to carry out the obligations of the agreement and to complete the work contemplated therein. Conditional proposals will not be accepted.

aa) PROPOSER'S RESPONSIBILITY.

Each Proposer shall fully acquaint itself with conditions relating to the scope and restrictions attending the execution of the work under the conditions of this solicitation. The failure or omission of a Proposer to acquaint itself with existing conditions shall in no way relieve the Proposer of any obligation with respect to this solicitation or agreement.

bb) PUBLICITY RELEASES.

Proposer agrees not to refer to award of this contract in commercial advertising in such a manner as to state or imply that the products or services provided are endorsed or preferred by the County. The Proposer shall not have the right to include the County's name in its published list of customers without prior approval of the County. With regard to news releases, only the name of the County, type and duration of contract may be used and then only with prior approval of the County. The Proposer also agrees not to publish, or cite in any form, any comments or quotes from the County Staff, unless it is a direct quote from the County Administrator.

cc) SEVERABILITY.

If any term or provision of any agreement resulting from this solicitation shall be found to be illegal or enforceable, notwithstanding any such legality or enforceability, the remainder of said agreement shall remain in full force and effect, and such term or provision shall be deemed to be deleted and severable therefrom.

dd) NON-RESIDENT TAXPAYER REGISTRATION AFFIDAVIT.

The form attached as **Exhibit E** must be completed by any Proposers that do not have a business that resides in South Carolina.

ee) ILLEGAL IMMIGRATION REFORM ACT.

By submittal of this proposal, the Proposer is hereby certifying that the Proposer is in compliance with Chapter 14 of Title 8 of the South Carolina Code of Laws, 1976, as amended, or that this law is inapplicable to the Proposer and the Proposer's subcontractors. An overview of this law is available at www.procurementlaw.sc.gov/immigration. The Successful Proposer shall be in full compliance with the requirements set forth in Chapter 14 of Title 8 of the South Carolina Code of Laws, 1976, as amended, and the Successful Proposer agrees to provide to the County any documentation required to establish either: (a) Chapter 14 of Title 8 of the South Carolina Code of Laws, 1976, as amended, is inapplicable to the Successful Proposer or any subcontractor or sub-subcontractor of the Successful Proposer; or (b) the Successful Proposer and any subcontractor or sub-subcontractor of the Successful Proposer is in full compliance with Chapter 14 of Title 8 of the South Carolina Code of Laws, 1976, as amended. The Successful Proposer will, at all times during the Term, be in full compliance with the provisions of the Immigration Reform and Control Act of 1986 ("IRCA") in the hiring of its employees, and the Successful Proposer shall indemnify, hold harmless and defend the County against any and all actions, proceedings, penalties or claims arising out of the Successful Proposer's failure to strictly comply with IRCA or Chapter 14 of Title 8 of the South Carolina Code of Laws, 1976, as amended.

ff) SOUTH CAROLINA LAW CLAUSE.

Upon award of a contract under this proposal, the person, partnership, association or corporation to whom the award is made must comply with the laws of South Carolina which require such person or entity to be authorized and/or licensed to do business within the State. Notwithstanding the fact that applicable statutes may exempt or exclude the Proposer from requirements that it be authorized and/or licensed to do business in this State, by submission of this signed bid, the Proposer agrees to subject himself to the jurisdiction and process of the courts of the State of South Carolina as to all matters and disputes arising or to arise under the contract and the performance thereof, including any questions as to the liability for taxes, licenses, or fees levied by the State.

gg) **CONFIDENTIAL INFORMATION.**

The County will mark as "**Confidential**" any information which the County considers to be proprietary, confidential information (the "County's Confidential Information"). The County's Confidential Information which may be as part of this RFP, or otherwise provided as a part of the procurement process, is the property of the County. Without the prior written consent of the County, the Proposer will not, at any time, use, publish, sell, deliver or otherwise disclose the County's Confidential Information to any third party or for the benefit of anyone other than the County. The Proposer will promptly advise the County in writing if it learns of any unauthorized use or disclosure of the County's Confidential Information. The County's Confidential Information is and shall continue to be the exclusive property of the County. Immediately upon the Award, the Proposer, if not the Successful Proposer, shall deliver to the County or certify the destruction or permanent deletion of all the County's Confidential Information and all copies of the County's Confidential Information, in any media or format, then in its actual or constructive possession or control and the Proposer shall cease using any of the County's Confidential Information, at any time, when so requested by the County.

The Proposer shall indemnify and hold harmless the County or anyone directly or indirectly employed by either of them from and against all claims, damages, losses, and expenses, including attorneys' fees, arising out of any unauthorized use or disclosure of the County's Confidential Information by the Proposer and shall defend all such claims in connection with any alleged infringement of such rights.

The undersigned Proposer has read and understands the provisions contained herein and agrees to be bound by same.

PROPOSER

(Name of Corporation or Entity)

By:

Name: _____
Title: _____

THIS PAGE MUST BE SIGNED AND RETURNED WITH PROPOSAL

EXHIBIT A

EVALUATION CRITERIA

Note: The proposals will be publicly opened. Only the names of the proposers will be disclosed at the opening. Contents of the proposal shall not be disclosed during the evaluation or negotiation phases. Proposals shall be available for public inspection after award of the agreement. Proposals must be clearly marked “**CONFIDENTIAL**” for each part of the proposal that is considered to be proprietary information that could be exempt from disclosure under Section 30-4-40, Code of Laws of South Carolina, 1976, *as amended* (“South Carolina Freedom of Information Act”). If any part is designated as “**CONFIDENTIAL**”, there must be attached to that part an explanation of how this information fits within one or more categories listed in Section 30-4-40. The County reserves the right to determine whether this information should be exempt from disclosure.

Oconee County shall evaluate each written proposal, determine whether oral discussions are necessary, then based on the content of the written proposal and any oral discussion, select the proposer best qualified for the project and which is most advantageous to Oconee County, based on the following factors listed below.

The evaluation criteria will be:

- 1. Specifications Compliance – 40%**
- 2. Cost Requirements – 20%**
- 3. Service and Warranty Requirements - 20%**
- 4. Capabilities of Firm and References – 20%**

Oconee County reserves the right to accept and/or reject any and all proposals received as a result of this request, and to negotiate with any and all qualified proposers. An award resulting from this request shall be made to the responsive and responsible proposer whose proposal is determined to be in the best interests of Oconee County, taking into consideration the cost and the evaluation factors set forth herein. Oconee County will be the sole judge as to whether a proposal has satisfactorily met the requirements of this request for proposal.

Representatives of Oconee County will evaluate individual proposals. Any proposer determined to be technically unqualified, or whose proposal is deemed unresponsive, will not be considered further. Any proposer that has demonstrated poor performance during either a current or previous agreement with Oconee County may be considered as an unqualified source and their proposal may be rejected. Oconee County reserves the right to exercise this option as is deemed proper or necessary.

EXHIBIT B

Statement of Assurance, Compliance, and Non-Collusion

STATE OF _____)
COUNTY OF _____)

_____, being first duly sworn, deposes and says that:

- (1) The undersigned, as Proposer, certifies that every provision of this proposal has been read and understood.
(2) The Proposer hereby provides the following representations and assurances:
(a) The Proposer represents that he has familiarized himself with and assumes full responsibility for having familiarized himself with the nature and extent of the Contract Documents, the Work, the locality, local conditions, state, and local laws, ordinances, rules and regulations, as well as all applicable statutes, regulations, executive orders (EOs), Office of Management and Budget (OMB) circulars, terms and conditions, and approved applications which are applicable to the Project and the Work or that may in any manner affect performance of the Work, including, but not limited to those items listed in Section 9 of Exhibit B (Special Conditions) of the Agreement. The Proposer further represents that he has correlated his Proposal with the requirements of the Contract Documents; and
(b) The Proposer shall comply with all requirements, stipulations, terms and conditions as stated in the proposal/proposal document; and
(c) The Proposer currently complies with all Federal, State, and local laws and regulations regarding employment practices, equal opportunities, industry and safety standards, performance and any other requirements as may be relevant to the requirements of this solicitation; did not participate in the development or drafting specifications, requirements, statement of work, etc. relating to this solicitation; and
(d) The Proposer has not colluded with other Proposers possibly interested in this proposal in arriving at or determining prices and conditions to be submitted; and
(e) No person associated with Proposer's firm is an employee of Oconee County. Should Proposer, or Proposer's firm have any currently existing agreements with the County, Proposer must affirm that said contractual arrangements do not constitute a conflict of interest in this solicitation; and
(f) Such agent as indicated below, is officially authorized to represent the firm in whose name the proposal is submitted.

(Name of Corporation or Entity)

Date: _____

By: _____
Print Name: _____
Title: _____

STATE OF _____)
)
COUNTY OF _____)

I, _____, Notary Public for the State of _____, do hereby certify

_____, by _____, its _____

(Name of Corporation or Entity)

(Signatory)

(Title of Signatory)

personally appeared before me this day and acknowledged the due execution of the foregoing.

Witness by my hand this _____ day

of _____, 2017

Notary Public for _____

My Commission Expires: _____

EXHIBIT D

RFP 16-04 Commercial Cab Fire Engine – Oconee County

NO RESPONSE

If a “No Proposal” is to be submitted, please check the appropriate box(es) below and return this form, prior to the proposal opening date, to:

Robyn M. Courtright, Procurement Director
Oconee County Procurement Office
Room 100
415 South Pine Street
Walhalla, SC 29691

Cannot respond to this solicitation due to the following reason:

- Do not sell or provide the requested goods or services
- Cannot comply with specifications/statement of work
- Specifications/statement of work is unclear
- Cannot meet delivery or period of performance
- Delivery/period of performance is unreasonable
- Cannot meet the bond requirements
- Not enough time to prepare proposal
- Plan to subcontract
- Job is too large
- Job is too small
- Other(please specify) _____

(Name of Corporation or Entity)

By: _____

Date: _____

Print Name: _____

Title: _____

Exhibit E



STATE OF SOUTH CAROLINA
DEPARTMENT OF REVENUE
**NONRESIDENT TAXPAYER
REGISTRATION AFFIDAVIT
INCOME TAX WITHHOLDING**

I-312
(Rev. 7/28/09)
3323

Mail to: The company or individual you are contracting with.

The undersigned nonresident taxpayer on oath, being first duly sworn, hereby certifies as follows:

1. Name of Nonresident Taxpayer: _____

2. Trade Name, if applicable (Doing Business As):

3. Mailing Address: _____

4. Federal Identification Number: _____

5. _____ Hiring or Contracting with:
Name: _____
Address: _____

_____ Receiving Rentals or Royalties From:
Name: _____
Address: _____

_____ Beneficiary of Trusts and Estates:
Name: _____
Address: _____

6. I hereby certify that the above named nonresident taxpayer is currently registered with (check the appropriate box):
 The South Carolina Secretary of State or
 The South Carolina Department of Revenue
Date of Registration: _____

7. I understand that by this registration, the above named nonresident taxpayer has agreed to be subject to the jurisdiction of the South Carolina Department of Revenue and the courts of South Carolina to determine its South Carolina tax liability, including estimated taxes, together with any related interest and penalties.

8. I understand the South Carolina Department of Revenue may revoke the withholding exemption granted under Code Sections 12-8-540 (rentals), 12-8-550 (temporarily doing business or professional services in South Carolina), and 12-8-570 (distributions to nonresident beneficiary by trusts or estates) at any time it determines that the above named nonresident taxpayer is not cooperating with the Department in the determination of its correct South Carolina tax liability.

The undersigned understands that any false statement contained herein could be punished by fine, imprisonment or both. Recognizing that I am subject to the criminal penalties under Code Section 12-54-44 (B) (6) (a) (i), I declare that I have examined this affidavit and to the best of my knowledge and belief, it is true, correct and complete.

Signature of Nonresident Taxpayer (Owner, Partner or Corporate Officer, when relevant) (Seal) _____ Date

If Corporate officer state title: _____

(Name - Please Print)

01012333

SECTION 2 INTRODUCTION & BACKGROUND

Oconee County is seeking proposals for one Commercial Cab Fire Engine for use by Oconee County Fire Station Number Sixteen (West Union). This Station currently has a 1994 Freightliner Engine, a 2002 Freightliner Engine and a 2001 Tanker truck. This new Engine will replace the older model Pumper which will be used as a spare. The local terrain where this truck will be used varies greatly and has some steep inclines, up to a 7% grade, and small narrow roads.

Oconee County is located in the upper northwest corner of South Carolina with a population of 68,000. The County is supported by 17 Rural/Suburban Volunteer Fire Stations and a full time Emergency Services Department. The County provides a full range of municipal services and employs 480 full-time equivalent employees, 450 Volunteer Fire and 180 Volunteer Medical First Responders. Emergency Services has 21 full time employees and 17 part time employees.

Background:

Oconee County's Emergency Services Department funds the purchase of necessary fire equipment and vehicles for the Rural Fire Departments. The most recent purchases are listed below:

- In December of 2008, BVB 08-04 was awarded to Spartan Fire & Emergency Apparatus for the purchase of two Pierce pumper trucks.
- In September of 2009, two additional Pierce pumper trucks were purchased per the pricing of this same bid.
- In February of 2011, RFP 10-07 was awarded to Pierce Manufacturing, for the purchase of one Custom Triple Combination pumper and this truck was delivered in October 2011.
- In April of 2012, RFP 11-19 was awarded to Fireline, Inc./Emergency One for one Commercial Triple Combination Pumper truck which was delivered in May of 2013.
- In May of 2013, RFP 12-09 was awarded to Kovatch Mobile Equipment for one Commercial Top Mount Pumper/Tanker Truck which was delivered in August of 2014.
- In July of 2015, RFP 14-16 was awarded to Fouts Brothers for one Mini-Pumper Truck which was delivered in September of 2016.
- In August of 2015, RFP 14-15 was awarded to Fouts Brothers for one 3000 Gallon Super Tanker Truck which was delivered in May of 2016.
- In April of 2016, RFP 15-11 was awarded to FireLine/Emergency One for one Custom Pumper Truck which has not yet been delivered.
- In April of 2016, the County purchased an Emergency One HP78 Aerial truck from Fireline. This truck was a demo unit and was delivered in June 2016.

SECTION 3 SPECIFICATIONS

3.100 GENERAL

It is the intent of these specifications to secure apparatus constructed to withstand the severe and continuous use encountered during emergency fire fighting services. The apparatus must be of the latest type, carefully designed and constructed with due consideration to the nature and distribution of the load to be sustained. It is the intent of these specifications to clearly describe the furnishing and delivery to the Purchaser, a complete apparatus equipped as specified. The primary objective of these specifications is to obtain the most acceptable apparatus for service in the Fire Department. These specifications cover specific requirements as to the type of construction and tests the apparatus must conform, together with certain details as to finish, material preferences, equipment and appliances with which the successful proposer must conform.

Apparatus and equipment must meet the specific requirements and intent of the requirements as specified herein. All items of these specifications shall conform to the character of the proposed apparatus and the purpose for which it is intended. Criteria as specified by the National Fire Protection Association Pamphlet No. 1901, latest edition, entitled "Suggested Specifications for Motor Fire Apparatus", as approved by the American Insurance Association and International Association of Fire Chiefs, are hereby adopted and made a part of these specifications the same as if they were written out in full, insofar as they apply and are not specifically modified in the following detailed specifications. Each bidder shall provide only that equipment as required in the following specifications.

It is not the intention of these specifications to write out any vendor or manufacturer of similar or equal equipment of the types specified. It should be noted that these specifications are written around the specific needs of the Oconee County Emergency Services and Rural Fire Departments. Price will not be the only consideration in making an award. Award shall be recommended for the proposer that comes closest to meeting specifications, while at the same time providing the highest quality, longest lasting fire apparatus at the most competitive price.

DEVIATIONS FROM SPECIFICATIONS: Any deviation from specifications indicated herein should be clearly pointed out; otherwise, it will be considered that items offered are in strict compliance with these specifications. Deviations should be explained in detail. The listing of deviations, if any, is required but will not be construed as waiving any requirements of the specifications. Deviations found in the evaluation of the RFP and not listed may be cause for rejection. Proposers offering substitute or equal items should provide information sufficient enough to determine acceptability of item offered.

"OR APPROVED EQUAL": Certain processes, types of equipment or kinds of material are described in the specifications by means of trade/brand names and/or catalog numbers. In each instance where this occurs, it is understood and inferred that such description is followed by the words "or approved equal". Such method of description is intended merely as a means of establishing a standard of comparability. However, the County reserves the right to select the items which, in the judgment of the County, are best suited to the needs of the County based on price, quality, service, availability and other relative factors. Proposers should indicate brand name, model, model number, size, type, weight, color, etc., of the item in their proposal, if not exactly the same as the item specified. Vendor's stock number or catalog number is not sufficient to meet this requirement. If any bidder desires to furnish an item different from the specifications, vendor shall submit with their proposal, the information, data, pictures, designs, cuts, etc., of the item they plan to furnish so as to enable the County to compare the item specified; and, such item shall be given due consideration. The County reserves the right to insist upon, and receive items as specified if the submitted items do not meet the County's standards for acceptance.

The design of the apparatus must embody the latest approved automotive design practices. The workmanship must be of the highest quality in its respective field. Special consideration shall be given to service access to areas needing periodic maintenance, ease of operation, and symmetrical proportions. Construction must be heavy-duty and ample safety factors must be provided to carry loads as specified. The construction method employed will be in such a manner as to allow ready removal of any component for service or repair.

These specifications detail the requirements for general design criteria of cab and chassis components, fire pump and related components, water tank, fire body, electrical components, painting, and equipment. In evaluating the proposals to determine which proposal is the most advantageous, these major items shall be considered.

Apparatus and equipment must meet the specific requirements and intent of the requirements as specified herein. All items of these specifications shall conform to the character of the proposed apparatus and the purpose for which it is intended. Criteria as specified by the National Fire Protection Association Pamphlet No. 1901, latest edition, entitled "Suggested Specifications for Motor Fire Apparatus", as approved by the American Insurance Association and International Association of Fire Chiefs, are hereby adopted and made a part of these specifications the same as if they were written out in full, insofar as they apply and are not specifically modified in the following detailed specifications. The apparatus shall further conform to all Federal Motor Vehicle Safety Standards. Each proposer shall provide only that equipment as required in the following specifications.

Each proposer shall furnish satisfactory evidence of their ability to design, engineer, and construct the apparatus specified and shall state the location of the factory producing the apparatus. They shall also substantiate they are in a position to render prompt and proper service and to furnish replacement parts for the apparatus.

Each proposal must be accompanied by a set of detailed specifications consisting of a detailed description of the apparatus and equipment proposed. All proposal specifications must be in the same sequence as the advertised specification for ease of comparison. These specifications shall include size, location, type, and model of all component parts being furnished. Detailed information shall be provided on the materials used to construct all facets of the apparatus body. Any proposer who fails to submit detailed construction specifications, or who photo copies and submits these specifications as their own construction details will be considered non-responsive and shall render their proposal ineligible for award.

All proposers are required to detail the payment terms for apparatus on a separate page. Any required prepayments or progress payments must be explained in detail. If a prepayment would result in a savings to the County the proposer shall list the terms and amount of savings.

3.102 Instructions

Proposer shall indicate in the space provided after each specification description if their proposal complies with the specification by checking "Yes" or "No" box. If "No" is checked, then an explanation is to be provided on a separate page and labeled with the number of the section and page number. Exceptions can be allowed if they are equal to or superior to the item specified. Brand names and part numbers are used to indicate the minimum specification that will be acceptable.

Proposers shall pay special attention to the organization of this section to be sure that all Specification sections that require any additional information are included, numbered to match the corresponding section and kept in order.

3.103 Bond Requirements

BID BOND:

Each proposer shall submit with his Proposal a Bid Bond with a good and sufficient surety or sureties company licensed in South Carolina, in the amount of five percent (5%) of the total Proposal amount. The Bid bond penalty may be expressed in terms of a percentage of the price or may be expressed in dollars and cents.

OTHER ACCEPTABLE METHODS:

A. CERTIFIED CHECKS: If a certified check is submitted in lieu of a Bid bond, it will be made payable to the Oconee County Treasurer's Office, in the amount of 5% of the total Bid amount.

A check will be returned to the unsuccessful offerors after award and will be returned to the successful offeror after acceptance of the final contract and surety by the offeror.

B. IRREVOCABLE LETTER OF CREDIT: Oconee County will accept an Irrevocable Letter of Credit in lieu of a Bid Bond. Letter shall be issued by a Financial Institution insured by the FDIC or FSLIC in the amount of 5% of the total Bid amount.

PERFORMANCE AND PAYMENT SURETY:

The successful contractor shall pay the cost and furnish within ten days after written notice of acceptance of Bid, an irrevocable Surety in the form of a Performance and Payment Bond, Certificate of Deposit, Cashier's Check

or irrevocable letter of credit. The Surety shall be issued in the amount of 100% of the total amount of the award of bid.

Option 1: Performance Bond: Bond must be issued by a Surety Company licensed to do business in South Carolina, with an "A" minimum rating of performance as stated in the most current publication of "Best's Key Rating Guide, Property Liability" which shall show a financial strength rating satisfactory to Oconee County. Each bond shall be accompanied by a Power of Attorney, authorizing the attorney-in-fact to bind the surety and certified to include the date of the bond.

Option 2: A Certified Check: Equal to 100% of the contract amount to be retained by Oconee County until satisfactory completion of the contract.

Option 3: Irrevocable Letter Of Credit: Shall be issued by a Financial Institution insured by the FDIC or FSLIC in the amount of 100% of contract amount.

FAILURE TO SUBMIT CORRECT BID GUARANTEE MAY RESULT IN REJECTION OF YOUR PROPOSAL. OWNER - COUNTY OF OCONEE

3.104 Delivery and Training A detailed response to this section is required in section 4.600.

- The 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. Delivery shall be to the Oconee County Vehicle Maintenance Facility, 15026 Wells Hwy, Seneca, SC, 29672.
- Dealer Prep – There will be a Dealer Prep intensive check of the chassis, pump, apparatus body and electrical system performed to check for any deficiency before the apparatus is delivered to the County. Apparatus shall be detailed and washed before delivery to the County.
- Prior to delivery the vehicle, the interior and exterior be cleaned and detailed. The finalization process detailing shall include installation of NFPA required labels, checking fluid levels, sealing and caulking required areas of the cab and body, rust proofing, paint touch-up, etc.
- A qualified delivery engineer representing the company 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. Training shall be conducted in a timely flexible manor to address the needs of all paid and volunteer personnel.
- The manufacturer shall be responsible for Apparatus until all acceptance tests have been passed and the apparatus has been officially accepted.
- State delivery time after receipt of an approved Purchase Order in calendar days. _____. The delivery time shall be agreed upon between the County and the awarded apparatus vendor. **There is to be a \$500 per day penalty if apparatus is delivered later than the agreed upon delivery date.**
- Provide, in detail, how the County's training needs will be met and what type training you will be providing.
- The cab and chassis shall include a total of two keys
- The fuel tank and DEF tank (if applicable) shall be filled upon final delivery.
- The County desires some type of electronic training document, (such as a Powerpoint Presentation) that the County can continue to use for on-going training after initial training is complete.

Manufacturer Complies: Yes No

3.105 General Construction

The complete apparatus, assemblies, subassemblies, component parts, etc., shall be designed and constructed with the due consideration to the nature and distribution of the load to be sustained and to the general character of the service to which the apparatus is to be subject. All parts of the apparatus shall be designed with a factor of safety, which is equal to or greater than that which is considered standard and acceptable for this class of equipment in fire fighting service. All parts of the apparatus shall be strong enough to withstand general service under full load. The apparatus shall be so designed that the various parts are readily accessible for lubrication, inspection, adjustment and repair. Bidder's

specifications must meet minimum requirements of N.F.P.A. Pamphlet #1901, (most current revisions); Underwriters Laboratories, Inc.; and all State and Federal Department of Transportation vehicle regulations at time of sale of unit.

The apparatus shall be designed and constructed, and the equipment so mounted, with due consideration to distribution of the load between front and rear axles that all specified equipment, including a full complement of specified ground ladders, full water tank, loose equipment, and firefighters shall be carried without overloading or injuring the apparatus.

Manufacturer Complies: Yes No

3.106 General Apparatus Description “Pumper”

The unit shall be designed to conform fully to the "Pumper Fire Apparatus" requirements as stated in the NFPA 1901 Standard (2016 Revision), which shall include the following required chapters as stated in this revision:

- Chapter 1 Administration
- Chapter 2 Referenced Publications
- Chapter 3 Definitions
- Chapter 4 General Requirements
- Chapter 5 Pumper Fire Apparatus
- Chapter 12 Chassis and Vehicle Components
- Chapter 13 Low Voltage Electrical Systems and Warning Devices
- Chapter 14 Driving and Crew Areas
- Chapter 15 Body, Compartments and Equipment Mounting
- Chapter 16 Fire Pumps and Associated Equipment
- Chapter 18 Water Tanks

Manufacturer Complies: Yes No

3.107 Technical Information

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

Manufacturer Complies: Yes No

3.108 Non-Proprietary Parts

The County prefers for all proposers to furnish the apparatus with major parts commonly used by the heavy-duty truck manufacturers and open market vendors where as replacement parts are more readily available and at reduced cost. The use of proprietary parts such as but not limited to axles, suspensions, engines, transmissions, frontal air bags, electronic controls, multiplexing systems, seats, pumps, gauges, foam systems, etc., may not be acceptable.

Manufacturer Complies: Yes No

3.109 NFPA Compliancy

The National Fire Protection Association standard #1901 (most recent edition) is hereby adopted and made a part of these specifications, the same as if they were written out in full detail, insofar as they apply with the exception of any sections dealing with “Equipment Recommended for Various Types of Apparatus”. Bidders are to provide only the equipment requested herein and the Department will supply the rest before the apparatus is put into service. The unit shall comply with all federal, state, ICC, and DOT motor vehicle regulations, standards, and laws relating to commercial vehicles as well as to fire apparatus on the date of the bid.

Manufacturer Complies: Yes No

3.110 Center of Gravity

The apparatus, prior to acceptance, will be required to meet the vehicle stability of the applicable NFPA Automotive Fire Apparatus Standard. A calculated center of gravity shall be provided. The calculated or measured center of gravity (CG) shall be no higher than 80-percent of the rear axle track width.

Manufacturer Complies: Yes No

3.111 ISO Compliancy

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.

Manufacturer Complies: Yes No

3.112 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 or lubrication checks
 - Ease of vehicle and pump operation
 - Features beneficial to the intended operation of the apparatus
 - Construction shall meet all NFPA and National Highway Traffic Safety Administration guidelines.
 - Welding shall not be employed in the assembly of any 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 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.
- Each proposed apparatus shall be totally manufactured in the United States.
- In order to insure top quality construction, maximum assembly line and engineering communication and the highest level of manufacturing supervision the entire apparatus shall be built at the bidders' primary (headquarters) manufacturing facility.
- All equipment furnished shall be guaranteed to be new and of current manufacture, to meet all requirements of these specifications.
- All workmanship shall be of high quality and accomplished in a professional manner so as to insure a function apparatus with a pleasing, aesthetic appearance.
- Manufacturers must build their own fire apparatus: cab, chassis and body in order to eliminate divided responsibility on the part of the manufacturers.
- The manufacturer must submit documentation as to how many years they have been producing apparatus's in the United States.
- Apparatus bodies which are either bolted together or make excessive use of adhesives shall not be considered. Similarly, body construction techniques which rely upon space consuming extrusions for structural support shall not be permitted.
- The apparatus manufacturer must be a current member of the Fire Apparatus Manufacturer's Association (FAMA).
- The manufacturer shall operate a Quality Management System that is certified to ISO 9001 by an organization that is accredited by the ANSI-ASQ National Accreditation Board (ANAB). This type

of business management system shall allow the manufacturer to monitor processes to ensure they are effective; keep adequate records; check output for defects, with appropriate and corrective action where necessary; regularly review individual processes and the quality system itself for effectiveness; and facilitate continual improvement.

- Construction of the complete apparatus shall be designed to carry the loads intended to meet the road and terrain conditions and speed requirements desired.

Manufacturer Complies: Yes No

3.113 Factory Inspection Contingency

Final Inspection Trip

A final inspection trip for up to three (3) members designated by the County shall take place at the manufacturing facility of the successful proposer prior to completion. The vendor shall be responsible for all expenses, including travel, lodging and meals.

Manufacturer Complies: Yes No

3.114 South Carolina Tax

The state of South Carolina has a vehicle tax cap of \$300.

Manufacturer Complies: Yes No

3.115 Contract Specialist

The successful proposer shall designate a contract specialist to provide a single point interface between the County and the Contractor on all matters concerning the contract.

Manufacturer Complies: Yes No

3.116 Stepping, Standing and Walking Surfaces

All stepping, standing, and walking surfaces on the body shall meet NFPA #1901 anti-slip standards. Aluminum tread plate utilized for stepping, standing, and walking surfaces shall be Alcoa No-Slip type. This material shall be a minimum 3/16 (0.1875”) in thickness. All vertical surfaces on the body, which incorporate aluminum tread plate material, will utilize the same material pattern to provide a consistent overall appearance.

Manufacturer Complies: Yes No

3.200 REQUIRED DOCUMENTATION

3.201 Drawings to be Submitted with Proposal

Drawings shall be supplied with each proposal, giving body detail, compartment sizes, locations, lengths and height of vehicle systems, etc. These drawings will not preclude the necessity for the proposer to submit in writing any exceptions to these specifications. A general arrangement drawing depicting the vehicle’s appearance shall be provided. The drawing shall consist of left side, right side, front and rear elevation views. Compartment sizes and square footage measurements shall be included.

A scale drawing of the specific apparatus being proposed shall be submitted **WITH THE PROPOSAL**. Drawings of similar units or demo units shall not be permitted. Proposers should be clear that this provision is requiring a SCALE drawing of the truck which is actually being proposed. The drawing shall be done at the manufacturer's facility by the manufacturer's engineering department in order to guarantee the accuracy of the drawing. **Failure to comply with this requirement shall be grounds for rejection.**

Manufacturer Complies: Yes No

3.202 Approval Drawings

A detailed drawing of the apparatus shall be provided to the purchaser for approval before construction begins. A copy of this drawing shall also be provided to the manufacturer's representative. Upon County approval, the finalized drawing shall become a part of the total contract.

The drawing shall show, but is not limited to, such items as the chassis make and model, major components, location of lights, sirens, all compartment locations and dimensions, special suction, discharges, etc. The drawing shall be a visual interpretation of the apparatus as it is to be supplied.

Manufacturer Complies: Yes No

3.203 Operation and Maintenance Manuals

a. Electronic Manuals

Two (2) copies of all operator, service, and parts manuals **MUST** be supplied at the time of delivery in electronic format (USB drive preferred) –

The electronic manuals shall include the following information:

Operating Instructions, descriptions, specifications, and ratings of the cab, chassis, body, installed components, and auxiliary systems.

Warnings and cautions pertaining to the operation and maintenance of the fire apparatus and fire fighting systems.

Charts, tables, checklists, and illustrations relating to lubrication, cleaning, troubleshooting, diagnostics, and inspections.

Instructions regarding the frequency and procedure for recommended maintenance.

Maintenance instructions for the repair and replacement of installed components.

Parts listing with descriptions and illustrations for identification.

Warranty descriptions and coverage.

The USB shall incorporate a navigation page with electronic links to the operator's manual, service manual, parts manual, and warranty information, as well as instructions on how to use the manual.

Each copy shall include a table of contents with links to the specified documents or illustrations.

The USB must be formatted in such a manner as to allow not only the printing of the entire manual, but to also the cutting, pasting, or copying of individual documents to other electronic media, such as electronic mail, memos, and the like.

A find feature shall be included to allow for searches by text or by part number.

These electronic manuals shall be accessible from any computer operating system capable of supporting portable document format (PDF). Permanent copies of all pertinent data shall be kept file at both the local dealership and at the manufacturer's location.

Manufacturer Complies: Yes No

3.204 Cab Safety Signs

The following safety signs shall be provided in the cab:

- A label displaying the maximum number of personnel the vehicle is designed to carry shall be visible to the driver.
- "Occupants will be seated and belted when apparatus is in motion" signs shall be visible from each seat.
- "Do Not Move Apparatus When Light Is On" sign adjacent to the warning light indicating a hazard if the apparatus is moved (as described in subsequent section).
- A label displaying the height, length, and GVWR of the vehicle shall be visible to driver.
- This label shall indicate that the fire department will revise the dimension if vehicle height changes while vehicle is in service.

Manufacturer Complies: Yes No

3.205 Chassis Data Labels

The following information shall be on labels affixed to the vehicle:

Fluid Data:

- Engine Oil
- Engine Coolant
- Chassis Transmission Fluid
- Pump Transmission Lubrication Fluid
- Pump Primer Fluid (if applicable)
- Drive Axle(s) Lubrication Fluid
- Air Conditioning Refrigerant
- Air Conditioning Lubrication Oil
- Power Steering Fluid
- Cab Tilt Mechanism Fluid
- Transfer Case Fluid (if applicable)
- Equipment Rack Fluid (if applicable)
- Air Compressor System Lubricant
- Front Tire Cold Pressure
- Rear Tire Cold Pressure
- Aerial Hydraulic Fluid (if applicable)
- Maximum Tire Speed Rating

Chassis Data:

- Chassis Manufacturer
 - Production Number
 - Year Built
 - Month Manufactured
 - Vehicle Identification Number
 - Manufacturers weight certification:
 - Gross Vehicle (or Combination) Weight Rating (GVWR or GCWR)
 - Gross Axle Weight Rating, Front
 - Gross Axle Weight Rating, Rear
- Manufacturer Complies:** Yes No

3.206 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.

Manufacturer Complies: Yes No

3.207 Fire Apparatus Parts Identification

Two (2) binders are to be provided, upon delivery, with the apparatus Identification number or numbers and all contact information for quick access to parts information and ordering. This is to cover the complete apparatus. Also provide a number to contact if there are any problems with obtaining information or parts. The numbers are to be a 24 hour / 7 days a week and toll free. Two (2) electronic copies are also to be supplied.

Manufacturer Complies: Yes No

3.208 Ride Labels

A label shall be located on the vehicle at the rear step areas, and at any cross walkways, if they exist. The label(s) shall warn personnel that riding in or on these areas while the vehicle is in motion is prohibited. A sign: "DO NOT RIDE ON REAR STEP, DEATH OR SERIOUS INJURY MAY RESULT" shall be placed in view from the ground.

Manufacturer Complies: Yes No

3.209 Warning – Pump Operator

A warning plate shall be installed on the pump operator's panel, that states the following: WARNING: Death or serious injury might occur if proper operating procedures are not followed. The pump operator as well as individuals connecting supply or discharge hoses to the apparatus must be familiar with water hydraulics hazards and component limitations.

Manufacturer Complies: Yes No

3.210 Pump Panel ID Plate

An identification plate, prepared by the fire pump manufacturer, shall be installed on the pump operator control panel to identify the fire pump serial number, model number, and performance.

Manufacturer Complies: Yes No

3.211 Pump Manuals

Two (2) pump manuals (hard copies) from the pump manufacturer shall be furnished at the time of delivery. Manuals shall cover pump operation, maintenance, and parts.

Manufacturer Complies: Yes No

3.212 Electrical Wiring Diagrams

Two (2) electrical wiring diagrams, prepared for the model of chassis and body, shall be provided in paper format at time of delivery. If any Multiplex systems are used for wiring, a complete wiring schematic drawing must be included with your proposal.

Manufacturer Complies: Yes No

3.213 Amp Draw Report

The company shall provide, with their proposal, an itemized print out of the expected amp draw of the entire vehicle's electrical system. At the time of delivery the actual amp draw print out

The following documentation should also be provided:

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

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

Manufacturer Complies: Yes No

3.214 NFPA Required Documentation

The following documentation shall be provided on delivery of the apparatus:

1. Documentation of the electrical system performance tests required above.
2. A written load analysis, including:
 - The nameplate rating of the alternator.
 - The alternator rating under the conditions.
 - Each specified component load.
 - Individual intermittent loads.

Manufacturer Complies: Yes No

3.215 Documentation to be Supplied at Time of Delivery

The successful proposer shall supply, at the time of delivery, at least one (1) copy of the following documents:

The manufacturer's record of apparatus construction details, including the following information:

- Owners name and address
- Apparatus manufacturer, model and serial number
- Chassis make, model and serial number
- Front tire size and total rated capacity in pounds
- Rear tire size and total rated capacity in pounds
- Chassis weight distribution in pounds with water and manufacturer mounted equipment, front and rear
- Engine make, model, serial number, rated horsepower, rated speed and governed speed
- Type of fuels and fuel tank capacity
- Electrical system voltage and alternator output in amps.
- Battery make, model and total capacity in cold crank amps (CCA)
- Transmission make, model and serial number. If so equipped chassis transmission PTO(s) make, model and gear ratio
- Pump make, model, rated capacity in gallons per minute (liters per minute where applicable) and serial number
- Pump transmission make, model, serial number and gear ratio
- Auxiliary pump make, model, rated capacity in gallons per minute (liters per minute where applicable) and serial number
- Water tank certified capacity in gallons or liters
- Paint manufacturer and paint number(s)
- Company name and signature of responsible company representative
- Certification of slip resistance of all stepping, standing and walking surfaces.
- If the apparatus has a fire pump or an industrial supply pump, the pump manufacturer's certification of suction capability.
- If the apparatus has a fire pump or an industrial supply pump, a copy of the apparatus manufacturer's approval for stationary pumping applications.
- If the apparatus has a fire pump or an industrial supply pump, the engine manufacturers certified brake horsepower curve for the engine furnished, showing the maximum governed speed.
- If the apparatus has a fire pump or an industrial supply pump, the pump manufacturer's certification of hydrostatic test.
- If the apparatus has a fire pump or an industrial supply pump, the Underwriters Laboratory certification of inspection and test for the fire pump.
- If the apparatus has a fixed line voltage power source, the certification of the test for the fixed power source.
- Weight documents from certified scale - showing actual loading on the front axle, rear axle(s) and overall vehicle (with the water tank full but without personnel, equipment and hose) shall be supplied with the complete vehicle to determine compliance with NFPA-1901.
- Written load analysis and results of electrical performance tests.
- If the apparatus is equipped with a water tank, the certification of water tank capacity by the tank manufacturer.

The chassis shall be certified by the apparatus manufacturer as conforming to all applicable Federal Motor Vehicle Safety Standards in effect at the date of contract. This shall be attested to by the attachment of a FMVSS certification label on the vehicle by the contractor who shall be recognized as the responsible final manufacturer.

Manufacturer Complies: Yes No

3.216 Vehicle Records to be Maintained at the Factory

The successful proposer shall be responsible for preparing and maintaining a record file of parts and assemblies used to manufacture the apparatus. These records shall be maintained in the factory of the bidder for a minimum of twenty (20) years. File shall contain copies of any and all reported deficiencies, all replacement parts required to maintain the apparatus, and original purchase documents including specifications, contract, invoices, incomplete chassis certificates, quality control reports and final delivery acceptance documents. The County shall have access to any and all documents contained in this file upon official written request.

Manufacturer Complies: Yes No

3.300 TESTING REQUIREMENTS

3.301 Independent Testing

If required by the specific chapters of NFPA-1901, 2016 edition, the proposed unit shall be tested and certified by Underwriters Laboratories Inc. (UL) Underwriters Laboratories Inc. (UL) is recognized worldwide as a leading third party product safety certification organization for over 100 years. UL has served on National Fire Protection Association (NFPA) technical committees for over thirty years.

- UL is a nationally recognized testing laboratory recognized by OSHA.
- UL complies with the American Society for Testing and Materials (ASTM) Standard ASTM E543 "Determining the Qualifications for Nondestructive Testing Agencies."
- UL has more than 40 years of automotive fire apparatus safety testing experience and 16 years of factory aerial device testing and Certification experience. UL has more than 100 years of experience developing and implementing product safety standards.
- UL does not represent, is not associated with, nor is in the manufacture or repair of automotive fire apparatus.
- All test work for fire pumps outlined in NFPA 1901, Edition shall be conducted.
- UL has included a list of all factory aerial device manufacturers for whom testing is currently being conducted on a regular basis.
- UL carries ten million dollars in excess liability insurance for bodily injury and properly damage combined.

UL provides the manufacturer a complete written examination and test report for each inspection performed at the manufacturer's facility. This report specifies the points of inspection and results of such examinations and tests.

The UL inspectors performing the test work on the units are certified to Level II in the required NDT methods, under the requirements outlined in ASNT document CP-189.

The actual person(s) performing the inspection shall present for review proof of Level II Certification in the required NDT methods.

The apparatus manufacturer shall designate, in writing, who is qualified to witness and certify these test results.

Prior to submittal to the automotive fire apparatus manufacturer, the final Report shall be reviewed by the Supervisor of Fire Equipment Services and a Registered Professional Engineer, both of whom are directly involved with the aerial device certification program at UL.

Manufacturer Complies: Yes No

3.302 Performance Test and Requirements

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

- State what certifications the manufacturers employees have that will be performing any of these tasks
- Include any third parties used for certification and testing
- An official of the Manufacturer shall designate, in writing, who is qualified to witness and certify test results.

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:

- The apparatus, when fully equipped and loaded, shall have not less than 25% or more than 50% of the weight on the front axle, and not less than 50% nor more than 75% on the rear axle.
- The apparatus shall be capable of accelerating to 35 mph from a standing start within 25 seconds on a level highway without exceeding the maximum governed rpm of the engine.
- The apparatus, when fully equipped and loaded, be shall be capable of accelerating to 55 mph on a 6% grade (up hill) and maintain speed.
- The service brakes shall be capable of stopping a fully loaded vehicle in 35 feet at 20 mph on a level highway surface. The air brake system shall conform to Federal Motor Vehicle Safety Standards (FMVSS) 121.
- The apparatus, fully loaded, shall be capable of obtaining a speed of 60 mph on a level highway with the engine not exceeding its governed rpm (full load).
- The manufacturer shall furnish copies of the engine installation approvals signed by the appropriate engine company upon delivery of the chassis to the Fire Department.
- The manufacturer shall furnish copies of the transmission approval signed by the transmission manufacturer upon delivery of the chassis to the Fire Department.
- The manufacturer shall furnish copies of the front and rear axle approvals upon delivery of the apparatus to the Fire Department.

Manufacturer Complies: Yes No

3.303 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 company 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 company 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 manufacture shall not constitute acceptance.

Manufacturer Complies: Yes No

3.304 Crash Testing Certification

To ensure the safety of the cab occupants and cab integrity, proof of third party testing shall be provided. The cab shall be certified for SAEJ2422 side impact, SAEJ2420 with ECER29 cab front impact, and ECER29 cab roof strength. Furthermore, proof of testing and certification shall be

provided that the cab, in accordance to SAE J2420 was front impact tested at 2.1 times the standard energy required in SAE J2420, thus exceeding the NFPA requirement. This test shall be performed with no support immediately behind the cab, thus providing an authentic test result.

Manufacturer Complies: Yes No

3.305 Roof and Side Load Testing

The cab design will include additional third party testing to ensure the safety of the cab occupants and cab integrity, proof of third party testing shall be provided. The cab shall be certified for SAEJ2422 side impact, SAEJ2420 with ECER29 cab front impact, and ECER29 cab roof strength. The manufacturer shall provide proof that third party testing has been conducted to prove a static roof and a static side-load test has been completed. In these tests, a 120,000 pound static load was first applied to the roof. This test was followed by applying the same 120,000 pound static load to the side of the cab. These tests will be conducted per the SAE J2422, Cab Roof Strength Evaluation, protocol and the ECE R29, Uniform provisions concerning the approval of vehicles with regard to the protection of occupants of the cab of a commercial vehicle, protocol. During both tests, the cab will withstand these loads without encroachment into the occupant survivable space and all doors remained closed during the test. The tests will be documented with photographs and real-time video in a report provided to the manufacturer.

Manufacturer Complies: Yes No

3.306 Windshield Wiper Durability Certification

Windshield wipers shall survive testing in excess of 3 million cycles in accordance with section 6.2 of SAE J198 “Windshield Wiper Systems – Trucks, Buses and Multipurpose Vehicles”. The bidder shall certify that the wiper system design has been “Third party tested” and that the wiper system has met this criteria.

Manufacturer Complies: Yes No

3.307 Engine Chassis Certification

The engine shall be installed in accordance with engine manufacturer's instructions. The apparatus manufacturer shall be able to furnish proof of engine installation approval by the engine manufacturer.

Manufacturer Complies: Yes No

3.308 Pump Certification

The pump shall be tested, approved, and certified by an independent third party testing agency to meet the requirements of NFPA-1901 at the manufacturer’s expense. To ensure top quality and integrity, the test company shall be Underwriters Laboratories (UL). 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 provided at time of delivery.

Manufacturer Complies: Yes No

3.309 Electrical Testing – Operational Testing

The apparatus manufacturer shall perform the following operation test and shall certify that the power source and any devices that are attached to the line voltage electrical system are properly connected and in working order.

The generator shall be started from a cold start condition and the line voltage electrical system shall be loaded to 100 percent of the nameplate voltage rating. The following items shall be monitored and documented every 15 minutes:

- The cranking time until the generator starts and runs.
- The voltage, frequency, and amperes at continuous full rated load.
- The generator oil pressure, water temperature, transmission temperature, hydraulic temperature, and the battery rate charge, as applicable.

- The ambient temperature and altitude.

The generator shall operate at 100 percent of its nameplate wattage for a minimum of two (2) hours.

Manufacturer Complies: Yes No

3.310 NFPA Required Testing of Electrical System

The apparatus shall be electrical tested upon completion of the vehicle and prior to delivery. The electrical testing, certifications, and test results shall be submitted with delivery documentation per requirements of NFPA #1901. All tests shall be performed with air temperature between 0°F and 100°F. The following tests shall be performed in order. Before each test, the batteries shall be fully charged.

1. Reserve Capacity test:

The engine shall be started and kept running until the engine and engine compartment temperatures are stabilized at normal operating temperatures and the battery system is fully charged. The engine shall be shut off and the minimum continuous electrical load shall be activated for ten (10) minutes. All electrical loads shall be turned off prior to attempting to restart the engine. The battery system shall then be capable of restarting the engine. Failure to restart the engine shall be considered a test fail.

Manufacturer Complies: Yes No

2. Alternator performance test at idle:

The minimum continuous electrical load shall be activated with the engine running at idle speed. The engine temperature shall be stabilized at normal operating temperature. The battery system shall be tested to detect the presence of battery discharge current. The detection of battery discharge current shall be considered a test failure.

Manufacturer Complies: Yes No

3. Alternator performance test at full load:

The total continuous electrical load shall be activated with the engine running up to the engine manufacturer's governed speed. The test duration shall be a minimum of two (2) hours. Activation of the load management system shall be permitted during this test. However, an alarm sounded by excessive battery discharge, as detected by the system required in NFPA #1901 Standard, or a system voltage of less than 11.7 volts dc for a 12 volt nominal system, for more than 120 seconds, shall be considered a test failure.

Manufacturer Complies: Yes No

4. Low voltage alarm test:

Following the completion of the above tests, the engine shall be shut off. The total continuous electrical load shall be activated and shall continue to be applied until the excessive battery discharge alarm activates. The battery voltage shall be measured at the battery terminals. With the load still applied, a reading of less than 11.7 volts dc for a 12 volt nominal system shall be considered a test failure. The battery system shall then be able to restart the engine. Failure to restart the engine shall be considered a test failure.

Manufacturer Complies: Yes No

At time of delivery, documentation shall be provided with the following information:

- Documentation of the electrical system performance test
- A written load analysis of the following;
- Nameplate rating of the alternator
- Alternator rating at idle while meeting the minimum continuous electrical load
- Each component load comprising the minimum continuous electrical load.
- Additional loads that, when added to the minimum continuous load, determine the total connected load.
- Each individual intermittent load.

Manufacturer Complies: Yes No

3.311 Line Voltage Electrical System Certification

When the unit successfully meets all the requirements outlined in NFPA 1901, 2016 Edition, UL shall issue a Certificate of Automotive Fire Apparatus Examination and Test stating the unit's compliance with the required line voltage section of NFPA.

Manufacturer Complies: Yes No

3.312 120/240 Volt Electrical System Testing

All line voltage wiring and permanently connected devices and equipment shall be subjected to a dielectric voltage withstand test of 900 volts for one minute. The test shall be conducted between live parts and the neutral conductor and between live parts and the vehicle frame with any switches in the circuits closed. The test shall be conducted after all bodywork has been completed. The dielectric tester shall have a minimum 500 VA transformer with a sinusoidal output voltage that can be verified. Electrical polarity verification shall be made of all permanently wired equipment and receptacles to determine that connections have been properly made.

Manufacturer Complies: Yes No

3.313 Testing of Body Design

Details of body testing are to be provided with your proposal.

Manufacturer Complies: Yes No

3.314 Seat Belt

A seat belt pull test must be performed and results provided in writing at time of delivery of the apparatus. Each seat belt anchor shall be tested to withstand 3,000 lbs of pull on both the lap and shoulder belt in accordance with FMVSS 210 section 4.2

Manufacturer Complies: Yes No

3.315 Seat Mounting

Each seat mounting position shall be tested to withstand 20G's of force in accordance with FMVSS 207 section 4.2(c). Both tests shall be performed and verified at a third party testing and evaluation center.

Manufacturer Complies: Yes No

3.316 Slip Resistance Certification

All stepping, standing, and walking surfaces on the body shall meet NFPA #1901 anti-slip standards. Aluminum tread plate utilized for stepping, standing, and walking surfaces shall be Alcoa No-Slip type. This material shall be a minimum 3/16 (0.1875") in thickness. Upon request by the purchaser, the manufacturer shall supply proof of compliance with this requirement. All vertical surfaces on the body, which incorporate aluminum tread plate material, will utilize the same material pattern to provide a consistent overall appearance. Certification of slip resistance of all stepping, standing and walking surfaces must be supplied with delivery of the apparatus.

Manufacturer Complies: Yes No

3.317 Paint Performance Certification

The finish paint shall be certified by the apparatus manufacturer as conforming to all applicable Commercial Vehicle Paint Standards in effect at the date of contract. This shall be attested to by the attachment of a PPG certification.

Manufacturer Complies: Yes No

3.318 Warning Light System Certification

The warning light system(s) specified above shall not exceed a combined total amperage draw of 45 AMPS with all lights activated in either the "Clearing Right of Way" or the "Blocking Right of Way"

mode. The warning light system(s) shall be certified by the light system manufacturer(s), to meet all of the requirements in the current revision of the NFPA 1901 Fire Apparatus Standard as noted in the General Requirements section of these specifications. The NFPA required "Certificate of Compliance" shall be provided with the completed apparatus. Any large truck as defined by NFPA shall have the lower zone warning lights mounted no higher than 62" to the optical center of the warning light from ground level.

Manufacturer Complies: Yes No

3.319 Water Capacity Certification

All tanks shall be tested and certified as to capacity on a calibrated and certified tilting scale. Each tank shall be weighed empty and full to provide precise fluid capacity. Each Poly-Tank's III is delivered with a Certificate of Capacity delineating the weight empty and full and the resultant capacity based on weight.

Manufacturer Complies: Yes No

3.320 Water Tankology Tag

A tag shall be installed on the apparatus in a convenient location and contain pertinent information including a QR code readable by commercially available smart phones. The information contained on the tag shall include the capacity of the water and foam (s), the maximum fill and pressure rates, the serial number of the tank, the date of manufacture, the tank manufacturer, and contact information. The QR code will allow the user to connect with the tank manufacturer for additional information and assistance.

Manufacturer Complies: Yes No

3.321 Water Tank ISO Certification

The tank must be designed and fabricated by a tank manufacturer that is ISO 9001:2000 certified in each of its locations. The ISO certification must be to the current standard in effect at the time of the design and fabrication of the tank.

Manufacturer Complies: Yes No

3.400 CAB AND CHASSIS

For this Section Only there are alternate specifications provided for each item. The County wishes to receive two separate cost quotations: one for the 2017 Peterbilt specifications and an alternate for a 2017 Kenworth specification. All other specifications shall remain the same for both vehicles.

3.401 2017 Peterbilt Model 348 4x2 Two Door Extended Conventional Cab CHASSIS

Peterbilt 348 with 228" Wheelbase, 156" CA, 98" AEF

Set Back Front Axle

Straight Truck for Fire Service

LH Steering

Manufacturer Complies: Yes No

3.401A **ALTERNATE** - 2017 Kenworth T440 2 Door Extended Conventional Cab CHASSIS

Kenworth T440 with 228" Wheelbase and 100" Axle to End of Frame

Set Back Front Axle

Straight Truck for Fire Service

LH Steering

Manufacturer Complies: Yes No

3.402 Engine & Equipment

PX-9, 380 HP @ 2000 rpm, 1150 lb. ft. Torque @ 1400, gov @ 2200
Air Cleaner, Dry Type Mounted on Firewall
Air Intake Ember Screen to Comply with NFPA 1901
Electric, Key Operated Engine Shutdown
Additional Spin On Fuel Filter/Water Separator, Unheated, Frame Mounted
Electronic Governor
Cruise Control with Dash Mounted Switches
Spin-On Type Oil Filter
Oil Cooler
J1939 Diagnostic Plug for Data Link
Magnetic Drain Plug
Engine Compression Brake with HI-OFF-LO Switch on Dash
Brake Lights Will Automatically Come On When Engine Brake is Active
EPA, OBD and GHG Certification
Manufacturer Complies: Yes No

3.403 Electrical

Leece Neville 270 Amp Alternator
Three (3) 12 Volt, Batteries, 2100 cca total
Batteries Mounted Behind Cab, Temporary Mount
Battery Jumper Terminal Mounted Under Hood, LH Frame Rail
Paccar 12 Volt Starter
Manufacturer Complies: Yes No

3.404 Exhaust System

Single Horizontal System with DPF/SCR/Muffler, Mounted on RH side to exit on RH side ahead of rear wheels

Manufacturer Complies: Yes No

3.402A **ALTERNATE** - Engine & Equipment

Paccar PX-9, 380 HP @ 2000 rpm, 1150 lb ft @ 1400 rpm, gov @ 2100 rpm
Air Cleaner, Dry Type, Powercore, Engine Mounted .
Air Intake Ember Screen to Comply With NFPA 1901
Electric Engine Shutdown
Fleetguard Filter/Water Separator with Water in Fuel Sensor
Electronic Governor
Cruise Control with Dash Mounted Switches
Spin-On Type Oil Filter
Oil Cooler
Diagnostic Plug for Data Link
Jacobs Engine Compression Brake with Lo-Off-Hi Switch on Dash
Cruise Control with Dash Mounted Switches
EPA, OBD and GHG Certification
Manufacturer Complies: Yes No

3.403A **ALTERNATE** -Electrical

Delco Remy 40SI 320 Amp Alternator
Three 12 Volt, Group 31 Batteries, 2100 cca total
Batteries Mounted Across Frame Rails Back of Cab
Jump Start Terminals Frame Mounted, Back Of Cab
Paccar 12 Volt Starter
Battery Disconnect Switch Mounted Outboard of Driver Seat
Manufacturer Complies: Yes No

3.404A **ALTERNATE** Exhaust System

Single Horizontal System with DPF/SCR/Muffler, Mounted on RH side to exit on RH side ahead of rear wheels

Manufacturer Complies: Yes No

3.405 Cooling System

High Efficiency System

Aluminum Radiator, Cross Flow, 1000 sq. in. Frontal Area

Air to Air Heat Exchanger/Aftercooler

Metal Surge Tank

Long Life Coolant -30F

Lower Radiator Drain Valve

Fan Drive, Two Speed Automatic On/Off Type

Fleetguard Filter/Water Separator

Silicone Radiator Hoses with Constant Tension Clamps

Low Coolant Level Sensor with Alarm

Manufacturer Complies: Yes No

3.406 Transmission

Allison 3000EVS, Close Ratio, 5-Speed Automatic Transmission with Overdrive

5th Generation Controls

Oil Level Sensor

Provision for PTO

Internal Oil Filter

Magnetic Drain Plug

Synthetic Transmission Fluid

Auto Neutral – Single input

Water to Oil Automatic Transmission Cooler

Push-Button Type Transmission Shift Control, Dash Mounted

Manufacturer Complies: Yes No

3.407 Front Axle

Dana Spicer E14621, 14,600 lb. Capacity Wide Track Axle

Oil Seals with PHP10 Aluminum PreSet LMS Hubs

Bendix S Cam Brakes, 16-1/2 x 5

Automatic Slack Adjusters

Gusseted Cam Brackets

Outboard Mounted Cast Brake Drums

Synthetic Emgard FE 75W-90 Axle Lubricant

Integral TRW TAS85 Power Steering Gear

Power Steering Reservoir Frame Mounted

Manufacturer Complies: Yes No

3.408 Front Suspension

Taperleaf Spring Type, 14,600 lb. capacity

Heavy Duty Double Acting Shock Absorbers

Zerk Fittings on Tie Rod Ends, King Pins and

Draglink Ball Joints

Greasable Spring Pins and Bushings

Manufacturer Complies: Yes No

3.405A ALTERNATE Cooling System

Radiator Aluminum; Cross Flow, 1300 sq. in. Frontal Area

Air to Air Heat Exchanger/Aftercooler

Translucent Surge Tank

Long Life Coolant -40F (-40C)

Silicone Hoses with Constant Tension Clamps

Fan Drive, Automatic On/Off Type Control With

Nylon Fan

Bug Screen Behind Grille

Manufacturer Complies: Yes No

3.406A ALTERNATE Transmission

Allison 3000EVS, Close Ratio, 5-Speed Automatic Transmission With Overdrive

5th Generation Controls

Oil Level Sensor

Provision for LH and RH PTO

Internal Oil Filter

Magnetic Drain Plug

Synthetic Transmission Fluid

Auto Neutral, J1939 Park Brake

Water to Oil Automatic Transmission Cooler

Push-Button Type Transmission Shift Control, Dash Mounted

Severe Service Rear Transmission Support Springs

Manufacturer Complies: Yes No

3.407A ALTERNATE Front Axle

Dana Spicer E-14621, 3.5" Drop, 14,600 lb. capacity

S Cam Brakes, 16-1/2 x 5

Cast Brake Drums

Dust Shields

Aluminum Hubs

Oil Seals with Hubcaps

Automatic Slack Adjusters

Integral TRW TAS85 Power Steering Gear

Manufacturer Complies: Yes No

3.408A ALTERNATE Front Suspension

Taperleaf Spring Type, 14,600 lb. capacity

Heavy Duty Double Acting Shock Absorbers

Maintenance Free Elastomer Spring Pin Bushings with Rubber Pins

Manufacturer Complies: Yes No

3.409 Rear Axle

Dana Spicer S30-190, 30,000-lb Capacity, Wide Track, Heavy Wall Drive Axle
Gear Ratio 6.17; Governed at 68 mph
Magnetic Drain Plug
S Cam Brakes, 16-1/2 x 7
Gusseted Cam Brackets with Rear Brake Camshaft Reinforcement
Automatic Slack Adjusters
Dust Shields
PHP 10 Iron Hubs
Heavy Duty Outboard Mounted Drums
Two (2) 3036 Spring Brake Chambers on Rear Axle
Driver Controlled Differential lock with Controls on Dash
Synthetic Emgard FE 75W-90 Axle Lubricant
Manufacturer Complies: Yes No

3.410 Rear Suspension

Spring Type, 31,000 lb. Capacity
Reyco 79KB
Helper Springs
Manufacturer Complies: Yes No

3.411 Driveline

Spicer 1760 Extended Lube Main and Front Driveline with Half Round Yokes
Spicer Extended Lube Front Driveline with Half Round Yokes
Manufacturer Complies: Yes No

3.412 Brake System

18.7 cfm Air Compressor
Teflon Lined Stainless Steel Braided Compressor Hose
Heated Bendix AD-IS EP Air Dryer
With Heater Mounted Back of Cab
Color Coded Nylon Air Brake Lines
Spring Loaded Drains on All Tanks with Pull Cables Extended to Side of Body
Painted Steel Air Tanks
Spring Brake Modulator Valve with Relay Valve
Parking Brake Valve with Yellow Control Knob In Dash Panel
Warning Light in Dash to Indicate Parking Brake Is Applied
Bendix Anti-Lock Brake System, 4 Channel, Full Vehicle Wheel Control System
Bendix ESP Electronic Stability Program with ATC
Manufacturer Complies: Yes No

3.409A ALTERNATE Rear Axle

Single Dana Spicer S30-190 Drive Type, 30,000-lb Capacity
Gear Ratio 6.17, governed for 68 mph Top Speed
Magnetic Drain Plug
S Cam Brakes, 16-1/2 x 7
Automatic Slack Adjusters
Dust Shields
Cast Brake Drums
Iron Hubs
Oil Seals
Two (2) 3036 Spring Brake Chambers on Rear Axle
Driver Controlled Wheel Differential Lock with Controls on Dash
Manufacturer Complies: Yes No

3.410A ALTERNATE Rear Suspension

Spring Type, 30,000 lb. Capacity
Reyco 79KB with Helper Spring
Heavy Duty Rear Suspension Crossmember
Manufacturer Complies: Yes No

3.411A ALTERNATE Driveline

Dana Spicer Long Life SPL170XL Heavy Duty Driveline
Double Lip Viton Seal
Thermoplastic Seal Guard
Synthetic Lubed Splined Shaft
Manufacturer Complies: Yes No

3.412A ALTERNATE Brake System

Air, Dual System
18.7 cfm Air Compressor
Heated Bendix AD-IS Air Dryer Mounted inside
Left Rail Back of Cab
Color Coded Nylon Air Brake Lines
Spring Loaded Drains on All Tanks with Pull
Cables Extended to Side of Body
Parking Brake Valve with Yellow Control Knob in
Dash Panel
Warning Light In Dash to Indicate Parking Brake is
Applied
Bendix Antilock Brake System, 4 Channel, Full
Vehicle Wheel Control System
Automatic Traction Control and Electronic Stability
Program
Manufacturer Complies: Yes No

3.413 Frame & Equipment

Frame Rails, 120,000 psi yield strength, heat treated,
10-5/8 x 3-1/2 x 5/16
Full Length 1/4" C Channel Liner
Section Modulus of 27.39 Cubic inches with RBM of
3,281,000 in/lbs. Per Rail
Frame Assembled with Grade 8 Hardware or
Equivalent Huck Bolts
Manufacturer Complies: Yes No

3.413A ALTERNATE Frame & Equipment

Frame Rails, 120,000 psi yield strength, heat treated,
10-5/8 x 3-1/2 x 5/16 with 1/4" C Channel Liner
Section Modulus of 24.38 Cubic inches with RBM of
2,925,000 in/lbs Per Rail
Frame Assembled with Grade 8 Hardware or
Equivalent Huck Bolts
Tapered Chrome Steel Front Bumper
Frame Layout to Body Builder Before Construction
Manufacturer Complies: Yes No

3.414 Fuel System

Fuel Tank, 50 Gallon Capacity, Polished Aluminum
Mounted with Polished Straps
Anti-Siphon Device Swaged in Filler Neck
9.9 Gal DEF Tank with Polished Stainless Steel Cover
Both Tanks Mounted Left Side Under Cab
Manufacturer Complies: Yes No

3.414A ALTERNATE Fuel Tank & Equipment

Fuel Tank, 60 Gallon Capacity, Polished Aluminum
Polished Stainless Steel Mounting Straps
6.9 Gal DEF Tank with Bright Cover
Both Mounted Left Side Under Cab
Kenworth Fuel Cooler
Manufacturer Complies: Yes No

3.415 Tires & Wheels

Front Tires, Two (2), 315/80R22.5, Michelin XZY3,
Load Range L, 20 Ply
Rear Tires, Four (4), 315/80R22.5, Michelin
XWorksXDY, Load Range L, 20 Ply
Front Wheels, Alcoa Aluminum Disc, LVL One,
22.5" x 8.25, 10-Stud, Hub Pilot, Outer Wheel Surface
to be Dura Bright
Rear Wheels; Alcoa Aluminum Disc, LVL One, 22.5
x 9.00, 10-Stud, Hub Pilot, Outer Surface of Outboard
Wheel to be Dura Bright, Wheel Guards Front & Rear
Manufacturer Complies: Yes No

3.415A ALTERNATE Tires & Wheels

Front Tires, Two (2), 12R22.5, Michelin XZE, Load
Range H, 16 PR
Rear Tires, Four (4), 315/80R22.5, Michelin XDN2
Grip, Load Range L, 20 PR
Front Wheels, Disc, 22.5" x 8.25, Alcoa LVL One
with Dura Bright Finish on Outer Surface, 10-Stud,
Hub Pilot
Rear Wheels; Disc, 22.5 x 9.00, Alcoa Ultra One with
Dura Bright Finish on Outer Surface of Outboard
Wheel, 10-Stud, Hub Pilot
Manufacturer Complies: Yes No

3.416 Cab

Ultra Day Cab with Ten (10) Inch Extension

Severe Service Cab Package #1

Aluminum Side Skins

Aluminum Rear Skin

Steel Windshield Mask

Steel Firewall

Steel Front Floor Sheet

Additional Reinforcement Structure on Back Wall

Aluminum and Steel Construction

Single Piece Curved Windshield

Peeper Window in Right Hand Door

Sliding 17 x 36 Tinted Rear Window with Curved

Side Glass, Each Side

Coat Hook Located on Rear Wall, Centered Above Rear Window

Three (3) Rectangular, Overhead Mounted, Door Activated Dome/Reading Light

Tinted Glass in All Windows

Power Windows with One Touch Down, Switch on Door Panel

Power Door Locks, Controls on Door Panel

One (1) Inside Grab Handle on Officer Side, Mounted on Front Edge of Door Opening

One (1) Inside Grab Handle on Driver Side, Mounted on Front Edge of Door Opening

Under Dash Console with Two (2) Cup Holders

Ignition and Doors Keyed Alike

Three Triangle Reflector Kit in Carrying Case

One (1) 5 lb. Dry Chemical Type Fire Extinguisher

Manufacturer Complies: Yes No

3.417 Cab Exterior

Two (2) Remote Controlled, Cowl Mounted, Bright Finish Aero Mirrors

Heated Flat Portion, 7" x 16" Thermostatically Controlled

102" Wide Spacing

Integral Heated Convex Each Side

Polished Lower Mirror Bracket Covers

8-1/2" x 4-7/16" Convex Mirror Above Right Hand Door, Non-Heated

Sloped Aerodynamic Metton Tilting Hood with Integral Grille

Two (2) Inch Rubber Fender Lips

NFPA Compliant Exterior Grab Handles, One (1) Each Side Rear of Doors

Stainless Steel Outside Sun Visor

Manufacturer Complies: Yes No

3.416A ALTERNATE Cab & Equipment

Two Door Conventional with 10" Extension

Aluminum and Fiberglass Construction

Aluminum Bulkhead Doors

Continuous Stainless Steel Piano Type Door Hinges

Single Piece Curved Windshield

Peeper Window in Right Hand Door

Fixed 17 x 36 Rear Window

Two (2) Curved Side Rear Windows

Tinted Glass in All Windows

NFPA Compliant Exterior Grab Handles, One Each Side Rear of Doors

Electric Door Locks, LH & RH

NFPA Compliance Kit Includes Seat Occupancy Sensors and Seat Belt Switches, VDR and Seat Sensor

Harness for Body Builder Use, Reflective Labels and

Second Copy of Operators Manual

Under Dash Center Console with One (1) Cup Holder

Ignition and Doors Keyed Alike

Domestic Severe Service Package

Link Cabmate Air Suspension

Manufacturer Complies: Yes No

3.417A ALTERNATE Cab Exterior

Two (2) Remote Controlled, Cowl Mounted, Bright Finish Moto Mirrors

Heated Flat Portion, 7" x 16" Thermostatically Controlled

102" Wide Spacing

8-1/2" Diameter Convex Mirror Each Side, Heated, Offset Mounting

8-1/2" x 4-7/16" Convex Mirror Above Right Hand Door, Non Heated

Sloped Aerodynamic Tilting Hood with Integral Grille

Single Air Horn Mounted Under Cab

Fender Mounted Front Turn Signals

Five (5) Roof Mounted LED Amber

Clearance/Marker Lights

Stainless Steel Sun Visor

Manufacturer Complies: Yes No

3.418 CAB Interior Trim

Locking Glove Box
Slate Gray Primary Interior Color/Black Accents
Charcoal Instrument Panels
Gray, Glare Resistant Dash
Black Extruded Rubber Floor Covering
Two (2) Padded Vinyl Sun Visors
Monochromatic Molded Door Pads with In-Mold Color
Full Length Vinyl Headliner
Gray Molded Back Wall
Air Horn Valve with Lanyard Control and Plumbing Capped at Firewall
Thermal Insulation Package in Cab with Thick, Closed Cell Foam in Floor
Special Mylar Faced Foam in Walls and Roof Structure

Manufacturer Complies: Yes No

3.419 Seating

Driver Seat, Air Ride, Black Vinyl, NFPA Compliant, Air Suspension, High Back with Integral Headrest and Dual Arm Rests, Seat Belt Sensor and Wiring, Seat Occupancy Sensors and Wiring with 3-Point, Lap and Shoulder Belt
Officer Seat, Air Ride, Black Vinyl, NFPA Compliant, Air Suspension, High Back with Integral Headrest, Seat Belt Sensor and Wiring, Seat Occupancy Sensors and Wiring with 3-Point, Lap and Shoulder Belt
Red Seat Belts to Comply with NFPA 1901 NFPA Compliance Kit with VDR and Seat Sensor Harness for OEM Use

Manufacturer Complies: Yes No

3.420 Steering Column

Tilt/Telescope Steering Column
Black, 18-inch Soft Touch Four Spoke Steering Wheel
Embossed Peterbilt Logo Over Horn button
Soft Touch Steering Column cover

Manufacturer Complies: Yes No

3.418A ALTERNATE Cab Interior Trim

Locking Glove Box
Slate Gray Primary Interior Color with Dark Slate Gray Trim
Black Dash Panels
Quiet Cab Package with Firewall Insulation and Floor Covering with Sound Deadening Materials and Cowl Blanket
Black Rubber Floor Covering
Two (2) Padded Vinyl Sun Visors
Smooth Upholstered Side and Back Panels with Stitched Accent Lines
Upholstered Door Pads
Full Vinyl Headliner
Power Windows with One Touch Down, Switches on Door Panels
Grab Handle on Officer Side, Mounted on "A" Pillar Above Dash
Grab Handle on Driver Side, Mounted on "A" Pillar Above Dash
Rectangular, Overhead Mounted, Door Activated Dome Light
Three Triangle Reflector Kit in Carrying Case
One (1) 5 lb Dry Chemical Type Fire Extinguisher

Manufacturer Complies: Yes No

3.419A ALTERNATE Seating

Driver Seat, Jet Black Vinyl, NFPA Compliant, Air Suspension, High Back With Integral Headrest and Dual Arm Rests, 7" Fore and Aft Adjustment w/isolator, Seat Sensors, Single Chamber Air Lumbar Support and Switches with 3-Point, Lap and Shoulder Belt
Passenger Seat, Jet Black Vinyl, Non Suspension with Fixed Base and Back, Tool Box Seat Base with Door, High Back With Integral Headrest and Dual Arm Rests, Seat Sensors and Switches with 3-Point, Lap and Shoulder Belt
Omit Rear Bench Seat
Red Seat Belts for All Seating Positions

Manufacturer Complies: Yes No

3.420A ALTERNATE Steering Column

Tilt/Telescope Steering Column
Black, 18 inch Four Spoke Steering Wheel

Manufacturer Complies: Yes No

3.421 Air Conditioning

Air Conditioning Integral with Heater & Defroster
Dedicated Side Window Defrosters
HC134A Refrigerant
Bi-Level Heater/Defroster Controls
Rotary Five (5) Mode Control
Silicone Heater Hoses with Constant Tension Clamps
Manufacturer Complies: Yes No

3.422 Electrical System

Headlight Dimmer Switch Integral with Turn Signal Lever
Wiring Color Coded and Continuously Numbered Single Electric Horn
Windshield Wipers, Two Speed with Intermittent Settings
Electric Windshield Washers
Wiper Switch Integral with Turn Signal Lever
Parking Lights Integral with Front Turn Signals
Two (2) Composite Headlights, Fender Mounted Daytime Running Lights
Four Position, Keyless Ignition Switch
Door Courtesy Lights
Turn Signal Switch, Self-Cancelling
Fender Mounted Front Turn Signals
Body Builder Harness to End of Frame
Five (5) Roof Mounted Amber LED Clearance/Marker Lights
Automatic Reset Circuit Breakers (Main Panel) SAE Type III with Trip Indicators
ipo Fuses Except for 5-Amp Fuses
Multi-function Engine Connector for Interface with Body Builder
Harness Extended to End of Frame for Customer Installed Throttle Control
AM/FM/CD/WB/USB/MP3, Bluetooth Phone and Audio
Two (2) Speakers
Body Builder Harness to End of Frame for Stop, Tail, Turn and Marker Lights
Body Connection Box with Light and Power Circuits 5' Back of Cab
VDR Wiring for Class One Video Data Recorder Module
Manufacturer Complies: Yes No

3.421A ALTERNATE Air Conditioning

Air Conditioning Integral With Heater & Defroster
HC134A Refrigerant
Rotary Five (5) Mode Control
Manufacturer Complies: Yes No

3.422A ALTERNATE Electrical System

Headlight Dimmer Switch Integral with Turn Signal Lever
Wiring Color Coded and Continuously Numbered Single Electric Horn
Multiplex Wiring for Interior Lights
Automated Pre Trip Inspection
Short and Open Check Diagnostics
Windshield Wipers, Two Speed plus Intermittent Settings
Headlights will Automatically Come On When Wipers Are Activated
Electric Windshield Washers with Translucent Washer Bottle
Wiper Switch on Turn Signal Control Arm
Parking Lights Integral with Front Turn Signals
Two (2) Halogen Projector Low Beam Headlights
Two (2) Halogen Complex Reflector High Beam Headlights
Daytime Running Lights
Four Position, Keyless Ignition Switch
Warning Alarm When Headlights are Left On and Ignition is Turned Off
Door Courtesy Lights
Turn Signal Switch, Non Self-Cancelling
Turn Type Battery Disconnect Switch Located in Cab
Manual-Reset Circuit Breakers (Main Panel) SAE Type III With Trip Indicators
ipo Fuses Except For 5-Amp Fuses
Multi function Engine Connector for Interface with Body Builder
Harness Extended to End of Frame for Customer Installed Throttle Control
AM/FM/WB/USB/Bluetooth Radio with Multiple Speakers
Body Builder Harness to End of Frame
Cigar Lighter and Ash Tray in Center Console
One (1) 12 Volt Power Outlet in Dash
Manufacturer Complies: Yes No

3.423 Instrumentation And Controls

- Bright Bezel Gauges
- MPH Speedometer with Trip Odometer
- Tachometer with Hour Meter
- Engine Oil Pressure Gauge
- Engine Coolant Temperature Gauge
- Fuel Level Gauge
- Voltmeter
- Fuel Filter Restriction Gauge
- Air Cleaner Restriction Indicator Gauge
- Primary and Secondary Air Reservoir Gauges
- DEF Level Gauge with Warning Lamp
- Engine Hour Meter
- Outside Air Temperature Display
- Warning Lights for:
 - High Engine Coolant Temperature with Audible Alarm
 - Low Oil Pressure with Audible Alarm
 - Low Air Pressure with Audible Alarm
 - High Beam
 - Turn Signal
 - Low Fuel Level
 - Parking Brake
 - Ice Warning Indicator
- Air Horn Valve, Pull Cord and Plumbing to Firewall Bulkhead

Manufacturer Complies: Yes No

3.424 Paint

- Paint Schematic, Dual Color Red/White (specific color to be determined at prebuild)
- Polyurethane Base Coat/Clear Coat
- Frame Painted Black with High Solids Polyurethane Paint

Manufacturer Complies: Yes No

3.423A ALTERNATE Instrumentation

- MPH speedometer
- Tachometer
- Engine Oil Pressure Gauge
- Engine Coolant Temperature Gauge
- Fuel Level Gauge
- Voltmeter
- Air Filter Restriction Indicator Gauge
- Fuel Filter Restriction Gauge
- Two (2) Air Pressure Gauges, One for Front System and One for Rear System
- Air Application Gauge
- DEF Level Gauge with Warning Lamp
- Engine Hour Meter
- Outside Air Temperature Readout
- DRIVER INFORMATION CENTER
 - Fuel Economy
 - RPM Display
 - Trip Information
 - Truck Information
 - Diagnostics
 - Gear Display
 - Alarm Clock

Manufacturer Complies: Yes No

3.424A ALTERNATE Paint

- Paint Schematic, Single Tone, (Shade to be Determined)
- Polyurethane Base Coat/Clear Coat
- Frame Painted Black with High Solids Polyurethane Paint

Manufacturer Complies: Yes No

ALTERNATE SPECIFICATIONS END HERE
ALL REMAINING ITEMS FROM THIS POINT FORWARD SHALL BE THE SAME FOR BOTH TRUCKS

3.425 Rollover Stability

The apparatus shall meet the criteria defined in 4.13.1 for rollover stability as defined in the 2016 NFPA Standard for Automotive Fire Apparatus.

Manufacturer Complies: Yes No

3.426 Principal Apparatus Dimensions & G.V.W.R.

The bidder shall include the principal dimensions, front G.A.W.R., rear G.A.W.R., and total G.V.W.R. of the proposed apparatus. Additionally, the bidder shall provide a weight distribution of the fully loaded, completed vehicle; this shall include a filled water tank, specified hose load, miscellaneous equipment allowance in accordance with NFPA-1901 requirements, and an equivalent personnel load of 250 lbs. per seating position.

Manufacturer Complies: Yes No

3.427 BIDDER TO SUPPLY AND FILL- IN PROPOSED DIMENSIONS:

- OVERALL LENGTH: _____ " (SHALL NOT EXCEED 31 FT)
- OVERALL WIDTH: _____ "
- OVERALL HEIGHT: _____ " (SHALL NOT EXCEED 10FT 6 IN)
- WHEELBASE: _____ "

The axle and total weight ratings of the completed apparatus shall not be less than the following minimum acceptable weight ratings:

- MINIMUM FRONT G.A.W.R.: _____
- MINIMUM REAR G.A.W.R.: _____
- MINIMUM TOTAL G.V.W.R.: _____

Manufacturer Complies: Yes No

3.428 Tow Hooks, Front

Two (2) Heavy Duty Front Tow Pins

Manufacturer Complies: Yes No

3.429 Ember Separator

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

Manufacturer Complies: Yes No

3.430 Seat Belt Clarification

Red seat belts shall be provided if available from the chassis manufacturer.

Manufacturer Complies: Yes No

3.431 Chrome Steel Front Bumper

A 12" high, 96" wide, chrome steel front bumper shall be provided. The bumper shall be constructed from a minimum of .135-gauge steel, which shall be designed with 45-degree welded corners and a 2" flange on the top and bottom. The ends of the bumper shall be supported by horizontal channels, which shall extend from the frame rails to the sides of the bumper. The front bumper shall be extended approximately sixteen (16) inches. A polished aluminum tread plate (3/16") gravel shield with end caps shall be installed.

Manufacturer Complies: Yes No

3.432 Hydraulic Winch

The bumper extension will be equipped with a Warn Series 30XL, hydraulic, 30,000 lb. capacity winch. The control of the winch shall be with a plug-in remote control unit. The unit shall have 12' of control cable, with forward, neutral, and reverse dead man type hand control. The winch shall be equipped with 90' of 1/2 " galvanized cable. The

cable shall end with a clamped type loop and a drop forged heavy duty hook. The cable shall feed through a full captive type 4-way roller and guide assembly.

Manufacturer Complies: Yes No

3.433 Wheel Trim Kits

Wheel trim kits consisting of chrome baby moon hubcaps and chrome lug nut covers shall be installed on the front and rear axles of the single rear axle chassis.

Manufacturer Complies: Yes No

3.434 Center Console

A center console fabricated from 1/8" aluminum shall be furnished and shall be located between the driver and officer's seats. The forward area of the console shall have a mounting surface for emergency lighting switch panels and/or electronic siren control boxes within reach of the driver or officer. In addition, the console shall be equipped with two (2) map/notebook storage pockets at the rear of the console. The console shall be finished with a brushed aluminum finish.

Manufacturer Complies: Yes No

3.435 Antenna Installation

One (1) antenna mounting base(s) model #MATM with 17' of coaxial cable shall be provided and installed on the cab roof. The attached antenna wire(s) shall be run to the right side cab dash area. The Fire Department is responsible to have the correct antenna whip installed once the apparatus is delivered.

Manufacturer Complies: Yes No

3.436 Tire Pressure Monitoring Devices

Each tire shall be equipped with an LED tire alert pressure management system (Vecsafe or equal) that shall monitor tire pressure. A chrome plated brass sensor shall be provided on the valve stem of each tire. 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 valve stem shall indicate the functionality of the sensor and battery. If the sensor and battery are in working condition, the LED shall immediately start blinking.

Manufacturer Complies: Yes No

3.437 Laptop Mount

A RAM No-Drill vehicle mount model RAM-VB-168-SW1 will be provided and mounted on the officer side area of the cab, the exact mounting location will be discussed at the pre-construction meeting.

Manufacturer Complies: Yes No

3.438 Battery Location

The batteries shall be located in the pump house.

Manufacturer Complies: Yes No

3.439 Roll Out Tray

A roll out tray, lined with Dri-Dek matting, shall be provided in the battery box to provide easy access to the batteries.

Manufacturer Complies: Yes No

3.440 Cab Step Lights

Tecniq E-03 step lights shall be provided, one (1) near each cab door to illuminate the cab stepping surfaces. The step lights shall be mounted in a convenient location so as to provide appropriate illumination to the cab stepping surfaces. The step lights shall automatically activate when the park brake is applied and marker lights are active.

Manufacturer Complies: Yes No

3.441 Air Filter Indicator

A K&N air filter indicator will be provided in the cab. A 1/4" synflex line will be plumber from the air cleaner to the indicator in the cab.

Manufacturer Complies: Yes No

3.442 Seat Belt Cushion Sensors And Belt Sensors

The apparatus shall be equipped with a Class 1 seat belt warning system. The system shall consist of a Seat Belt module and shall display the seating positions through the main UltraView screen. Seat belt and seat cushion sensors shall be provided on the two (2) specified seating positions.

Manufacturer Complies: Yes No

3.443 Vehicle Data Recorder

A Class 1 Vehicle Data Recorder (VDR) system shall be provided. The system shall include an NFPA compliant "Black Box" with reporting software that shall be capable of data storage to coincide with the NFPA requirements.

Data storage capabilities shall include interfaces with the following systems:

- Display module (Master Optical Warning Device)
- VDR, date & time stamp
- Max Vehicle speed (MPH)
- Vehicle acceleration / deceleration (MPH/Sec.)
- Engine Speed (RPM)
- ABS event
- Data password protected
- Data sampled once per second, in 48-hour loop
- Data sampled min by min for 100 engine hours
- Throttle position (% of Throttle)
- Data software
- PC / Mac Compatible
- Data summary reports

The VDR data shall be downloadable by USB cable to a computer using either Microsoft or Apple operating systems.

Manufacturer Complies: Yes No

3.444 Pump Shift Control

The pump shift control and pump engaged indicator light shall be mounted in the driver's lower left panel.

Manufacturer Complies: Yes No

3.500 CHASSIS/BODY ELECTRICAL & ACCESSORIES

3.501 Commercial Chassis Electrical System

The commercial chassis electrical system shall be provided as furnished by the original manufacturer. A customized interface shall be provided and designed, so as not to disturb any of the required chassis functions. The necessary interfaces shall only be provided in areas where load management is allowed or with accessory components provided on the chassis.

Manufacturer Complies: Yes No

3.502 Electrical Management System

A Class 1 ES-Key Electrical Management System shall be utilized on the chassis for all functions applicable. The system shall consist of the following components:

The High Density I/O Node (Super Node) shall have the ability to perform the following functions:

A modem with a RS232 computer interface and standard telephone jack used to not only program the multiplex system but also serve as a factory direct gateway into the vehicle from any Class 1 multiplex authorized service facility.

A Universal System Manager (USM), which acts as the main controlling component of the multiplexing system shall be provided and factory programmed to DOT, NFPA, SAE, the manufacturer and West Union Fire Department specifications. The programming shall be done by the manufacturer's engineering department. The ES-Key system installation shall comply with SAE J 551 requirements regarding Electromagnetic and Radio Frequency interference (EMI, RFI), as well as utilize components and wiring practices that insure the system is protected against corrosion, excessive temperatures, water, excessive physical, and vibration damage by any equipment installed on the vehicle at the time of delivery.

A series of Multiplexing Input/Output jacks shall be provided. The Input/Output jacks shall permit the multiplexing system to reduce the amount of wiring and components used as compared to non-multiplexed apparatus. These jacks shall vary in I/O configuration and shall possess individual output internal circuit protection.

The System shall also consist of a programmable switches that shall be installed and allow the operator to control the programmed functions of each individual switch.

Diagnostic software shall be provided to download data from the on board ES-KEY system. This software shall have the ability to view system input/output (I/O) information, and include a connection from a computer to the vehicle.

A Class1 UltraView # UV700 7" color transmissive TFT display for monitoring critical apparatus and engine information shall be provided an installed. The displays shall be CAN based utilizing J1939 message protocol. The display shall utilize a bonded LCD display screen for optimal visibility in direct sunlight. The display shall be fully configurable and when used in conjunction with the Class1 ES-Key system and shall be custom programmed to control multiple apparatus functions.

Manufacturer Complies: Yes No

3.503 Chassis Diagnostics System

Diagnostic ports shall be accessible while standing on the ground and located inside the driver's side door left of the steering column. The diagnostic panel shall allow diagnostic tools such as computers to connect to various vehicle systems for improved troubleshooting providing a lower cost of ownership. Diagnostic switches shall allow engine and ABS systems to provide blink codes should a problem exist.

The diagnostic system shall include the following:

- A single port to monitor the engine, transmission and ABS system and diagnostics of the roll sensor (if applicable)
- Engine diagnostic switch (blink codes)
- ABS diagnostic switch (blink codes)
- Allison Transmission Codes (through touch pad shifter)

Manufacturer Complies: Yes No

3.504 Battery Disconnect Switch

The chassis batteries shall be wired in parallel to a single 12-volt electrical system, controlled through a heavy duty master disconnect switch. The master disconnect switch shall be located within easy access of the driver upon entering or exiting the cab.

Manufacturer Complies: Yes No

3.505 120 Volt Shoreline Connection - "Super" Auto Eject

One (1) Kussmaul "Super" Auto Eject model 091-55-20-120, automatic, 120 volts, 20-amp shoreline disconnect shall be provided for the on board, 110-volt battery charging systems. The disconnect shall be equipped with a NEMA 5-20 P male receptacle, which shall automatically eject the shoreline when the vehicle starter is energized. The mating connector shall be included with the auto eject and shall be provided as loose equipment. A label shall be provided indicating voltage and amperage ratings.

Manufacturer Complies: Yes No

3.506 Shoreline Power Inlet Plate

A shoreline power receptacle information plate shall be permanently affixed at or near the power inlet. The plate shall indicate the following:

- Type of Line Voltage
- Current Rating in Amps Power Inlet Type (DC or AC).

The Kussmaul auto-eject connection shall be equipped with a Red weatherproof cover. The shoreline receptacle shall be located in the driver's cab step well.

Manufacturer Complies: Yes No

3.507 Battery Charger

A Kussmaul, fully automatic battery charger shall be provided for maintaining the vehicle battery system. The charger shall feature a four (4) stage automatic charging system that shall extend the battery life and usage with multi-stage charging featuring a fast charge and a float/maintenance mode. A LED status center, built into the charger, shall provide at-a-glance status of fast charge, conditioning, ready (float/maintenance) and battery type selection. Output current shall be 40 amperes @ 12-volt DC.

Manufacturer Complies: Yes No

3.508 "Do Not Move Apparatus" Warning Light With Audible Alarm

A 1" round, red flashing warning light with an integral audible alarm, shall be functionally located in the cab to signal when an unsafe condition is present such as an open cab door or body compartment door, an extended ladder rack, a deployed stabilizer, an extended light tower or any other device which is opened, extended or deployed which may cause damage to the apparatus if it is moved. This light shall be activated through the parking brake switch to signal when the parking brake is released. This light shall be labeled "DO NOT MOVE TRUCK".

Manufacturer Complies: Yes No

3.509 12 Volt Accessory Circuit

A dedicated 12-volt power and ground circuit shall be provided in the driver and officer side front compartments. The circuit shall be for future installation of radios or accessories.

Manufacturer Complies: Yes No

3.510 12 Volt Power Port Near Driver

Two (2) 12-volt power port accessory outlet(s) shall be installed in the cab of the truck for the fire departments accessory devices. The port(s) shall be located as directed near the driver's seating position for devices such as cellular phones.

Manufacturer Complies: Yes No

3.511 12 Volt Power Port Near Officer

Two (2) 12-volt power port accessory outlet(s) shall be installed in the cab of the truck for the fire departments accessory devices. The port(s) shall be located as directed near the officer's seating position for devices such as cellular phones.

Manufacturer Complies: Yes No

3.512 USB Charging Port Near Driver

One (1) round USB charging port(s) shall be installed in the cab of the truck for the fire departments accessory devices. Each port shall have two (2) USB connections and shall have a 5 volt, 2.1-amp max output. The port(s) shall be located as directed near the driver's seating position for devices such as cellular phones.

Manufacturer Complies: Yes No

3.513 USB Charging Port Near Officer

One (1) round USB charging port(s) shall be installed in the cab of the truck for the fire departments accessory devices. Each port shall have two (2) USB connections and shall have a 5 volt, 2.1-amp max output. The port(s) shall be located as directed near the officer's seating position for devices such as cellular phones.

Manufacturer Complies: Yes No

3.514 Federal Signal Rear Camera System

A Federal Signal model # CAMSET70-NTSC-4B rear vision camera system shall be provided to allow the driver to visually see the rear of the apparatus while in the cab. The system shall include a Federal 7.0" flat panel LCD color monitor mounted adjacent to the driver and a Federal rear vision color camera that shall be mounted at the rear of the vehicle. The system shall also feature a microphone on the camera and speaker built into the monitor. The rear vision camera system shall be wired to automatically activate when the chassis transmission is placed in reverse. The monitor for the rear vision system shall be mounted ceiling of the cab in easy view of the driver.

Manufacturer Complies: Yes No

3.515 Dot Marker Lights And Reflectors

Cab marker lights and signaling devices shall be as provided on the commercial chassis cab from the original chassis manufacturer. FMVSS reflectors shall be also be provided as required.

Truck-Lite Model # 18 red LED marker lights with integral reflectors shall be provided at the lower side rear, one (1) each side.

Truck-Lite # 60115Y yellow LED side marker and turn lights shall be provided on the apparatus rear fender, above the rear axle, one (1) each side if the apparatus is 30' long or longer.

Truck-Lite Model #19 red LED clearance lights shall be provided on the apparatus rear upper, one (1) each side at the outermost practical location.

Truck-Lite Model # 33740R LED 3-lamp identification bar will be provided on the apparatus rear center. The lights shall be red in color.

Truck-Lite # 98034Y yellow reflectors shall be provided on the apparatus body lower side, as far forward and low as practical, one (1) each side if the apparatus is 30' long or longer.

Truck-Lite # 98034R red reflectors shall be provided on the apparatus rear, one (1) each side at the outermost practical location. **Manufacturer Complies:** Yes No

3.516 LED License Plate Light - Rear

One (1) Tecniq model #L10 LED license plate light shall be provided above the mounting position of the license plate. The light shall be clear in color and shall have a chrome finish.

Manufacturer Complies: Yes No

3.517 Tail, Stop, Turn And Back-Up Lights

Two (2) Whelen 600 series, 4-1/8" x 6-1/2", LED red combination tail and stop lights, shall be mounted one each side at the rear of the body.

Two (2) Whelen 600 series, 4-1/8" x 6-1/2", LED amber arrow turn signal lights, shall be mounted one each side, on a vertical plane with the tail/stop lights.

Two (2) Whelen 600 series, 4-1/8" x 6-1/2", LED white back-up lights, shall be mounted one each side on a vertical plane with the turn/tail/stop signals. These lights shall activate when the transmission is placed in reverse gear.

Two (2) Whelen PLAST4V mounting flanges, installed one (1) on each side, shall be provided to mount the lights described above in one common mounting flange. The fourth opening shall be for the lower rear warning lights.

The lights shall be mounted in order, from top to bottom, as described above.

Manufacturer Complies: Yes No

3.518 Body Step Lights

Polished stainless steel, TecNiq Eon 3-LED horizontal surface mounted body step lights shall be provided and controlled with marker light actuation. Step lights shall be located to properly illuminate all body access steps and walkway areas and shall include a mounting gasket to provide a watertight seal.

Manufacturer Complies: Yes No

3.519 Dunnage Area Lighting

Two (2) stainless steel, TecNiq Eon 3-LED horizontal surface mounted lights shall be provided in the dunnage area to provide adequate illumination of this area.

Manufacturer Complies: Yes No

3.520 Scene Lights - Rear Of Body

Two (2) Whelen # 9SC0ENZR super LED scene lights shall be provided, one on each side of the rear body panel in a chrome plated flange. The scene lights shall be wired through the load management system.

Manufacturer Complies: Yes No

3.521 Scene Lights - Driver Side Of Body

Two (2) Whelen # 9SC0ENZR super LED scene lights shall be provided. The scene lights shall be installed one rearward and one forward on the driver side of the body in a chrome plated flange. The scene lights shall be wired through the load management system.

Manufacturer Complies: Yes No

3.522 Scene Lights - Officer Side Of Body

Two (2) Whelen # 9SC0ENZR super LED scene lights shall be provided. The scene lights shall be installed one rearward and one forward on the officer side of the body in a chrome plated flange. The scene lights shall be wired through the load management system.

Manufacturer Complies: Yes No

3.523 Rear Of Body Light Switching - Cab

A switch shall be provided in the cab warning light switch console to turn the rear of body lights on and off. Switching for the auxiliary systems shall be performed through the multiplex control screen. Switching shall be programmed through various menus that are accessible from the display buttons.

Manufacturer Complies: Yes No

3.524 Driver Side Of Body Light Switching - Cab

A switch shall be provided in the cab warning light switch console to turn the driver side of body lights on and off. Switching for the auxiliary systems shall be performed through the multiplex control screen. Switching shall be programmed through various menus that are accessible from the display buttons.

Manufacturer Complies: Yes No

3.525 Officer Side Of Body Light Switching - Cab

A switch shall be provided in the cab warning light switch console to turn the officer side of body lights on and off. Switching for the auxiliary systems shall be performed through the multiplex control screen. Switching shall be programmed through various menus that are accessible from the display buttons.

Manufacturer Complies: Yes No

3.526 Rear Scene Lights - Additional Activation

In addition to the cab mounted switch for the rear scene lights, the rear scene lights shall illuminate when the transmission is placed in reverse gear and the apparatus is operating as an emergency vehicle (Primary Warning switch on).

Manufacturer Complies: Yes No

3.527 Ground Lights - CAB

One (1) Amdor Luma Bar H2O LED 20" ground light shall be provided under each side cab door entrance step, two (2) total. The ground lights shall turn on automatically with each respective door jamb switch and also by a master ground light switch in the warning light switch console. Each light shall illuminate an area at a minimum 30" outward from the edge of the vehicle.

Manufacturer Complies: Yes No

3.528 Ground Lights - Front Bumper

One (1) Amdor Luma Bar H2O LED 12" ground light shall be provided under each side of the front bumper facing forward, two (2) total. The ground lights shall be activated by a master ground light switch in the cab and shall be wired through the load management system.

Manufacturer Complies: Yes No

3.529 Ground Lights - Midship

One (1) Amdor Luma Bar H2O LED 20" ground light shall be provided under each midship compartment, total of two (2). The ground lights shall be activated by a master ground light switch in the cab and shall be wired through the load management system.

Manufacturer Complies: Yes No

3.530 Ground Lights - Rear

One (1) Amdor Luma Bar H2O LED 20" ground light shall be provided under each rear body corner, two (2) total. The ground lights shall be activated by a master ground light switch in the cab and shall be wired through the load management system.

Manufacturer Complies: Yes No

3.531 Ground Light Switching

The cab and body ground lights shall activate by engaging the parking brake. The cab and body ground lights shall be equipped with an activation switch in the cab.

Manufacturer Complies: Yes No

3.532 LED Brow Light - Above Windshield

One (1) HiViz LEDs "FireTech" Scene light model FT-B-46-W shall be provided. The light instrument shall be mounted just under the emergency light bar. The housing shall be made of an extruded 6061 aluminum; approx. 46" wide and less than 3" tall. The scene light shall have 36 LEDs divided amongst 3 independent circuits; circuit one featuring 6x 5w LEDs passing light through a 10-degree optic, circuit two featuring 12 5w LEDs passing light through a 25-40 degree "flood" range, and circuit three featuring 18x 5w LEDs passing light through a 60-90 degree "scene" optic. The circuitry shall feature a PWM LED driver with an onboard electronic thermal manager. Additionally, the bar shall meet CISPR25 EMI requirements. The light shall operate on 12v DC, generate 17,748 lumens and draw 15 amps. The light shall be adjustable vertically up to 15 degrees. Mounting shall be possible in any direction while still meeting NFPA 1901 compliance requirements. The housing color shall be White. The light shall feature a lifetime warranty.

Manufacturer Complies: Yes No

3.533 Light Above Windshield Switching - CAB

Three (3) switches shall be provided in the cab warning light switch console to control the individual lighting circuits of the HiViz FireTech LED brow light.

Manufacturer Complies: Yes No

3.600 BODY ELECTRICAL SYSTEM & WARNING DEVICES

3.601 12 Volt Body Electrical System

All electrical lines in the body shall be protected by automatic circuit breakers, conveniently located to permit ease of service. Flashers, heavy solenoids and other major electrical controls shall be located in a central area near the circuit breakers. All lines shall be color and function coded every 3", easy to identify, oversized for the intended loads and installed in accordance with a detailed diagram. A complete wiring diagram shall be supplied with the apparatus.

Wiring shall be carefully protected from weather elements and snagging. Heavy duty loom shall be used for the entire length. Grommets shall be utilized where wiring passes through panels. In order to minimize the risk of heat damage, wires run in the engine compartment area shall be carefully installed and suitably protected by the installation of heat resistant shielded loom. All electrical equipment shall be installed to conform to the latest federal standards as outlined in NFPA 1901.

Manufacturer Complies: Yes No

3.602 Body Electrical Junction Compartment

A weather resistant electric junction compartment shall be provided within the body or pump enclosure, depending on vehicle configuration. This compartment shall provide an easily accessible enclosure to house all of the body wiring junction points, terminal strips, solenoids, etc. The design of this compartment shall not decrease the storage capacity area of the compartment or area in which it is located. A removable panel shall be provided for access to this compartment.

Manufacturer Complies: Yes No

3.603 Pump Enclosure Work Lights

Two (2) Tecniq model #E18 lights shall be provided inside the pump enclosure providing 800 lumens each. Each light shall have their own independent switch incorporated into the light head.

Manufacturer Complies: Yes No

3.604 Engine Compartment Work Lights

Two (2) Tecniq model #E18 LED lights shall be provided inside the engine enclosure that will provide 800 lumens each. Each light shall have their own independent switch incorporated into the light head.

Manufacturer Complies: Yes No

3.605 ROM Track Mounted Compartment Lights - LED

Each individual, equipment storage compartment shall be equipped with the ROM LED V4 lights on the forward and rear edge of each body door opening. The lights shall be mounted in an anodized aluminum track provided by ROM either as a standalone unit or an integrated part of the roll up shutter door track. The lights shall be designed and manufactured to be water proof meeting the IPX7 industry standard and shall include a streamline optic lens and a fixed lumen output across 9-16vdc. Each LED module shall be of interlocking design and shall be able to be serviced/replaced without the removal of light assembly or shutter door.

Manufacturer Complies: Yes No

3.606 Driver Side Roof Compartment Lighting

Three (3) ROM V4 LED compartment strip light(s) shall be provided, to ensure proper compartment illumination. The lights shall be mounted underneath the roof compartment door opening and shall be activated with a magnetic door switch that shall be connected to the door ajar warning circuit.

Manufacturer Complies: Yes No

3.607 Officer Side Roof Compartment Lighting

Three (3) ROM V4 LED compartment strip light(s) shall be provided, to ensure proper compartment illumination. The lights shall be mounted underneath the roof compartment door opening and shall be activated with a magnetic door switch that shall be connected to the door ajar warning circuit.

Manufacturer Complies: Yes No

3.608 Telescoping 155W Spectra Led Floodlights – Rear Of Dunnage

Two (2) 12 volt 215-watt Fire Research Spectra LED series Q20 telescopic lights shall be furnished. Lights shall be installed, one (1) each side, in the pump house dunnage area. Lights shall be controlled by an on/off switch located on each light head.

Each lamp head shall have eighty-four (84) ultra-bright white LEDs, 72 for flood lighting and 12 to provide a spot light beam pattern and shall operate at 12 volts DC, draw 18 amps, and generate 20,000 lumens of light. Each lamp head shall have a unique lens that directs flood lighting onto the work area and focuses the spot light beam into the distance. The lamp head angle of elevation shall be adjustable at a pivot in the mounting arm and the position locked with a round knurled locking knob.

Manufacturer Complies: Yes No

3.609 Dunnage Light Switching - CAB

Two (2) switches shall be provided in the cab warning light switch console to turn the dunnage lights on and off. One (1) switch shall control the driver side light and one (1) switch shall control the officer side light.

Manufacturer Complies: Yes No

3.610 NFPA Audible And Lighting Warning Package

The following warning light package shall include all of the minimum warning light and actuation requirements for the current revision of the NFPA 1901 Fire Apparatus Standard. The lighting as specified shall meet the requirements for both "Clearing Right of Way" and "Blocking Right of Way" which includes disabling all white warning lights when the apparatus is in "Blocking Right of Way" mode.

Manufacturer Complies: Yes No

3.611 Light Package Actuation Controls

The entire warning light package shall be actuated with a single warning light switch located on the cab switch panel. The wiring for the warning light package shall engage all of the lights required for "Clearing Right of Way" mode when the vehicle parking brake is not engaged. An automatic control system shall be provided to switch the warning lights to the "Blocking Right of Way" mode when the vehicle parking brake is engaged.

Manufacturer Complies: Yes No

3.612 Warning Light Flash Pattern

All of the perimeter warning lights shall be set to a default NFPA compliant flash pattern as provided by the light manufacturer.

Manufacturer Complies: Yes No

3.613 Upper Level Lighting - Whelen

NFPA Zone A, Upper

A Whelen #F4N0QLED "Edge Freedom Series IV", 60" LED cab roof warning light bar shall be furnished and rigidly mounted on top of the cab roof.

The light bar shall be equipped with the following:

- Clear Lenses
- Two Front Corner Red Linear LED's
- Eight Red Forward Facing Linear LED's
- Two White Forward Facing Linear LED's
- Two Red End Linear LED's.

If equipped, the forward facing white lights shall be automatically disabled for the "Blocking Right of Way" mode.

Manufacturer Complies: Yes No

3.614 NFPA Zone C, Upper

Two (2) Whelen 90**5F*R, 900 super LED light heads shall be furnished and mounted one (1) each side on the upper rear face of the body, facing rear. Each light head shall be equipped with red LED's and a clear lens. The lights shall be installed with a chrome plated mounting flange.

Manufacturer Complies: Yes No

3.615 NFPA Zones B & D Rear, Upper

Two (2) Whelen 90**5F*R, 900 super LED light heads shall be furnished and mounted one (1) each side on the upper side face, towards the rear of the body, facing to each side of the unit. Each light head shall be equipped with red LED's and a clear lens. The lights shall be installed with a chrome plated mounting flange.

Manufacturer Complies: Yes No

3.616 NFPA Zones B & D Front, Upper

Two (2) Whelen 90**5F*R, 900 super LED light heads shall be furnished and mounted one (1) each side on the upper side face, towards the front of the body, facing to each side of the unit. Each light head shall be equipped with red LED's and a clear lens. The lights shall be installed with a chrome plated mounting flange.

Manufacturer Complies: Yes No

**3.617 Lower Level Lighting - Whelen
NFPA Zone A, Lower**

Two (2) Whelen 60*02F*R 600 super LED light heads shall be provided and installed one (1) each side. Each light head shall be equipped with red LED's and a clear lens. The lights shall be installed with a chrome plated mounting flange. The lower zone A warning lights shall be mounted in the commercial chassis grille no higher than 62" from ground level.

Manufacturer Complies: Yes No

3.618 NFPA Zone C, Lower

Two (2) Whelen 60*02F*R 600 super LED light heads shall be provided and installed one (1) each side directly below the DOT stop, tail, turn and backup lights. Each light head shall be equipped with red LED's and a clear lens. The lights shall be installed with a chrome plated mounting flange.

Manufacturer Complies: Yes No

3.619 NFPA Zones B & D Front, Lower

Two (2) Whelen 60*02F*R 600 super LED light heads shall be provided and installed one (1) each side. Each light head shall be equipped with red LED's and a clear lens. The lights shall be installed with a chrome plated mounting flange. The lower zone B & D warning lights shall be mounted on the sides of the commercial chassis hood at or forward of the centerline of the front axle. The light shall be mounted no higher than 62" from ground level.

Manufacturer Complies: Yes No

3.620 NFPA Zones B & D Midship, Lower

Two (2) Whelen 60*02F*R 600 super LED light heads shall be provided and installed one (1) each side, in the lower portion of the pump panel. Each light head shall be equipped with red LED's and a clear lens. The lights shall be installed with a chrome plated mounting flange.

Manufacturer Complies: Yes No

3.621 NFPA Zones B & D Rear, Lower

Two (2) Whelen 60*02F*R 600 super LED light heads shall be provided and installed one (1) each side. Each light head shall be equipped with red LED's and a clear lens. The lights shall be installed with a chrome plated mounting flange.

Manufacturer Complies: Yes No

3.622 Traffic Adviser Warning Light

One (1) Whelen LED "Traffic Advisor", model TAL65 36", rear directional light shall be installed on the rear of the body. The light shall be equipped with six (6) lamps. The directional light shall be activated by a control module. The control module shall be conveniently located near the driver's position. The rear directional light shall be wired through the load management system of the unit.

Manufacturer Complies: Yes No

3.623 Traffic Advisor - Recessed In Rear Intermediate Step

The traffic advisor will be recessed in the rear intermediate step.

Manufacturer Complies: Yes No

3.624 Back-Up Alarm

A Code 3, model # CA278, 87dBA back-up alarm, shall be provided and installed at the rear of the apparatus under the tailboard. The back-up alarm shall activate automatically when the transmission is placed in reverse gear and the ignition is "on".

Manufacturer Complies: Yes No

3.625 Air Horns

Two (2) chrome plated air horns shall be at the front of the vehicle. The air horns shall be mounted in full compliance with NFPA-1901. The supply lines shall be dual 1/4" lines with equal distance from each horn. Each air horn shall be mounted, one (1) each side, on the side of the hood. The air horn(s) shall be controlled by a foot switch on the officer's side and the steering horn button on driver's side. An air horn/electric DOT horn selector switch shall be furnished on the dash for the drivers steering horn button.

Manufacturer Complies: Yes No

3.626 Electronic Siren

One (1) Whelen # 295SLSA1, 100-watt electronic siren shall be provided featuring: bottom mount control head in cab, "Si-Test" self-diagnostic feature, six (6) function siren, radio repeat and public address. The electronic siren and speaker shall meet the NFPA required SAE certification to ensure compatibility between the siren and speaker.

One (1) Whelen, model # SP123BMC with chrome plated ABS outer flange, siren speakers shall be provided, recessed in the front bumper and wired to the electronic siren.

Manufacturer Complies: Yes No

3.627 Federal Q2B Mechanical Siren

One (1) Federal Model #Q2B mechanical siren shall be provided to provide audible warning. The Q2B siren shall be fully-recessed into the bumper on the driver's side. The siren shall be recessed so the front grille portion of the siren is flush with the front of the bumper. Two (2) floor mounted foot switches shall be provided, one (1) for the officer and one (1) for the driver. A siren brake button shall be provided near the driver's position.

Manufacturer Complies: Yes No

3.700 PUMP AND PLUMBING & ALL RELATED EQUIPMENT

3.701 Pump

- **HALE QMAX-XS 150**
- **1500 G.P.M.**
- **Single Stage**

The pump must deliver the percentage of rated capacity at the pressure listed below:

- 100% of rated capacity at 150 P.S.I. net pump pressure
- 100% of rated capacity at 165 P.S.I. net pump pressure
- 70% of rated capacity at 200 P.S.I. net pump pressure

- 50% of rated capacity at 250 P.S.I. net pump pressure.

Manufacturer Complies: Yes No

3.702 Pump Assembly

The pump shall be of a size and design to mount on the chassis rails of commercial and custom truck chassis, and have the capacity of 1500 gallons per minute (U.S. GPM), NFPA-1901 rated performance.

Manufacturer Complies: Yes No

3.703 Pump Construction

The entire pump shall be manufactured and tested at the pump manufacturer's factory. The pump shall be driven by a drive line from the truck transmission. The engine shall provide sufficient horsepower and RPM to enable the pump to meet and exceed its rated performance.

The entire pump, both suction and discharge passages, shall be hydrostatically tested to a pressure of 600 PSI. The pump shall be fully tested at the pump manufacturer's factory to performance specs as outlined by the latest NFPA-1901. Pump shall be free from objectionable pulsation and vibration.

The pump body and related parts shall be of fine grain alloy cast iron with a minimum tensile strength of 30,000 PSI. All moving parts in contact with water shall be of high quality bronze or stainless steel. Pumps utilizing castings made of lower tensile strength cast iron are not acceptable. Pump body shall be horizontally split, on a single plane in two sections for easy removal of entire impeller assembly including wear rings and bearings from beneath the pump without disturbing piping or the mounting of the pump in chassis.

Manufacturer Complies: Yes No

3.704 Pump Shaft

Pump shaft to be rigidly supported by three bearings for minimum deflection. One high lead bronze sleeve bearing shall be located immediately adjacent to the impeller (on side opposite the gearbox). The sleeve bearing is to be lubricated by a force fed, automatic oil lubricated design, pressure balanced to exclude foreign material. The pump shaft shall be heat-treated, electric furnace, corrosion resistant stainless steel to be super-finished under packing with galvanic corrosion (zinc foil separators in packing) protection for longer shaft life. Pump shaft must be sealed with double-lip oil seal to keep road dirt and water out of gearbox.

Manufacturer Complies: Yes No

3.705 Pump Impeller

The pump shall have one double suction impeller. The pump body shall have two opposed discharge volute cutwaters to eliminate radial unbalance. Pump impeller shall be hard, fine grain bronze of the mixed flow design; accurately machined and individually balanced. The vanes of the impeller intake eyes shall be of sufficient size and design to provide ample reserve capacity utilizing minimum horsepower. Impeller clearance rings shall be bronze, easily renewable without replacing impeller or pump volute body, and of wrap-around double labyrinth design for maximum efficiency.

Manufacturer Complies: Yes No

3.706 Mechanical Shaft Seal

The midship pump shall be equipped with a high quality, spring loaded, self-adjusting mechanical seal capable of providing a positive seal to atmosphere under all pumping conditions. This positive seal to atmosphere must be achievable under vacuum conditions up to 26 Hg (draft) or positive suction pressures up to 250 PSI. The mechanical seal assembly shall be 2 inches in diameter and consists of a carbon sealing ring, stainless steel coil spring, Viton rubber boot, and a tungsten carbide seat with a Teflon backup seal provided.

Only one (1) mechanical seal shall be required, located on the first stage suction (inboard) side of the pump and be designed to be compatible with a one-piece pump shaft. A continuous cooling flow of water from the pump shall be directed through the seal chamber when the pump is in operation.

Manufacturer Complies: Yes No

3.707 Pump Drive Unit

The drive unit shall be completely assembled and tested at the pump manufacturer's factory. Pump drive unit shall be of sufficient size to withstand up to 16,000 lbs. ft. of torque of the engine in both road and pump operating conditions. The drive unit shall be designed of ample capacity for lubrication reserve and to maintain the proper operating temperature.

The gearbox drive shafts shall be of heat treated chrome nickel steel and at least 2-3/4 inches in diameter on both the input and output drive shafts. They shall withstand the full torque of the engine in both road and pump operating conditions.

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

Manufacturer Complies: Yes No

3.708 Pump Ratio

The pump ratio shall be selected by the apparatus manufacturer to give maximum performance with the engine and transmission selected. The manufacturer shall supply at time of delivery copies of the pump manufacturer's certification of hydrostatic testing, the engine manufacturer's current certified brake horsepower curve.

Manufacturer Complies: Yes No

3.709 Pump Shift Control

The drive unit shall be equipped with a power shift. The shifting mechanism shall be a heat treated, hard anodized aluminum power cylinder with stainless steel shaft. An in-cab control for rapid shift shall be provided that locks in road or pump, with a manual override is required.

Manufacturer Complies: Yes No

3.710 Emergency Pump Shift

An emergency manual pump shift control shall be furnished on the left side pump panel which may be utilized if the air shift control does not operate. A transmission, manual lock-up switch shall be furnished in the cab to ensure positive lock-up of the transmission.

Manufacturer Complies: Yes No

3.711 Main Pump - Pump Shift Indicator Lights

For automatic transmissions, three (3) green warning lights shall be provided to indicate to the operator(s) when the pump has completed the shift for Road to Pump position. Two (2) green lights to be located in the truck driving compartment and one (1) green light on pump operator's panel adjacent to the throttle control. For manual transmissions, one (1) green warning light shall be provided for the driving compartment. All lights to have appropriate identification/instruction plates.

Manufacturer Complies: Yes No

3.712 Transmission Lock

The automatic transmission furnished in the chassis shall have a lock-up assembly which brings the transmission to direct drive and prevents the transmission from shifting gears while in the pumping mode.

Manufacturer Complies: Yes No

3.713 Braking System

A positive braking system shall be provided to prevent vehicle movement during pumping operations. The air brakes furnished must satisfy this requirement.

Manufacturer Complies: Yes No

3.714 Main Pump Mounts

Extra heavy duty pump mounting brackets shall be furnished. These shall be bolted to the frame rails in such a position to perfectly align the pump so that the angular velocity of the drive line joints shall be the same on each end of the drive shaft. This shall assure full capacity performance with a minimum of vibration. Mounting hardware shall utilize Grade 8 bolts. Pumps which are not mounted directly to the frame will not be considered. Under no circumstance shall the pump function as a frame cross member.

Manufacturer Complies: Yes No

3.715 Class One Sentry Pressure Governor "SPG" + Twister

Apparatus shall be equipped with a Class 1 "Sentry Pressure Governor" (SPG) that is connected to the Electronic Control Module (ECM) mounted on the engine. The "SPG" shall operate as a pressure sensor (regulating) governor (PSG) utilizing the engines J1939 data for optimal resolution and response. If J-1939 engine control is not supported by the engine manufacturer, then analog remote throttle control shall be provided by the Sentry display. The Sentry display utilizes control algorithms that minimize pressure spikes during low or erratic water supply situations. The Sentry display shall be backwards compatible to any engine that supplies J1939 RPM, Temperature and Oil Pressure information providing the ability to maintain a consistent fleet fire-fighting capability and reduce operator cross training and confusion. The Sentry display shall have the ability to use either a 300 PSI or 600 PSI pressure transducers for intake and discharge pressures. Programmable presets for RPM and Pressure settings shall be easily configurable using the SPGs straightforward menu structure. The "SPG" shall also include indication of engine RPM, system voltage, engine oil pressure and engine temperature with audible alarm output for all. The "SPG" uses the J1939 data bus for engine information, requiring no additional sensors to be installed.

Manufacturer Complies: Yes No

3.716 Akron Intake Relief Valve

A 300 psi adjustable Akron Model 591103 intake relief valve system shall be plumbed on the suction side of the pump to comply fully with NFPA-1901 requirements. Excess pressures shall be plumbed to discharge water under the pump enclosure away from the pump operator.

Manufacturer Complies: Yes No

3.717 Pump Primer

The priming pump will be a Trident air primer system. A push in primer handle will open the priming valve and prime the pump.

Manufacturer Complies: Yes No

3.718 Front Suction Remote Priming Valve

An additional primer control valve shall be furnished to prime the front suction. The Trident Emergency products RPV (remote priming valve) shall activate using the same air that powers the AirPrime™ system when the coinciding panel valve is depressed.

Manufacturer Complies: Yes No

3.719 Master Drain Valve

A rotary type, 12 port master drain valve shall be provided and controlled at the lower portion of the side pump panel. The valve shall be located in pump compartment lower than the main body and connected in such a manner as to allow complete water drainage of the pump body and all required accessories. Water shall be drained below the apparatus body and away from the pump operator.

Manufacturer Complies: Yes No

3.720 Individual Bleeders And Drains

All lines shall drain through the master drain valve or shall be equipped with individual drain valves, easily accessible and labeled. One (1) individual "Innovative Control" lift up drain valve shall be furnished for each 1-1/2" or larger discharge port and each 2-1/2" gated auxiliary suction. Drain/bleeder valves shall be located at the bottom of the side pump module panels. All drains and bleeders shall discharge below the running boards.

Manufacturer Complies: Yes No

3.721 Synflex Suction, Discharge, Pressure And Control Lines

Small lines within the pump enclosure shall be constructed from Synflex hose. Uses include, but are not limited to such lines as priming control, gauge lines, drain lines, air control valves, pump shift, supplemental cooling, foam flush and air bleeder valves.

Manufacturer Complies: Yes No

3.722 Hale Anode Blocks - Alloy - 2 Total

Two (2) Hale Alloy Anode blocks shall be provided and located one (1) on the suction side and one (1) on the discharge side of the pump to protect the pump from corrosion. The Anodes shall be painted Safety Yellow for identification purposes.

Manufacturer Complies: Yes No

3.723 Thermal Relief Valve

A Hale Model TRV120 Thermal Relief Valve shall be provided on the pump. If water temperature in the pump exceeds 120 degrees Fahrenheit, the thermal relief valve shall automatically open and discharge pump water to the ground, through a 3/8" discharge line, routed below the pump module. The thermal relief valve shall automatically close when the water temperature is lowered. An indicator light shall be provided on the operator's panel to illuminate when the thermal relief valve is activated.

Manufacturer Complies: Yes No

3.724 Top Mount Pump Module

The pump module shall be a self-supported structure mounted independently from the body and chassis cab. The design must allow normal frame deflection without imposing stress on the pump module structure or side running boards. The pump module shall be securely mounted to the chassis frame rails. The pump module shall incorporate a formed structure on the top front to support the top mount control panel and required mechanical control handles.

Manufacturer Complies: Yes No

3.723 Top Mounted Valve Controls

The valves shall be controlled by vertically operated swing handles. Each handle shall be equipped with a twist-lock, easy-grip knob. The valve control handles shall be mounted in-line. Each valve control handle shall be connected to its respective valve via a control rod and a bell crank mechanism, if needed. Each control rod shall consist of a 1/2" pipe welded to a threaded stud to form a rigid linkage. Each pressure gauge shall be located directly above its respective discharge control handle, and shall be clearly marked by color coded name plates. The pump module shall be a welded frame work utilizing structural steel components properly braced to withstand the rigors of chassis frame flex.

Manufacturer Complies: Yes No

3.724 Dunnage Area

A dunnage area shall be provided above the pump enclosure, behind the top mount control panel, for equipment mounting and storage. This area shall be furnished with a removable 3/16" aluminum tread plate floor and shall be enclosed on the sides.

Manufacturer Complies: Yes No

3.725 Transverse Walkway

There shall be a transverse walkway located at the rear of the chassis cab, ahead of the pump module. The walkway shall be constructed of 3/16" aluminum tread plate and shall be clear and unobstructed for through traffic. Folding step(s) shall be provided if necessary to maintain NFPA step heights. If steps adjacent to walkway (such as commercial chassis cab access steps) provide NFPA compliant step height, folding steps shall not be provided.

A miscellaneous equipment storage compartment shall be provided at either side of the walkway, outboard of the chassis frame rails. A vertically hinged, aluminum tread plate door with positive closure latch shall be provided on the outboard face of each compartment. Compartments shall be ventilated. The pump house walkway shall be approximately 18" wide.

Manufacturer Complies: Yes No

3.726 Suction Inlets

Two (2) 6" N.S.T. suction inlets shall be provided, one on the driver side and one on the officer side pump panel. A removable strainer shall be installed on each inlet.

Manufacturer Complies: Yes No

3.727 Pump Suction Ends

The main pump suction inlets shall be furnished with a short suction end, terminating with only the suction threads protruding through the side panel to minimize the distance an exterior appliance protrudes beyond the pump panel. A 6" NST chrome plated long handle pressure vented cap shall be installed on each main inlet of the pump.

Manufacturer Complies: Yes No

3.728 Front Suction

A 6" N.S.T. front suction inlet shall be provided at the front of the vehicle, plumbed from the pump. The front suction inlet shall be located above the right hand side of the front bumper extension gravel shield. The suction shall terminate with two (2) 90-degree sweep elbows to allow clearance for suction hose attachment. The front suction pipe shall be equipped with a chrome 6" NSTM thread adapter. The front inlet shall be plumbed utilizing 5", schedule 10 stainless steel piping, 45 degree elbows and a limited number of 90-degree sweep elbows in an assembly from the pump to the front of the cab. A manual drain shall be provided ahead of the front wheel and a panel controlled drain shall be provided aft of the front wheel. A minimum of two (2) grooved pipe couplings shall be furnished in this assembly to allow for flex and serviceability. The front suction inlet shall be gated with a 5" Bray in-line, full flow butterfly valve, located in the pump compartment.

An Akron model 59 inlet relief valve shall be provided as part of the front suction plumbing, situated outboard of the rear suction gate valve. The front suction valve shall be air operated with a control switch located on the operator's panel with function plate. One (1) 6" NST chrome plated long handle vented cap(s) shall be installed on front suction.

Manufacturer Complies: Yes No

3.729 Auxiliary Side Suction(S)

One (1) 2-1/2" auxiliary suction shall be provided at the driver side pump panel, to the rear of the main inlet. The 2-1/2" auxiliary suction shall terminate with a removable strainer, chrome plated 2-1/2" NST female swivel with a chrome plated plug and retaining chain. An Akron Brass 2 1/2" Generation II Swing-Out™ Valve shall be provided for the driver's side rear auxiliary suction. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. A 1/4 turn swing control handle shall be provided on the driver side rear auxiliary suction valve.

One (1) 2-1/2" auxiliary suction shall be provided at the officer side pump panel, to the rear of the main inlet. The 2-1/2" auxiliary suction shall terminate with a removable strainer, chrome plated 2-1/2" NST female swivel with a chrome plated plug and retaining chain. An Akron Brass 2 1/2" Generation II Swing-Out™ Valve shall be provided for the officer's side rear auxiliary suction. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. A 1/4 turn swing control handle shall be provided on the officer side rear auxiliary suction valve. All side gated inlet valves shall be recess mounted behind the side pump panels or body panels.

Manufacturer Complies: Yes No

3.730 Tank To Pump

One (1) 3" tank to pump line shall be, piped through the front bulkhead of the tank with a 90-degree elbow down into the tank sump. This line shall be plumbed directly into the rear of the pump suction manifold for maximum efficiency. A check valve shall be provided to prevent accidental pressurization of the water tank through the pump connection. Connection from the valve to the tank shall be made by using a non-collapsible flexible rubber hose. An Akron Brass 3" Generation II Swing-Out™ Valve shall be provided between the pump suction manifold and the water tank. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. A locking push/pull swing control handle shall be located on the operator's panel with function plate.

Manufacturer Complies: Yes No

3.731 Tank Fill

One (1) 2" gated full flow pump to tank refill line controlled at the pump panel shall be provided. A deflector shield inside the tank shall be furnished. Tank fill plumbing shall utilize 2" high pressure hose for tank connection to accommodate flexing between components. An Akron Brass 2" Generation II Swing-Out™ Valve shall be provided between the pump discharge manifold and the water tank. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. A locking push/pull swing control handle shall be located on the operator's panel with function plate.

Manufacturer Complies: Yes No

3.732 Driver's Side Main Discharge #1

A discharge shall be provided and located at the driver's side pump panel. The driver's side discharges # 1 shall terminate with NST threads, through the left panel above the main pump intake. The main pump discharge shall be plumbed directly from the pump discharge manifold utilizing direct connect discharge valve flanges. An Akron Brass 2 1/2" Generation II Swing-Out™ Valve shall be provided for the driver's side #1 discharge. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The discharge valve shall be equipped with a straight 2 1/2" NST adapter that shall be equipped with a 2 1/2" NST, 30-degree, chrome plated elbow. A 2 1/2" NST chrome plated pressure vented cap shall be installed on driver's side #1 discharge. The driver's side # 1 discharge valve shall be controlled by a locking push/pull swing handle located on the top mount operator's panel.

The driver's side # 1 discharge shall be equipped with a Class One 2 1/2" pressure gauge which shall contain a vibration dampened internal mechanism. To prevent internal freezing, the stem and Bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem. A bright metal bezel shall be supplied for resistance to corrosion and to protect the lens and case from damage. The pressure gauge shall be illuminated internally using light emitting diodes, which shall be wired through the pump panel light circuit. The gauge face shall be white with black numerals. The color of the illuminated Class One gauge shall be Green.

Manufacturer Complies: Yes No

3.733 Driver's Side Main Discharge #2

A discharge shall be provided and located at the driver's side pump panel. The driver's side discharges # 2 shall terminate with NST threads, through the left panel above the main pump intake. The main pump discharge shall be plumbed directly from the pump discharge manifold utilizing direct connect discharge valve flanges. An Akron Brass 2 1/2" Generation II Swing-Out™ Valve shall be provided for the driver's side #2 discharge. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The discharge valve shall be equipped with a straight 2 1/2" NST adapter that shall be equipped with a 2 1/2" NST, 30-degree, chrome plated elbow. A 2 1/2" NST chrome plated pressure vented cap shall be installed on driver's side # 2 discharge.

The driver's side # 2 discharge valve shall be controlled by a locking push/pull swing handle located on the top mount operator's panel. The driver's side # 2 discharge shall be equipped with a Class One 2 1/2" pressure gauge which shall contain a vibration dampened internal mechanism. To prevent internal freezing, the stem and Bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem. A bright metal bezel shall be supplied for resistance to corrosion and to protect the lens and case from damage. The pressure gauge shall be illuminated internally using light emitting diodes, which shall be wired through the pump panel light circuit. The gauge face shall be white with black numerals. The color of the illuminated Class One gauge shall be Red.

Manufacturer Complies: Yes No

3.734 Officer's Side Main Discharge #1

A discharge shall be provided and located at the officer's side pump panel. The officer's side discharges #1 shall terminate with NST threads, through the officer's side panel above the main pump intake. The main pump discharge shall be plumbed directly from the pump discharge manifold utilizing direct connect discharge valve flanges.

An Akron Brass 4" Heavy Duty Swing-Out™ Valve shall be provided for the officer's side #1 discharge. The valve shall have an all brass body with flow optimizing flat ball and dual polymer seats. The discharge valve shall be equipped with a straight 4" NST adapter that shall be equipped with a 4" NST, 30-degree, chrome plated elbow. The officer's side # 1 discharge cap provided as standard equipment shall be deleted. A 4" NSTF X 5" Storz Kochek S37S straight adapter with cap shall be provided on the officer's side # 1 discharge.

The officer's side # 1 discharge valve shall be gated with an Akron Hand wheel controlled, inline valve. The valve shall be controlled at the pump operator's panel with a chrome plated hand wheel and mechanical valve position indicator. The officer's side # 1 discharge shall be equipped with a Class One 2 1/2" pressure gauge which shall contain a vibration dampened internal mechanism. To prevent internal freezing, the stem and Bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem. A bright metal bezel shall be supplied for resistance to corrosion and to protect the lens and case from damage. The pressure gauge shall be illuminated internally using light emitting diodes, which shall be wired through the pump panel light circuit. The gauge face shall be white with black numerals. The color of the illuminated Class One gauge shall be Green.

Manufacturer Complies: Yes No

3.735 Officer's Side Main Discharge #2

A discharge shall be provided and located at the officer's side pump panel. The officer's side discharges #2 shall terminate with NST threads, through the officer's side panel above the main pump intake. The main pump discharge shall be plumbed directly from the pump discharge manifold utilizing direct connect discharge valve flanges. An Akron Brass 2 1/2" Generation II Swing-Out™ Valve shall be provided for the officer's side #2 discharge. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The discharge valve shall be equipped with a straight 2 1/2" NST adapter that shall be equipped with a 2 1/2" NST, 30-degree, chrome plated elbow. A 2 1/2" NST chrome plated pressure vented cap shall be installed on officer's side #2 discharge.

The officer's side #2 discharge valve shall be controlled by a locking push/pull swing handle located on the top mount operator's panel. The officer's side #2 discharge shall be equipped with a Class One 2 1/2" pressure gauge which shall contain a vibration dampened internal mechanism. To prevent internal freezing, the stem and Bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem. A bright metal bezel shall be supplied for resistance to corrosion and to protect the lens and case from damage. The pressure gauge shall be illuminated internally using light emitting diodes, which shall be wired through the pump panel light circuit. The gauge face shall be white with black numerals. The color of the illuminated Class One gauge shall be Red. **Manufacturer Complies:** Yes No

3.736 Top Mount Discharge Controls

All top mount valves shall be controlled by a locking push/pull swing handle unless otherwise noted in the individual discharge below.

Manufacturer Complies: Yes No

3.737 Officer Side Rear Discharge

A 2 1/2" NST rear discharge shall be provided at the rear of the vehicle, plumbed from the pump. The rear discharge shall be plumbed through a pipe sleeve integrated into the water tank that shall terminate on the rear body panel, on the officer side of the body. The officer side rear discharge pipe shall be equipped with a chrome 2 1/2" NSTM thread adapter. The officer side rear discharge shall be plumbed utilizing 2 1/2" schedule 10 stainless steel piping, 45 degree elbows and a limited number of 90-degree sweep elbows in an assembly from the pump to the rear of the vehicle.

A minimum of one (1) grooved pipe coupling shall be furnished in this assembly to allow for flex and serviceability.

An Akron Brass 2 1/2" Generation II Swing-Out™ Valve shall be provided for the officer's side rear discharge. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The officer side rear discharge valve shall be controlled by a push/pull handle located on the operator's panel. One (1) 2 1/2" NST chrome plated pressure vented cap shall be installed at the officer side rear discharge.

The officer side rear discharge shall be equipped with a Class One 2 1/2" pressure gauge which shall contain a vibration dampened internal mechanism. To prevent internal freezing, the stem and Bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem. A bright metal bezel shall be supplied for resistance to corrosion and to protect the lens and case from damage. The pressure gauge shall be illuminated internally using light emitting diodes, which shall be wired through the pump panel light circuit. The gauge face shall be white with black numerals. The color of the illuminated Class One gauge shall be Green.

Manufacturer Complies: Yes No

3.738 Deck Gun Discharge

A deck gun discharge shall be plumbed from the pump to an area on top of the vehicle. The deck gun piping shall be firmly supported and braced. The deck gun discharge shall be located in the center of the dunnage area above the pump module, centered on the pump operator's panel. The piping shall be positioned so the deck gun appliance is accessible from the pump operator's position. A pedestal type, 1/4" steel plate support assembly or "U" clamp shall be provided to stabilize deck gun plumbing below deck gun mount flange. The deck gun discharge pipe shall terminate with 3" NPT threads. The deck gun piping shall be designed so the overall height of the deck gun in the mounted/stowed position does not exceed the tallest point on the cab/body. The deck gun discharge shall be plumbed utilizing 3" schedule 10 stainless steel piping, 45 degree elbows and a limited number of 90-degree sweep elbows in an assembly from the pump to the deck gun location. A minimum of one (1) grooved pipe coupling shall be furnished in this assembly to allow for flex and serviceability.

An Akron Brass 3" Generation II Swing-Out™ Valve shall be provided for the deck gun discharge. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The deck gun discharge valve shall be controlled by a push/pull handle located on the operator's panel. The deck gun discharge shall be equipped with a Class One 2 1/2" pressure gauge which shall contain a vibration dampened internal mechanism. To prevent internal freezing, the stem and Bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem. A bright metal bezel shall be supplied for resistance to corrosion and to protect the lens and case from damage. The pressure gauge shall be illuminated internally using light emitting diodes, which shall be wired through the pump panel light circuit. The gauge face shall be white with black numerals. The color of the illuminated Class One gauge shall be Green.

Manufacturer Complies: Yes No

3.739 Horizontal Speedlay #1

Speedlay #1 shall be a transverse hose bed, which shall be designed as an integral part of the pump module design, located forward of the pump just above the frame rails. Hose deployment shall be accomplished from either side of the apparatus. The speedlay hose bed flooring shall be designed to be removable, constructed from brushed finish, perforated aluminum material.

Manufacturer Complies: Yes No

3.740 Speedlay #1 Slide-Out Tray

A 3/16" aluminum, three (3) sided, "J" shaped slide out tray shall be provided for speedlay #1 to allow easy loading of the hose off the vehicle. The tray shall be designed to slide out from either side of the vehicle. The sides and floor of the opening shall be lined with Nylatron to assist in the loading of the tray. The tray shall have a cut out on each side of the tray so it may be used as a handle to remove the tray. The handle area shall extend passed the side panel on each end of the tray to allow removal of the tray without getting fingers caught in the latch tray mechanism. A cadmium plated thumb type latches shall be provided for the tray to secure the tray in the speedlay opening.

The speedlay #1 discharge shall terminate through the rear wall of the hosebed with a 1 1/2" NSTM chicksan swivel adapter. The hosebed rear wall shall be slotted to allow the swivel to through the wall, allowing the pre-connected hose to be pulled off either side of the apparatus without kinking the hose at the coupling connection. Speedlay #1 shall be designed to have a minimum total capacity of 3.5 cubic feet as required by NFPA -1901 to accommodate a minimum of 200 feet of 1-3/4" fire hose. The hose shall be loaded in a double stack configuration. The speedlay #1 discharge shall be plumbed utilizing 2" schedule 10 stainless steel piping and/or flexible hose, 45 degree elbows and

a limited number of 90-degree sweep elbows in an assembly from the pump to speedlay hosebed. A minimum of one (1) grooved pipe coupling shall be furnished in this assembly to allow for flex and serviceability.

An Akron Brass 2" Generation II Swing-Out™ Valve shall be provided for the speedlay #1 discharge. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The speedlay #1 discharge valve shall be controlled by a push/pull handle located on the operator's panel. The speedlay #1 discharge shall be equipped with a Class One 2 1/2" pressure gauge which shall contain a vibration dampened internal mechanism. To prevent internal freezing, the stem and Bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem. A bright metal bezel shall be supplied for resistance to corrosion and to protect the lens and case from damage. The pressure gauge shall be illuminated internally using light emitting diodes, which shall be wired through the pump panel light circuit. The gauge face shall be white with black numerals. The color of the illuminated Class One gauge shall be Red.

Manufacturer Complies: Yes No

3.741 Horizontal Speedlay #2

Speedlay #2 shall be a transverse hose bed, which shall be designed as an integral part of the pump module design, located forward of the pump just above the lower speedlay. Hose deployment shall be accomplished from either side of the apparatus. The speedlay hose bed flooring shall be designed to be removable, constructed from brushed finish, perforated aluminum material.

Manufacturer Complies: Yes No

3.742 Speedlay #2 Slide-Out Tray

A 3/16" aluminum, three (3) sided, "J" shaped slide out tray shall be provided for speedlay #2 to allow easy loading of the hose off the vehicle. The tray shall be designed to slide out from either side of the vehicle. The sides and floor of the opening shall be lined with Nylatron to assist in the loading of the tray. The tray shall have a cut out on each side of the tray so it may be used as a handle to remove the tray. The handle area shall extend passed the side panel on each end of the tray to allow removal of the tray without getting fingers caught in the latch tray mechanism. A cadmium plated thumb type latches shall be provided for the tray to secure the tray in the speedlay opening.

The speedlay #2 discharge shall terminate through the rear wall of the hosebed with a 1 1/2" NSTM chicksan swivel adapter. The hosebed rear wall shall be slotted to allow the swivel to through the wall, allowing the pre-connected hose to be pulled off either side of the apparatus without kinking the hose at the coupling connection. Speedlay #2 shall be designed to have a minimum total capacity of 3.5 cubic feet as required by NFPA -1901 to accommodate a minimum of 200 feet of 1-3/4" fire hose. The hose shall be loaded in a double stack configuration. The speedlay #2 discharge shall be plumbed utilizing 2" schedule 10 stainless steel piping and/or flexible hose, 45 degree elbows and a limited number of 90-degree sweep elbows in an assembly from the pump to speedlay hosebed. A minimum of one (1) grooved pipe coupling shall be furnished in this assembly to allow for flex and serviceability.

An Akron Brass 2" Generation II Swing-Out™ Valve shall be provided for the speedlay #2 discharge. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The speedlay #2 discharge valve shall be controlled by a push/pull handle located on the operator's panel. The speedlay #2 discharge shall be equipped with a Class One 2 1/2" pressure gauge which shall contain a vibration dampened internal mechanism. To prevent internal freezing, the stem and Bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem. A bright metal bezel shall be supplied for resistance to corrosion and to protect the lens and case from damage. The pressure gauge shall be illuminated internally using light emitting diodes, which shall be wired through the pump panel light circuit. The gauge face shall be white with black numerals. The color of the illuminated Class One gauge shall be Green.

Manufacturer Complies: Yes No

3.743 Speed Lay Hosebed Hose Retention

Vinyl coated polyester covers shall be provided on each side of the speed lays to retain hose in the speed lays. The covers shall be secured with expandable loops sewn into the covers and hooks on the apparatus. The speed lay end flap shall be red in color.

Manufacturer Complies: Yes No

3.744 Booster Reel #1 Discharge

A 1 1/2" booster reel discharge shall be plumbed from the pump to the booster reel. The booster reel discharge shall be plumbed from the valve to the hose reel utilizing 1" high pressure hose. The end of the hose connected to the hose reel shall be equipped with a swivel end for ease in hose replacement. A 1 1/2" Akron, #8800 series, full flow, stainless steel ball valve shall be provided for the booster reel #1 discharge. The booster reel discharge valve shall be controlled by a push/pull handle located on the operator's panel. The booster reel discharge shall be equipped with a Class One 2 1/2" pressure gauge which shall contain a vibration dampened internal mechanism. To prevent internal freezing, the stem and Bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem. A bright metal bezel shall be supplied for resistance to corrosion and to protect the lens and case from damage. The pressure gauge shall be illuminated internally using light emitting diodes, which shall be wired through the pump panel light circuit. The gauge face shall be white with black numerals. The color of the illuminated Class One gauge shall be Red.

Manufacturer Complies: Yes No

3.745 Booster Reel #1

One (1) painted steel electric rewind booster reel shall be furnished. The reel shall be equipped with a one (1) inch 90° full flow swivel joint and an adjustable brake for freewheeling, drag or full lock operation. Color shall be graphite. The threads on the booster reel to the hose shall be NPSH. The booster reel #1 shall be mounted in the lower rear step compartment. Booster reel rewind shall be controlled by a pump panel mounted push button on the driver's side panel. The booster reel circuit shall be equipped with a shielded toggle switch to act as a booster reel disconnect to avoid accidental actuation of the booster reel rewind button. Each booster reel shall be designed to accommodate 250' of 3/4" booster hose. Customer shall install 250' of 3/4" Reel Tex booster hose. One (1) horizontal hose roller of polished stainless steel and guide spools shall be placed on the rear of the hose reel.

Manufacturer Complies: Yes No

3.746 Foam System - Foam Piping - 1 Inch

All foam concentrate plumbing from the tank or auxiliary foam inlet to the foam system components shall be stainless steel and nonferrous material. The foam system piping shall incorporate a check valve to prevent water from entering the foam tank; the discharge piping shall also include a check valve to prevent foam solution from back feeding into the discharge side of the pump. Individual discharge piping shall be as specified for each discharge. The complete foam system shall be tested in accordance with NFPA-1901.

Manufacturer Complies: Yes No

3.747 Foampro Foam Injection System

A FoamPro model 2002, electronic, fully automatic, variable speed, direct injection, discharge side foam proportioning system shall be installed in the pumping system. The system shall be capable of handling Class "A" foam concentrates and most Class "B" foam concentrates. The foam proportioning operation shall be based on direct measurement of water flows, and remain consistent within the specified flows and pressures. System must be capable of delivering accuracy to within 3% of calibrated settings over the advertised operation range when installed according to factory standards. The system shall be equipped with a digital electronic control display suitable for installation on the pump panel. Incorporated within the control display shall be a microprocessor that receives input from the system flowmeter, while also monitoring foam concentrate pump output, comparing values to ensure that the operator preset proportional amount of foam concentrate is injected into the discharge side of the fire pump. A paddlewheel-type flowmeter shall be installed in the discharge or manifold system specified to be "foam capable". A Full flow check valve shall be provided to prevent foam contamination of fire pump and water tank or water contamination of foam tank.

A 12 or 24-volt electric motor driven positive displacement foam concentrate pump, rated up to 5.0 GPM (18.9 L/min) with operating pressures up to 400 psi (27.6 BAR). The system shall draw a maximum of 56 amps @ 12 VDC or 30 amps @ 24 VDC. A pump motor electronic driver (mounted to the base of the pump) shall receive signals from the computer control display and power the 3/4 hp (0.56 Kw) electric motor directly coupled to the concentrate pump in a variable speed duty cycle to ensure that the correct proportion of concentrate preset by the pump operator is injected into the water stream.

The digital computer control display located on the pump operator's panel shall enable the pump operator to perform the following control and operation functions for the foam proportioning system:

- Provide push-button control of foam proportioning rates from 0.1% to 9.9%, in 0.1% increments
- Show current flow-per-minute of water
- Show total volume of water discharged during and after foam operations are completed
- Show total amount of foam concentrate consumed
- Simulate flow rates for manual operation
- Perform setup and diagnostic functions for the computer control microprocessor
- Flash a “low concentrate” warning when the foam concentrate tank(s) runs low
- Flash a “no concentrate” warning and shut the foam concentrate pump off, preventing damage to the pump, should the foam tank(s) empty

The digital computer control display shall interface with the options listed; provide dual foam calibration, and display separate totals for each foam concentrate used. If two foam tanks are required and piped to the foam concentrate pump, either an electric dual tank valve or the manual dual tank valve shall be provided. Components of the complete proportioning system shall include:

- Operator control and display
- Paddlewheel flowmeter
- Pump and electric motor/motor driver
- Wiring harnesses
- Low-level tank switch (Switches)
- Electronic dual tank valve or manual dual tank valve (if more than one tank)
- Foam injection check valve
- Main waterway check valve

Accurate concentration proportioning can be achieved, based on the following water flows:

- 166 GPM water 3.0% concentration
- 500 GPM water 1.0% concentration
- 1000 GPM water 0.5% concentration
- 2500 GPM water 0.2% concentration

The discharge piping shall be equipped with a properly sized flowmeter sensor, based on the systems capabilities. The foam system shall be plumbed to the following discharge/s through the discharge piping or manifold system:

- Speedlay #1 discharge.
- Driver's side #2 discharge.
- Officer's side #2 discharge.
- Hosereel # 1 discharge.

The foam proportioning system shall be supplied from the foam concentrate storage tank/s. The tank/s shall be constructed of materials compatible with foam concentrates being used in the system. Tank capacity, venting, fill opening and foam outlet plumbing connections shall be in accordance with NFPA requirements. Foam tank lid shall be sealed and latched in accordance with NFPA standards. If required a provision shall be made for installation of low tank level sensors and routing of the wiring for the sensors.

Manufacturer Complies: Yes No

3.748 Pump Panel - Top Mount

The pump operator's control panel shall be located above the pump towards the rear of the transverse walkway area with the operator facing the rear of the apparatus to operate the pump controls. The top and side panels shall be completely removable and designed for easy access and servicing.

Manufacturer Complies: Yes No

3.749 Top Mount Gauge Panel

The top operator's panel shall be fabricated from 1/8" black vinyl clad aluminum with a grained finish.

Manufacturer Complies: Yes No

3.750 Side Pump Panel Material

The left and right side pump panel shall be fabricated from 1/8" black vinyl clad aluminum with a grained finish.

Manufacturer Complies: Yes No

3.751 Hinged Gauge Panel

An angled full width, horizontally hinged gauge access panel shall be provided at the top mount operator's position. Chrome plated positive locks shall be provided along with chain holders to secure the panel in the opened position.

Manufacturer Complies: Yes No

3.752 Vertically Hinged, Split Pump Panel Driver Side

The driver side pump panel shall be split, vertically hinged, to provide complete access to the pump and plumbing on the driver side of the pump enclosure. The panels shall be equipped with stainless steel hinges and secured with push type locks to hold the panels closed. The drains located on the driver side panel shall be fastened to the lower panel, which shall be stationary.

Manufacturer Complies: Yes No

3.753 Vertically Hinged, Split Pump Panel Officer Side

The officer's side pump panel shall be split, vertically hinged, to provide complete access to the pump and plumbing on the officer side of the pump enclosure. The panels shall be equipped with stainless steel hinges and secured with push type locks to hold the panels closed. The drains located on the officer's side panel shall be fastened to the lower panel, which shall be stationary.

Manufacturer Complies: Yes No

3.754 Panel Fasteners

Stainless steel machine screws and lock washers shall be used to hold these panels in position. The panels shall be easily removable to provide complete access to the pump for major service.

Manufacturer Complies: Yes No

3.755 Caps And Adapters Safety Tether

All applicable discharge and suction caps, plugs and adapters shall be equipped with chrome plated ball chain and secured to the vehicle.

Manufacturer Complies: Yes No

3.756 Pump Panel Trim Plates

A high polished trim plate shall be provided around each discharge port and suction inlet opening to allow accessibility to the respective valve for service and repairs.

Manufacturer Complies: Yes No

3.757 Discharge Gauge Trim Bezels

Each individual discharge gauge shall be installed into a decorative chrome-plated mounting bezel that incorporates valve-identifying verbiage and color labels.

Manufacturer Complies: Yes No

3.758 Color Coded Identification Tags

Color coded identification tags shall be provided for all gauges, controls, connections, switches, inlets and outlets.

Manufacturer Complies: Yes No

3.759 Pump Operator's Panel Light Shield

The pump operator's panel shall be equipped with a light shield that shall be full width of the control panel, and shall be positioned to cover the lights and prevent glare. The light shield shall be equipped with the following lights:

- Three (3) 20" Amdor Luma Bar H2O super bright led strip lights.
- One (1) light under the operator's panel light shield shall be actuated when fire pump is engaged in addition to the pump engaged light.

Manufacturer Complies: Yes No

3.760 Top Mount Walkway Lighting

The top mount walkway shall be illuminated by the following lights:

- Four (4) TecNiq Eon, 3-LED illumination lights mounted in horizontal stainless steel bezels and mounting gaskets.
- The lights shall be controlled with the marker lights.

Manufacturer Complies: Yes No

3.761 Driver Side Pump Panel

The driver side pump panel shall be equipped with a light shield/step that shall be full width of the control panel, and shall be positioned to cover the lights and prevent glare. The light shield shall be fabricated from aluminum tread plate, which shall also serve as a step. The step shall be a minimum of 8" deep X the width of the pump panel. The light shield shall be equipped with the following lights:

- One (1) 20" Amdor Luma Bar H2O super bright led strip light.

The lights shall be switched with the top mount panel lights.

Manufacturer Complies: Yes No

3.762 Officer Side Pump Panel

The officer side pump panel shall be equipped with a light shield/step that shall be full width of the control panel, and shall be positioned to cover the lights and prevent glare. The light shield shall be fabricated from aluminum tread plate, which shall also serve as a step. The step shall be a minimum of 8" deep X the width of the pump panel. The light shield shall be equipped with the following lights:

- One (1) 20" Amdor Luma Bar H2O super bright led strip light.

The lights shall be switched with the top mount panel lights.

Manufacturer Complies: Yes No

3.763 Pump Operator's Panel

Particular attention is to be given to functional arrangement of all controls. The pump operator's panel shall accommodate the following:

- Hinged gauge panel
- Water tank fill valve
- Auxiliary suction valve control
- All discharge valve controls
- Auxiliary engine cooler controls
- Water tank suction control valve
- Pump primer valve
- Engine throttle control
- Master compound vacuum gauge
- Master pressure gauge
- Individual discharge gauges

- Pump shift engaged indicator light
- Water tank water level indicator
- Engine tachometer
- Engine oil pressure gauge with audible alarm
- Engine water temperature gauge with audible alarm
- Low voltage light and audible alarm
- Pump panel light switch
- Speed counter (Underwriters)
- Pump performance plate (Underwriters)
- Pump serial No. plate
- Master pump drain valve
- Individual drains
- Voltmeter
- Air inlet/outlet at lower driver side panel
- Class One "SPG" pressure governor control, landscape layout.

Manufacturer Complies: Yes No

3.764 Pump Test Ports

The pump panel shall be equipped with Vacuum & Pressure test plugs to allow for test equipment to monitor pump pressure and vacuum levels. Chrome plugs and labels shall be provided for the test ports.

Manufacturer Complies: Yes No

3.765 Master Gauges

One (1) 4-1/2" diameter pressure gauge (labeled: "PRESSURE") and one (1) 4-1/2" diameter compound vacuum gauge (labeled: "INTAKE") shall be provided. The master gauges shall be Class One and shall be illuminated internally using light emitting diodes, which shall be wired through the pump panel light circuit. The gauge face shall be white with black numerals. The color of the Master Pressure & Compound gauges shall be the following:

Both gauges shall be Blue.

Manufacturer Complies: Yes No

3.766 Pressure & Compound Gauge Ranges

All applicable pressure gauges shall have a range of 0 - 400 P.S.I., and the compound gauge shall have a range of - 30" - 0 - 400 P.S.I.

Manufacturer Complies: Yes No

3.767 Engine Cooler

An auxiliary cooler or heat exchanger shall be installed in the engine compartment between the engine and the chassis radiator. The cooler shall permit the use of water from the pump for cooling the engine. The cooling shall be done without mixing engine and pump water.

Manufacturer Complies: Yes No

3.768 Water Level Gauge

The water tank shall be equipped with a Class 1, model # ITL-40M, water tank level gauge for indicating water level on the pump operator's panel. The tank level gauge shall indicate the liquid level on an easy to read LED display and show increments of 1/8 of a tank.

Manufacturer Complies: Yes No

3.769 Remote Water Level Gauge

The water tank shall be equipped with an additional Class 1, model # ITL-40M, water tank level gauge for indicating water level, on the rear of the vehicle. The tank level gauge shall indicate the liquid level on an easy to read LED display and show increments of 1/8 of a tank. The gauge shall use a pressure transducer installed near the bottom of the water tank to determine the correct volume in the tank. A Class One remote relay module shall be provided to provide outputs for large indicator lights on the side of the vehicle.

Manufacturer Complies: Yes No

3.770 Large Light Water Level Gauge, Each Side Of Cab

A large light water level gauge system shall be provided on both sides of the cab. Each side shall have a Whelen model PSTANK, LED strip light, surface mounted, behind the cab door above the handrail. The strip light shall indicate the following water levels:

- Green LED cluster Full tank
- Blue LED cluster 3/4 tank
- Amber LED cluster 1/2 tank
- Red LED cluster 1/4 tank

The red LED's shall burn steady to indicate 1/4 tank and shall start to flash when the water level drops below 1/4 tank. To prevent distraction to drivers, this tank level gauge shall be wired to display only when the pump is engaged.

Manufacturer Complies: Yes No

3.771 Foam Tank Level Gauge - Foam Tank "A"

A Fire Research, model #WLA360-A00, "TANKVISION" gauge that shows the actual volume of foam in the tank shall be provided on the pump operator's panel. The "TANKVISION" gauge is designed for both ease of operation and installation. The "TANKVISION" gauge utilizes ultra bright multi color LED's for sunlight readability and also uses 2 specially designed wide-viewing lens for 180° of clear viewing. The "TANKVISION" gauge utilizes a pressure sender to measure the liquid volume. The gauge shall be equipped self-calibration feature allows the TANKVISION gauge to be used on tanks of different shapes and sizes. The gauge shall use a pressure transducer installed near the bottom of the foam tank to determine the correct volume in the tank.

Manufacturer Complies: Yes No

3.772 Water Tank

The water tank shall have a capacity of 1000 gallons, constructed from Poly material.

Manufacturer Complies: Yes No

3.773 Foam Tank "A"

In addition to the water capacity of the tank, a 25-gallon integral foam storage area shall be built into the water tank. The foam tank shall have a latched fill tower, properly labeled as the foam fill point. A valved drain shall be provided.

Manufacturer Complies: Yes No

3.774 Water Tank Construction

The Poly water tank shall be constructed of PT3 polypropylene material. This material shall be a non-corrosive stress relieved thermoplastic and UV stabilized for maximum protection. Tank shell thickness may vary depending on the application and may range from 1/2 to 1" as required. Internal baffles are generally 3/8" in thickness.

The tank shall be of a specific configuration and is so designed to be completely independent of the body and compartments. Joints and seams shall be fused using nitrogen gas as required and tested for maximum strength and integrity. The tank construction shall include PolyProSeal technology wherein a sealant shall be installed between the plastic components prior to being fusion welded. This sealing method will provide a liquid barrier offering leak protection in the event of a weld compromise. The top of the booster tank is fitted with removable lifting assembly designed to facilitate tank removal. The transverse and longitudinal swash partitions shall be manufactured of a minimum of 3/8" PT3 polypropylene. All partitions shall be equipped with vent and air holes to permit movement of air and water between compartments. The partitions shall be designed to provide maximum water flow. All swash partitions interlock with one another and are completely fused to each other as well as to the walls of the tank. All partitions and spacing shall comply with NFPA 1901. The walls shall be welded to the floor of the tank providing maximum strength as part of the tank's unique Full Floor Design. Tolerances in design allow for a maximum variation of 1/8" on all dimensions.

Manufacturer Complies: Yes No

3.775 Water Tank Lid

The tank cover shall be constructed of 1/2" thick PT3 polypropylene and UV stabilized, to incorporate a multi-piece locking design, which allows for individual removal and inspection if necessary. The tank cover(s) shall be flush or recessed 3/8" from the top of the tank and shall be fused to the tank walls and longitudinal partitions for maximum integrity. Each one of the covers shall have hold downs consisting of 2" minimum polypropylene dowels spaced a maximum of 40" apart. These dowels shall extend through the covers and will assist in keeping the covers rigid under fast filling conditions. A minimum of two lifting dowers shall accommodate the necessary lifting hardware.

Manufacturer Complies: Yes No

3.776 Water Tank Fill Tower

The tank shall have a combination vent and manual fill tower. The fill tower shall be constructed of 1/2" PT3 polypropylene and shall be a minimum dimension of 12" x 12" outer perimeter. The fill tower shall be blue in color indicating that it is a water-only fill tower. The tower shall be located in the left front corner of the tank unless otherwise specified by the tank manufacturer to the purchaser. The tower shall have a 1/4" thick removable polypropylene screen and a PT3 polypropylene hinged cover. The capacity of the tank shall be engraved on the top of the fill tower lid. Inside the fill tower there shall be a combination vent/overflow pipe. The vent overflow shall be a minimum of schedule 40 polypropylene pipe with a minimum I.D. of that is designed to run through the tank, and shall be piped to discharge water behind the rear wheels as required in NFPA 1901 so as to not interfere with rear tire traction.

Manufacturer Complies: Yes No

3.777 Water Tank Overflow And Vent Pipe

The fill tower shall be fitted with an integral 4" I.D. schedule 40 P.V.C. combination overflow/vent pipe running from the fill tower through the tank to a 4" coupling flush mounted into the bottom of the tank to allow water to overflow behind the chassis rear axle.

Manufacturer Complies: Yes No

3.778 Water Tank Sump

The tank sump shall be a minimum of 10" wide x 10" long x 3" deep. An anti-swirl plate shall be mounted inside the sump, approximately 1" above the bottom of the sump.

Manufacturer Complies: Yes No

3.779 Water Tank 3" Sump Drain

A 3" drain plug shall be provided.

Manufacturer Complies: Yes No

3.780 Water Tank Flanges/Outlets - Pumper

There shall be two (2) standard tank outlets; one for tank-to-pump suction line which shall be a minimum of 4" coupling and one for a tank fill line which shall be a minimum of a 2" NPT coupling. All tank fill couplings shall be backed with flow deflectors to break up the stream of water entering the tank.

Manufacturer Complies: Yes No

3.781 Water Tank Mounting All "T" Tanks - Pumper

The tank shall rest on the body cross members spaced a maximum of 22" apart, and shall be insulated from these cross members with a minimum of 3/8" nylon webbing or 1/2" rubber, 2-1/2" wide. The tank shall sit cradle-mounted using four (4) corner angles of 6 x 6 x 4 x 0.250 welded directly to the body cross members. The angles shall keep the tank from shifting left to right or front to rear. The tank is designed on the free-floating suspension principle and shall not require the use of hold downs. The tank shall be completely removable without disturbing or dismantling the apparatus body structure. The body or hose bed cross braces shall act as water tank retainers.

Manufacturer Complies: Yes No

3.782 Water Tank Ladder Storage

The ground ladders shall be stored horizontally within a sleeve in the water tank. A hinged rear access door shall be provided and tied into the "Do Not Move Apparatus" warning system.

Manufacturer Complies: Yes No

3.783 Direct Tank Fill - Driver Side

One (1) 2-1/2" NST direct tank fill shall be provided at the rear of the body, on the driver side, as low as possible. The direct tank fill shall be gated with a 2-1/2" Fireman's Friend (TTMA 6-bolt attachment pattern) check-type fill valve. The fill valve shall be capable of flowing at a rate in excess of 1,000 gallons per minute and will be of a self-deflecting design, requiring no additional diffusion device. The fill valve shall be constructed of stainless steel, with a spring actuated piston-type sealing mechanism to minimize seal wear and provide positive sealing of the valve. The fill shall be equipped with a 30-degree elbow terminating with a 2-1/2" NST female swivel connection.

Manufacturer Complies: Yes No

3.800 APPARATUS BODY DESIGN CONSTRUCTION

The body side and compartment assemblies shall be designed and assembled to provide maximum strength and durability under all operating conditions. Special attention shall be taken to minimize corrosion on all fabricated parts and structural members of the body. All bolt-on components shall be provided with a dissimilar metals isolation barrier to prevent electric corrosion. The body design shall also incorporate removable panels to access spring hangers, rear body mounts and fuel tank sending units. The body assembly shall be an all-welded configuration. The body shall be completely isolated from the cab and pump module structure. Dimensions used in this specification shall be the general outer dimension taken from a typical line diagram of the apparatus. These dimensions shall not take into account items like material thickness, access panels, doors, and other installed options.

Manufacturer Complies: Yes No

3.801 Compartment Tops

Compartment ceilings shall be a fully welded design as part of the body construction process. Compartment designs that do not have a welded in ceiling shall not be acceptable.

Manufacturer Complies: Yes No

3.802 Compartment Drip Molding

Compartment doors shall have drip molding to provide protection against water runoff.

Manufacturer Complies: Yes No

3.803 Rear Body Panel

The rear body panel shall extend the full width between the body side compartments. This panel shall be full height from the rear step to the hose bed floor. No part of the rear panel shall be attached to the booster tank. The rear body panel material shall be aluminum treadplate as standard. If Chevron striping is specified for the rear of the body, then smooth aluminum shall be utilized.

Manufacturer Complies: Yes No

3.804 BODY AND COMPARTMENT FABRICATION - 3/16" ALUMINUM

All compartment panels and body side sheets shall be fabricated entirely of 3/16" aluminum (5052-H32). Each side compartment assembly shall be both plug welded and stitch welded to ensure proper weld penetration on all panels while avoiding the possible warping caused by a full seam weld. The side compartments shall be welded on a fixture to ensure true body dimensions of all door openings. The side compartments and body side panels are then set into a body squaring fixture where the super structure is installed and the entire body is aligned to be completely symmetrical. The super structure is then welded to the compartment side panels and reinforcement plates are inserted which allows the compartment panels to become an integral component of the body support structure. A full seam weld shall not be used due to the applied heat which shall distort sheet metal and remove the protective coating from the perimeter of the welded area. All seams shall be caulked prior to finish paint to ensure proper compartment seal.

Manufacturer Complies: Yes No

3.805 Sub Structure - Aluminum

The body sub structure shall be an all welded configuration utilizing a combination of 3" x 1-1/2" 6061-T6 thick walled structural tubing and 6061 structural channel. This structure shall be designed to totally support the full length and width of the body and shall be welded to the body side compartments by use of reinforcement plates to incorporate the compartments into an integral part of the body weldment. The sub structure shall be bolted to the sides of the chassis frame at four (4) points. The two (2) forward mounting points shall utilize a spring mount to help isolate the body from chassis deflection. This design shall provide storage capacity in each side compartment for a minimum of 500 lbs. of equipment, and a minimum of 1000 lbs. of equipment in the rear step compartment.

Manufacturer Complies: Yes No

3.806 Fire Body Width

The fire body shall be 100" wide to provide the maximum amount of usable hose bed and compartment space. The side body compartments shall be 29" deep in any full depth areas, and 14" deep in any split depth areas.

Manufacturer Complies: Yes No

3.807 Body Fender

The body fender shall be 64" long, this shall allow for the suspension and related components to be contained within the fender, preventing any intrusion into the body compartment storage area. Bodies with notches in the front and/or rear compartment for suspension components are not acceptable.

Manufacturer Complies: Yes No

3.808 Driver Side - Front Section Of Fender

A storage compartment shall be inserted into the fender to provide a storage area for three (3) customer supplied SCBA cylinders (or fire extinguishers of similar size). The storage area shall be sized as tall and wide as possible in the fender (minimum of 14" wide x 15" tall with an angled floor by fender radius), and shall be 26" deep. The compartment shall have a non-abrasive lined cradle storage area for each of the three (3) devices. This storage compartment shall provide a minimum of 2.3 cubic feet of storage space.

Manufacturer Complies: Yes No

3.809 Driver Side - Rear Section Of Fender

A storage compartment shall be inserted into the fender to provide a storage area for three (3) customer supplied SCBA cylinders (or fire extinguishers of similar size). The storage area shall be sized as tall and wide as possible in the fender (minimum of 14" wide x 15" tall with an angled floor by fender radius), and shall be 26" deep. The compartment shall have a non-abrasive lined cradle storage area for each of the three (3) devices. This storage compartment shall provide a minimum of 2.3 cubic feet of storage space.

Manufacturer Complies: Yes No

3.810 Officer Side - Front Section Of Fender

A slide out absorbent bin shall be installed in this fender position. The storage bin shall be constructed of smooth aluminum and shall be sized to store a minimum of 40 lbs. of absorbent material. The bin shall be installed on sliding locking tracks that allow the bin to extend out of the body fender for dumping/filling. There shall be a hinged lid on top of the storage bin to add material to the bin, and a spring loaded valve at the bottom to dispense material out of the bin. Absorbent bins that are built into the fender and do not provide a means for sliding the bin out for loading and dispensing shall not be acceptable due to the difficulty in loading/unloading.

Manufacturer Complies: Yes No

3.811 Officer Side - Rear Section Of Fender

A storage compartment shall be inserted into the fender to provide an open storage area for customer supplied devices such as salvage tarps, rope bags, wheel chocks, etc. The storage area shall be sized as tall and wide as possible in the fender (minimum of 14" wide x 15" tall with an angled floor by fender radius), and shall be 26" deep. This storage compartment shall provide a minimum of 2.3 cubic feet of storage space.

Manufacturer Complies: Yes No

3.812 Fender Storage Doors

The fender storage area(s) shall be enclosed by a hinged door fabricated from the same material as the primary body construction, and painted the primary body color. The back side of the door shall have a section of nylatron installed to protect the door surface from the items stored in the compartment. Each door shall be tied into the compartment door ajar/do not move apparatus warning system.

Manufacturer Complies: Yes No

3.813 Driver Side Body Compartmentation

One full height/full depth compartment shall be provided forward of the rear wheels. The compartment dimensions shall be 35" wide x 68" tall x 29" deep. One high side compartment shall be provided above the rear wheels. The compartment dimensions shall be 64" wide x 37" high x 29" deep. One full height/full depth compartment shall be provided behind the rear wheels. The compartment dimensions shall be 56" wide x 68" tall x 29" deep. The driver side compartments shall provide approximately 144 cubic feet of storage space.

Manufacturer Complies: Yes No

3.814 Officer Side Body Compartmentation

One full height/full depth compartment shall be provided forward of the rear wheels. The compartment dimensions shall be 35" wide x 68" tall x 29" deep. One high side compartment shall be provided above the rear wheels. The compartment dimensions shall be 64" wide x 37" high x 29" deep. One full height/full depth compartment shall be provided behind the rear wheels. The compartment dimensions shall be 56" wide x 68" tall x 29" deep. The officer side compartments shall provide approximately 144 cubic feet of storage space.

Manufacturer Complies: Yes No

3.815 Rear Step Compartment

An equipment storage compartment shall be provided on the rear of the body at the rear step area. The rear step compartment shall be 42" Wide x 30" High x 29" Deep. The rear step compartment shall provide approximately 21 cubic feet of storage space. The rear step compartment shall have full side panels which shall isolate this storage area from the side body compartments. The rear step compartment shall be equipped with a rollup style door.

Manufacturer Complies: Yes No

3.816 Extended Rear Step - Tapered Corners

The extended rear step shall be 12" deep, extended beyond the body compartments. The step shall be 100" wide, with tapered corners for better clearance. The step shall be fabricated from 3/16" polished aluminum treadplate, and shall be rigidly reinforced. The rear edge of the step shall be designed to accommodate the rear clearance lights, recessed for protection in the step reinforcement channel. The step shall be bolted into place with a minimum 1/2" clearance gap between the step and rear body panel.

Manufacturer Complies: Yes No

3.817 Body Roof Compartments (Driver's Side)

Roof hatch style compartments shall be provided the full length of the body, on the driver's side of the body hose bed area and shall be designed as an integral extension of the lower side compartments with a painted exterior finish. Drain tubes shall be provided at each end of each side compartment which shall extend down through the lower compartments. Each side roof compartment shall extend the length of the body, which shall be evenly divided into three (3) individually accessed areas, which shall be open through from the front to the rear. The compartment depth shall extend from the ceiling area of the upper side compartments to the top of the body. The interior compartment width of each side roof compartment shall be a minimum of 25-1/2" inside width with a 22" wide access door at the top.

Each roof compartment shall be equipped with an overlapping, hinged lift up tread plate door. These doors shall be constructed of 3/16" aluminum tread plate with a 15-degree break on all sides. Each door shall have two (2) gas shock style stay open devices which shall also retain the door in the closed position. Protective panels shall be applied inside the compartments to cover any exposed wiring or recessed side body lighting, provided on the unit. These panels shall reduce the overall usable compartment area in the compartments.

Manufacturer Complies: Yes No

3.818 Body Roof Compartments (Officer's Side)

Roof hatch style compartments shall be provided the full length of the body, on the officer's side of the body hose bed area and shall be designed as an integral extension of the lower side compartments with a painted exterior finish. Drain tubes shall be provided at each end of each side compartment which shall extend down through the lower compartments. Each side roof compartment shall extend the length of the body, which shall be evenly divided into three (3) individually accessed areas, which shall be open through from the front to the rear. The compartment depth shall extend from the ceiling area of the upper side compartments to the top of the body. The interior compartment width of each side roof compartment shall be a minimum of 25-1/2" inside width with a 22" wide access door at the top.

Each roof compartment shall be equipped with an overlapping, hinged lift up tread plate door. These doors shall be constructed of 3/16" aluminum tread plate with a 15-degree break on all sides. Each door shall have two (2) gas shock style stay open devices which shall also retain the door in the closed position. Protective panels shall be applied inside the compartments to cover any exposed wiring or recessed side body lighting, provided on the unit. These panels shall reduce the overall usable compartment area in the compartments.

Manufacturer Complies: Yes No

3.819 Hose Bed (46" Wide)

The hose bed shall be located directly above the booster tank and shall be free from all sharp objects such as bolts, nuts, etc., to avoid damage to fire hose. The hose bed side walls shall be formed by the inner wall of the coffin compartments on each side. The front wall shall be flanged inward 2" with a 1" downward return to provide additional rigidity to the front wall.

Manufacturer Complies: Yes No

3.820 Hose Bed Capacity

The hose bed shall provide a minimum of 30 cubic feet hose storage area for 2 1/2" or larger fire hose to meet NFPA 1901 minimum pumper hose storage requirement. The apparatus weight analysis shall be based on 800' of 2 1/2" hose unless otherwise specified. If the hose load to be carried exceeds this minimum, the purchaser shall advise the manufacturer prior to contract so adequate chassis carrying capacity can be provided.

Manufacturer Complies: Yes No

3.821 Hose Bed Flooring

Flooring to be constructed from extruded aluminum and be properly spaced for ventilation. The flooring shall be smooth and free from sharp edges to avoid hose damage. The hose bed floor shall be removable to provide access to inner body framework.

Manufacturer Complies: Yes No

3.822 Hose Bed Partition

One (1) fully adjustable 3/16", aluminum hose bed partition shall be provided. Partition shall be easily adjustable by means of channels located at the front and rear of the hose bed. Partition shall be removable for access to the booster tank.

Manufacturer Complies: Yes No

3.823 Hose Bed Cover, Aluminum Tread Plate Rolling/Lift Up Cover

The top of the hosebed shall have an NFPA compliant cover installed to secure the hose from unintentionally deploying out the top or rear of the hosebed. The cover shall be a polished aluminum tread plate combination roller/lift-up style cover. The cover shall be capable of supporting 250 lbs. at any single point on the cover. The rear half of the cover shall roll back over the forward half of the cover on channel tracks and sealed ball bearing nylon coated rollers. When rolled open, the entire cover shall be capable of being lifted up on a stainless steel piano hinge installed across the front of the body. The cover shall raise to no less than 60 degrees for loading hose.

The cover shall lock in the closed position. When unlocked, the roller portion of the cover shall be capable of rolling forward and locking into the open rolled position. The lift portion shall be assisted and supported by positive locking

gas charged struts on each side of the cover. Handles shall be installed on the end of the cover to assist with rolling and lifting. Switches shall be installed on each side of the cover to indicate when the cover is open which shall activate the “Do Not Move Apparatus” warning in the cab.

An individual hinged access door shall be provided over the water tank fill tower area. This door shall be hinged at the front to prevent the door from opening while the apparatus is in motion. The door shall not be latched to allow the door to pop open in the event of tank over pressurization.

Manufacturer Complies: Yes No

3.824 Vinyl Flaps

Two (2) vinyl flaps at the rear of the tread plate hose bed cover. They shall be secured to the hose bed cover with quarter turn fasteners and to the rear body with bungee cords. The Hypalon material shall be red in color.

Manufacturer Complies: Yes No

3.825 Roll-Up Doors

Roll-up doors shall be provided on all compartments. The roll-up doors shall be constructed from aluminum extruded slats which shall have a flexible seal between each slat for proper sealing of the door. A synthetic rubber seal shall be provided at each side, top and bottom edge of the door to prevent entry of dirt into the compartment. The door shall be equipped with a lift bar style latch mechanism which shall latch at the bottom of the door mounting extrusion. The roll-up door assembly shall be furnished with a spring-loaded, counter balance assembly to assist in door actuation. All running board and high side compartments shall be equipped with roll-up doors.

Manufacturer Complies: Yes No

3.826 Robinson Roll-Up Doors

The roll-up doors shall be Robinson (ROM) brand roll-up doors, equipped with a brushed aluminum finish, with a PVC inner seal to prevent metal to metal contact and to repel moisture. The slats shall be double-wall extrusion 1.366” high by .315” thick with interlocking end shoes to prevent the slats from moving side-to-side and binding the door. All slats are to have interlocking joints to prevent penetration by sharp objects.

Manufacturer Complies: Yes No

3.827 Protection Panel(S)

Seven (7) protection panel(s) shall be provided at the top of all body exterior compartments fitted with roll-up doors. The panel(s) shall be installed below the roll-up area to prevent possible damage to the roll-up door by misplaced equipment. Each protection panel shall be bolted in place and have a brushed plain aluminum finish.

Seven (7) compartment door(s) shall be equipped with keyed locking door latches. Two keys shall be furnished for each lock and shall be labeled to indicate the correct match. The specified door lock cylinder/s shall be equipped with #1250 key/s.

Manufacturer Complies: Yes No

3.828 Sweep-Out Compartment Floors

Compartment floors shall be welded to the compartment walls and have a sweep out design for easy cleaning. Compartments with hinged doors shall have the door opening flanges bend down to produce the sweep-out design. Compartments with roll-up style doors shall have the external floor flange stepped down, 1/2" high x 2" deep, to produce a sealing surface for the roll-up doors below the compartment floor. The sweep out design shall also permit easy cleaning.

Manufacturer Complies: Yes No

3.829 Coated Fasteners

All exterior fasteners shall be coated stainless steel screws. Screw threads shall be coated with reusable, self-locking, sealing material to provide vibration resistance. Screw heads shall be coated with a sealing element to prevent galvanic corrosion between dissimilar metals. Non-coated screws shall only be provided as part of vendor supplied component installations.

Manufacturer Complies: Yes No

3.830 Compartment Louvers

Ventilation between compartments to atmosphere shall be provided and located to avoid water entry into compartments.

Manufacturer Complies: Yes No

3.831 Access Panels

Removable access panels shall be provided (if applicable) to access fuel tank sender, electrical junction compartment and rear body mounts. Protective panels shall be located in the rear compartments providing access to the lights and associated wiring. The covers shall also serve as protective covers to prevent inadvertent damage to lights or wiring from tools or equipment located in the compartment.

Manufacturer Complies: Yes No

3.832 Body Protection Panels

The front face of the side compartments, next to the driver and officer side pump panels shall be overlaid with aluminum tread plate full height protection. The protection panel shall cover the entire front face of the compartment and shall wrap around the corner to the door opening.

Manufacturer Complies: Yes No

3.833 Zico Folding Roof Access Ladder

A Zico RL-2-6 Quic-Ladder, swing out & down vehicle ladder shall be provided on the right rear body corner. The ladder shall store parallel to the body. A spring loaded locking handle shall keep the ladder stored to the body. Releasing the lock shall allow the ladder to pull out to allow for climbing at a comfortable and safe angle. The ladder shall automatically latch and will not retract until the scissor lock is raised. The standard configuration has a two-rung fold-down section and a six-rung main ladder section. All rungs are cast aluminum with a flat nonskid surface for traction and safety. Handrails shall be 1 1/4" heavy walled aluminum tubing, covered between rungs by a ribbed black neoprene tubing, which provides a firm gripping surface.

Manufacturer Complies: Yes No

3.834 Body Rub Rails

Sacrificial aluminum tread plate rub rails shall be mounted at the base of the body, extend outward a minimum 3/4", downward 2" and flange inward 1". The rub rails shall extend the full length of the main body and extend to the rear step or wrap around the rear body corners. Rub rails shall be designed to bolt to the body from the bottom side of the compartment area, so as not to damage the body side panels on initial impact and to provide for ease of replacement.

Manufacturer Complies: Yes No

3.835 Running Board Steps

The driver and officer running board steps shall be fabricated of 3/16" polished aluminum tread plate. The outside edge on each step shall be fabricated with a double break, return flange. The steps shall be rigidly reinforced with a heavy duty support structure. The running boards shall not form any part of the compartment design, and shall be bolted into place with a minimum 1/2" clearance gap between any panel to facilitate water runoff.

Manufacturer Complies: Yes No

3.836 Intermediate Rear Step

An eight (8) inch deep, bolt on intermediate rear step, fabricated from 3/16" aluminum tread plate, shall be installed. The step shall be approximately 8" deep x 48" wide.

Manufacturer Complies: Yes No

3.837 Grab Rails

All hand rails shall be 1-1/4" outer diameter, knurled bright anodized aluminum extrusion, designed to meet NFPA 1901 requirements. Molded gaskets shall be installed between the handrail stanchion castings and body surfaces to prevent electrolytic reaction between dissimilar metals and to protect paint.

Manufacturer Complies: Yes No

3.838 Grab Rail Locations:

Grab rails shall be provided at the following specified locations. Additional grab rails shall be provided adjacent to any additional steps specified to comply with NFPA 1901.

Two (2) vertical rails shall be mounted on the rear edge of the beavertails, one (1) each side.

One (1) horizontal, full width handrail shall be installed on the rear, below the level of the hose bed.

Two (2) vertical handrails shall be mounted on each side of the forward pump house.

Manufacturer Complies: Yes No

3.839 Folding Step(S) - Body Front Driver Side

Cast Products model SP4401-1-CH-A-BL LED lighted large folding step(s) with RG0005 gasket, with a textured chrome plate finish shall be provided on driver side body front to provide NFPA compliant access (maximum 18” height between steps) to an upper horizontal walking surface (compartment cap, dunnage area, fabricated step, or upper body compartments). Each step shall have an LED light at the top and bottom of each step to illuminate the stepping areas.

Manufacturer Complies: Yes No

3.840 Folding Step(S) - Body Front Officer Side

Cast Products model SP4401-1-CH-A-BL LED lighted large folding step(s) with RG0005 gasket, with a textured chrome plate finish shall be provided on officer side body front to provide NFPA compliant access (maximum 18” height between steps) to an upper horizontal walking surface (compartment cap, dunnage area, fabricated step, or upper body compartments). Each step shall have an LED light at the top and bottom of each step to illuminate the stepping areas.

Manufacturer Complies: Yes No

3.841 Folding Step(S) - Body Rear Driver Side

No folding steps shall be provided in this location.

Manufacturer Complies: Yes No

3.842 Folding Step(S) - Body Rear Officer Side

No folding steps shall be provided in this location.

Manufacturer Complies: Yes No

3.843 Safety Sign(S) At Rear Step And Cross Walkway(S)

Safety sign(s) shall be located on the vehicle at the rear step, and at any cross walkway(s), to warn personnel that riding in or on these areas while the vehicle is in motion is prohibited.

Manufacturer Complies: Yes No

3.844 Rear Wheel Well Liners

Fully removable, one piece, bolt-in, stainless steel rear wheel well liner and fenderette will be provided. The wheel well liners will be natural metal finish and will protect the front and rear compartments and main body supports from damage. Wheel well liners and fenderettes which are welded in place or are only partially removable shall not be considered.

Manufacturer Complies: Yes No

3.845 Rear Mud Flaps

Heavy duty mud flaps shall be provided behind the rear wheels.

Manufacturer Complies: Yes No

3.846 Rear Tow Eyes

Two (2) painted tow eyes shall be furnished on the rear of the vehicle. The tow eyes shall be made from plate steel and shall be bolted directly to the chassis frame rails with grade 8 bolts and shall extend below the body. The tow

eyes shall be smooth and free from sharp edges, and have a minimum eyelet hole of 2-1/2". The tow eyes shall be painted.

Manufacturer Complies: Yes No

3.847 Trailer Hitch And Receiver

A trailer receiver shall be provided at the rear of the body and shall be constructed from 2 1/2" seamless structural steel tubing fastened to the chassis frame. A seven (7) flat pin connector shall be provided.

Manufacturer Complies: Yes No

3.848 Adjustable Shelving

Compartment shelving shall be constructed of 3/16" brush finish aluminum with a 2" upward bend at front and rear, and side supports. Shelving shall be vertically adjustable with spring nuts in aluminum strut channel. Adjustable shelves shall be located as follows:

- Three (3) in the driver side front compartment
- Three (3) in the officer side front compartment
- Three (3) in the officer side rear compartment

Manufacturer Complies: Yes No

3.849 500 Pound Floor Mounted Roll Out Trays

Floor mounted roll-out trays shall consist of heavy duty, roller bearing slide tracks with a load rating of 500 pounds, securely fastened to the compartment floor. The tray shall be fabricated from 3/16" brushed aluminum with a minimum 2" high flange on each of the four sides to assist in retaining the equipment stored on each tray. The slide tracks shall have a 100% extension, allowing the tray to extend out of the compartment completely. The 500-pound floor mounted roll out trays shall be located as follows:

- One (1) in the officer side front compartment
- One (1) in the driver side rear compartment
- One (1) in the officer side rear compartment

Manufacturer Complies: Yes No

3.850 Roll-Out/ Drop Down Trays

The roll out/tilt tray shall consist of a 3/16" brushed aluminum finished aluminum tray with a minimum 2" lip on all four sides. Heavy duty aluminum Unistrut "C" channel tracking material shall be utilized to securely fasten the slide tracks to the compartment walls, while allowing height adjustment. The slide mechanism shall consist of a low-weight high-strength plastic to create a robust front bracket to support the aluminum tray. The rear of the tip down tray shall be mounted on a slider with an integral pivot plate. This slider and pivot plate shall be mounted inside an aluminum rail for maximum strength. The tray shall be released from the stowed position with the use of a push button and shall be capable of auto latching to the stowed position. The front handle/latch shall be designed with a double hand hold to control the tray when deployed or stowed. The roll out/tilt tray shall be rated for 330# capacity. Roll out/Tilt trays will be located as follows:

- One (1) in the driver side rear compartment

Manufacturer Complies: Yes No

3.851 Swing Out Tool Boards

The tool boards shall be constructed of PAC TRAC Dual Faced 7040 series aluminum extrusion allowing mounting of equipment on the interior and exterior of the tool boards. The tool boards shall be installed with a Performance Advantage Company PM-1000 Swing-Out Module Kit. Aluminum angles shall attach the hinge to Unistrut tracking to allow depth adjustments. A heavy duty thumb latch shall be provided to secure the tool boards in the closed position. Swing out tool boards shall be located as follows:

- Two (2) in the officer side over the wheel high side compartment

Manufacturer Complies: Yes No

3.852 Vertical Pull Out Tool Boards

Vertical pull out tool boards shall be provided. Each tool board shall be constructed of 3/16" smooth aluminum allowing mounting of equipment on both sides of the tool boards. Each tool board shall be attached to #250 rated slides, one at the top and one at the bottom of the tool board. 3/16" aluminum angles shall attach the slides to tracking to allow horizontal adjustments. A gas shock shall be used to secure the tool board in the stored and deployed position. Vertical pull out tool boards shall be located as follows:

Two (2) in the driver side over the wheel high side compartment

Manufacturer Complies: Yes No

3.853 Aluminum Pegboard Material

3/16" aluminum pegboard material shall be provided on the rear wall for mounting of loose equipment in the specified compartment. The pegboard material shall be 3/16" aluminum with 7/32" holes punched every square inch, allowing the fire department to tap 1/4"-20 threads for mounting of loose equipment brackets. Pegboard material shall be located on the rear wall of each compartment.

Manufacturer Complies: Yes No

3.854 Power Pack Holder - Horizontal

One (1) power pack holder(s) two (2) piece rail guides with speed pin retainers shall be fabricated by the manufacturer. Due to configuration of each manufacturer's model, holders shall vary to accommodate each particular unit.

Manufacturer Complies: Yes No

3.855 Hydraulic Oil - Holmatro

Four (4) gallon(s) of Series 22 Genesis fluid hydraulic oil shall be provided and installed when and where it is needed as specified by the customer.

Manufacturer Complies: Yes No

3.856 Utility Air Reel

One (1) Ingersoll Rand Heavy Duty Composite Hose Reel, model #6358, utility air reel shall be provided and mounted as directed by the fire department. The hose reel shall be located in the front officer compartment. One (1) 4-way stainless steel roller assembly(s) shall be provided on the specified air reel(s). The roller assembly opening shall be the full width of the reel drum. Support brackets for the roller assembly shall be bolted to the hose reel. One (1) cable ball stop shall be installed on the cable to keep the end from passing through the roller assembly. Fifty feet (50') of 3/8" I.D. Goodyear brand air hose shall be provided on the air reel. An air reel shutoff valve shall be mounted near the reel to allow the operator to turn off the reel when it is not in use or if an air leak would occur. The valve shall also include an ID tag that shall indicate if the valve is on or off.

Manufacturer Complies: Yes No

3.857 Hannay - Dual Hydraulic Hosereel #1

A Hannay Dual electric rewind hydraulic hose reel with a capacity of 100-foot hydraulic hose assemblies on each side shall be provided and mounted at a location determined by the customer. Hydraulic hose reel shall be mounted in the upper portion of the Officer Side Rear Compartment, ceiling or rear wall mounted as space allows. Two (2) reel rewind switches shall be provided on the compartment wall. A Hannay top-wind tipped 30°, twin roller assembly shall be installed. Two (2) cable ball stops shall be installed on the cables, one (1) on each side, to keep the ends from passing through the roller assembly.

Manufacturer Complies: Yes No

3.858 Hannay - Dual Reel Options - Left Side Reel#1

One hundred feet (100') of Genesis 10,500 PSI, twin hydraulic hose for Genesis tools shall be provided on hydraulic reel #1. One (1) male OSC conversion adapter shall be supplied on the end of the hose. A length of twin hydraulic hose 10,500 PSI with quick-connect fittings shall be provided as feed line to the hydraulic power unit.

Manufacturer Complies: Yes No

3.859 Hannay - Dual Reel Options - Right Side Reel#1

One hundred feet (100') of Genesis 10,500 PSI, twin hydraulic hose for Genesis tools shall be provided on hydraulic reel #1. One (1) male OSC conversion adapter shall be supplied on the end of the hose. A length of twin hydraulic hose 10,500 PSI with quick-connect fittings shall be provided as feed line to the hydraulic power unit.

Manufacturer Complies: Yes No

3.860 Ladder Storage

The ground ladders shall be stored horizontally within a sleeve in the water tank. To secure the ground ladders, a hinged rear access door shall be provided and tied into the "Do Not Move Apparatus" warning system. The ladder storage area shall be provided with a black vinyl coated polyester deflector at the forward opening to deflect road debris from entering the ladder storage area.

Manufacturer Complies: Yes No

3.861 Ladder Clarification

The NFPA-1901 required ground ladders shall not be furnished with the completed unit. These items are not being provided by the manufacturer at the request of the purchaser.

Manufacturer Complies: Yes No

3.862 Pike Pole Storage

Two (2) pike pole tube(s) shall be provided. Each holder shall be accessible from the rear of the apparatus. Each pike pole holder shall be labeled to indicate the pike pole length. The pike pole tube(s) shall be mounted in the ladder storage compartment.

Manufacturer Complies: Yes No

3.863 Suction Hose Storage

The suction hoses shall be located beneath the hose bed, one (1) on the driver side and one (1) on the officer side. The hose storage area shall be accessed from the rear of the apparatus. The storage area shall be enclosed with a hinged door on the rear of the body that shall be tied into the "Do Not Move Apparatus" warning system. This storage area shall be behind the roll of the door and will not affect usable compartment space.

Manufacturer Complies: Yes No

3.864 Suction Hose

Two (2) 10 foot sections of six (6) inch PVC lightweight suction hose shall be furnished (Kochek or Firequip Maxi-Flex). Suction hose shall be for suction only and not to be used on pressurized hydrants or for relay pumping. Couplings shall include a long handle, female swivel on one end and a rocker lug male on the other end. All threads shall be six (6) inch N.S.T. NOTE: All PVC suction hoses are strictly drafting hoses and must not be used on hydrants or in pressure applications, as serious personal injury or death may occur.

Manufacturer Complies: Yes No

3.865 Additional Items Supplied With The Vehicle

- 1 - Pint of touch up paint for each color
- 1 -Bag of assorted stainless steel nuts and bolts

Manufacturer Complies: Yes No

3.900 120/240 VOLT A.C. ELECTRICAL AND GENERATOR

3.901 Harrison 8,000-Watt Hydraulic Driven Generator

One (1) Harrison MDS Hydraulic Driven Generator rated at 8,000 watts, 66/33 amps, 120/240 VAC, 60Hz, 1-phase shall be provided. The system shall be designed and assembled by a company with no less than 20 years of experience in the manufacture of hydraulic driven generators. The generator shall be tested at the full nameplate rated load prior to shipping and the test report shall be included. The test report shall document the generator's performance at various loads from no load to full load to ensure reliable power delivery at those loads. The motor/generator shall be placed in a structural steel frame which affords protection to the components and provides a

unitized mounting module containing the motor/generator, reservoir, oil cooler, filtration, on/off manifold containing a cross port check valve allowing unit to be started and shut down remotely. The generator shall have a cover consisting of NFPA approved diamond tread plate. A dedicated air intake duct for the alternator and a dedicated air intake duct for the heat exchanger shall be provided on the generator. Both air intake ducts shall be located on the same side of the generator. The generator shall be a commercial type with a heavy-duty bearing and of brush less design to ensure low maintenance. No brushes or slip rings shall be allowed. The reservoir shall include an oil level sight gauge, oil temperature gauge; fill cap, oil filter, and a venturi boost unit to provide positive pressure to the pump suction port.

The generator and motor shall be close coupled and aligned using a Morse taper with a through bolt to secure the motor to the generator. No two (2) bearing generators shall be used. The generator system must be able to operate on a Hot Shift PTO and must be able to be used while vehicle is either stationary or in motion. The hydraulic motor and pump shall be of axial piston design to provide low internal leakage and a high degree of frequency stability. No gear pumps or motors shall be used. The pump shall match the system with the proper orifice, pressure compensator, and load sense settings to provide stable output regardless of engine rpm or electrical load demands. The use of electronics to control the flow shall not be allowed. The system shall be capable of normal operations using a commonly available premium hydraulic oil; Mobile DTE series or equivalent. All fluid service points shall be in close proximity to the reservoir for ease of scheduled maintenance. When properly installed, the system shall be warranted for a period of not less than two (2) years or 2000 hours, whichever should come first. The generator shall be remotely turned on/off by using a 12 VDC switch mounted on the cab dash. A weatherproof digital Quadra meter containing the volt, amp, and frequency shall be installed near the breaker panel.

Manufacturer Complies: Yes No

3.902 Generator Pto

A hot shift PTO shall be provided on the transmission for the Harrison generator. The PTO shall be controlled from the cab. The control shall include a PTO engagement switch and a PTO engaged indicator light.

Manufacturer Complies: Yes No

3.903 Generator Soft Start

The hydraulic generator shall have a soft start system installed to protect all AC equipment from damage.

Manufacturer Complies: Yes No

3.904 Generator Location

The generator shall be permanently mounted in the officer side walkway storage compartment and will be equipped with perforated or louvered panels for proper ventilation. Locating the generator greater than 144" from the main breaker panel may require the installation of an additional power disconnecting means.

Manufacturer Complies: Yes No

3.905 120/240 Volt Load Center

The generator output line conductors shall be wired from the generator output connections to a Square D, model #QO112L125G breaker panel. The breaker panel shall be equipped with a properly sized main breaker using two (2) of the twelve (12) spaces which leaves a total of ten (10) available spaces. The generator output conductors shall be sized to 115% of the main breaker rating and shall be installed as indicated in the wiring section. Ten (10) appropriately sized, 120-volt, circuit breakers shall be provided. One (1) appropriately sized, 240-volt, circuit breaker shall be installed in place of two (2) standard 110-volt circuit breakers. The breaker panel shall be located in an enclosed compartment as directed by the fire department.

Manufacturer Complies: Yes No

3.906 120/240 Volt Wiring Methods

Wiring/conduit shall not be attached to any chassis suspension components, water or fuel lines, air or air brake lines, fire pump piping, hydraulic lines, exhaust system components or low voltage wiring. All wiring shall be installed at a minimum of 12 inches away from any exhaust piping and a minimum of 6 inches from any fuel lines. All wiring shall be securely clamped within 6 inches of any junction box and at a minimum of every 24 inches of run. All

supports shall be of nonmetallic material or corrosion protected metal. All supports shall not cut or abrade conduit or cable and shall be mechanically fastened to the vehicle.

All power supply assembly conductors, including neutral and grounding conductors, shall have an equivalent amperage rating and shall be sized to carry not less than 115% of the main breaker rating. All Type SO or Type SEO cable not installed in a compartment shall be installed in wire loom. Where Type SO or Type SEO cable penetrates a metal surface, a rubber or plastic grommet or bushing shall be provided. The installation of all 120/240 wiring shall meet the current NFPA-1901 Standards.

Manufacturer Complies: Yes No

3.907 120/240 Volt Wiring Identification

All line voltage conductors located inside the main breaker panel box shall be individually and permanently identified. When pre-wiring for future power wiring installations, the non-terminated ends shall be labeled showing function and wire size.

Manufacturer Complies: Yes No

3.908 120/240 Volt Grounding

The neutral conductor of the power source shall be bonded to the vehicle frame only at the power source.

The grounded current carrying conductor (neutral) shall be insulated from the equipment grounding conductors and from the equipment enclosures and other grounded parts. The neutral conductor shall be colored white or gray.

In addition to the bonding required for the lower voltage return current, each body and driving/crew compartment enclosure shall be bonded to the vehicle frame by a copper conductor. The conductor shall have a minimum amperage rating of 115 percent of the name plate current rating of the power source specification label.

Manufacturer Complies: Yes No

3.909 120/240 Volt Circuit Breaker / Receptacle Installation

The system shall be installed by highly qualified electrical technicians to assure the required level of safety and protection to the fire apparatus operators. When multiple circuit are required, the circuits shall be wired to the breaker panel in a staggered configuration to minimize electrical loads on each breaker or generator (leg) circuit. The wiring, electrical fixtures and components shall be to the highest industry quality standards available on the domestic market. The equipment shall be the type as designed for mobile type installations subject to vibration, moisture and severe continuous usage. One (1) 240 volt, NEMA L6-30, 30 amp, single twist-lock receptacle with a grey thermoplastic, corrosion resistant, weatherproof cover shall be installed as directed by the fire department. The receptacle shall require one (1) 30 amp, 240-volt circuit breaker to be installed in the load center.

Manufacturer Complies: Yes No

3.910 Electric Cable Reel

One (1) Hannay Model #ECR-1618-17-18, 120 volt, electric rewind cord reel shall be provided and wired to the breaker panel. The reel shall be securely mounted and equipped with a rewind control adjacent to the reel. The cord reel shall be ceiling mounted in the officer front compartment. The circuit breaker used to protect any device attached to the cord reel shall be sized to the smallest electrical connection used. One (1) reel rewind switch(s) shall be provided on the compartment wall. One (1) Hannay 4-way stainless steel roller assembly shall be provided. The roller assembly opening shall be the full width of the reel drum. One (1) cable ball stop(s) shall be installed on the cable to keep the end from passing through the roller assembly.

Manufacturer Complies: Yes No

3.911 Electric Cable

Two hundred (200) feet of Type SO yellow 12/3 heavy duty electric cable shall be provided on the reel. One (1) NEMA L5-15R, 15 amp, three prong twist-lock receptacle shall be provided on the end of the cable.

Manufacturer Complies: Yes No

3.912 Harrison Integrated Hydraulic Technology System

The apparatus shall be equipped with a Harrison Hydraulic Solutions Integrated Hydraulic Technology (IHT) system to supply hydraulic power to the following components:

Auxiliary Circuit #1: Genesis Outlaw PTO pump
Auxiliary Circuit #2: Harrison 8kw MDS hydraulic driven generator

The components for Auxiliary Circuit #1 and Auxiliary Circuit #2 shall be purchased separately and are not included with the Harrison IHT system. The Harrison IHT system shall be comprised of, but not limited to the following components:

- Variable displacement piston pump; (provided with the Harrison Generator or with the Harrison IHT system when a generator is not used)
- Hydraulic Function Manifold; (Provided with the Harrison IHT system)
- Hydraulic Reservoir; (provided with the Harrison Generator or with the Harrison IHT system when a generator is not used)
- Proportional Meter Head; as required.
- Heat Exchanger(s); (provided with the Harrison Generator or with the Harrison IHT system when a generator is not used)
- Upgraded Standard Generator Components as needed to work with the Harrison IHT system; as required.

The variable displacement piston pump shall be capable of supplying all required flows and pressures for the system. Gear pumps shall not be allowed. The custom designed hydraulic function manifold shall route the fluid to the required Auxiliary Circuits as selected by the apparatus operator. The custom designed hydraulic function manifold shall be designed, engineered, and manufactured for the specific apparatus application and not a general use, generic, or third party manifold.

The Harrison IHT system shall be fully operable with the vehicle in motion or stationary. There shall be a "Master Hydraulic" power switch located on the cab dash switch panel. When activated, this switch will engage the transmission mounted PTO for the variable displacement piston pump. There shall be control switches for "Auxiliary Circuit #1" and "Auxiliary Circuit #2" that will only be active once the "Master Hydraulic" power switch is on. The "Auxiliary Circuit #1" and "Auxiliary Circuit #2" switches will provide independent operation for each circuit.

All components of the integrated hydraulic system shall be designed and engineered for ease of maintenance and service. All hydraulic filters utilized shall be fully accessible and removable from the top of the reservoir, no exceptions. The drain line for the hydraulic fluid reservoir shall be fitted with a stainless steel ball valve, sealed in the closed position with a cable tie to prevent accidental opening. Drain lines shall be routed to the bottom of the apparatus for easy removal of hydraulic oil. The drain lines shall be fitted with a sealing plug to keep out contaminants and road debris.

Only Harrison Hydraulic Solutions IHT "Certified" component suppliers shall be allowed to be powered by the Harrison IHT system. Components that have not received "Certification" from Harrison Hydraulic Solutions will not be allowed. The Harrison Hydraulic Solutions Integrated Hydraulic Technology (IHT) system shall be designed, engineered, and manufactured by a single manufacturer with a minimum of 40 years of hydraulic experience, no exceptions. Hydraulic system suppliers who do not manufacture their own pumps and manifolds shall not be considered. The apparatus manufacturer shall provide and install a PTO.

The apparatus manufacturer shall install all components of the Harrison IHT system and all interconnecting hydraulic hoses. The apparatus manufacturer shall provide and install all interconnecting hydraulic hoses that will connect the Harrison IHT auxiliary circuits #1 and #2 to the Harrison generator and the Genesis Outlaw PTO pump. The apparatus manufacturer shall provide and install both auxiliary circuit activation switches (with green run lights) as directed by the fire department. The apparatus manufacture shall install a Genesis Outlaw PTO pump. The pump shall be mounted in the rear compartment.

Manufacturer Complies: Yes No

3.10.00 LOOSE EQUIPMENT & MISCELLANEOUS

The following items shall be provided and shipped loose with the completed apparatus at the time of delivery:

This equipment is to be priced separately on the Cost Sheet found in Section 4.200.

1. (2) each - Zico model #AC-32 non-folding wheel chocks
2. (4) each – LED Streamlight Hand Box Light
3. (1) each – Honda Light with LED Scene Light
4. (2) each - 120V LED Scene Lights Tri-pod Dual Head
5. (4) each – Red LED Rechargeable Traffic Hand Wands
6. (2) each – 25’ Extension Cord Heavy Duty – 12/3
7. (2) each – 50’ Extension Cord Heavy Duty – 12/3
8. (2) each – 100’ Extension Cord Heavy Duty – 12/3
9. (1) each – Snatch Block Rated for 30K Winch
10. (1) each – Tree Saver Strap
11. (1) each – 20’ Chain Rated 3/8” Grade 70
12. (1) each – 10’ Chain Rated 3/8” Grade 70
13. (2) each – 3/8” Grade 70 Clevis Grab Hook
14. (2) each - 3/8” Grade 70 Clevis Slip Hook with Safety Latch
15. (1) each – Hose Roller that fits 2” Receiver Hitch
16. (3) each – Pike Poles – 1 each 6 ft, 8 ft, and 10 ft.
17. (6) each – Forestry Rake
18. (6) each – Spanner Wrench
19. (4) each – Hydrant Wrench
20. (1) each – Hydrant Tool Bag Kit
21. (4) each – Hydrant Wrench/Spanner Wrench with Body Mount
22. (2) each – Salvage Cover
23. (1) each – CO2 Extinguisher
24. (1) each – Dry Chem Extinguisher
25. (1) each – Water Can Extinguisher
26. (1) each – Long Handle Round Point Shovel with Solid Steel Shank 60” Handle
27. (1) each – Long Handle Square Point Shovel with 60” FG Handle
28. (2) each – Push Broom
29. (4) each – Foam Container Wrench
30. (2) each – Rubber Mallet
31. (2) each – Storz Spanner Wrench Set
32. (2) each – LDH Hose Roller (Drainer)
33. (1) each – Positive Pressure Fan
34. (1) each – Multi Position Saws All
35. (1) each – 4 Gas Analyzer – MSA Altair 4X
36. (8) each – Tall Reflective Traffic Cones – 30” minimum -
37. (4) each – Accountability Board with Tags – Salamander Board Brand
38. (3) each – Belt Weather Kit
39. (1) each – Rescue Rope Bag – 150” Static Kernamantle
40. (3) each – Motor Crash Vehicle Kit
41. (1) each – 2 ½” Blitz Master Stream Device NH
42. (4) each – 1 ½” Pistol Grip Vari Nozzle NH Adjust GPM
43. (4) each – 2 ½” Aluminum Gate Valve NH
44. (4) each – Hose Clamp (Wildland Hose)
45. (1) each – 1” Forestry Alum. Barrel Nozzle NPSH
46. (3) each – 1” Forestry Barrel Nozzle Plastic NPSH
47. (4) each – 2 ½” Double Female NH
48. (4) each – 2 ½” Double Male NH
49. (4) each – 2 ½” Female to 1 ½” Male NH

50. (2) each – 2 ½” Male to 1 ½” Male NH
 51. (4) each – 1 ½” Double Female NH
 52. (4) each – 1 ½” Double Male NH
 53. (4) each – 1 ½” Female NH to 1” Male NPSH
 54. (4) each – 1” Male NH to 1” Male NPSH
 55. (4) each – 1” Male NH to 1” Female NPSH
 56. (4) each – 1” Double Male NH
 57. (4) each – 1” Double Female NH
 58. (4) each – 1” Male NPSH to 1” Male NH
 59. (4) each – 1” Male NPSH to 1” Female NH
 60. (4) each – 1” Double Male NPSH
 61. (4) each – 1” Double Female NPSH
 62. (2) each – 2 ½” Gated WYE to 1 ½” NH
 63. (2) each – 1 ½” Gated WYE to 1” NPSH
 64. (1) each – 2 ½” NH to 5” Storz Siamese
 65. (1) each – 5” Storz to 2 ½” Female NH 45*
 66. (1) each – 5” Storz to 2 ½” Male NH
 67. (1) each – 5” Storz to 4.5” Female NH 45* Adaptor
 68. (2) each – 2 ½” 45* Elbow
 69. (2) Sets – 5” Storz Spanner Wrench
 70. (1) each – Turbo Draft Eductor
 71. (4) each – 2 ½” Quick Couplers
 72. (2) each – 4.5” NH to 2 ½” NH Double Female
 73. (1) each – 5” Storz Piston Intake Valve – Driver Side
 74. (3) each – Hose Clamp (1.5+)
 75. (8) each – 50’ 1 ¾” Red Cross Lay Hose
 76. (8) each – 50’ 1 ¾” Blue Cross Lay Hose
 77. (20) each – 50’ 3” Supply Hose
 78. (6) each – 15’ 3” Supply Hose
 79. (2) each – 25’ 3” Supply Hose
 80. (250 ft) – ¾” Rell Tex Forestry Hose NPSH – No Substitute – in 50’ Joints
 81. (4) each – 100’ 1” Forestry Hose NPSH
 82. (5) each – ¾” Field Repairable Couplings for Reel Tex Forestry Hose Male
 83. (5) each – ¾” Field Repairable Couplings for Reel Tex Forestry Hose Female
 84. (1) each – Genesis Hydraulic Rescue Tools as follows:
 85. (1) each – S60 XL Spreader
 86. (1) each – All-9 Cutter
 87. (1) each – 19/52 3 Stage Telescopic Ram
 88. (1) each – 31 PP
 89. (1) each – Accessory Kit
 90. (1) each – Kodiak Tristrut Kit
 91. (1) each - 6" NST, Red Head 140-60001 barrel type strainer. A compartment mounting bracket shall also be provided to store the strainer(s) when not in use.
 92. (1) each – Hydrant Adapter - A double female swivel hydrant adapter shall be provided along with a screw base mounting bracket. One end shall attach to the suction hose and the other end to be 4-1/2" N.S.T. thread.
- Manufacturer Complies:** Yes No

3.11.000 PAINT SECTION

3.11.01 Paint, Preparation and Finish

The PPG Delta, Low V.O.C., polyurethane finishing system, or equal, shall be utilized. A "Clear Coat" paint finish shall be supplied to provide greater protection to the quality of the exterior paint finish. All removable items, such as

brackets, compartment doors, etc. shall be painted separately to insure finish paint behind mounted items. All compartment unwelded seams exposed to high moisture environments shall be sealed using permanent pliable caulking prior to finish paint.

Manufacturer Complies: Yes No

3.11.02 Body Primer & Preparation

All exposed welds shall be ground smooth for final finishing of areas to be painted. The compartments and doors are totally degreased and phosphatized. After final body work is completed, grinding (36 and 80 grit), and finish sanding shall be used in preparation for priming.

Manufacturer Complies: Yes No

3.11.03 Body Finish Paint

The body shall be finish sanded and prepared for final paint. Upon completion of final preparation, the body shall be painted utilizing the highest quality, state of the art, low V.O.C., polyurethane base paint. Finish paint shall be applied in multiple coats to ensure proper paint coverage with a high gloss finish. The entire body shall be buffed and detailed.

Manufacturer Complies: Yes No

3.11.04 Body Paint

The inside and underside areas of the complete body assembly shall be painted black using a PPG Delta System, prior to the installation of the body on the chassis or torque box. The body paint finish shall be PPG Delta System in a single color, to match customer furnished paint codes and requirements.

Manufacturer Complies: Yes No

3.11.05 Compartment Paint

The interior of the compartments shall be finish painted with Multispec #7247 White Marble Stone scuff resistant paint to provide a protective application over all of the compartment interior surfaces.

Manufacturer Complies: Yes No

3.11.06 Pump/Piping Paint

The pump enclosure and pump/plumbing within the pump enclosure shall be painted black.

Manufacturer Complies: Yes No

3.11.07 Fender Storage Compartment Paint

The interior of the fender storage compartments (if fender compartments are specified) shall be finish painted job color.

Manufacturer Complies: Yes No

3.11.08 Chassis Cab Paint

The commercial cab exterior shall be finish painted in dual colors, white over red, by the chassis manufacturer with Purchaser's choice of color as available.

Manufacturer Complies: Yes No

3.11.09 Commercial Cab Paint Finish Guidelines

The chassis shall be painted and detailed as provided from the chassis OEM and shall meet their quality guidelines.

Manufacturer Complies: Yes No

3.11.10 Wheel Paint

The chassis wheels shall be painted as provided by the commercial chassis manufacturer.

Manufacturer Complies: Yes No

3.11.11 Touch-Up Paint

One (1) pint of each exterior color paint for touch-up purposes shall be supplied when the apparatus is delivered to the end user. **Manufacturer Complies:** Yes No

3.11.12 Finalization & Detailing

Prior to delivery the vehicle, the interior and exterior be cleaned and detailed. The finalization process detailing shall include installation of NFPA required labels, checking fluid levels, sealing and caulking required areas of the cab and body, rust proofing, paint touch-up, etc.

Manufacturer Complies: Yes No

3.11.13 Rust Proofing

The entire unit shall be thoroughly rust proofed utilizing rustproof and sound deadening materials applied in manufacturer recommended application procedures. Rust proofing shall be applied during the assembly process and upon completion to insure proper coverage in all critical areas.

Manufacturer Complies: Yes No

3.12.000 LETTERING AND STRIPING

3.12.01 Computer Generated Lettering

The lettering and striping shall be custom designed utilizing state of the art computer software and computerized cutting machines. The manufacturer shall employ a full time artist / designer to generate all lettering, decals, and striping to meet the requirements of the Fire Department. The artwork for the lettering and striping shall be kept on record by the apparatus manufacturer to allow for ease in duplication for the Fire Department.

Manufacturer Complies: Yes No

3.12.02 Body Side Sheet Lettering

Scotch-Lite with drop shadow lettering shall be provided on the body side sheet per the fire department requirements. The design of the lettering on the body side sheet shall be designed to fit in the 2500 sq. inches available. Lettering provided on the body side sheet shall be 6" high.

Manufacturer Complies: Yes No

3.12.03 Lettering Font

The lettering shall be designed and cut with a basic block type font: "BLOCK TYPE FONT"

Manufacturer Complies: Yes No

3.12.04 Custom Fire Department Logo

A pair of custom fire department logos shall be computer generated and will be no larger than the 496 sq. inches available. The standard logo shall be printed on Scotch-Lite with two computer generated printed colors. The custom logo shall be located as directed by the Fire Department.

Manufacturer Complies: Yes No

3.12.05 Scotch-Lite Stripe

A six (6) inch high "Scotch-Lite" stripe shall be provided. The stripe shall be applied on a minimum of 60 percent of each side of the unit, 60 percent on the rear of the unit and 40 percent on the front of the unit. The Scotch-Lite stripe layout shall be determined by the Fire Department. The Scotch-Lite shall be black in color.

Manufacturer Complies: Yes No

3.12.06 Rear Chevron Striping

At least 50% of the rear facing vertical surface shall be covered with alternating strips of reflective striping. The striping shall be 6" Diamond Grade Scotch-Lite. The Diamond Grade Scotch-Lite shall be Red and Fluorescent Yellow Green in color.

Manufacturer Complies: Yes No

3.13.00 WARRANTIES

3.13.01 Customer Convenience Package

Customer Convenience Package for a custom chassis will be provided. This package includes the following: In station repairs for all warranty items during the bumper to bumper warranty period. Travel time and mileage will be paid for by the apparatus dealer. Any transportation cost will be paid for by the apparatus dealer.

Manufacturer Complies: Yes No

3.13.02 Warranty, Starting on Delivery Date

Warranty coverage by the manufacturer shall begin on the date of delivery and acceptance by the County.

Manufacturer Complies: Yes No

3.13.03 Warranty – New Product – Commercial Chassis

The bidder hereby warrants to the original purchaser (first end users) that any new products shall be free from defects in material and workmanship under normal use, maintenance and service for a period of one (1) year from date of delivery, subject to the conditions and exceptions stated herein.

Under this warranty, the manufacturer's obligation is limited to the repair or replacement at their option, at its factory, by its representative, or by its authorized service facility, of any part found to be defective by the manufacturer. If the manufacturer deems it necessary, all parts for which warranty claim is made, shall be returned to the manufacturer, transportation charges prepaid, for examination by the manufacture, who will be the sole judge as to whether such part was defective in material or workmanship under normal use, maintenance or service.

Manufacturer Complies: Yes No

3.13.04 Warranty – Cab Structure

The cab shall be warranted against structural defects for a period of ten (10) years from the date of acceptance of the unit. Details of warranty coverage, limitations and exclusions are included in the specific warranty document.

Manufacturer Complies: Yes No

3.13.05 Warranty – Body Structure

The body shall be warranted against structural defects for a period of ten (10) years from the date of acceptance of the unit. Details of warranty coverage, limitations and exclusions are included in the specific warranty document.

Manufacturer Complies: Yes No

3.13.06 Warranty - Corrosion

The cab and body shall be warranted against rust-through or perforation, due to corrosion from within, for a period of ten (10) years. Perforation is defined as a condition in which an actual hole occurs in a sheet metal panel due to rust or corrosion from within. Surface rust or corrosion caused by chips or scratches in the paint is not covered by this warranty.

Manufacturer Complies: Yes No

3.13.07 Warranty - Paint

The paint finish will be warranted for a period of seven (7) years from the date of acceptance of the unit. Details of warranty coverage, limitations and exclusions are included in the specific warranty document.

Manufacturer Complies: Yes No

3.13.08 Warranty - Lettering

The apparatus manufacturer will provide a five (5) year warranty against defects in material and workmanship for all graphic processes. Any valid claims must be made in writing with in 15 days of the determination of any defects to the manufacturer's fire apparatus. The manufacturer will at its option make any necessary repairs either at a local authorized service center or at the factory, if required. The manufacturer will make the final decision as to where the repairs are to be made and any transportation cost are the owners responsibility. The manufacturer will at its option, repair or replace any verified defects in workmanship or materials at no cost to the owner provided all the

requirements of this warranty have been met. The manufacturer will not be liable to the original purchaser or anyone else for consequential, incidental, special or direct damages, including, but not limited to, any claims for loss of profits, down time, loss of use or inconvenience.

Manufacturer Complies: Yes No

3.13.09 Warranty - Brightwork

The manufacturer warrants all bright finish components used in the construction of their apparatus against defects and workmanship provided the apparatus is used in a normal and reasonable manner. This warranty is extended only to the original user-purchaser for a period of one (1) year from the date of delivery / acceptance to the original user-purchaser, whichever occurs first. The expressed warranty excludes corrosion or degradation of bright finished components caused by damage to the component.

Manufacturer Complies: Yes No

3.13.10 Warranty – Stainless Steel Plumbing

The stainless steel plumbing shall be warranted for a period of ten (10) years from the date of acceptance of the unit. Details of warranty coverage, limitations and exclusions are included in the specific warranty document.

Manufacturer Complies: Yes No

3.13.11 Warranty – Water Tank

The water tank shall be warranted by the water tank manufacturer for the "Lifetime" of the unit. A copy of the manufacturer's warranty shall be supplied to define additional details of the warranty provisions.

Manufacturer Complies: Yes No

3.13.12 Warranty – Heavy Duty Valves

Akron Brass warrants Heavy Duty Swing-Out Valves for a period of ten (10) years after purchase against defects in material or workmanship. Akron Brass shall repair or replace any Heavy Duty Swing Out Valve which fails to satisfy this warranty.

Manufacturer Complies: Yes No

3.13.13 Warranty – Akron Products

The limited warranty set forth here against defective materials or workmanship for a period of five (5) years shall be given by Akron Brass Co. with respect to Akron Brass Co. products purchased and used in the United States and Canada respectively. All Akron valves are warranted for 10 years.

Manufacturer Complies: Yes No

3.13.14 Warranty – Fire Pump

Hale Products, Incorporated ("Hale") hereby warrants to the original buyer that products manufactured by Hale shall be free of defects in material and workmanship for a period of five (5) years from the date product is first placed into service or five and one-half (5 1/2) years from date of shipment by Hale, whichever period shall be first to expire. Within this warranty period Hale will cover parts and labor for the first two (2) years and parts only for years three (3) through five (5).

Manufacturer Complies: Yes No

3.13.15 Warranty – Foam System

The liability of FoamPro under the foregoing warranty shall be limited to the repair or replacement at FoamPro's option without charge for labor or materials of any parts upon return of the entire pump, system or other product or of the particular part to the FoamPro factory within the warranty period, at the sole expense of the purchaser, which part shall upon examination appear to FoamPro's satisfaction to have been defective in material and workmanship.

Manufacturer Complies: Yes No

3.13.16 Warranty - Generator

The specified generator shall have a two (2) year or two thousand (2000) hour warranty as provided by the generator manufacturer. A copy of the generator warranty shall be provided at time of delivery.

Manufacturer Complies: Yes No

3.13.17 Warranty - Engine

The specified fire service rated engine shall be provided with a five (5) year parts & labor Fire Truck Warranty. A copy of the manufacturer's warranty shall be supplied to define additional details of the warranty provisions.

Manufacturer Complies: Yes No

3.13.18 Warranty – Transmission

The specified Allison transmission shall be provided with a five (5) year parts & labor Fire Truck Warranty A copy of the Allison transmission warranty shall be supplied to the purchaser to define additional details of the warranty provisions.

SECTION 4. PROPOSAL FORM

Name of Party making the Proposal: _____

To: Procurement Director for Oconee County

PROJECT: Commercial Cab Fire Engine – Oconee County
RFP No.: 16-04

1. It is understood that the County reserves the right to reject this Proposal and that this Proposal shall remain open and not be withdrawn for the period specified in the Request for Proposals.
2. It is understood that a Proposal Security (Bid Bond or Bid Guarantee) equivalent to five percent (5%) of the Cost Proposal is required. The Proposal Security shall consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the Proposer will, upon acceptance of his Proposal, execute such contractual documents as may be required within the time specified. Accordingly, a \$_____ Proposal Security is attached.
3. It is understood and agreed that should the party making the Proposal fail or refuse to deliver the required performance and payment bonds and insurance certificates to the County within the time specified, the Proposal security shall be forfeited to the County.
4. It is understood and agreed that if requested by the County, the party making the Proposal shall furnish additional notarized financial statements, references, and other information required by the County sufficiently comprehensive to permit an appraisal of the party making the Proposal's ability to perform the Contract.
5. The undersigned warrants that the required Non-Collusion Affidavit has been properly executed, notarized and is attached.

All in strict conformity with the Agreement, including all exhibits and addenda thereto, the undersigned party making the Proposal hereby submits the following Proposal items:

4.100 COMPLIANCE WITH SPECIFICATION REQUIREMENTS

Each proposal shall contain reference to all specification requirements listed in Section 3. Each numbered item should be clearly identified and marked "Yes" or "No" for compliance with the stated specifications. If the section requires additional information to be submitted, it should clearly be identified with the matching number from that section. If any specifications are marked "No" for compliance, the proposer should list exception on a separate page and clearly explain. If proposer is quoting on a different part number and/or brand name than the one specified, this should be noted and fully explained. Throughout the specifications the County has listed brands and/or model numbers. This is to denote minimum requirements. Any other brands and/or models may be proposed, as long as information is included to determine that the brand proposed is equal to or better than the brand listed in the specifications. Please pay particular attention to the organization of this section and be sure that any exceptions or alternates are clearly labeled, numbered to match the correct section and fully explained. If any pictures or diagrams are included with this Section, be sure that they are labeled with a number to correspond to the section that is pictured.

4.200 COST REQUIREMENTS

Completely fill out the cost sheet provided as ATTACHMENT A.

All proposers are required to detail the payment terms for apparatus on a separate page. Any required prepayments or progress payments must be explained in detail. If a prepayment would result in a savings to the County the proposer shall list the terms and amount of savings.

It is not the intention of these specifications to write out any vendor or manufacturer of similar or equal equipment of the types specified. It should be noted that these specifications are written around the specific needs of the Oconee County Emergency Services and Rural Fire Departments. Price will not be the only consideration in making an award. Award shall be recommended for the proposer that comes closest to meeting specifications, while at the same time providing the highest quality, longest lasting fire apparatus at the most competitive price.

4.300 SERVICE AND SUPPORT REQUIREMENTS

4.301 Manufacturer's Service Requirements

To insure the purchase of a source of service and parts over the anticipated life of the apparatus, the proposer shall have established their permanency in the industry and include in the proposal a description of their service abilities and facilities. The manufacturer must stock a complete line of all parts for this apparatus. Location of manufacturing plant and nearest service facility must be outlined in proposal, including complete history of the manufacturer.

4.302 Service and Service Work

All warranty and service work shall be conducted in Oconee County when possible. If the apparatus has to be moved to a service facility outside the county, all personnel and associated costs shall be the responsibility of the manufacturer. Exceptions to the in County work are engine, transmission and other components covered by outside warranties where an outside facility is required. The manufacturer will help facilitate the coverage of these warranties under exceptions when and if needed. The manufacturer shall make sure no cost is incurred to the County for any of these outside warranties. Parts shall be available directly from the manufacturer without having to go through the dealer for the life of the apparatus. Explain in detail how all service and outside warranty work will be handled, and what items (if any) will be the responsibility of the County.

4.303 Service/Sales Engineer

The successful Proposer shall designate an individual to perform the sales engineer functions. The sales engineer shall provide a single point interface between the County and the contractor on all matters concerning the contract.

4.304 Service and Support Requirements – Documentation must be submitted with proposal.

The manufacturer shall have a complete fire apparatus service center to provide major factory support for this vehicle. Due to the types of emergency responses the vehicle will sustain, and critical need of the vehicle to the County, the ability to support the apparatus after the delivery will be a major factor in the award.

Even though a proposer may meet specifications, if the proposer fails to meet service facility requirements, the proposal may be rejected. To provide the assurance of adequate service and support the proposer shall not sublet the obligation of this section. The service center must be a separate full service operation, out of the production facility to assure full attention to service and proper training of maintenance employees.

The proposer shall have a local sales representative who is the authorized sales distributor of their apparatus. This sales representative shall represent the authorized sales and service center for the proposer in close proximity to the proposer's location.

This sales representative shall have in their employ an employee who is factory trained to handle parts and warranty repair for their respective manufacturer. The local sales representative is also to have a full service facility. This facility is to be able to provide complete repair, maintenance and service on the apparatus.

The local Service Facility must have the capability to dispatch factory trained service technicians with dealer operated mobile service units to County location for field service repairs.

Photographs of service center operations may be included in the proposal.

The manufacturer's service and rebuilding facility shall be fully described. The proposer shall be solely responsible for combination of all warranty claims. Provide the following information.

Square Feet of Service Center: _____sq. ft.

Pump Testing Center: Yes ____ No ____

Number of Service Employees: _____

Indoor Warehousing of Vehicles: Yes ____ No ____

Name of Service Center: _____

Physical Address: _____

Distance from Walhalla, SC 29691 _____ miles

Please answer the following questions:

Is this shop an authorized warranty center for the apparatus builder? Yes ____ No ____

Is the Service Center enclosed and heated? Yes ____ No ____

Number of Fire Pump Manufacturers Certified Employees: _____

Number of fully equipped service vans: _____

Is your shop equipped to handle the following repair work:

Cab & Chassis Repairs: Yes ____ No ____

Body Repairs: Yes ____ No ____

Paint Work: Yes ____ No ____

Water Tank Repairs: Yes ____ No ____

Major Pump Repairs: Yes ____ No ____

General Welding: Yes ____ No ____

Frame & Spring Repairs: Yes ____ No ____

Power Train Repairs: Yes ____ No ____

4.400 WARRANTY REQUIREMENTS - Response to section 3.13.00 Warranties

Each proposal shall include printed manufacturer warranty forms in exact compliance to the warranties requested in Section 3.13.00 – Warranties. All warranties shall be submitted and certified by various manufacturers, warranties by sales representatives, manufacturer's representatives, or other agencies shall not be accepted. For any service done during the warranty period, proposal should state where the warranty work will be done. Include a statement describing who will perform all warranty work and the location of where the warranty work will be performed. Clearly state who is responsible for transporting the apparatus to the

location for the warranty work. Clearly state specifics of what is NOT COVERED under the warranties requested.

4.500 CAPABILITY OF THE FIRM AND REFERENCES

Proposers shall provide a brief background of their firm including the location and years in business for the manufacturer. Be sure that this section relates to the location where the proposed apparatus will be built.

Proposals shall include a reference/customer list that includes **all** departments located in South Carolina or neighboring states that currently operate the brand of apparatus being proposed and have accepted delivery of such apparatus **within the last three years.**

Also from the above overall reference list, include a minimum of five references that the County may contact. Include the contact person's name, Fire Department, model year and type of apparatus, location, phone number and email address if available.

4.600 DELIVERY AND TRAINING SCHEDULE Response to Section 3.104

The delivery time will be when the County accepts delivery of a completed apparatus, ready for service and accepted per all the terms and conditions and specifications of this RFP. State the delivery time from receipt of an approved Purchase Order. _____. The delivery time shall be agreed upon between the County and the awarded apparatus vendor. **There is to be a \$500 per day penalty if apparatus is delivered later than the agreed upon delivery date.**

Explain completely how all delivery requirements stated in Section 3.104 will be met.

Explain in detail how the training requirement stated in Section 3.104 will be met and the qualifications and number of personnel performing the training

4.700 INSURANCE REQUIREMENTS

Include a statement that the Proposer will comply with the Insurance Requirements stated in Section 1, 6) General Information & Instructions, (o) Insurance Requirements, or a copy of a Certificate of Insurance.

THE UNDERSIGNED hereby declares that all of the representations of this Proposal are made under penalty of perjury under the laws of the State of South Carolina.

(Name of Corporation or Entity)

Date: _____

By: _____

Print Name: _____

Title: _____

ATTEST:

Print Name: _____

Title: _____

SECTION 5 OTHER

All inquiries concerning this proposal shall be addressed to:

Robyn M. Courtright, Procurement Director
Oconee County Procurement Office
415 South Pine Street, Room 100
Walhalla, South Carolina 29691
Telephone: (864) 638-4141
Fax: (864) 638-4142
E-mail: rcourtright@oconeesc.com

Contact with other departments or County representatives without permission of the Procurement Director may render your proposal void.

RFP SUBMITTAL CHECKLIST

The following items shall be returned with your proposal:

- One original – clearly marked, and six copies of your proposal (all sealed in one box)
- 5% Bid Bond
- Page 14, signed
- Exhibit B, Statement of Assurance, Compliance & Non-Collusion, signed (Pages 16 and 17)
- Exhibit C, Drug Free Workplace, signed (Page 18)
- Exhibit E – Non-Resident Taxpayer Affidavit – If Company is not located in South Carolina (Page 20)
- Section 3.0 Specifications, with boxes checked “Yes” or “No”
All “No” answers should be explained in detail.
- Section 3.201 – Scale Drawing of proposed Apparatus
- Section 3.313 – Provide Details of Body Testing
- Section 3.427 – Fill in Dimensions and Weights
- Section 4.0 – Complete Name and Bid Bond Amount (Page 94)
- Section 4.2, Completely Fill Out Cost Sheet – Attachment A (starts on page 100)
- Section 4.3, Service & Support Requirements – Complete Questionnaire
- Section 4.4, Warranty – Include Manufacturer’s Warranty forms or explanation for all warranties listed in Section 3.13.
- Section 4.500- Background Information, Short paragraph
- Section 4.500 – Customer List and Five References with Contact Information –
County will be contacting References as part of Evaluation Process
- Section 4.600 – Delivery & Training – answer all questions in Section 3.104,
State Delivery Time
- Section 4.00, page 97, Signed
- If any Addendums are issued, copy of Addendum signature page, signed

The purpose of the RFP Submittal Checklist is to remind Proposers of general documents required with your RFP submittal. It is the Proposer’s responsibility to include any additional documents requested in the RFP that may not be listed on this checklist.

ATTACHMENT A

4.201 Cost Sheet – Shall be submitted with your proposal

	SECTION 3.400 – PETERBUILT CHASSIS	SECTION 3.400 KENWORTH ALTERNATE CHASSIS
Base Price		
Discount for Prepayment (if any)		
Sales Tax	\$300.00	\$ 300.00
Grand Total	\$	\$

OPTION 1:

Preconstruction meeting to be held at the factory for three (3) fire department personnel and one (1) sales representative. This trip shall be made by ground/air transportation and will include all transportation costs including meals and hotel.

PLEASE LIST SEPARATE COST FOR OPTION 1: _____

Loose Equipment to be Priced Separately Below:

Quantity		Description	Brand	Model Number	Unit Cost	Total
2 each	1.	Zico model #AC-32 non-folding wheel chocks				
4 each	2.	LED Streamlight Hand Box Light				
1 each	3.	Honda Light with LED Scene Light				
2 each	4.	120V LED Scene Lights Tri-pod Dual Head				
4 each	5.	Red LED Rechargeable Traffic Hand Wands				
2 each	6.	25' Extension Cord Heavy Duty – 12/3				
2 each	7.	50' Extension Cord Heavy Duty – 12/3				
2 each	8.	100' Extension Cord Heavy Duty – 12/3				
1 each	9.	Snatch Block Rated for 30K Winch				
1 each	10.	Tree Saver Strap				
1 each	11.	20' Chain Rated 3/8" Grade 70				
1 each	12.	10' Chain Rated 3/8" Grade 70				
2 each	13.	3/8" Grade 70 Clevis Grab Hook				
2 each	14.	3/8" Grade 70 Clevis Slip Hook with Safety Latch				
1 each	15.	Hose Roller that fits 2" Receiver Hitch				
1 each	16a.	Pike Pole 6 ft.				

Quantity		Description	Brand	Model Number	Unit Cost	Total
1 each	16b.	Pike Pole, 8 ft.				
1 each	16c.	Pike Pole, 10 ft.				
6 each	17.	Forestry Rake				
6 each	18.	Spanner Wrench				
4 each	19.	Hydrant Wrench				
1 each	20.	Hydrant Tool Bag Kit				
4 each	21.	Hydrant Wrench/Spanner Wrench with Body Mount				
2 each	22.	Salvage Cover				
1 each	23.	CO2 Extinguisher				
1 each	24.	Dry Chem Extinguisher				
1 each	25.	Water Can Extinguisher				
1 each	26.	Long Handle Round Point Shovel with Solid Steel Shank 60" Handle				
1 each	27.	Long Handle Square Point Shovel with 60" FG Handle				
2 each	28.	Push Broom				
4 each	29.	Foam Container Wrench				
2 each	30.	Rubber Mallet				
2 each	31.	Storz Spanner Wrench Set				
2 each	32.	LDH Hose Roller (Drainer)				
1 each	33.	Positive Pressure Fan				
1 each	34.	Multi Position Saws All				
1 each	35.	4 Gas Analyzer – MSA Altair 4X				
8 each	36.	Tall Reflective Traffic Cones – 30" minimum				
4 each	37.	Accountability Board with Tags – Slamander Board Brand				
3 each	38.	Belt Weather Kit				

Quantity		Description	Brand	Model Number	Unit Cost	Total
1 each	39.	Rescue Rope Bag – 150” Static Kernamantle				
3 each	40.	Motor Crash Vehicle Kit				
1 each	41.	2 ½” Blitz Master Stream Device NH				
4 each	42.	1 ½” Pistol Grip Vari Nozzle NH Adjust GPM				
4 each	43.	2 ½” Aluminum Gate Valve NH				
4 each	44.	Hose Clamp (Wildland Hose)				
1 each	45.	1” Forestry Alum. Barrel Nozzle NPSH				
3 each	46.	1” Forestry Barrel Nozzle Plastic NPSH				
4 each	47.	2 ½” Double Female NH				
4 each	48.	2 ½” Double Male NH				
4 each	49.	42 ½” Female to 1 ½” Male NH				
2 each	50.	2 ½” Male to 1 ½” Male NH				
4 each	51.	1 ½” Double Female NH				
4 each	52.	1 ½” Double Male NH				
4 each	53.	1 ½” Female NH to 1” Male NPSH				
4 each	54.	1” Male NH to 1” Male NPSH				
4 each	55.	1” Male NH to 1” Female NPSH				
4 each	56.	1” Double Male NH				
4 each	57.	1” Double Female NH				
4 each	58.	1” Male NPSH to 1” Male NH				
4 each	59.	1” Male NPSH to 1” Female NH				
4 each	60.	1” Double Male NPSH				
4 each	61.	1” Double Female NPSH				
2 each	62.	2 ½” Gated WYE to 1 ½” NH				

Quantity		Description	Brand	Model Number	Unit Cost	Total
2 each	63.	1 ½" Gated WYE to 1" NPSH				
1 each	64.	2 ½" NH to 5" Storz Siamese				
1 each	65.	5" Storz to 2 ½" Female NH 45*				
1 each	66.	5" Storz to 2 ½" Male NH				
1 each	67.	5" Storz to 4.5" Female NH 45* Adaptor				
2 each	68.	2 ½" 45* Elbow				
2 Sets	69.	5" Storz Spanner Wrench				
1 each	70.	Turbo Draft Eductor				
4 each	71.	2 ½" Quick Couplers				
2 each	72.	4.5" NH to 2 ½" NH Double Female				
1 each	73.	5" Storz Piston Intake Valve – Driver Side				
3 each	74.	Hose Clamp (1.5+)				
8 each	75.	50' 1 ¾" Red Cross Lay Hose				
8 each	76.	50' 1 ¾" Blue Cross Lay Hose				
20 each	77.	50' 3" Supply Hose				
6 each	78.	15' 3" Supply Hose				
2 each	79.	25' 3" Supply Hose				
250 FT	80.	¾" Reel Tex Forestry Hose NPSH – No Substitute – in 50' Joints				
4 each	81.	100' 1" Forestry Hose NPSH				
5 each	82.	¾" Field Repairable Couplings for Reel Tex Forestry Hose Male				
5 each	83.	¾" Field Repairable Couplings for Reel Tex Forestry Hose Female				
1 each	84.	Genesis Hydraulic Rescue Tools as follows:	NA	NA	NA	NA
1 each	85.	S60 XL Spreader				
1 each	86.	All-9 Cutter				

Quantity		Description	Brand	Model Number	Unit Cost	Total
1 each	87.	19/52 3 Stage Telescopic Ram				
1 each	88.	31 PP				
1 each	89.	Accessory Kit				
1 each	90.	Kodiak Tristrut Kit				
1 each	91.	6" NST, Red Head 140-60001 barrel type strainer. A compartment mounting bracket shall also be provided to store the strainer when not in use.				
1 each	92.	Hydrant Adapter - A double female swivel hydrant adapter shall be provided along with a screw base mounting bracket. One end shall attach to the suction hose and the other end to be 4-1/2" N.S.T. thread				
<u>GRAND TOTAL</u>		TOTAL FOR ALL LOOSE EQUIPMENT				_____