

REQUEST FOR PROPOSAL

2022-01 RFP

ONE (1) NEW FIRE DEPARTMENT PUMPER-TANKER

Sealed proposals, hand delivered or couriered, addressed to John Enns-Wind, Chief Administrative Officer, P.O. Box 3001, Grand Bay-Westfield, N.B., E5K 4V3, and marked on the envelope:

“PROPOSAL 2022-01 RFP FOR FIRE DEPARTMENT PUMPER-TANKER”

will be received until 11:00 a.m., Thursday June 2, 2022 for the supply of One (1) New, not previously used, Fire Department Pumper-Tanker.

Proposals will be opened publicly in the Board Room, 609 River Valley Drive, immediately following the proposal closing time.

The lowest or any proposal not necessarily accepted.

John Enns-Wind
Chief Administrative Officer
(506) 738-6420

Town of Grand Bay-Westfield

PO Box 3001, Grand Bay-Westfield, NB E5K 4V3 | 609 River Valley Drive, Grand Bay-Westfield, NB E5K 1B3
www.grandbaywestfield.ca | T 506-738-6400 | F 506-738-6424

**REQUEST FOR PROPOSAL
ONE (1) ONLY FIRE DEPARTMENT PUMPER-TANKER
2022-01 RFP
GRAND BAY-WESTFIELD, N.B.
INFORMATION FOR BIDDERS**

TO: DEALERS BIDDING ON ENCLOSED SPECIFICATIONS

This letter is intended to clarify the intent of the Town with regards to the proposed purchases.

1. The equipment listed in the Town's specifications must be furnished whether or not included in the standard manufacturer's specifications.
2. The term "standard" is defined as that equipment listed or shown as standard equipment at no extra cost in the manufacturer's publications on PUMPERS.
3. Powertrain must be capable of accelerating up an 8% grade, fully loaded and from a dead stop.
4. Deviations from specifications must be noted with the bid proposal. Deviations will be considered informalities in bidding which may or may not be accepted by the Town.
5. Throughout this proposal document there are various references to NFPA standards. It is the responsibility of the bidder to familiarize himself with these standards and guarantee compliance to them.
6. Bidders may submit more than one proposal. Additional proposals must be in the same envelope as the initial proposal but must be on separate proposal forms. Bidders submitting more than one proposal are to include only one deposit. When invoicing for the above-mentioned item the supplier shall include on his invoice the deposit which will then be returned with payment, provided that the specifications and delivery terms have been met.
7. Payment will be made in one lump sum, net 45 days after successful delivery. Discounts for early payment will be considered. However, no payments, deposits or progress allowances will be made prior to successful delivery.
8. In case of the low bids, the Town reserves the right to use the most expedient means available to arrive at an award.
9. **All questions related to this proposal are to be directed to Troy Gautreau, Fire Chief, at tgautreau@towngbw.ca.**
10. **Tenders received by fax will not be accepted.**



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**REQUEST FOR PROPOSAL
TOWN OF GRAND BAY-WESTFIELD
SUPPLY OF ONE (1) NEW (NOT PREVIOUSLY USED)
FIRE DEPARTMENT PUMPER-TANKER**

2022-01 RFP

**SECTION 1
GENERAL INFORMATION AND REQUIREMENTS**

SECTION 1A: INTRODUCTION

The Town of Grand Bay-Westfield is seeking, from responsive and responsible bidders, proposals for the supply of One (1) only new (not previously used) Fire Department Pumper-Tanker.

Proposals are to be in accordance and compliance with all of the specifications enclosed in this proposal call document.

Respondents, the companies they represent, and the individuals involved with those companies must be in the business of supplying Fire Department Pumper-Tanker units of this type and style and must be in good standing with the Town of Grand Bay-Westfield, and the Grand Bay-Westfield Volunteer Fire-Rescue Department.

This is a proposal call and as such, price alone will not be the determining factor for award. Compliance with the enclosed specifications and conditions of this proposal call will be given equal consideration.

Only those companies or individuals, who are in good standing with the Town of Grand Bay-Westfield, need respond to this proposal call. Proposals will not be considered from bidders who have not performed to the Town's complete satisfaction in the past.

SECTION 1B: GENERAL CONDITIONS

1. Proposals must be submitted in their entirety, in one envelope. Proposals are to address all concerns and questions raised in the general conditions and are to indicate compliance to specifications by means of specification check list and all other terms and conditions in the proposal call.
2. Proposals must be received prior to the time indicated in this document and must be complete in every regard. Late proposals or proposals by FAX will NOT be accepted. Incomplete proposals will be rejected.
3. Only suppliers who have received the request for proposals directly from the Town of Grand Bay-Westfield will be eligible to bid.
4. Additional Information and Instructions:
 - A. All requests for additional information or instructions or clarifications concerning the RFP and the preparation of proposals should be sent in writing and received by the Town at least seven (7) days before the closing date. Send questions to the following address:



Town of Grand Bay-Westfield
Troy Gautreau – Fire Chief
P.O. Box 3001
Grand Bay-Westfield, NB
E5K 4V3

or

tgautreau@towngbw.ca

- B. Additional information or instructions provided to a supplier that may, in the opinion of the Town, be of general interest and any other information or instructions that the Town may deem to be appropriate in the circumstances may be incorporated in an Addendum to the RFP which will be distributed to all eligible suppliers. Any Addendum issued as aforesaid by the Town will automatically upon its issuance become an integral part of the RFP. Said suppliers will be deemed to have agreed to the terms of any such Addendum and will be automatically bound thereby unless they withdraw or amend their proposals (Refer to Article 5 Section A)

5. Modification or Withdrawal of Proposals:

- A. Prior to the Closing Date, a proposal(s) may be modified or withdrawn by way of written request to the contact person referred to in Section 1B, Article 4 A.
- B. To ensure confidentiality, the RFP must be received in a sealed envelope or package clearly showing the RFP name and number, RFP closing date and the company's name on the front of the envelope or package, and addressed as follows:

Town of Grand Bay-Westfield
Chief Administrative Officer
P.O. Box 3001
Grand Bay-Westfield, NB
E5K 4V3

- C. Submissions of all RFPs are final. All documents submitted with respect to this RFP shall become the property of the Town and will not be returned to the supplier.

6. Preparation of Proposals

- A. By submitting a proposal(s), the supplier is deemed to have acknowledged all the undertakings, specifications, terms and conditions contained in the RFP and to be bound by same if the proposal is accepted by the Town. It is not therefore required to reply in its proposal to any of the sections, articles, paragraphs or sub-paragraphs of the RFP unless specifically indicated in the RFP that a supplier should do so. When a reply to any section, article, paragraph, or sub-paragraph is requested, a supplier must respond in detail with clarity and refer to the specific section, article, paragraph or sub-paragraph in the reply.
- B. In addition to the information, services and all other elements or details which must, pursuant to the RFP, be included in its proposal(s), the supplier is welcome to give details of any service that it is able to offer, to propose any new idea and to make any suggestions that might reduce the cost of the unit. The supplier is requested to reveal in its proposal in what manner said services, ideas or suggestions would benefit the Town.



7. Authorizing Officer

- A. The proposal must designate all necessary signing authorities of the supplier.

8. Cost of Preparation of Proposals

- A. All expenses incurred by the supplier in connection with the preparation of its proposal including, without limitation, drawings, schematics, the cost of oral presentations (if requested) or equipment and machinery ordered in anticipation of the selection, are to be borne by the supplier, and the Town shall not incur any obligation whatsoever toward the supplier whether said proposal is accepted or rejected.

9. Subcontractors

- A. The supplier must, if applicable, specify in its proposal the name of each subcontractor and the object and details of all the subcontracts it proposes to enter into with each of them. It must also demonstrate in its proposal the qualifications and capacity to fulfill the subcontract of each subcontractor in conformity to the RFP and such supplier's proposal. The subcontractor will be expected to meet the same standards as those required from the supplier. The supplier will be held responsible for all aspects of the work carried out by the subcontractor.
- B. Any changes of subcontractor or in the object or details of the subcontracts to be entered into or in the information provided thereon by a supplier in its proposal shall constitute a change to said proposal.

10. Security Deposit and Bonding Requirements

- A. A Bid Bond or Certified Cheque in the amount of \$3,000.00 Canadian Dollars and made payable to the Town of Grand Bay-Westfield shall accompany each bid as a guarantee that the successful bidder will supply the equipment at the proposed price.
- B. Where a Bid Bond is submitted, the vendor must provide a "Consent of Surety" stating that the Surety providing the Bid Bond is willing to supply a Performance and Labor and Materials Payment Bond as specified in the Proposal Document.
- C. Where a Bid Bond is submitted, the accepted bidder shall provide a Performance Bond and Labor & Materials Payment Bond made payable to the Town of Grand Bay-Westfield each in the amount of Fifty Percent (50%) of the contract value including taxes.
- D. Where a Certified Cheque is used as a Bid Deposit, the accepted bidder shall provide a Performance Bond and Labor & Materials Payment Bond each in the amount of Fifty Percent (50%) of the total tendered price.
- E. Bonds and Insurance shall be procured from a New Brunswick resident agent of an Insurance Company Licensed to do business in New Brunswick. Provide letter from Insurance Company stating that Bonding has been negotiated for, procured from and the premiums paid to that agent.
- F. All costs for the surety shall be paid for by the Bidder and included in the bid price.
- G. Contract security shall be in effect and held by the owner until one year after the date of acceptance of unit being bid upon.

11. Permits and Licenses

- A. The supplier shall obtain and pay for all licenses and permits which may be required to comply fully with laws, ordinances and regulations of the proper public



authorities, in connection with the performance of this work. The supplier shall be responsible for all damages and shall indemnify and save the Town harmless from and against all damages and liability, which may arise out of the failure of the supplier to obtain and pay for such licenses and permits and to comply fully with any and all applicable laws, ordinances and regulations.

12. Insurance

- A. The Successful Supplier shall be required to provide proof of Commercial General Liability and General and Product Liability Insurance listing the Town as additional insured in a minimum amount of ten million dollars (10,000,000) for each claim, which shall save harmless the Town from all suits and actions for damages and costs to which the Town may be put by reason of injury to or death of persons and damage to property resulting from negligence, carelessness or any other cause in the performance of this work.
- B. Proof of insurance shall be provided to the Town Chief Administrative Officer (CAO) prior to the commencement of the Contract. Such proof shall contain assurance that the policy cannot be cancelled during the term of the Contract.
- C. Written notification of any cancellation or changes in the Insurance Policy, Insurance Company, etc. must be given to the CAO in writing, thirty (30) days prior to the date the change will take effect.
- D. Insurance contracts shall be procured from and the premiums paid to a resident agent of an Insurance Company licensed to do business in the Province of New Brunswick.

13. Validity of Proposal

- A. All proposals must remain valid and open for acceptance by the Town for a period of sixty (60) days after the Closing date. This period may be extended if requested by the Town and agreed to by the Supplier in writing

14. Training

- A. Training including operation and maintenance will be provided for a maximum of one (1) working days at the Grand Bay-Westfield Volunteer Fire Department, Station No.1 by a qualified representative of the manufacturer.
- B. Video recordings, manuals and other training aids used in the conducting of the training shall be supplied by the manufacturer; copies of which shall be made available to the Fire Department trainers and will be retained by the Fire Department.
- C. A training outline shall accompany the Proposal/Bid.

15. Inspection of Equipment and Vehicle

- A. The Town of Grand Bay-Westfield reserves the right to inspect the unit/equipment as a result of the RFP and shall be the sole judge as to whether the unit/equipment being supplied meets the basic requirements of the Fire Department.
- B. Construction/inspection and site visits shall be a minimum of two (2) – one (1) when apparatus body is about to be installed and one (1) when apparatus is completed and ready for delivery, at the discretion of the Town of Grand Bay-Westfield, and such visits shall be wholly paid for by the Town of Grand Bay-Westfield.

16. Parts and Repair Depot:



- A. All warranty and repairs to be completed within the City of Saint John to the satisfaction of the purchaser. Indicate businesses to perform the work.

Specify:

--

17. Safety Inspection:

- A. Vehicle is to be safety inspected prior to and dated the month of delivery to the Town of Grand Bay-Westfield. The successful vendor shall also supply operator's manual(s) and shop repair manual(s) as outlined in the RFP document.

18. General

- A. Rejections: A Proposal submitted shall be rejected and the Proposal not considered if the Proposal:
 - 1) is not accompanied by the required security deposit or bid bond in an amount equal to or greater than the amount stipulated;
 - 2) is not accompanied by a letter from a New Brunswick resident agent of an insurance company licensed to do business in the Province stating that the bid bond, where required, has been negotiated for, procured from and the premium paid to that agent;
 - 3) is not properly signed by the bidder;
 - 4) does not contain the bid price, unit price or fixed price written in words;
 - 5) does not have the words "dollars" and "cents", where applicable, set out in the written item bid;
 - 6) contains any form of qualification of, or any unsolicited alternative to the Proposal, except that an unsolicited alternative may be considered provided the tenderer submitting such alternative has submitted a valid Proposal for the proposed contract as called;
 - 7) does not contain all addenda issued to prospective bidders, each signed by the bidder;
 - 8) is the second one submitted by the same bidder in which case all Proposals by the tenderer shall be rejected;
 - 9) contains a change in a written bid price not initialed by the bidder;
 - 10) is not accompanied by product literature and/or manufacturer's warranty, if specified.
- B. If registered the supplier shall provide proof of manufacturer's compliance to ISO 9001 standards.
- C. The Vendor shall provide a statement that they are a manufacturer that has a quality control program in place and shall provide details.
- D. The Fire Chief and/or his representative shall meet with a representative of the production staff before fabrication commences.

19. Liability

- A. The Town of Grand Bay-Westfield has used considerable effort to ensure that information presented herein reflects, with reasonable accuracy, the nature of the goods and/or services requested and its factual components. The information is supplied as a guideline for respondents and may not be completely accurate, comprehensive or exhaustive. The Town does not make any representation,



warranty or guarantee as to the accuracy of the information contained herein. It is the respondent's responsibility to avail itself of all necessary information to prepare a response to this Request for Proposal (RFP).

- B. The bidder, if his bid is accepted, shall defend any and all suits and assume all liability for the use of any patented process device or article forming a part of the apparatus or any appliance furnished under the contract.
Agree Disagree Signature: _____

20. Queries/Clarifications

- A. Questions of a technical nature shall be directed to Troy Gautreau, Fire Chief at tgaureau@towngbw.ca
B. Questions on Terms or Conditions shall be directed to John Enns-Wind, CAO at (506) 738-6420 or fax (506) 738-6424.
C. Addenda:
1. The Town, without liability, cost or penalty may, at any time prior to the closing time alter any details in this RFP. In the event that this RFP is amended via addendum, the remainder of the FRP that has not been modified shall remain unchanged.
2. Addenda may be issued during the Bid Period. All Addenda become part of the Contract Documents. Include associated costs with respect to requirements of addenda in Bid Price.
3. Clarifications requested by bidders must be in writing, not less than seven (7) days before date set for receipt of Bids. The reply will be made in the form of an Addendum, a copy of which will be forwarded to each person or firm registered as having Contract Documents. No other interpretation or explanation shall be valid.
4. Each respondent shall acknowledge receipt of any addendum to this solicitation by signing and returning a copy of such addendum with its proposal.
5. Addenda may be necessary for:
a. correction of the RFP and related forms;
b. extension of the submission deadline;
c. clarification of parts of the RFP;
d. retraction or cancellation of the RFP;
e. responses to bidders questions;
f. other additions to, deletions from or alterations to the requirements contained in the RFP.
6. Addenda will be available or sent by the following:
a. Facsimile or Electronic mail

21. References

- A. The supplier shall provide satisfactory evidence of his ability to fabricate the unit specified in the RFP, together with a list of ten (10) communities, including contact names, telephone and fax numbers.
B. Indicate number of units manufactured per year and placed into service; history of tip over and/or failure; and/or mechanical failure.
C. The supplier shall provide references which have units manufactured similar to the specifications provided in this RFP.



22. Pricing

- A. All prices submitted shall be F.O.B. delivered to the Town of Grand Bay-Westfield, 609 River Valley Drive, Grand Bay-Westfield, NB, Canada. Final pricing shall be in Canadian Dollars, include freight, duty, custom clearance, tire levy, and motor vehicle inspection (M.V.I.). Harmonized Sales Tax will be extra. It is the responsibility of the bidder to find out from the appropriate authorities what duties, taxes, exchange rates and charges are applicable to this RFP.
- B. The applicable Harmonized Sales Tax (HST) at invoice date shall be extra.

23. Sole Manufacturer

- A. A sole source manufacturer is the preferred option (cab and chassis, and fire body), however, other forms of manufacturing and assembly shall be considered.

24. As Built Wiring Diagrams Yes No

- A. Engineered drawings must accompany this Proposal in order to be considered.

25. Approval Drawings

- A. A drawing of the apparatus proposed shall be prepared and submitted with the bid document for approval prior to award of the RFP and commencement of construction. The finalized and approved drawing will become part of the contract documents.

26. Warranty

- A. The supplier shall be responsible to indicate any or applicable warranties on parts and labor as indicated throughout this Proposal document.
- B. The following warranty shall be furnished with each bidder's proposal and printed on company letterhead:
 - 1) The apparatus shall be free from defects in material and workmanship under normal use and service. The manufacturer's and/or vendor's obligation is limited to repairing or replacing, as the parties to the contract agree to, and any parts thereof shall be returned to the manufacturer and/or vendor with transportation charges being the responsibility of the manufacturer and/or the vendor and as to which examination shall disclose to the company's satisfaction to have been defective, provided that such part, or parts have been returned to the manufacturer/vendor not later than one (1) year after service date. Such defective part or parts shall be repaired or replaced free of charge and without charge of installation to the original purchaser.
 - 2) If the defective part, while in transit and under examination by the manufacturer/vendor causes the vehicle to be inoperative, the manufacturer/vendor shall provide the necessary part(s) to ensure serviceability of the vehicle.
- C. The warranty will not apply to:
 - 1) normal maintenance services or adjustments;
 - 2) any unit which shall have been repaired or altered outside of the manufacturer's/vendor's factory in any way so as, in the company's judgment to affect its stability nor which has been subject to misuse, negligence or accident, nor to any vehicle which shall have been operated at a speed exceeding the factory rated speed or loaded beyond the factory rated load capacity;



- 3) commercial chassis and associated equipment furnished with chassis, signaling devices, generators, batteries or other trade accessories in as much as they are usually warranted separately by their respective manufacturers.

27. Parts Pricing

Yes No

- A. Successful vendor must supply a current parts pricing list with guaranteed prices for a period of one (1) year following expiration of normal warranty period as per item 26, c/w fixed prices and detailed list and fixed discounts off list if applicable.

28. Selection of Supplier

- A. Proposals submitted by non-eligible suppliers, incomplete proposals or proposals which do not comply with all the requirements of this RFP, contain false information or the contents of which do not permit a full analysis thereof, will not be considered by the Town. General statements or restatements of the conditions and specifications of the RFP will not be satisfactory to the Town.
- B. RFPs submitted for consideration will be evaluated on specification, price, Vendor past performances/references, work experience in the field, staffing and equipment requirements, after completion service, ability to meet completion dates, product quality and/or any other factors which the Town deems appropriate in the determination of the supplier as a responsive and responsible bidder and best value to the Town.
- C. The Town has no obligations whatsoever towards the suppliers as a result of the acceptance or rejection of any proposal; the suppliers acknowledge and accept that they cannot challenge, in any way whatsoever, the Town's decision to accept or reject any proposal nor request any compensation or claim damages as a result thereof.

29. Delivery

- A. The supplier is required to state a firm delivery in number of calendar weeks from date of award. Availability and delivery of the unit may be considered in the award of this RFP. The apparatus shall be delivered under its own power by a company's qualified delivery engineer.

30. Award of RFP

- A. The Town shall notify the successful supplier by telephone and/or mail that he/she is the successful bidder.

31. Payment Terms

- A. Payment terms will be considered as Net 45 days from date of acceptance and in service date of the unit upon verification that the unit received meets the needs of the Fire Department, and that all requirements have been completed in compliance with the General Conditions and Specifications for this Request for Proposal, unless a discount for early payment is offered _____. (Please specify).

32. Invoicing



- A. Invoices shall be directed to:
Town of Grand Bay-Westfield
P.O. Box 3001
Grand Bay-Westfield, NB
E5K- 4V3
- B. In addition to the H.S.T. Registration Numbers, Vendors are required to provide the amount of H.S.T. separately on all invoices.

33. Town's Rights

- A. The Town reserves the right, in the event that the successful supplier fails to comply with the Terms and Conditions as listed, to cancel this contract and award it to another supplier without penalty or action against the Town.
- B. The Town reserves the right not to award this RFP based on available funding and Council approval.
- C. Based on available funding, the Town reserves the right to delete components from this RFP and request clarifications to more fully meet the Town's needs.
- D. The Town reserves the right to determine acceptability of deviations and/or equivalencies.
- E. The Town reserves the right to award based on the specified evaluation criteria and not necessarily pricing, however, available monies shall be taken into consideration.
- F. The issue of this RFP or any negotiations with a supplier after the closing date does not bind or commit the Town to enter into a contract to purchase. Any recommendation must be presented to Town Council for final approval or rejection. Town Council is the final awarding authority.
- G. The Town reserves the right to award in its best interest. RFPs with the lowest price or any need not necessarily be accepted.
- H. *The Town reserves the right to not consider for evaluation any bids which exceed the Capital Approved Budget by over 15%.*

34. Exceptions to the specifications

- A. Any exceptions to this RFP document, no matter how small, must be detailed on in the space provided in this document or on a separate page listing the Section, item number, and a full description of the exception. Failure to do this may result in rejection of the bid.

SECTION 1C: GENERAL INFORMATION TO BIDDERS:

Proposals must be delivered in sealed envelopes to John Enns-Wind, CAO, P.O. Box 3001, 609 River Valley Drive, Grand Bay-Westfield, NB E5K 4V3 no later than the date and time specified in this proposal call. **Late proposals or proposals by Fax will be rejected.**

Proposals will be received by the CAO, Town of Grand Bay-Westfield, until **11:00 a.m., local time, Thursday June 2, 2022.**

Each submission must contain two (2) copies of the proposal.

Immediately following the closing time, proposals will be publicly opened in the Board Room of the Municipal Office. Only the names and addresses of the proponents will be made public at that time, no other information about the proposals will be disclosed until after an award has been made.



The proposals will be referred to an Evaluation Committee who will review all the bids based on the evaluation criteria as described in this document. The Evaluation Committee reserves the right, if deemed necessary, to short list the proponents and to request an additional verbal presentation from each short-listed bidder.

For the purposes of this proposal call, bids will be evaluated on the following criteria:

Quality and completeness – 5%	has the bidder addressed all of the concerns raised? Is the proposal presented in an organized and professional manner?
Minimum Specifications – 35%	does the equipment bid comply with minimum specifications? If not, are the deviations from specifications within acceptable limits and/or do they enhance the serviceability of the equipment.
Delivery – 15%	although no performance surety has been requested, proponents are required to quote a firm delivery date. Has the proponent offered a delivery date that is realistic and attainable?
Service Response Time – 15%	is the proponent able to respond to all service requirements within one (1) business day, including travel time?
Value Added – 10%	has the proponent provided additional innovative solutions to the requirement?
Cost – 20%	Cost will be a factor, however neither the only factor nor the determining factor, in the evaluation of bids.

The Town of Grand Bay-Westfield does not, by virtue of this proposal call, commit to an award of this project, nor does the Town limit itself to accepting the lowest or any proposal submitted, but reserves the right to award this project in any manner deemed to be in the Town’s best interest.



FORM OF QUOTATION

We, the undersigned, having carefully examined the proposed work and the proposal documents for the Supply of One New 2023 Pumper Unit to the Town of Grand Bay-Westfield, hereby agree to supply and deliver the vehicle to the satisfaction of the Owner in conformity with the said documents.

Bidder _____

Supply one new 2023 Pumper-Tanker Unit, Complete that meets the minimum specifications as per proposal documents.

Chassis		\$	
Body & Equipment		\$	
HST		\$	
Total with Taxes		\$	

All prices to be in Canadian dollars.

Proposed Delivery Date _____

Bidder's Initials

Town of Grand Bay-Westfield

PO Box 3001, Grand Bay-Westfield, NB E5K 4V3 | 609 River Valley Drive, Grand Bay-Westfield, NB E5K 1B3
www.grandbaywestfield.ca | T 506-738-6400 | F 506-738-6424

FORM OF QUOTATION – Page 2

OFFERED ON BEHALF OF:

COMPANY _____

ADDRESS _____

Phone _____

Fax _____

AUTHORIZED REPRESENTATIVE

TITLE

DATE

SIGNATURE AND SEAL

RESPONDENT INFORMATION FORM

By filling out and signing this page the respondent acknowledges having and understood the requirements of this RFP. Each bid will be received with the understanding that the acceptance, in writing, by the respondent of the offer to furnish all or any part of the goods or services described therein shall constitute a Contract between the respondent and the Town. This shall bind the respondent on its part to furnish and deliver the goods or services at the prices given and in accordance with conditions of said accepted proposal. The Town shall on its part take delivery of and pay for the goods or services at the contracted prices.

1.	Respondent's Contact Individual	
2.	Office Phone #	
3.	Toll Free #	
4.	Cellular #	
5.	Pager #	
6.	Fax #	
7.	e-mail address	
8.	Website	

ACKNOWLEDGEMENT OF RECEIPT OF ADDENDA

This will acknowledge receipt of the following addendum and, that the pricing quoted includes the provision set out in such addendum

ADDENDA #

DATE RECEIVED

RESPONDENT

SIGNATURE

DATE

RESPONDENT'S LIST OF REFERENCES

REFERENCE # 1	
Fire Department	
Representative (including telephone #)	
Delivery Date	
Description of Vehicle	
REFERENCE # 2	
Fire Department	
Representative (including telephone #)	
Delivery Date	
Description of Vehicle	
REFERENCE # 3	
Fire Department	
Representative (including telephone #)	
Delivery Date	
Description of Vehicle	
REFERENCE # 4	
Fire Department	
Representative (including telephone #)	
Delivery Date	
Description of Vehicle	
REFERENCE # 5	
Fire Department	
Representative (including telephone #)	
Delivery Date	
Description of Vehicle	
REFERENCE # 6	
Fire Department	
Representative (including telephone #)	
Delivery Date	
Description of Vehicle	
REFERENCE # 7	
Fire Department	
Representative (including telephone #)	
Delivery Date	
Description of Vehicle	
REFERENCE # 8	
Fire Department	

Representative (including telephone #)	
Delivery Date	
Description of Vehicle	
REFERENCE # 9	
Fire Department	
Representative (including telephone #)	
Delivery Date	
Description of Vehicle	
REFERENCE # 10	
Fire Department	
Representative (including telephone #)	
Delivery Date	
Description of Vehicle	

Standard Warranty

The respondent will indicate the warranties on this unit below.

Body	_____
Paint	_____
Pump	_____
Tank	_____
Plumbing	_____
Electrical	_____
Accessories	_____

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
SECTION -2-				
CUSTOM CHASSIS				
1.	<u>MODEL</u>	<input type="checkbox"/>	<input type="checkbox"/>	
1.1.	The chassis shall be a Spartan Metro Star model. The cab and chassis shall include design considerations for multiple emergency vehicle applications, rapid transit and maneuverability. The chassis shall be manufactured for heavy duty service with the strength and capacity to support a fully laden apparatus, one hundred (100) percent of the time.			
2.	<u>DIMENSIONS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.1.	Maximum Overall length: 384” Maximum Overall height: 125”			
2.2.	<u>MODEL YEAR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.2.1.	The chassis shall have a vehicle identification number that reflects a 2023 model year.			
2.3.	<u>AXLE CONFIGURATION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.3.1.	The chassis shall feature a 4 X 2 axle configuration consisting of a single rear drive axle with a single front steer axle.			
2.4.	<u>GROSS AXLE WEIGHT RATINGS FRONT</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.4.1.	The front gross axle weight rating (GAWR) of the chassis shall be 21,500 pounds.			
2.4.2.	This front gross axle weight rating shall be adequate to carry the weight of the completed apparatus including all equipment and personnel.			
2.5.	<u>GROSS AXLE WEIGHT RATINGS REAR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.5.1.	The rear gross axle weight rating (GAWR) of the chassis shall be 30, 000 pounds.			
2.5.2.	This rear gross axle weight rating shall be adequate to carry the weight of the completed apparatus including all equipment and personnel.			
2.6.	<u>CAB STYLE</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.6.1.	The cab shall be a custom, fully enclosed, MFD model with a 10.00 inch raised roof over the driver, officer, and crew area, designed and built specifically for use as an emergency response vehicle by a company specializing in cab and chassis design for all			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	emergency response applications. The cab shall be designed for heavy-duty service utilizing superior strength and capacity for the application of protecting the occupants of the vehicle. This style of cab shall offer up to eight (8) seating positions.			
2.6.2.	The cab shall incorporate a fully enclosed design with side wall roof supports, allowing for a spacious cab area with no partition between the front and rear sections of the cab. To provide a superior finish by reducing welds that fatigue cab metal; the roof, the rear wall and side wall panels shall be assembled using a combination of welds and proven industrial adhesives designed specifically for aluminum fabrication for construction.			
2.6.3.	The cab shall be constructed using multiple aluminum extrusions in conjunction with aluminum plate, which shall provide proven strength and the truest, flattest body surfaces ensuring less expensive paint repairs if needed. All aluminum welding shall be completed to the American Welding Society and ANSI D1.2-96 requirements for structural welding of aluminum.			
2.6.4.	All interior and exterior seams shall be sealed for optimum noise reduction and to provide the most favorable efficiency for heating and cooling retention.			
2.6.5.	The cab shall be constructed of 5052-H32 corrosion resistant aluminum plate. The cab shall incorporate tongue and groove fitted 6061-T6 0.13 & 0.19 inch thick aluminum extrusions for extreme duty situations. A single formed, one (1) piece extrusion shall be used for the "A" pillar, adding strength and rigidity to the cab as well as additional roll-over protection. The cab side walls and lower roof skin shall be 0.13 inch thick; the rear wall and raised roof skins shall be 0.09 inch thick; the front cab structure shall be 0.19 inch thick.			
2.6.6.	The exterior width of the cab shall be 94.00 inches wide with a minimum interior width of 88.00 inches. The overall cab length shall be 131.10 inches with 54.00 inches from the centerline of the front of the axle to the back of the cab.			
2.6.7.	The cab interior shall be designed to afford the maximum usable interior space and attention to ergonomics with hip and legroom while seated which exceeds industry standards. The crew cab floor shall be flat across the entire walking area for ease of movement inside the cab.			
2.6.8.	The cab shall offer an interior height of 57.50 inches from the front floor to the headliner in the non-raised roof area and a rear floor to headliner height of 65.00 inches in the raised roof area, at a minimum. The cab			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	shall offer an interior measurement at the floor level from the rear of the engine tunnel to the rear wall of the cab of 51.88 inches. All interior measurements shall include the area within the interior trimmed surfaces and not to any unfinished surface.			
2.6.9.	The cab shall include a driver and officer area with two (2) cab doors large enough for personnel in full firefighting gear. The front doors shall offer a clear opening of 40.25 inches wide X 53.50 inches high, from the cab floor to the top of the door opening. The cab shall also include a crew area with up to two (2) cab doors, also large enough for personnel in full firefighting gear. The rear doors shall offer a clear opening of 32.25 inches wide X 61.00 inches high, from the cab floor to the top of the door opening.			
2.6.10.	The cab shall incorporate a progressive two (2) step configuration from the ground to the cab floor at each door opening. The progressive steps are vertically staggered and extend the full width of each step well allowing personnel in full firefighting gear to enter and exit the cab easily and safely.			
2.6.11.	The first step for the driver and officer area shall measure approximately 11.50 inches deep X 31.13 inches wide. The intermediate step shall measure approximately 8.50 inches deep X 32.50 inches wide. The height from the first step to the intermediate step and the intermediate step to the cab floor shall not exceed 11.00 inches.			
2.6.12.	The first step for the crew area shall measure approximately 11.50 inches deep X 20.44 inches wide. The intermediate step shall measure approximately 10.25 inches deep X 22.75 inches wide. The height from the first step to the intermediate step and the intermediate step to the cab floor shall not exceed 12.80 inches.			
2.7.	<u>CAB FRONT FASCIA</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.7.1.	The front cab fascia shall be constructed of 5052-H32 Marine Grade, 0.13 of an inch thick aluminum plate which shall be an integral part of the cab.			
2.7.2.	The cab fascia will encompass the entire front of the aluminum cab structure from the bottom of the windshield to the bottom of the cab and shall be the "Classic" design.			
2.7.3.	The front cab fascia shall include two (2) molded plastic modules on each side accommodating a total of up to four (4) Hi/Low beam headlights and two (2) turn signal lights or up to four (4) warning lights. A chrome plated			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	molded plastic bezel shall be provided on each side around each set of four lamps.			
2.8.	<u>FRONT GRILLE</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.8.1.	The front fascia shall include a box style, 304 stainless steel front grille 44.45 inches wide X 33.50 inches high X 1.50 inches deep. The grille shall include a minimum free air intake of 732.00 square inches. The upper portion of the grille shall be hinged to provide service access behind the grille.			
2.9.	<u>CAB UNDERCOAT</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.9.1.	There shall be a rubber undercoating applied to the underside of the cab that provides abrasion protection, sound deadening and corrosion protection.			
2.10.	<u>CAB SIDE DRIP RAIL</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.10.1.	There shall be a drip rail along the top radius of each cab side. The drip rails shall help prevent water from the cab roof running down the cab side.			
2.11.	<u>CAB PAINT INTERIOR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.11.1.	The visible interior cab structure surfaces shall be painted with an easy-to-clean gray texture finish.			
2.12.	<u>CAB ENTRY DOORS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.12.1.	The cab shall include four (4) entry doors, two (2) front doors and two (2) crew doors designed for ease of entering and egress when outfitted with an SCBA. The doors shall be constructed of extruded aluminum with a nominal thickness of 0.13 inch. The exterior skins shall be constructed of 0.13 inch aluminum plate.			
2.12.2.	The doors shall include a double rolled style automotive rubber seal around the perimeter of each door frame and door edge which ensures a weather tight fit.			
2.12.3.	All door hinges shall be hidden within flush mounted cab doors for a pleasing smooth appearance and perfect fit along each side of the cab. Each door hinge shall be piano style with a 0.38 inch pin and shall be constructed of stainless steel.			
2.13.	<u>CAB ENTRY DOOR TYPE</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.13.1.	All cab entry doors shall be full length in design to fully enclose the lower cab steps. Entry doors shall include			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	Pollak mechanical plunger style switches for electrical component activation.			
2.14.	<u>CAB INSULATION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.14.1.	The cab ceiling and walls shall include a nonwoven polyester fiber insulation. The insulation shall act as a barrier absorbing noise as well as assisting in sustaining the desired climate within the cab interior.			
2.15.	<u>ELECTRICAL SYSTEM</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.15.1.	The chassis shall include a single starting electrical system which shall include a 12 volt direct current Weldon brand of multiplexing system, suppressed per SAE J551. The wiring shall be appropriate gauge cross link with 311 degree Fahrenheit insulation. All SAE wires in the chassis shall be color coded and shall include the circuit number and function where possible. The wiring shall be protected by 275 degree Fahrenheit minimum high temperature flame retardant loom. All nodes and sealed Deutsch connectors shall be waterproof.			
2.16.	<u>DATA RECORDING SYSTEM</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.16.1.	The chassis shall have a Weldon Vehicle Data Recorder system installed. The system shall be designed to meet NFPA 1901 and shall be integrated with the Weldon Multiplex electrical system. The following information shall be recorded: <ul style="list-style-type: none"> ▪ Vehicle Speed ▪ Acceleration ▪ Deceleration ▪ Engine Speed ▪ Engine Throttle Position ▪ ABS Event ▪ Seat Occupied Status ▪ Seat Belt Status ▪ Master Optical Warning Device Switch Position ▪ Time ▪ Date 			
2.16.2.	Each portion of the data shall be recorded at the specified intervals and stored for the specified length of time to meet NFPA 1901 guidelines and shall be retrievable by connecting a laptop computer to the VDR system. The laptop connection shall be a panel mounted female type B USB connection point, remotely mounted in the left side foot well.			
2.17.	<u>ACCESSORY POWER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.17.1.	The electrical distribution panel shall include two (2) power studs. The studs shall be size #10 and each of the			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	power studs shall be circuit protected with a fuse of the specified amperage. One (1) power stud shall be capable of carrying up to a 40 amp battery direct load. One (1) power stud shall be capable of carrying up to a 15 amp ignition switched load. The two (2) power studs shall share one (1) #10 ground stud. A 225 amp battery direct power and ground stud shall be provided and installed on the chassis near the left hand battery box for OEM body connections.			
2.18.	EXTERIOR ELECTRICAL TERMINAL COATING	<input type="checkbox"/>	<input type="checkbox"/>	
2.18.1.	All terminals exposed to the elements will be sprayed with a high visibility protective rubberized coating to prevent corrosion.			
2.19.	ENGINE	<input type="checkbox"/>	<input type="checkbox"/>	
2.19.1.	The chassis engine shall be a Cummins L9 engine. The L9 engine shall be an in-line six (6) cylinder, four cycle diesel powered engine. The engine shall offer a rating of 380 horse power at 2200 RPM and shall be governed at 2200 RPM. The torque rating shall feature 1150 foot pounds of torque at 1200 RPM with 543 cubic inches (8.9 liters) of displacement.			
2.19.2.	The L9 engine shall feature a VGT™ Turbocharger, a high pressure common rail fuel system, fully integrated electronic controls with an electronic governor, and shall be EPA certified to meet the 2021 emissions standards using cooled exhaust gas recirculation and selective catalytic reduction technology.			
2.19.3.	The engine shall include an engine mounted combination full flow/by-pass oil filter with replaceable spin on cartridge for use with the engine lubrication system. The engine shall include Citgo brand Citgard 500, or equivalent SAE 15W40 CK-4 low ash engine oil which shall be utilized for proper engine lubrication.			
2.19.4.	A wiring harness shall be supplied ending at the back of the cab. The harness shall include a connector which shall allow an optional harness for the pump panel. The included circuits shall be provided for a tachometer, oil pressure, engine temperature, hand throttle, high idle and a PSG system. A circuit for J1939 data link shall also be provided at the back of the cab.			
2.20.	DIESEL PARTICULATE FILTER CONTROLS	<input type="checkbox"/>	<input type="checkbox"/>	
2.20.1.	There shall be two (2) controls for the diesel particulate filter. One (1) control shall be for regeneration and one (1) control shall be for regeneration inhibit.			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.21.	<u>CAB ENGINE TUNNEL</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.21.1.	The cab interior shall include an integrated engine tunnel constructed of 5052-H32 Marine Grade, 0.19 of an inch thick aluminum. The tunnel shall be a maximum of 41.50 inches wide X 25.50 inches high.			
2.22.	<u>ENGINE PROGRAMMING HIGH IDLE SPEED</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.22.1.	The engine high idle control shall maintain the engine idle at approximately 1250 RPM when engaged.			
2.23.	<u>ENGINE HIGH IDLE CONTROL</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.23.1.	The vehicle shall be equipped with a virtual Vista button and an automatic high-idle speed control. It shall be pre-set so when activated, it will operate the engine at the appropriate RPM to increase alternator output. This device shall operate only when the engine is running and the transmission is in neutral with the parking brake set. The device shall disengage when the operator depresses the brake pedal, or the transmission is placed in gear, and shall be available to manually or automatically re-engage when the brake is released, or when the transmission is placed in neutral. There shall be an indication on the Vista screen for the high idle speed control.			
2.24.	<u>ENGINE PROGRAMMING ROAD SPEED GOVERNOR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.24.1.	The engine shall include programming which will govern the top speed of the vehicle.			
2.25.	<u>AUXILIARY ENGINE BRAKE</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.25.1.	A compression brake, for the six (6) cylinder engine shall be provided. A cutout relay shall be installed to disable the compression brake when in pump mode or when an ABS event occurs. The engine compression brake shall activate upon 0% accelerator when in operation mode and actuate the vehicle's brake lights.			
2.25.2.	The engine shall utilize a variable geometry turbo (VGT) as an integrated auxiliary engine brake to offer a variable rate of exhaust flow, which when activated in conjunction with the compression brake shall enhance the engine's compression braking capabilities.			
2.26.	<u>AUXILIARY ENGINE BRAKE CONTROL</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.26.1.	An engine compression brake control device shall be included. The electronic control device shall monitor various conditions and shall activate the engine brake only if all of the following conditions are simultaneously detected:			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	<ul style="list-style-type: none"> ▪ A valid gear ratio is detected. ▪ The driver has requested or enabled engine compression brake operation. ▪ The throttle is at a minimum engine speed position. ▪ The electronic controller is not presently attempting to execute an electronically controlled final drive gear shift. <p>2.26.2. The compression brake shall be controlled via an off/low/medium/high virtual button on the Vista display and control screen. The multiplex system shall remember and default to the last engine brake control setting when the vehicle is shut off and re-started.</p>			
2.27.	<p><u>FLUID FILLS</u></p> <p>2.27.1. The engine oil, coolant, transmission, and power steering fluid fills shall be located under the cab. The windshield washer fill shall be accessible through the front left side mid step.</p>	<input type="checkbox"/>	<input type="checkbox"/>	
2.28.	<p><u>ENGINE PROGRAMMING REMOTE THROTTLE</u></p> <p>2.28.1. The engine ECM (Electronic Control Module) discreet wire remote throttle circuit shall be turned off for use with a J1939 based pump controller or when the discreet wire remote throttle controls are not required.</p>	<input type="checkbox"/>	<input type="checkbox"/>	
2.29.	<p><u>ENGINE PROGRAMMING IDLE SPEED</u></p> <p>2.29.1. The engine low idle speed will be programmed at 700 rpm.</p>	<input type="checkbox"/>	<input type="checkbox"/>	
2.30.	<p><u>ENGINE FAN DRIVE</u></p> <p>2.30.1. The engine cooling system fan shall incorporate a thermo-statically controlled, Horton fully variable type fan drive with SmartClutch J-1939 CAN controller.</p> <p>2.30.2. The variable speed fan clutch only engages at the amount needed for proper cooling to facilitate improved vehicle performance, cab heating in cold climates, and fuel economy. The fan clutch design shall be fail-safe so that if the clutch drive fails the fan shall engage to prevent engine overheating due to the fan clutch failure. The fan speed shall include a J-1939 CAN clutch controller to receive signal from the engine control module to activate at variable rates of speed. Variable speeds shall be set through thermostatic and engine speed signals to run as efficiently and quietly as required to maintain temperature.</p>	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.31.	<u>ENGINE COOLING SYSTEM</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.31.1.	There shall be a heavy-duty aluminum cooling system designed to meet the demands of the emergency response industry. The cooling system shall have the capacity to keep the engine properly cooled under all conditions of road and pumping operations. The cooling system shall be designed and tested to meet or exceed the requirements specified by the engine and transmission manufacturer and all EPA requirements. The complete cooling system shall be mounted to isolate the entire system from vibration or stress. The individual cores of the cooling system shall be mounted in a manner to allow expansion and contraction at various rates without inducing stress into the adjoining cores.			
2.31.2.	The cooling system shall utilize a charge air cooler to radiator serial flow package that provides the maximum cooling capacity for the specified engine as well as serviceability. The main components shall include a surge tank, a charge air cooler bolted to the front of the radiator, recirculation shields, a shroud, a fan, and required tubing.			
2.31.3.	The radiator shall be a down-flow design constructed with aluminum cores, plastic end tanks, and a steel frame. The radiator shall be equipped with a drain cock to drain the coolant for serviceability.			
2.31.4.	The cooling system shall include a one piece injected molded polymer eleven (11) blade fan with a fiberglass fan shroud.			
2.31.5.	The cooling system shall be equipped with a surge tank that is capable of removing entrained air from the system. The surge tank shall be equipped with a low coolant probe and rearward oriented sight glass to monitor the level of the coolant. The surge tank shall have a dual seal cap that meets the engine manufacturer's pressure requirements and allows for expansion and recovery of coolant into a separate integral expansion chamber.			
2.31.6.	All radiator tubes shall be formed from aluminized steel tubing. Recirculation shields shall be installed where required to prevent heated air from reentering the cooling package and affecting performance.			
2.31.7.	The charge air cooler shall be a cross-flow design constructed completely of aluminum with cast tanks. All charge air cooler tubes shall be formed from aluminized steel tubing and installed with silicone hump hoses and stainless steel "constant torque" style clamps meeting the engine manufacturer's requirements.			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.32.	<u>ENGINE COOLING SYSTEM PROTECTION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.32.1.	The engine cooling system shall include a recirculation shield designed to act as a light duty skid plate below the radiator to provide additional protection for the engine cooling system from light impacts, stones, and road debris. The skid plate shall be painted to match the frame components.			
2.33.	<u>ENGINE COOLANT</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.33.1.	The cooling package shall include Extended Life Coolant (ELC). The use of ELC provides longer intervals between coolant changes over standard coolants providing improved performance. The coolant shall contain a 50/50 mix of ethylene glycol and de-ionized water to keep the coolant from freezing to a temperature of -34 degrees F.			
2.33.2.	Proposals offering supplemental coolant additives (SCA) shall not be considered, as this is part of the extended life coolant makeup.			
2.34.	<u>ELECTRONIC COOLANT LEVEL INDICATOR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.34.1.	The instrument panel shall feature a low engine coolant indicator light which shall be located in the center of the instrument panel. An audible tone alarm shall also be provided to warn of a low coolant incident.			
2.35.	<u>COOLANT HOSES</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.35.1.	The cooling systems hose shall be formed silicone hose and formed aluminized steel tubing and include stainless steel constant torque band clamps.			
2.36.	<u>ENGINE AIR INTAKE</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.36.1.	The engine air intake system shall include an ember separator. This ember separator shall be designed to protect the downstream air filter from embers using a combination of unique flat and crimped metal screens constructed into a galvanized steel frame. This multilayered screen shall be designed to trap embers or allow them to burn out before passing through the pack, while creating only minimal air flow restriction through the system. Periodic cleaning or replacement of the screen shall be all that is required after installation.			
2.36.2.	The engine air intake system shall also include an air cleaner mounted above the radiator. This air cleaner shall utilize a replaceable dry type filter element			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.36.3.	designed to prevent dust and debris from being ingested into the engine. A service cover shall be provided on the housing, reducing the chance of contaminating the air intake system during air filter service. The air intake system shall include a restriction indicator light in the warning light cluster on the instrument panel, which shall activate when the air cleaner element requires replacement.			
2.37.	ENGINE EXHAUST SYSTEM	<input type="checkbox"/>	<input type="checkbox"/>	
2.37.1.	The exhaust system shall include an end-in end-out horizontally mounted single module after treatment device, and downpipe from the charge air cooled turbo. The single module shall include four temperature sensors, diesel particulate filter (DPF), urea dosing module (UL2), and a selective catalytic reduction (SCR) catalyst to meet current EPA standards. The selective catalytic reduction catalyst utilizes a diesel exhaust fluid solution consisting of urea and purified water to convert NOx into nitrogen, water, and trace amounts of carbon dioxide. The solution shall be mixed and injected into the system through the DPF and SCR.			
2.37.2.	The system shall utilize 0.07 inch thick stainless steel exhaust tubing between the engine turbo and the DPF. Zero leak clamps seal all system joints between the turbo and DPF.			
2.37.3.	The single module after treatment through the end of the tailpipe shall be connected with zero leak clamps. The discharge shall terminate horizontally on the right side of the vehicle ahead of the rear tires.			
2.37.4.	The exhaust system shall be mounted below the frame in the outboard position.			
2.38.	DIESEL EXHAUST FLUID TANK	<input type="checkbox"/>	<input type="checkbox"/>	
2.38.1.	The exhaust system shall include a molded cross linked polyethylene tank for Diesel Exhaust Fluid (DEF). The tank shall have a capacity of six (6) usable gallons and shall be mounted on the left hand side of the chassis frame behind the batteries below the frame.			
2.38.2.	The DEF tank shall be designed with capacity for expansion in case of fluid freezing. Engine coolant, which shall be thermostatically controlled, shall be run through lines in the tank to help prevent the DEF from freezing and to provide a means of thawing the fluid if it should become frozen.			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.38.3.	The tank fill tube shall be routed under the rear of the cab with the fill neck and splash guard accessible in the top rear step.			
2.39.	<u>ENGINE EXHAUST ACCESSORIES</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.39.1.	An exhaust temperature mitigation device shall be shipped loose for installation by the body manufacturer on the vehicle. The temperature mitigation device shall lower the temperature of the exhaust by combining ambient air with the exhaust gasses at the exhaust outlet.			
2.40.	<u>ENGINE EXHAUST WRAP</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.40.1.	The exhaust tubing between the engine turbo and the diesel particulate filter (DPF) shall be wrapped with a thermal cover in order to retain the necessary heat for DPF regeneration. The exhaust wrap shall also help protect surrounding components from radiant heat which can be transferred from the exhaust. The exhaust flex joint shall not include the thermal exhaust wrap.			
2.41.	<u>TRANSMISSION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.41.1.	The drive train shall include an Allison Gen V-E model EVS 3000 torque converting, automatic transmission which shall include electronic controls. The transmission shall feature two (2) 10-bolt PTO pads located on the converter housing.			
2.41.2.	The transmission shall include two (2) internal oil filters and Castrol TranSynd™ synthetic TES 295 transmission fluid which shall be utilized in the lubrication of the EVS transmission. An electronic oil level sensor shall be included with the readout located in the shift selector.			
2.41.3.	The transmission gear ratios shall be: 1st 3.49:1 2nd 1.86:1 3rd 1.41:1 4th 1.00:1 5th 0.75:1 6th 0.65:1 (if applicable) Rev 5.03:1			
2.42.	<u>TRANSMISSION MODE PROGRAMMING</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.42.1.	The transmission, upon start-up, will automatically select a four (4) speed operation. The fifth speed over drive shall be available with the activation of the mode button on the shifting pad.			
2.43.	<u>TRANSMISSION FEATURE PROGRAMMING</u>	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS																		
		Yes	No																			
2.43.1.	The EVS group package number 127 shall contain the 198 vocational packages in consideration of the duty of this apparatus as a Pumper. This package shall incorporate an automatic neutral with selector override. This feature commands the transmission to neutral when the park brake is applied, regardless of drive range requested on the shift selector. This requires re-selecting drive range to shift out of neutral for the override.																					
2.43.2.	This package shall be coupled with the use of a split shaft PTO and incorporate pumping circuits. These circuits shall be used allowing the vehicle to operate in the fourth range lockup while operating the pump mode due to the 1 to 1 ratio through the transmission, therefore the output speed of the engine is the input speed to the pump. The pump output can be easily calculated by using this input speed and the drive ratio of the pump itself to rate the gallons of water the pump can provide.																					
2.43.3.	A transmission interface connector shall be provided in the cab. This package shall contain the following input/output circuits to the transmission control module. The Gen V-E transmission shall include prognostic diagnostic capabilities. These capabilities shall include the monitoring of the fluid life, filter change indication, and transmission clutch maintenance. <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Function ID assignment</th> <th style="text-align: left;">Description</th> <th style="text-align: left;">Wire</th> </tr> </thead> <tbody> <tr> <td>C</td> <td>PTO Request</td> <td>142</td> </tr> <tr> <td>J</td> <td>Fire Truck Pump Mode (4th Lockup)</td> <td>122 / 123</td> </tr> <tr> <td>C</td> <td>Range Indicator</td> <td>145 (4th)</td> </tr> <tr> <td>G</td> <td>PTO Enable Output</td> <td>130</td> </tr> <tr> <td></td> <td>Signal Return</td> <td>103</td> </tr> </tbody> </table>	Function ID assignment	Description	Wire	C	PTO Request	142	J	Fire Truck Pump Mode (4th Lockup)	122 / 123	C	Range Indicator	145 (4th)	G	PTO Enable Output	130		Signal Return	103			
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2.44.	<u>ELECTRONIC TRANSMISSION OIL LEVEL INDICATOR</u>	<input type="checkbox"/>	<input type="checkbox"/>																			
2.44.1.	The transmission fluid shall be monitored electronically and shall send a signal to activate a warning in the instrument panel when levels fall below normal.																					
2.45.	<u>TRANSMISSION SHIFT SELECTOR</u>	<input type="checkbox"/>	<input type="checkbox"/>																			
2.45.1.	An Allison pressure sensitive range selector touch pad shall be provided and located to the right of the driver within clear view and easy reach. The shift selector shall have a graphical Vacuum Florescent Display (VFD) capable of displaying two lines of text. The shift selector shall provide mode indication and a prognostic indicator (wrench symbol) on the digital display. The prognostics monitor various operating parameters and																					

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	shall alert you when a specific maintenance function is required.			
2.46.	<u>TRANSMISSION PRE-SELECT WITH AUXILIARY BRAKE</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.46.1.	When the auxiliary brake is engaged, the transmission shall automatically shift to second gear to decrease the rate of speed assisting the secondary braking system and slowing the vehicle.			
2.47.	<u>TRANSMISSION COOLING SYSTEM</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.47.1.	The transmission shall include a water to oil cooler system located in the cooling loop between the radiator and the engine. The transmission cooling system shall meet all transmission manufacturer requirements. The transmission cooling system shall feature continuous flow of engine bypass water to maintain uninterrupted transmission cooling.			
2.48.	<u>DRIVELINE</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.48.1.	All drivelines shall be heavy duty metal tube and equipped with MSI 1710 series universal joints. The shafts shall be dynamically balanced prior to installation to alleviate future vibration. In areas of the driveline where a slip shaft is required, the splined slip joint shall be coated with Glide Coat®. The drivelines shall include Meritor brand u-joints with thrust washers.			
2.49.	<u>FUEL FILTER/WATER SEPARATOR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.49.1.	The fuel system shall have a Fleetguard FS1003 fuel filter/water separator with a thermostatically controlled integral heater as a primary filter. The fuel filter shall have a drain valve.			
2.49.2.	An instrument panel lamp and audible alarm which indicates when water is present in the fuel-water separator shall also be included.			
2.49.3.	A secondary fuel filter shall be included as approved by the engine manufacturer.			
2.50.	<u>FUEL LINES</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.50.1.	The fuel system supply and return lines installed from the fuel tank to the engine shall be reinforced nylon tubing rated for diesel fuel. The fuel lines shall be brown in color and connected with brass fittings.			
2.51.	<u>FUEL COOLER</u>	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.51.1.	An aluminum cross flow air to fuel cooler shall be provided to lower fuel temperature allowing the vehicle to operate at higher ambient temperatures. The fuel cooler shall be located behind the rear axle.			
2.52.	<u>FUEL TANK</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.52.1.	The fuel tank shall have a capacity of fifty (50) gallons and shall measure 35.00 inches in width X 15.00 inches in height X 24.00 inches in length.			
2.52.2.	The baffled tank shall have a vent port to facilitate venting to the top of the fill neck for rapid filling without "blow-back" and a roll over ball check vent for temperature related fuel expansion and draw.			
2.52.3.	The tank is designed with dual draw tubes and sender flanges. The tank shall have 2.00 inch NPT fill ports for right or left hand fill. A 0.50 inch NPT drain plug shall be centered in the bottom of the tank.			
2.52.4.	The fuel tank shall be mounted below the frame, behind the rear axle. Two (2) three-piece strap hanger assemblies with "U" straps bolted midway on the fuel tank front and rear shall be utilized to allow the tank to be easily lowered and removed for service purposes. Rubber isolating pads shall be provided between the tank and the hanger strap assemblies. Strap mounting studs through the rail, hidden behind the body shall not be acceptable.			
2.53.	<u>FUEL TANK FILL PORT</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.53.1.	The fuel tank fill ports shall be offset with the left fill port located in the rearward position and the right fill port located in the middle position on the fuel tank.			
2.54.	<u>FRONT AXLE</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.54.1.	The front axle shall be a Meritor Easy Steer Non drive front axle, model number MFS-20. The axle shall include a 3.74 inch drop and a 71.00 inch king pin intersection (KPI). The axle shall include a conventional style hub with a standard knuckle. The weight capacity for the axle shall be rated to 21,500 pounds FAWR.			
2.55.	<u>FRONT WHEEL BEARING LUBRICATION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.55.1.	The front axle wheel bearings shall be lubricated with oil. The oil level can be visually checked via clear inspection windows in the front axle hubs.			
2.56.	<u>FRONT SHOCK ABSORBERS</u>	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.56.1.	Two (2) Bilstein inert, nitrogen gas filled shock absorbers shall be provided and installed as part of the front suspension system. The shocks shall be a monotubular design and fabricated using a special extrusion method, utilizing a single blank of steel without a welded seam, achieving an extremely tight peak-to-valley tolerance and maintains consistent wall thickness. The monotubular design shall provide superior strength while maximizing heat dissipation and shock life.			
2.56.2.	The ride afforded through the use of a gas shock is more consistent and shall not deteriorate with heat, the same way a conventional oil filled hydraulic shock would.			
2.56.3.	The Bilstein front shocks shall include a digressive working piston assembly allowing independent tuning of the compression and rebound damping forces to provide optimum ride and comfort without compromise. The working piston design shall feature fewer parts than most conventional twin tube and "road sensing" shock designs and shall contribute to the durability and long life of the Bilstein shock absorbers.			
2.56.4.	Proposals offering the use of conventional twin tube or "road sensing" designed shocks shall not be considered.			
2.57.	<u>FRONT SUSPENSION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.57.1.	The front suspension shall include a nine (10) leaf spring pack in which the longest leaf measures 54.00 inch long and 4.00 inches wide and shall include a military double wrapped front eye. Both spring eyes shall have a case hardened threaded bushing installed with lubrication counter bore and lubrication land off cross bore with grease fitting. The spring capacity shall be rated at 21,500 pounds.			
2.58.	<u>STEERING COLUMN/ WHEEL</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.58.1.	The cab shall include a Douglas Autotech steering column which shall include a seven (7) position tilt, a 2.25 inch telescopic adjustment, and an 18.00 inch, four (4) spoke steering wheel located at the driver's position. The steering wheel shall be covered with black polyurethane foam padding.			
2.58.2.	The steering column shall contain a horn button, self-canceling turn signal switch, four-way hazard switch and headlamp dimmer switch.			
2.59.	<u>POWER STEERING PUMP</u>	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.59.1.	The hydraulic power steering pump shall be a TRW PS and shall be gear driven from the engine. The pump shall be a balanced, positive displacement, sliding vane type. The power steering system shall include an oil to air passive cooler.			
2.60.	<u>ELECTRONIC POWER STEERING FLUID LEVEL INDICATOR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.60.1.	The power steering fluid shall be monitored electronically and shall send a signal to activate an audible alarm and visual warning in the instrument panel when fluid level falls below normal.			
2.61.	<u>FRONT AXLE CRAMP ANGLE</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.61.1.	The chassis shall have a front axle cramp angle of 48 degrees to the left and 44 degrees to the right.			
2.62.	<u>POWER STEERING GEAR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.62.1.	The power steering gear shall be a TRW model TAS 65 with an assist cylinder.			
2.63.	<u>CHASSIS ALIGNMENT</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.63.1.	The chassis frame rails shall be measured to ensure the length is correct and cross checked to make sure they run parallel and are square to each other. The front and rear axles shall be laser aligned. The front tires and wheels shall be aligned and toe-in set on the front tires by the chassis manufacturer.			
2.64.	<u>REAR AXLE</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.64.1.	The rear axle shall be a Meritor model RS-30-185 single drive axle. The axle shall include precision forged, single reduction differential gearing, and shall have a fire service rated capacity of 33,000 pounds.			
2.64.2.	The axle shall be built of superior construction and quality components to provide the rugged dependability needed to stand up to the fire industry's demands. The axle shall include rectangular shaped, hot-formed housing with a standard wall thickness of 0.56 of an inch for extra strength and rigidity and a rigid differential case for high axle strength and reduced maintenance.			
2.64.3.	The axle shall have heavy-duty Hypoid gearing for longer life, greater strength and quieter operation. Industry-standard wheel ends for compatibility with both disc and drum brakes, and unitized oil seal technology to keep lubricant in and help prevent contaminant damage will be used.			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.65.	<u>REAR AXLE DIFFERENTIAL LUBRICATION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.65.1.	The rear axle differential shall be lubricated with oil.			
2.66.	<u>REAR WHEEL BEARING LUBRICATION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.66.1.	The rear axle wheel bearings shall be lubricated with oil.			
2.67.	<u>VEHICLE TOP SPEED</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.67.1.	The top speed of the vehicle shall be approximately 110 KPH +/-2 KPH at governed engine RPM.			
2.68.	<u>REAR SUSPENSION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.68.1.	The single rear axle shall feature a Reyco 79KB vari-rate, self-leveling captive slipper type conventional multi-leaf spring suspension, with 57.50 inch X 3.00 inch springs. One (1) adjustable and one (1) fixed torque rod shall be provided.			
	The rear suspension capacity shall be rated from 21,000 to 31,500 pounds.			
2.69.	<u>FRONT TIRE</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.69.1.	The front tires shall be Michelin 425/65R-22.5 20PR "L" tubeless radial XZY3 mixed service tread			
2.69.2.	The front tire stamped load capacity shall be 22,800 pounds per axle with a speed rating of 65 miles per hour when properly inflated to 120 pounds per square inch.			
2.69.3.	The Michelin Intermittent Service Rating limits the operation of the emergency vehicle to no more than fifty (50) miles of continuous operation under maximum recommended payload, or without stopping for at least twenty (20) minutes. The emergency vehicle must reduce its speed to no more than 50 MPH after the first fifty (50) miles of travel.			
2.70.	<u>REAR TIRE</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.70.1.	The rear tires shall be Michelin 12R-22.5 16PR "H" tubeless radial XDN2 all weather tread.			
2.70.2.	The rear tire stamped load capacity shall be 33,080 pounds per axle with a speed capacity of 75 miles per hour when properly inflated to 130 pounds per square inch.			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.70.3.	The Michelin Tire Intermittent Service Rating load capacity shall be 35,396 pounds per axle with a speed rating of 75 miles per hour when properly inflated to 130 pounds per square inch. The Michelin Intermittent Service Rating limits the operation of the emergency vehicle to no more than fifty (50) miles of continuous operation under maximum recommended payload, or without stopping for at least twenty (20) minutes. The emergency vehicle must reduce its speed to no more than 50 MPH after the first fifty (50) miles of travel.			
2.71.	<u>TIRE PRESSURE INDICATOR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.71.1.	There shall be electronic chrome LED valve caps shipped loose for installation by the OEM which shall illuminate with a red LED when tire pressure drops 8psi provided. The valve caps are self-calibrating and set to the pressure of the tire upon installation.			
2.72.	<u>FRONT WHEEL</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.72.1.	The front wheels shall be Accuride hub piloted, 22.50 inch X 12.25 inch polished aluminum wheels. The hub piloted mounting system shall provide easy installation and shall include two-piece flange nuts. The wheels shall be forged from a single piece of aluminum, designed to be corrosion resistant and are engineered for a long life.			
2.73.	<u>REAR WHEEL</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.73.1.	The rear wheels shall be Accuride hub piloted, heavy duty, 22.50 inch X 9.00 inch aluminum wheels. Each outer wheel shall have a polished aluminum finish on the exterior surface and each inner wheel shall have a machine finish. The hub piloted mounting system shall provide easy installation and shall include two-piece flange nuts.			
2.74.	<u>BALANCE WHEELS AND TIRES</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.74.1.	All of the wheels and tires, including any spare wheels and tire assemblies, shall be dynamically balanced.			
2.75.	<u>WHEEL TRIM</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.75.1.	Stainless steel wheel simulator kits shall be provided for the front wheels and for the rear wheels shipped loose with the chassis for installation by the apparatus builder			
2.75.2.	Each wheel simulator kit shall be RealWheels® brand constructed of 304L grade, non-corrosive stainless steel with a mirror finish. Each wheel simulator shall meet D.O.T. certification. They shall simulate the look of			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	polished aluminum wheels and come complete with stainless steel hub covers and lug nut covers.			
2.76.	TIRE CHAINS	<input type="checkbox"/>	<input type="checkbox"/>	
2.76.1.	Onspot brand six (6) strand automatic ice chains shall be installed on the rear axle of the chassis to provide instant traction while traveling on ice and snow at speeds below 35 MPH. The tire chain system shall be activated by a locking switch on the dash to deter accidental activation. The light on the switch shall illuminate when the tire chains are engaged. The tire chains shall be interlocked with the transmission and shall engage only if the vehicle is traveling 30 MPH or less. After traveling over 30 MPH, the vehicle must be reduced to a speed below 5 MPH for the tire chains to be engaged or re-engaged.			
2.77.	BRAKE SYSTEM	<input type="checkbox"/>	<input type="checkbox"/>	
2.77.1.	A rapid build-up air brake system shall be provided. The air brakes shall include a two (2) air tank, three (3) reservoir system with a total of 4152 cubic inch of air capacity. A floor mounted treadle valve shall be mounted inside the cab for graduated control of applying and releasing the brakes. An inversion valve shall be installed to provide a controlled service brake application during the unlikely event of primary air supply loss. All air reservoirs provided on the chassis shall be labeled for identification.			
2.77.2.	The rear axle spring brakes shall automatically apply in any situation when the air pressure falls below 25 PSI and shall include a mechanical means for releasing the spring brakes when necessary. An audible alarm shall designate when the system air pressure is below 60 PSI.			
2.77.3.	A four (4) sensor, four (4) modulator anti-lock braking system (ABS) shall be installed on the front and rear axles in order to prevent the brakes from locking or skidding while braking during hard stops or on icy or wet surfaces. This in turn shall allow the driver to maintain steering control under heavy braking and in most instances, shorten the braking distance. The electronic monitoring system shall incorporate diagonal circuitry which shall monitor wheel speed during braking through a sensor and tone ring on each wheel. A dash mounted ABS lamp shall be provided to notify the driver of a system malfunction. The ABS system shall automatically disengage the auxiliary braking system device when required. The speedometer screen shall be capable of reporting all active defaults using PID/SID and FMI standards.			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.77.4.	Additional safety shall be accommodated through Automatic Traction Control (ATC) which shall be installed on the single rear axle. The ATC system shall apply the ABS when the drive wheels lose traction. The system shall scale the electronic engine throttle back to prevent wheel spin while accelerating on ice or wet surfaces.			
2.77.5.	A virtual style switch shall be provided and properly labeled "mud/snow". When the switch is pressed once, the system shall allow a momentary wheel slip to obtain traction under extreme mud and snow conditions. During this condition the ATC light shall blink continuously notifying the driver of activation. Pressing the switch again shall deactivate the mud/snow feature.			
2.77.6.	The Electronic Stability Control (ESC) unit is a functional extension of the electronic braking system. It is able to detect any skidding of the vehicle about its vertical axis as well as any rollover tendency. The control unit comprises an angular-speed sensor that measures the vehicle's motion about the vertical axis, caused, for instance, by cornering or by skidding on a slippery road surface. An acceleration sensor measures the vehicle's lateral acceleration. The Controller Area Network (CAN) bus provides information on the steering angle. On the basis of lateral acceleration and steering angle, an integrated microcontroller calculates a theoretical angular speed for the stable vehicle condition.			
2.78.	<u>FRONT BRAKES</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.78.1.	The front brakes shall be Meritor 16.50 inch x 6.00 inch S-cam drum type.			
2.79.	<u>REAR BRAKES</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.79.1.	The rear brakes shall be Meritor 16.50 inch X 7.00 inch S-cam drum type. The brakes shall feature a cast iron shoe.			
2.80.	<u>PARK BRAKE</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.80.1.	Upon application of the push-pull valve in the cab, the rear brakes will engage via mechanical spring force. This is accomplished by dual chamber rear brakes, satisfying the FMVSS parking brake requirements.			
2.81.	<u>PARK BRAKE CONTROL</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.81.1.	A Meritor-Wabco manual hand control push-pull style valve shall operate the parking brake system. The control shall be yellow in color.			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.81.2.	The parking brake actuation valve shall be mounted in the center section of the dash and within easy access of the driver.			
2.82.	<u>FRONT BRAKE SLACK ADJUSTERS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.82.1.	The front brakes shall include Meritor automatic slack adjusters shall be installed on the chassis which features a simple, durable design offering reduced weight. The automatic slack adjusters shall feature a manual adjusting nut which cannot inadvertently be backed off and threaded grease fittings for easy serviceability.			
2.83.	<u>REAR BRAKE SLACK ADJUSTERS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.83.1.	Haldex rear brake automatic slack adjusters shall be installed on the axle.			
2.84.	<u>FRONT BRAKE DUST SHIELDS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.84.1.	The front axle shall be equipped with brake dust shields.			
2.85.	<u>REAR BRAKE DUST SHIELDS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.85.1.	The rear brakes shall be equipped with brake dust shields.			
2.86.	<u>AIR DRYER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.86.1.	The brake system shall include a Wabco System Saver 1200 air dryer with an integral 100 watt heater with a Metri-Pack sealed connector. The air dryer incorporates an internal turbo cutoff valve that closes the path between the air compressor and air dryer purge valve during the compressor "unload" cycle. The turbo cutoff valve allows purging of moisture and contaminants without the loss of turbo boost pressure. The air dryer shall be located on the right hand frame rail forward of the front wheel behind the right hand cab step.			
2.87.	<u>FRONT BRAKE CHAMBERS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.87.1.	The front brakes shall be provided with MGM type 30 brake chambers.			
2.88.	<u>REAR BRAKE CHAMBERS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.88.1.	The rear axle shall include TSE 30/36 brake chambers which shall convert the energy of compressed air into mechanical force and motion. This shall actuate the brake camshaft, which in turn shall operate the			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	foundational brake mechanism forcing the brake shoes against the brake drum. The TSE Type 36 brake chamber has a 36.00 square inch effective area.			
2.89.	<u>AIR COMPRESSOR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.89.1.	The air compressor provided for the engine shall be a Wabco® SS318 single cylinder pass-through drive type compressor which shall be capable of producing 18.7 CFM at 1200 engine RPMs. The air compressor shall feature a higher delivery efficiency translating to more air delivery per horsepower absorbed. The compressor shall include an aluminum cylinder head which shall improve cooling, reduce weight and decrease carbon formation. Superior piston and bore finishing technology shall reduce oil consumption and significantly increasing the system component life.			
2.90.	<u>AIR GOVERNOR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.90.1.	An air governor shall be provided to control the cut-in and cut-out pressures of the engine mounted air compressor. The governor shall be calibrated to meet FMVSS requirements. The air governor shall be located on the air cleaner bracket on the right frame rail behind the officer step.			
2.91.	<u>MOISTURE EJECTORS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.91.1.	An automatic moisture ejector with a manual drain provision shall be installed on the wet tank of the air supply system. Manual pet-cock type drain valves shall be installed on all remaining reservoirs of the air supply system.			
2.92.	<u>AIR SUPPLY LINES</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.92.1.	The air system on the chassis shall be plumbed with color coded reinforced nylon tubing air lines. The primary (rear) brake line shall be green, the secondary (front) brake line red, the parking brake line orange and the auxiliary (outlet) will be blue.			
2.92.2.	Brass compression type fittings shall be used on the nylon tubing. All drop hoses shall include fiber reinforced neoprene covered hoses.			
2.93.	<u>REAR AIR TANK MOUNTING</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.93.1.	If a combination of wheel base, air tank quantity, or other requirements necessitate the location of one or more air tanks to be mounted rear of the fuel tank, these tank(s) will be mounted parallel to frame.			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.94.	<u>WHEELBASE</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.94.1.	The chassis wheelbase shall be 192.00 inches.			
2.95.	<u>REAR OVERHANG</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.95.1.	The chassis rear overhang shall be 51.00 inches.			
2.96.	<u>FRAME</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.96.1.	The frame shall consist of double rails running parallel to each other with cross members forming a ladder style frame. The frame rails shall be formed in the shape of a "C" channel, with the outer rail measuring 10.25 inches high X 3.50 inches deep upper and lower flanges X 0.38 inches thick with an inner channel of 9.44 inches high X 3.13 inches deep and 0.38 inches thick. Each rail shall be constructed of 110,000 psi minimum yield high strength low alloy steel. Each double rail section shall be rated by a Resistance Bending Moment (RBM) minimum of 3,213,100 inch pounds and have a minimum section modulus of 29.21 cubic inches. The frame shall measure 35.00 inches in width.			
2.96.2.	Proposals calculating the frame strength using the "box method" shall not be considered.			
2.96.3.	Proposals including heat treated rails shall not be considered. Heat treating frame rails produces rails that are not uniform in their mechanical properties throughout the length of the rail. Rails made of high strength, low alloy steel are already at the required yield strength prior to forming the rail.			
2.96.4.	A minimum of seven (7) fully gusseted 0.25 inch thick cross members shall be installed. The inclusion of the body mounting, or bumper mounting shall not be considered as a cross member. The cross members shall be attached using zinc coated grade 8 fasteners. The head bolts shall be flanged type with distorted threads, held in place by flanged lock nuts. Each cross member shall be mounted to the frame rails utilizing a minimum of 0.25 inch thick gusset reinforcement plates at all corners balancing the area of force throughout the entire frame.			
2.96.5.	Any proposals not including additional reinforcement for each cross member shall not be considered.			
2.96.6.	All relief areas shall be cut in with a minimum 2.00 inch radius at intersection points with the edges ground to a smooth finish to prevent a stress concentration point.			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.96.7.	The frame and cross members shall carry a lifetime warranty to the original purchaser. A copy of the frame warranty shall be made available upon request.			
2.96.8.	Proposals offering warranties for frames not including cross members shall not be considered.			
2.97.	<u>FRAME PAINT</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.97.1.	The frame shall be powder coated black prior to any attachment of components. The components that shall be galvanized shall include: Main frame "C" channel or channels			
2.97.2.	The frame parts which are not galvanized shall be powder coated prior to any attachment of components. Parts which shall be powder coated shall include but are not limited to: Steering gear bracket Front splayed rails and fish plates Bumper extensions Cross members Cross member gussets Fuel tank mounting brackets Fuel tank straps (unless material/finish is specified in 3130 subcat) Air tanks (unless color coded tanks are specified in 3205 subcat) Air tank mounting brackets Exhaust mounting brackets Air cleaner skid plate Radiator skid plate Battery supports, battery trays and battery covers			
2.97.3.	Other non-galvanized under carriage components which are received from the suppliers with coatings already applied shall include but are not limited to: Suspension components Front and rear axles			
2.97.4.	All powder coatings, primers and paint shall be compatible with all metals, pretreatments and primers used. The cross hatch adhesion test per ASTM D3359 shall not have a failure of more than ten (10) squares. The pencil hardness test per ASTM D3363 shall have a final post-cured pencil hardness of H-2H. The direct impact resistance test per ASTM D2794 shall have an impact resistance of 120.00 inches per pound at 2 mils.			
2.97.5.	Any proposals offering painted frame with variations from the above process shall not be accepted. The film thickness of vendor supplied parts shall also be sufficient to meet the performance standards as stated above.			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.98.	<u>FRONT BUMPER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.98.1.	A one piece, two (2) rib wrap-around style, polished stainless steel front bumper shall be provided. The material shall be 10 gauge 304 stainless steel, 12.00 inches high and 99.0 inches wide.			
2.99.	<u>FRONT BUMPER EXTENSION LENGTH</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.99.1.	The front bumper shall be extended approximately 21.00 inches ahead of the cab.			
2.100.	<u>FRONT BUMPER SUCTION PROVISION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.100.1.	The bumper apron shall include a 6 inch 90 degree elbow stainless steel pipe intended for use as a suction intake for the pump. The suction pipe shall be routed from the right hand front bumper area to the area rear of the front axle near the back of the cab. The front of the suction pipe shall be designed to extend vertically 2.00 inches above the top surface of the bumper in the right hand outboard position. The forward end of the suction pipe shall be finished with a 5.00 inch National Pipe Thread (NPT). The rear of the suction shall include a Victaulic groove for connecting to the pump plumbing. The suction pipe shall also include a 0.50 inch NPT port intended as a primer assist connection. The apparatus manufacturer shall plumb the suction pipe to the pump and shall provide all valves as required.			
2.100.2.	An electric Elkhart Brass Unibody Valve EB5B with an APEX-S compact valve control with black Visor shall be supplied on the front 5" suction inlet. The suction shall have an adapter 6" Storz and a cap with retaining cable.			
2.101.	<u>FRONT BUMPER APRON</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.101.1.	The 21.00 inch extended front bumper shall include an apron constructed of 0.19 inch thick embossed aluminum tread plate.			
2.101.2.	The apron shall be installed between the bumper and the front face of the cab affixed using stainless steel bolts attaching the apron to the top bumper flange.			
2.102.	<u>FRONT BUMPER COMPARTMENT CENTER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.103.	The front bumper shall include a compartment in the bumper apron located in the center between the frame rails which may be used as a hose well. The compartment shall be constructed of 0.13 inch 5052-			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	H32 grade aluminum and shall include drain holes in the bottom corners to allow excess moisture to escape.			
2.104.	<u>AIR HORN</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.104.1.	The chassis shall include two (2) Grover brand Stutter Tone air horns which shall measure 21.00 inches long with a 6.00 inch round flare. The air horns shall be trumpet style with a chrome finish.			
2.105.	<u>AIR HORN LOCATION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.105.1.	The air horns shall be recess mounted in the front bumper face on the left side of the bumper in the inboard and outboard positions relative to the left hand frame rail.			
2.106.	<u>AIR HORN RESERVOIR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.106.1.	One (1) air tank, with a 1200 cubic inch reservoir, shall be installed on the chassis to act as a supply tank for operating air horns. The reservoir shall be isolated with a 90 PSI pressure protection valve on the reservoir supply side to prevent depletion of the air to the air brake system.			
2.107.	<u>FRONT BUMPER TOW HOOKS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.107.1.	Two (2) heavy duty chrome plated tow hooks shall be installed below the front bumper, forward position and bolted directly to the outside of each chassis frame rail with grade 8 bolts.			
2.108.	<u>CAB TILT SYSTEM</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.108.1.	The entire cab shall be capable of tilting 45.00 degrees to allow for easy maintenance of the engine and transmission. The cab tilt pump assembly shall be located on the right side of the chassis above the battery box.			
2.108.2.	The electric-over-hydraulic lift system shall include an ignition interlock and red cab lock down indicator lamp on the tilt control which shall illuminate when holding the "Down" button to indicate safe road operation.			
2.108.3.	It shall be necessary to activate the master battery switch and set the parking brake in order to tilt the cab. As a third precaution the ignition switch must be turned off to complete the cab tilt interlock safety circuit.			
2.108.4.	Two (2) spring-loaded hydraulic hold down hooks located outboard of the frame shall be installed to hold the cab securely to the frame. Once the hold-down hooks are set in place, it shall take the application of			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	<p>pressure from the hydraulic cab tilt lift pump to release the hooks.</p> <p>2.108.5. Two (2) cab tilt cylinders shall be provided with velocity fuses in each cylinder port. The cab tilt pivots shall be 1.90 inch ball and be anchored to frame brackets with 1.25 inch diameter studs.</p> <p>2.108.6. A steel safety channel assembly shall be installed on the right side cab lift cylinder to prevent accidental cab lowering. The safety channel assembly shall fall over the lift cylinder when the cab is in the fully tilted position. A cable release system shall also be provided to retract the safety channel assembly from the lift cylinder to allow the lowering of the cab.</p>			
2.109.	<p><u>CAB TILT CONTROL RECEPTACLE</u></p> <p>2.109.1. A 6-pin Deutsch connector that includes a cap shall be installed in the front bumper tail on the right hand side to provide a place to plug in the cab tilt remote control pendant. The remote control pendant shall also include 20.00 feet of cable and shall include a mating Deutsch connector.</p>	<input type="checkbox"/>	<input type="checkbox"/>	
2.110.	<p><u>CAB WINDSHIELD</u></p> <p>2.110.1. The cab windshield shall have a surface area of 2825.00 square inches and be of a two (2) piece wraparound design for maximum visibility.</p> <p>2.110.2. The glass utilized for the windshield shall include standard automotive tint. The left and right windshield shall be fully interchangeable thereby minimizing stocking and replacement costs.</p> <p>2.110.3. Each windshield shall be installed using black self locking window rubber.</p>	<input type="checkbox"/>	<input type="checkbox"/>	
2.111.	<p><u>GLASS FRONT DOOR</u></p> <p>2.111.1. The front cab doors shall include a window which is 27.00 inches in width X 26.00 inches in height. These windows shall have the capability to roll down completely into the door housing. This shall be accomplished manually utilizing a crank style handle on the inside of the door. A reinforced window regulator assembly shall be provided for severe duty use.</p> <p>2.111.2. There shall be an irregular shaped fixed window which shall measure 2.50 inches wide at the top, 8.00 inches wide at the bottom X 26.00 inches in height, more commonly known as "cozy glass" ahead of the front door roll down windows.</p>	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.111.3.	The windows shall be mounted within the frame of the front doors trimmed with a black anodized ring on the exterior.			
2.112.	<u>GLASS TINT FRONT DOOR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.112.1.	The windows located in the left and right front doors shall have a standard green automotive tint which shall allow seventy-five percent (75%) light transmittance.			
2.113.	<u>GLASS REAR DOOR RH</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.113.1.	The rear right hand side door shall include a window which is 27.00 inches in width X 26.00 inches in height. This window shall roll up and down manually utilizing a crank style handle on the inside of the door. A reinforced window regulator assembly shall be provided for severe duty use.			
2.114.	<u>GLASS TINT REAR DOOR RH</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.114.1.	The window located in the right hand side rear door shall include a standard green automotive tint which shall allow seventy-five percent (75%) light transmittance.			
2.115.	<u>GLASS TINT REAR DOOR RH</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.115.1.	The window located in the right hand side rear door shall include a standard green automotive tint which shall allow seventy-five percent (75%) light transmittance.			
2.116.	<u>GLASS REAR DOOR LH</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.116.1.	The rear left hand side door shall include a window which is 27.00 inches in width X 26.00 inches in height. This window shall roll up and down manually utilizing a crank style handle on the inside of the door. A reinforced window regulator assembly shall be provided for severe duty use.			
2.117.	<u>GLASS TINT REAR DOOR LH</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.117.1.	The window located in the left hand side rear door shall include a standard green automotive tint which shall allow seventy-five percent (75%) light transmittance			
2.118.	<u>GLASS SIDE MID RH</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.118.1.	The cab shall include a window on the right side behind the front and ahead of the crew door which shall measure 16.00 inches wide X 26.00 inches high. This			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	<p>window shall be fixed within this space and shall be rectangular in shape. The window shall be mounted using self locking window rubber. The glass utilized for this window shall include a green automotive tint unless otherwise noted.</p>			
2.119.	<p><u>GLASS TINT SIDE MID RH</u></p> <p>2.119.1. The window located on the right hand side of the cab between the front and rear doors shall include a standard green automotive tint which shall allow seventy-five percent (75%) light transmittance.</p>	<input type="checkbox"/>	<input type="checkbox"/>	
2.120.	<p><u>GLASS SIDE MID LH</u></p> <p>2.120.1. The cab shall include a window on the left side behind the front door and ahead of the crew door and above the wheel well which shall measure 16.00 inches wide X 26.00 inches high. This window shall be fixed within this space and shall be rectangular in shape. The window shall be mounted using self locking window rubber. The glass utilized for this window shall include a green automotive tint unless otherwise noted.</p>	<input type="checkbox"/>	<input type="checkbox"/>	
2.121.	<p><u>GLASS TINT SIDE MID LH</u></p> <p>2.121.1. The window located on the left hand side of the cab between the front and rear doors shall include a standard green automotive tint which shall allow seventy-five percent (75%) light transmittance.</p>	<input type="checkbox"/>	<input type="checkbox"/>	
2.122.	<p><u>CLIMATE CONTROL</u></p> <p>2.122.1. A ceiling mounted combination defroster and cabin heating and air conditioning system shall be located above the engine tunnel area. The system covers and plenums shall be of severe duty design made of aluminum which shall be coated with a customer specified interior paint. The design of the system's covers shall provide quick access to washable air intake filters as well as easy access to other serviceable items.</p> <p>2.122.2. Six (6) adjustable louvers shall provide comfort for the front seat occupants and ten (10) adjustable louvers shall provide comfort for the rear crew occupants. The plenum shall be shortened to terminate in the mid crew area on cabs with 10.00 inch raised roofs and greater. This shortened plenum shall allow for the customer to utilize the upper rear center wall for compartmentation, equipment, or apparatus operations.</p> <p>2.122.3. Separate front and rear blower motors shall be of brushless design and shall be controlled independently. It shall be capable of reducing the</p>	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	interior cabin air temperature from 122° F (+/- 3° F) to 80° F in thirty minutes with 50% relative humidity and full solar load as described in SAE J2646.			
2.122.4.	The system shall also provide heater pull up performance which meets or exceeds the performance requirements of SAE J1612 as well as defrost performance that meets or exceeds the performance requirements of SAE J381.			
2.122.5.	A gravity drain system shall be provided that is capable of evacuating condensate from the vehicle while on a slope of up to a 13% grade in any direction.			
2.122.6.	The air conditioner lines shall be a mixture of custom bend zinc coated steel fittings and Aero-quip flexible hose with Aero-quip EZ clip fittings.			
2.122.7.	The overhead heater/defroster plumbing shall include an electronic flow control valve that re-directs hot coolant away from the evaporator, via a bypass loop, as the temperature control is moved toward the cold position.			
2.122.8.	Any component which needs to be accessed to perform system troubleshooting shall be accessible by one person using basic hand tools. Regularly serviced items shall be replaceable by one person using basic hand tools.			
2.123.	<u>CLIMATE CONTROL DRAIN</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.123.1.	The climate control system shall include a gravity drain for water management. The gravity drain shall remove condensation from the air conditioning system without additional mechanical assistance.			
2.124.	<u>CLIMATE CONTROL ACTIVATION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.124.1.	The heating, defrosting and air conditioning controls shall be located on the center dash panel in the lower left hand side, in a position which is easily accessible to the driver. The climate control shall be activated by a rotary switch.			
2.125.	<u>HVAC OVERHEAD COVER PAINT</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.125.1.	The overhead HVAC cover shall be painted with a an easy-to-clean gray texture finish.			
2.126.	<u>AUXILIARY CLIMATE CONTROL FRONT UNDERSEAT</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.126.1.	Two (2) 13,500 Btu heaters shall be provided and installed in the face of the seat riser storage area for the			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	<p>driver and officer. The fan controls shall be located on the Vista display(s).</p> <p>2.126.2. The auxiliary heater system hoses shall be silicone with stainless steel constant torque clamps approved for use with silicone hose. The auxiliary heater system shall include one (1) seasonal shut-off valve. The valve shall be supplied at the front of the right hand corner of the cab. The cab must be tilted to access the shut-off valve.</p>			
2.127.	<p><u>AUXILIARY CLIMATE CONTROL REAR CREW</u></p> <p>2.127.1. One (1) 53,500 BTU heater shall be provided and installed in the rear section of the crew cab under the center forward facing seat riser. The fan controls shall be located on the heater unit.</p> <p>2.127.2. The auxiliary heater system hoses shall be silicone with stainless steel constant torque clamps approved for use with silicone hose. The auxiliary heater system shall include one (1) seasonal shut-off valve. The valve shall be supplied at the front of the right hand corner of the cab. The cab must be tilted to access the shut-off valve.</p>	<input type="checkbox"/>	<input type="checkbox"/>	
2.128.	<p><u>HEATER HOSE INSULATION</u></p> <p>2.128.1. The heater hoses leading from the engine to the cab shall include a foam insulation wrap which runs the length of the hose improving heating in extreme cold climates. The heating hoses which shall be routed inside the cab shall not be insulated.</p>	<input type="checkbox"/>	<input type="checkbox"/>	
2.129.	<p><u>A/C CONDENSER LOCATION</u></p> <p>2.129.1. A roof mounted A/C condenser shall be installed centered on cab forward of raised roof against the slope rise.</p>	<input type="checkbox"/>	<input type="checkbox"/>	
2.130.	<p><u>A/C COMPRESSOR</u></p> <p>2.130.1. The air-conditioning compressor shall be a belt driven, engine mounted compressor. The compressor shall be compatible with R134-a refrigerant.</p>	<input type="checkbox"/>	<input type="checkbox"/>	
2.131.	<p><u>CAB CIRCULATION FANS FRONT</u></p> <p>2.131.1. The cab shall include two (2) all metal 6.00 inch air circulation fans installed in the outer front cab corners. Each fan shall be controlled by an individual toggle switch on each fan. The fans can be used to help defog the windshield or to increase air circulation for passenger comfort.</p>	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.132.	<u>CAB CIRCULATION FANS MID</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.132.1.	The cab shall be provided with two (2) individually switched all metal construction 6.00 inch fans. The fans shall be installed in the crew area just behind the front doors. The multi purpose fans can be used for air circulation or to help defog windows.			
2.133.	<u>CAB INSULATION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.133.1.	The cab ceiling and walls shall include a nonwoven polyester fiber insulation. The insulation shall act as a barrier absorbing noise as well as assisting in sustaining the desired climate within the cab interior.			
2.134.	<u>UNDER CAB INSULATION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.134.1.	The underside of the cab tunnel surrounding the engine shall be lined with multi-layer insulation, engineered for application inside diesel engine compartments.			
2.134.2.	The insulation shall act as a noise barrier, absorbing noise thus keeping the decibel level in the cab well within NFPA recommendations. As an additional benefit, the insulation shall assist in sustaining the desired temperature within the cab interior.			
2.134.3.	The engine tunnel insulation shall measure approximately .30 inch thick including a multi-layer foil faced glass cloth and polyester fiber layer. The foil surface acts as protection against moisture and other contaminants. The insulation shall meet or exceed FMVSS 302 flammability test.			
2.134.4.	The insulation shall be cut precisely to fit each section and sealed for additional heat and sound deflection. The insulation shall be held in place by acrylic pressure sensitive adhesive.			
2.135.	<u>INTERIOR TRIM FLOOR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.135.1.	The floor of the cab shall be covered with a multi-layer mat consisting of 0.25 inch thick sound absorbing closed cell foam with a 0.06 inch thick non-slip vinyl surface with a pebble grain finish. The covering shall be held in place by a pressure sensitive adhesive and aluminum trim molding. All exposed seams shall be sealed with silicone caulk matching the color of the floor mat to reduce the chance of moisture and debris retention.			
2.136.	<u>INTERIOR TRIM</u>	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.136.1.	The cab interior shall include trim on the front ceiling, rear crew ceiling, and the cab walls. It shall be easily removable to assist in maintenance. The trim shall be constructed of insulated vinyl over a hard board backing.			
2.137.	<u>REAR WALL INTERIOR TRIM</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.137.1.	The rear wall of the cab shall be trimmed with vinyl.			
2.138.	<u>HEADER TRIM</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.138.1.	The cab interior shall feature header trim over the driver and officer dash constructed of 5052-H32 Marine Grade, 0.13 inch thick aluminum.			
2.139.	<u>INTERIOR TRIM SUNVISOR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.139.1.	The header shall include two (2) sun visors, one each side forward of the driver and officer seating positions above the windshield. Each sun visor shall be constructed of Masonite and covered with padded vinyl trim.			
2.140.	<u>TRIM CENTER DASH</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.140.1.	The main center dash area shall be constructed of 5052-H32 Marine Grade, 0.13 inch thick aluminum plate. There shall be four (4) holes located on the top of the dash near each outer edge of the electrical access cover for ventilation. The center dash electrical access cover shall include a gas cylinder stay which shall hold the cover open during maintenance. The dash shall include cup holders and storage bins.			
2.141.	<u>TRIM LH DASH</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.141.1.	The left hand dash shall be constructed of 5052-H32 Marine Grade, 0.13 inch thick aluminum plate for a perfect fit around the instrument panel. For increased occupant protection the extreme duty left hand dash utilizes patent pending break away technology to reduce rigidity in the event of a frontal crash. The left hand dash shall offer lower vertical surface area to the left and right of the steering column to accommodate control panels.			
2.142.	<u>TRIM RH DASH</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.142.1.	The right hand dash shall be constructed of 5052-H32 Marine Grade, 0.13 of an inch thick aluminum plate and shall include a glove compartment with a hinged door and a Mobile Data Terminal (MDT) provision. The glove compartment size will measure 14.00 inches wide X			

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		Yes	No	
	6.38 inches high X 5.88 inches deep. The MDT provision shall be provided above the glove compartment.			
2.143.	<u>ENGINE TUNNEL TRIM</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.143.1.	The cab engine tunnel shall be covered with a multi-layer mat consisting of 0.25 inch closed cell foam with a 0.06 inch thick non-slip vinyl surface with a pebble grain finish. The mat shall be held in place by pressure sensitive adhesive. The engine tunnel mat shall be trimmed with anodized aluminum stair nosing trim for an aesthetically pleasing appearance.			
2.144.	<u>STEP TRIM</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.144.1.	Each cab entry door shall include a three step entry. The first step closest to the ground shall be constructed of SAE 304 stainless steel with embossed perforations and diamond shaped cut-out. The perforations and cut-outs shall allow water and other debris to flow through rather than becoming trapped within the stepping surface. The step shall feature a splash guard to reduce water and debris from splashing into the step. The splash guard shall have drainage holes beneath the back of the step to allow debris and water to flow through rather than becoming trapped within the stepping surface. The stainless steel material shall have a number 8 mirror finish. The lower step shall be mounted to a frame which is integral with the construction of the cab for rigidity and strength. The middle step shall be integral with the cab construction and shall be trimmed in 0.08 inch thick 3003-H22 embossed aluminum tread plate.			
2.145.	<u>UNDER CAB ACCESS DOOR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.145.1.	The cab shall include an aluminum access door in the left crew step riser painted to match the cab interior paint with a push and turn latch. The under cab access door shall provide access to the diesel exhaust fluid fill.			
2.146.	<u>INTERIOR DOOR TRIM</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.146.1.	The interior trim on the doors of the cab shall consist of an aluminum panel constructed of Marine Grade 5052-H32 0.13 of an inch thick aluminum plate. The door panels shall include a painted finish.			
2.147.	<u>DOOR TRIM CUSTOMER NAMEPLATE</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.147.1.	The interior door trim on the front doors shall include a customer nameplate which states the vehicle was custom built for their Department.			

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		Yes	No	
2.148.	<u>CAB DOOR TRIM REFLECTIVE</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.148.1.	The interior of each door shall include high visibility reflective tape. A white reflective tape that measures 1.00 inch in width shall be provided vertically along the rear outer edge of the door. The lowest portion of each door skin shall include a reflective tape chevron with red and white stripes and a Spartan logo. The chevron tape shall measure 6.00 inches in height.			
2.149.	<u>INTERIOR GRAB HANDLE "A" PILLAR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.149.1.	There shall be two (2) rubber covered 11.00 inch grab handles installed inside the cab, one on each "A" post at the left and right door openings. The left handle shall be located 7.88 inches above the bottom of the door window opening and the right handle shall be located 2.88 inches above the bottom of the door window opening. The handles shall assist personnel in entering and exiting the cab.			
2.150.	<u>INTERIOR GRAB HANDLE FRONT DOOR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.150.1.	Each front door shall include one (1) ergonomically contoured 9.00 inch cast aluminum handle mounted horizontally on the interior door panels. The handles shall feature a textured black powder coat finish to assist personnel entering and exiting the cab.			
2.151.	<u>INTERIOR GRAB HANDLE REAR DOOR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.151.1.	A black powder coated cast aluminum assist handle shall be provided on the inside of each rear crew door. A 30.00 inch long handle shall extend horizontally the width of the window just above the window sill. The handle shall assist personnel in exiting and entering the cab.			
2.152.	<u>INTERIOR TRIM COLOR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.152.1.	The cab interior vinyl trim surfaces shall be gray in color.			
2.153.	<u>INTERIOR FLOOR MAT COLOR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.153.1.	The cab interior floor mat shall be gray in color.			
2.154.	<u>CAB PAINT INTERIOR DOOR TRIM</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.154.1.	The inner door panel surfaces shall be painted with an easy-to-clean gray texture finish.			
2.155.	<u>HEADER TRIM INTERIOR PAINT</u>	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.155.1.	The metal surfaces in the header area shall be coated with an easy-to-clean gray texture finish.			
2.156.	<u>DASH PANEL GROUP</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.156.1.	The main center dash area shall include three (3) removable panels located one (1) to the right of the driver position, one (1) in the center of the dash and one (1) to the left of the officer position. The center panel shall be within comfortable reach of both the driver and officer.			
2.157.	<u>SWITCHES CENTER PANEL</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.157.1.	The center dash panel shall include no rocker switches or legends.			
2.158.	<u>SWITCHES LEFT PANEL</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.158.1.	The left dash panel shall include four (4) switches. There shall be three (3) across the top of the panel with one (1) below. Two (2) switches of the top row shall be rocker type and the left one (1) shall be the windshield wiper/washer control switch. The lower switch shall be a rocker type switch.			
2.159.	<u>SWITCHES RIGHT PANEL</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.159.1.	The right dash panel shall include three (3) rocker switch positions in the upper right hand portion of the panel.			
2.160.	<u>SEAT BELT WARNING</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.160.1.	A Weldon seat belt warning system, integrated with the Vehicle Data Recorder system, shall be installed for each seat within the cab. The system shall provide a visual warning indicator in the Vista display and control screen(s), an indicator light in the instrument panel, and an audible alarm.			
2.160.2.	The warning system shall activate when any seat is occupied with a minimum of 60 pounds, the corresponding seat belt remains unfastened, and the park brake is released. The warning system shall also activate when any seat is occupied, the corresponding seat belt was fastened in an incorrect sequence, and the park brake is released. Once activated, the visual indicators and audible alarm shall remain active until all occupied seats have the seat belts fastened.			
2.161.	<u>SEAT MATERIAL</u>	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.161.1.	The seats shall include a covering of high strength, wear resistant fabric made of durable ballistic polyester. A PVC coating shall be bonded to the back side of the material to help protect the seats from UV rays and from being saturated or contaminated by fluids. Common trade names for this material are Imperial 1200 and Durawear.			
2.162.	<u>SEAT COLOR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.162.1.	All seats supplied with the chassis shall be black in color. All seats shall include red seat belts.			
2.163.	<u>SEAT BACK LOGO</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.163.1.	The seat back shall include the "Spartan" logo. The logo shall be centered on the standard headrest of the seat back and on the left side of a split headrest.			
2.164.	<u>SEAT DRIVER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.164.1.	The driver's seat shall be an H.O. Bostrom 500 Series Firefighter Sierra model seat. The seat shall feature eight-way electric positioning. The eight positions shall include up and down, fore and aft with 8.00 inches of travel, back angle adjustment and seat rake adjustment. The seat shall feature integral springs to isolate shock.			
2.164.2.	The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a three-point shoulder harness with the lap belt, automatic retractor and buckle as an integral part of the seat assembly. The ABTS feature shall also include the RiteHite™ shoulder adjustment feature to provide enhanced comfort and safety by allowing customized seat belt fit.			
2.164.3.	The minimum vertical dimension from the seat H-point to the ceiling for this belted seating position shall be 35.00 inches measured with the seat height adjusted to the lowest position of travel.			
2.164.4.	This model of seat shall have successfully completed the static load tests set forth by FMVSS 207, 209, and 210 in effect at the time of manufacture. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity.			
2.164.5.	The materials used in construction of the seat shall also have successfully completed testing with regard to the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which dictates the allowable burning rate of			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	materials in the occupant compartments of motor vehicles.			
2.165.	<u>SEAT BACK DRIVER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.165.1.	The driver's seat shall include a standard seat back incorporating all belts to seat feature (ABTS). The seat back shall feature a contoured head rest.			
2.166.	<u>SEAT MOUNTING DRIVER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.166.1.	The driver's seat shall be installed in an ergonomic position in relation to the cab dash.			
2.167.	<u>SEAT OFFICER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.167.1.	The officer's seat shall be a H.O. Bostrom 500 Series Sierra seat model. The seat shall feature a tapered and padded seat, and cushion. The seat shall be mounted in a fixed position.			
2.167.2.	The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a three-point shoulder harness with the lap belt, automatic retractor and buckle as an integral part of the seat assembly. The buckle portion of the seat belt shall extend from the seat base towards the driver position within easy reach of the occupant. The ABTS feature shall also include the RiteHite™ shoulder adjustment feature to provide enhanced comfort and safety by allowing customized seat belt fit.			
2.167.3.	The minimum vertical dimension from the seat H-point to the ceiling for this belted seating position shall be 35.00 inches.			
2.167.4.	This model of seat shall have successfully completed the static load tests by FMVSS 207, 209, 210 and 302 in effect at the time of manufacture. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity. This model of seat installed in the cab model, as specified, shall have successfully completed the dynamic sled testing using FMVSS 208 as a guide with the following accommodations. In order to reflect the larger size outfitted firefighters, the test dummy used shall be a 95th percentile hybrid III male weighing 225 pounds rather than the 50th percentile male dummy weighing 165 pounds as referenced in FMVSS 208. The model of seats shall also have successfully completed the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which decides the burning rate of materials in the occupant compartments of motor vehicles.			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.168.	<u>SEAT BACK OFFICER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.168.1.	The officer's seat shall feature a SecureAll™ SCBA locking system which shall be one bracket model and store most U.S. and International SCBA brands and sizes while in transit or for storage within the seat back. The bracket shall be easily adjustable for all SCBA brands and cylinder diameters. All adjustment points shall utilize similar hardware and adjustments shall be made with one tool.			
2.168.2.	The bracket shall be adjustable to compensate for different cylinder lengths without the use of tools. The adjustment shall be made by raising a lever and moving the top clamp vertically.			
2.168.3.	The bracket system shall be free of straps and clamps that may interfere with auxiliary equipment on SCBA units. The center guide fork shall keep the SCBA tank in place for a safe and comfortable fit in the seat back cavity. The SCBA unit simply needs to be pushed against the pivot arm to engage the patented auto-locking system. Once the lock is engaged, the top clamp shall surround the top of the SCBA tank for a secure fit in all directions.			
2.168.4.	The SecureAll™ shall include a release handle which shall be integrated into the seat cushion for quick and easy release. This shall eliminate the need for straps or pull cords to interfere with other SCBA equipment.			
2.168.5.	The seat back shall include a removable padded cover which shall be provided over the SCBA cavity.			
2.169.	<u>SEAT REAR FACING OUTER LOCATION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.169.1.	The crew area shall include two (2) rear facing crew seats, which include one (1) located directly behind the driver seat and one (1) located directly behind the officer seat.			
2.170.	<u>SEAT CREW REAR FACING OUTER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.170.1.	The crew area shall include a seat in the rear facing outboard position which shall be a H.O. Bostrom 500 Firefighter series. The seat shall feature a tapered and padded seat, and cushion. The seat and cushion shall be spring load hinged and compact in design for additional room. The seat shall include a "Fold and Hold" feature so that the cushion shall remain in the seated position and simply touched to flip up.			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.170.2.	The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a three-point shoulder harness with the lap belt and automatic retractor as an integral part of the seat assembly. The buckle portion of the seat belt shall extend from the seat base towards the driver position within easy reach of the occupant. The ABTS feature shall also include the RiteHite™ shoulder adjustment feature to provide enhanced comfort and safety by allowing customized seat belt fit.			
2.170.3.	The minimum vertical dimension from the seat H-point to the ceiling for each belted seating position shall be 35.00 inches.			
2.170.4.	This model of seat shall have successfully completed the static load tests by FMVSS 207/210. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity. This model of seat installed in the cab model, as specified, shall have successfully completed the dynamic sled testing using FMVSS 208 as a guide with the following accommodations. In order to reflect the larger size outfitted firefighters, the test dummy used shall be a 95th percentile hybrid III male weighing 225 pounds rather than the 50th percentile male dummy weighing 165 pounds as referenced in FMVSS 208. The model of seats shall also have successfully completed the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which decides the burning rate of materials in the occupant compartments of motor vehicles.			
2.171.	<u>SEAT MOUNTING OFFICER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.171.1.	The officer's seat shall offer a special mounting position which is 2.00 inches rearward of the standard location offering increased leg room for the occupant.			
2.172.	<u>SEAT BACK REAR FACING OUTER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.172.1.	The rear facing outboard seat shall feature a Bostrom SecureAll™ self contained breathing apparatus (SCBA) locking system which shall store most U.S. and International SCBA brands and bottle sizes while in transit or for storage within the seat back. The bracket shall be easily adjustable for all SCBA brands and cylinder diameters. All adjustment points shall utilize similar hardware and adjustments shall be made with one tool.			
2.172.2.	The bracket shall be adjustable to compensate for different cylinder lengths without the use of tools. The			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	<p>adjustment shall be made by raising a lever and moving the top clamp vertically.</p> <p>2.172.3. The bracket system shall be free of straps that may interfere with auxiliary equipment on SCBA units. The center guide fork shall keep the SCBA tank in place for a safe and comfortable fit in the seat back cavity. The SCBA unit simply needs to be pushed against the pivot arm to engage the patented autolocking system. Once the lock is engaged, the top clamp shall surround the top of the SCBA tank for a secure fit in all directions.</p> <p>2.172.4. The SecureAll™ shall include a release handle which shall be integrated into the center of the bottom seat cushion for easy access and to eliminate hooking the release handle with clothing or other equipment.</p> <p>2.172.5. The seat back shall include a removable padded cover which shall be provided over the SCBA cavity.</p>			
2.173.	<u>SEAT MOUNTING REAR FACING OUTER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
	2.173.1. The rear facing outer seats shall offer special mounting positions which shall be 2.00 inches towards the rear wall offering additional space between the front seats and the outer rear facing seats.			
2.174.	<u>SEAT BELT ORIENTATION CREW</u>	<input type="checkbox"/>	<input type="checkbox"/>	
	2.174.1. The crew position seat belts shall follow the standard orientation which extends from the outboard shoulder extending to the inboard hip.			
2.175.	<u>SEAT FORWARD FACING CENTER LOCATION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
	2.175.1. The crew area shall include two (2) forward facing center crew seats with both located at the center of the rear wall.			
2.176.	<u>SEAT CREW FORWARD FACING CENTER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
	<p>2.176.1. The forward facing center seat shall be a H.O. Bostrom 500 Series Firefighter model seat. The seat shall feature a tapered and padded seat, and cushion. The seat shall be mounted in a fixed position. The seat and cushion shall be hinged and compact in design for additional room. The seat shall include a “Fold and Hold” feature so that the cushion shall remain in the seated position and simply touched to flip up.</p> <p>2.176.2. The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a three-point shoulder harness with the lap belt and automatic retractor as an integral part of the seat assembly. The</p>			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	<p>buckle portion of the seat belt shall extend from the seat base towards the driver position within easy reach of the occupant. The ABTS feature shall also include the RiteHite™ shoulder adjustment feature to provide enhanced comfort and safety by allowing customized seat belt fit</p> <p>2.176.3. The minimum vertical dimension from the seat H-point to the ceiling for each belted seating position shall be 35.00 inches. This model of seat shall have successfully completed the static load tests by FMVSS 207/210. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity. This model of seat installed in the cab model, as specified, shall have successfully completed the dynamic sled testing using FMVSS 208 as a guide with the following accommodations. In order to reflect the larger size outfitted firefighters, the test dummy used shall be a 95th percentile hybrid III male weighing 225 pounds rather than the 50th percentile male dummy weighing 165 pounds as referenced in FMVSS 208. The model of seats shall also have successfully completed the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which decides the burning rate of materials in the occupant compartments of motor vehicles.</p>			
2.177.	<p>SEAT BACK FORWARD FACING CENTER</p> <p>2.177.1. The forward facing center seat shall feature a SecureAll™ self contained breathing apparatus (SCBA) locking system which shall be one bracket model and store most U.S. and International SCBA brands and sizes while in transit or for storage within the seat back. The bracket shall be easily adjustable for all SCBA brands and cylinder diameters. All adjustment points shall utilize similar hardware and adjustments shall be made with one tool.</p> <p>2.177.2. The bracket shall be adjustable to compensate for different cylinder lengths without the use of tools. The adjustment shall be made by raising a lever and moving the top clamp vertically.</p> <p>2.177.3. The bracket system shall be free of straps and clamps that may interfere with auxiliary equipment on SCBA units. The center guide fork shall keep the SCBA tank in place for a safe and comfortable fit in the seat back cavity. The SCBA unit simply needs to be pushed against the pivot arm to engage the patented auto-locking system. Once the lock is engaged, the top clamp shall surround the top of the SCBA tank for a secure fit in all directions.</p>	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.177.4.	The SecureAll™ shall include a release handle which shall be integrated into the seat cushion for quick and easy release. This shall eliminate the need for straps or pull cords to interfere with other SCBA equipment.			
2.177.5.	The seat back shall include a removable padded cover which shall be provided over the SCBA cavity.			
2.178.	<u>SEAT MOUNTING FORWARD FACING CENTER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.178.1.	The forward facing center seats shall be installed facing the front of the cab.			
2.179.	<u>SEAT FRAME FORWARD FACING</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.179.1.	The forward facing center seating positions shall include an enclosed seat frame located and installed on the rear wall. The seat frame shall measure 42.38 inches wide X 12.38 inches high X 22.00 inches deep. The seat frame shall be constructed of Marine Grade 5052-H32 0.19 inch thick aluminum plate. The seat box shall be painted with the same color as the remaining interior.			
2.180.	<u>SEAT FRAME FORWARD FACING STORAGE ACCESS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.180.1.	The seat frame shall include a forward facing vent which shall allow air to flow through from the underseat climate control unit.			
2.181.	<u>CAB FRONT UNDERSEAT STORAGE ACCESS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.181.1.	The left and right under seat storage areas shall have a vented aluminum hinged door with non-locking latch.			
2.182.	<u>SEAT COMPARTMENT DOOR FINISH</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.182.1.	All underseat storage compartment access doors shall have an easy-to-clean gray texture finish.			
2.183.	<u>WINDSHIELD WIPER SYSTEM</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.183.1.	The cab shall include a triple arm linkage wiper system which shall clear the windshield of water, ice and debris. There shall be two (2) windshield wipers; each shall be affixed to a radial arm. The wiper motor shall be activated by an intermittent wiper control located within easy reach of the driver's position.			
2.184.	<u>ELECTRONIC WINDSHIELD FLUID LEVEL INDICATOR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.184.1.	The windshield washer fluid level shall be monitored electronically. When the washer fluid level becomes low the yellow "Check Message Center" indicator light			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	on the instrument panel shall illuminate and the message center in the speedometer shall display a "Check Washer Fluid Level" message.			
2.185.	<u>CAB DOOR HARDWARE</u>	<input type="checkbox"/>	<input type="checkbox"/>	
	2.185.1. The cab entry doors shall be equipped with exterior pull handles, suitable for use while wearing firefighter gloves. The handles shall be made of aluminum with a chrome plated finish.			
	2.185.2. The interior exit door handles shall be flush paddle type with a black finish, which are incorporated into the upper door panel.			
	2.185.3. All cab entry doors shall include locks which are keyed alike. The door locks shall be designed to prevent accidental lockout.			
	2.185.4. The exterior pull handles shall include a scuff plate behind the handle constructed of polished stainless steel to help protect the cab finish.			
2.186.	<u>DOOR LOCKS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
	2.186.1. Each cab entry door shall include a manually operated door lock. Each door lock may be actuated from the inside of the cab by means of a red knob located on the paddle handle of the respective door or by using a TriMark key from the exterior. The door locks are designed to prevent accidental lock out.			
2.187.	<u>GRAB HANDLES</u>	<input type="checkbox"/>	<input type="checkbox"/>	
	2.187.1. The cab shall include one (1) 18.00 inch knurled, anti-slip, one-piece exterior assist handle behind each cab door. The grab handle shall be made of SAE 304 stainless steel and be 1.25 inch diameter to enable non-slip assistance with a gloved hand.			
2.188.	<u>REARVIEW MIRRORS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
	2.188.1. Retrac Aerodynamic West Coast style single vision mirror heads model 613315 shall be provided and installed on each of the front cab doors.			
	2.188.2. The mirrors shall be mounted via 1.00 inch diameter tubular stainless steel arms to provide a rigid mounting to reduce mirror vibration.			
	2.188.3. The mirrors shall measure 8.00 inches wide X 19.00 inches high and shall include an integral convex mirror in the mirror head below the flat glass to provide wider field of vision. The flat and convex mirrors shall be motorized with remote horizontal and vertical			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	adjustment. The control switches shall be mounted within easy reach of the driver. The flat and convex mirrors shall be heated for defrosting in severe cold weather conditions. 2.188.4. The mirror backs shall be constructed of vacuum formed chrome plated ABS plastic housings that are corrosion resistant and shall include an amber marker light. The mirrors shall be manufactured with the finest quality non-glare glass.			
2.189.	<u>REARVIEW MIRROR HEAT SWITCH</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.189.1.	The heat for the rearview mirrors shall be controlled through a virtual button on the Vista display.			
2.190.	<u>CAB FENDER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.190.1.	Full width wheel well liners shall be installed on the extruded cab to limit road splash and enable easier cleaning. Each two-piece liner shall consist of an inner liner 16.00 inches wide made of vacuum formed ABS composite and an outer fenderette 5.00 inches wide made of SAE 304 polished stainless steel.			
2.191.	<u>MUD FLAPS FRONT</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.191.1.	The front wheel wells shall have mud flaps installed on them.			
2.192.	<u>CAB EXTERIOR FRONT & SIDE EMBLEMS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.192.1.	The cab shall include three (3) Spartan emblems. There shall be one (1) installed on the front air intake grille and one (1) emblem on each of the cab sides.			
2.193.	<u>IGNITION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.193.1.	A master battery system with a keyless start ignition system shall be provided. Each system shall be controlled by a ¼ turn Cole Hersee switch, both of which shall be mounted to the left of the steering wheel on the dash. A chrome push type starter button shall be provided adjacent to the master battery and ignition switches.			
2.193.2.	Each switch shall illuminate a green LED indicator light on the dash when the respective switch is placed in the "ON" position.			
2.193.3.	The starter button shall only operate when both the master battery and ignition switches are in the "ON" position.			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.194.	<u>BATTERY</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.194.1.	The single start electrical system shall include (6) Harris BCI 31 925 CCA batteries with a 210 minute reserve capacity and 4/0 welding type dual path starter cables per SAE J541.			
2.195.	<u>BATTERY TRAY</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.195.1.	The batteries shall be installed within two (2) steel battery trays located on the left side and right side of the chassis, securely bolted to the frame rails. The battery trays shall be coated with the same material as the frame.			
2.196.	The battery trays shall include drain holes in the bottom for sufficient drainage of water. A durable, non-conducting, interlocking mat made by Dri-Dek shall be installed in the bottom of the trays to allow for air flow and help prevent moisture build up. The batteries shall be held in place by non-conducting phenolic resin hold down boards.			
2.197.	<u>BATTERY BOX COVER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.197.1.	Each battery box shall include a steel cover which protects the top of the batteries. Each cover shall include flush latches which shall keep the cover secure as well as a black powder coated handle for convenience when opening.			
2.198.	<u>BATTERY CABLE</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.198.1.	The starting system shall include cables which shall be protected by 275 degree F. minimum high temperature flame retardant loom, sealed and encapsulated at the ends with heat shrink and sealant.			
2.199.	<u>BATTERY JUMPER STUD</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.199.1.	The starting system shall include battery jumper studs. These studs shall be located in the forward most portion of the driver's side lower step, 8.00 inches apart. The studs shall allow the vehicle to be jump started, charged, or the cab to be raised in an emergency in the event of battery failure.			
2.200.	<u>ALTERNATOR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.200.1.	The charging system shall include a 320 amp Leece Neville 12 volt alternator. The alternator shall include a self-excited integral regulator.			
2.201.	<u>STARTER MOTOR</u>	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.201.1.	The single start electrical system shall include a Delco brand starter motor.			
2.202.	<u>STEERING WHEEL HORN SELECTOR SWITCH</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.202.1.	A virtual button on the MUX display shall allow control to the electric siren, the electric horn or the air horn from the steering wheel horn button. The electric horn shall sound by default when the selector switch is in either position which shall meet the FMCSA requirement.			
2.203.	<u>AIR HORN AUXILIARY ACTIVATION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.203.1.	The air horn activation shall be accomplished two (2) black momentary push buttons on the switch panel. An air horn activation circuit shall be provided to the chassis harness pump panel harness connector.			
2.204.	<u>MECHANICAL SIREN ACTIVATION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.204.1.	The mechanical siren shall be actuated by two (2) momentary rocker switches in the switch panel on the dash. Two (2) red momentary siren brake rocker switches shall be provided in the switch panel on the dash.			
2.205.	The siren shall only be active when the master warning switch is on to prevent accidental engagement.			
2.206.	<u>INSTRUMENTATION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.206.1.	An ergonomically designed instrument panel shall be provided. Each gauge shall be backlit with LED lamps. Stepper motor movements shall drive all gauges. The instrumentation system shall be multiplexed and shall receive ABS, engine, and transmission information over the J1939 data bus to reduce redundant sensors and wiring. The instrument panel shall contain the following gauges:			
2.206.2.	One (1) three-movement gauge displaying vehicle speed, fuel level, and Diesel Exhaust Fluid (DEF) level. The primary scale on the speedometer shall read from 0 to 160 KM/H, and the secondary scale on the speedometer shall read from 0 to 100 MPH. The scale on the fuel and DEF level gauges shall read from empty to full as a fraction of full tank capacity. Red indicator lights in the gauge and an audible alarm shall indicate low fuel or low DEF at 1/8th tank level.			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.206.3.	One (1) three-movement gauge displaying engine RPM, and primary and secondary air system pressures shall be included. The scale on the tachometer shall read from 0 to 3000 RPM. The scale on the air pressure gauges shall read from 0 to 1030 kilopascals (kPA) with a red line zone indicating critical levels of air pressure. Red indicator lights in the gauge and an audible alarm shall indicate low air pressure.			
2.206.4.	One (1) four-movement gauge displaying engine oil pressure, coolant temperature, voltmeter, and transmission temperature shall be included. The scale on the engine oil pressure gauge shall read from 0 to 830 kilopascals (kPA) with a red line zone indicating critical levels of oil pressure. A red indicator light in the gauge and audible alarm shall indicate low engine oil pressure. The scale on the coolant temperature gauge shall read from 40 to 120 degrees Celsius (C) with a red line zone indicating critical coolant temperatures. A red indicator light in the gauge and audible alarm shall indicate high coolant temperature. The scale on the voltmeter shall read from 9 to 18 volts with a red line zone indicating critical levels of battery voltage. A red indicator light in the gauge and an audible alarm shall indicate high or low system voltage. The low voltage alarm shall indicate when the system voltage has dropped below 11.8 volts for more than 120 seconds in accordance with the requirements of NFPA 1901. The scale on the transmission temperature gauge shall read from 40 to 150 degrees Celsius (C) with a red line zone indicating critical temperatures. A red indicator light in the gauge and an audible alarm shall indicate a high transmission temperature.			
2.206.5.	<p>The light bar portion of the message center shall include twenty-eight (28) LED backlit indicators. The lightbar shall be split with fourteen (14) indicators on each side of the LCD message screen. The lightbar shall contain the following indicators and produce the following audible alarms when supplied in conjunction with applicable configurations:</p> <p><u>RED INDICATORS</u></p> <ul style="list-style-type: none"> -Stop Engine indicates critical engine fault -Air Filter Restricted indicates excessive engine air intake restriction -Park Brake indicates parking brake is set -Seat Belt indicates a seat is occupied and corresponding seat belt remains unfastened -Low Coolant indicates critically low engine coolant -Cab Tilt Lock indicates the cab tilt system locks are not engaged <p><u>AMBER INDICATORS</u></p>			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	<ul style="list-style-type: none"> -Malfunction Indicator Lamp (MIL) indicates an engine emission control system fault -Check Engine indicates engine fault -Check Transmission indicates transmission fault Anti-Lock Brake System (ABS) indicates anti-lock brake system fault -High exhaust system temperature indicates elevated exhaust temperatures -Water in Fuel indicates presence of water in fuel filter -Wait to Start indicates active engine air preheat cycle -Windshield Washer Fluid indicates washer fluid is low DPF restriction indicates a restriction of the diesel particulate filter -Regen Inhibit indicates regeneration of the DPF has been inhibited by the operator -Range Inhibit indicates a transmission operation is prevented and requested shift request may not occur -SRS indicates a problem in the supplemental restraint system -Check Message indicates a vehicle status or diagnostic message on the LCD display requiring attention <p><u>GREEN INDICATORS</u></p> <p>Left and Right turn signal indicators</p> <ul style="list-style-type: none"> -ATC indicates low wheel traction for automatic traction control equipped vehicles, also indicates mud/snow mode is active for ATC system -High Idle indicates engine high idle is active -Cruise Control indicates cruise control is enabled -OK to Pump indicates the pump is engaged and conditions have been met for pump operations -Pump Engaged indicates the pump transmission is currently in pump gear -Auxiliary Brake indicates secondary braking device is active <p><u>BLUE INDICATORS</u></p> <p>High Beam Indicator</p> <p><u>AUDIBLE ALARMS</u></p> <ul style="list-style-type: none"> -High Transmission Temperature -High or Low System Voltage -Seatbelt -Check Engine -Check Transmission -Stop Engine -Low Air Pressure -Low Fuel -Water in Fuel -ESC -High Coolant Temperature -Low Engine Oil Pressure -Low Coolant Level -Low DEF Level -Air Filter Restricted 			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	-Extended Left and Right Turn Remaining On -Cab Tilt Lock -Open Door/Compartment -ABS System Fault			
2.207.	<u>BACKLIGHTING COLOR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.207.1.	The instrumentation gauges and the switch panel legends shall be backlit using red LED backlighting.			
2.208.	<u>CAB EXTERIOR PROTECTION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.208.1.	The cab face shall have a removable plastic film installed over the painted surfaces to protect the paint finish during transport to the body manufacturer.			
2.209.	<u>FIRE EXTINGUISHER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.209.1.	A 2.50 pound D.O.T approved fire extinguisher with BC rating shall be shipped loose with the cab.			
2.210.	<u>DOOR KEYS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.210.1.	The cab and chassis shall include a total of four (4) door keys for the manual door locks.			
2.211.	<u>LUG WRENCH</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.211.1.	The cab and chassis shall include one (1) lug wrench with a leverage bar to allow personnel to loosen or tighten the vehicle's wheel lugs as needed.			
2.212.	<u>ROAD SAFETY KIT</u>	<input type="checkbox"/>	<input type="checkbox"/>	
2.212.1.	The cab and chassis shall include one (1) emergency road safety triangle kit.			
SECTION -3-				
PUMP SYSTEM				
3.	<u>WATEROUS PUMP CX 1050 IGPM (5000 LPM) SINGLE STAGE</u>	<input type="checkbox"/>	<input type="checkbox"/>	
3.1.	A Waterous single stage midship fire pump_(minimum 1050 imperial gpm) will be installed.			
3.1.1.	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 1050 (imp) gallons per minute, NFPA-1901 rated performance.	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
3.1.2.	The pump and vehicle shall be ULC (Underwriters Laboratories of Canada) and N.F.P.A. (National Fire Protection Association) approved.	<input type="checkbox"/>	<input type="checkbox"/>	
3.1.3.	The entire pump shall be assembled and tested at the pump manufacturer's factory.	<input type="checkbox"/>	<input type="checkbox"/>	
3.1.4.	The pump shall be driven by a drive line from the truck transmission. The engine shall provide sufficient horsepower and RPM to enable pump to meet and exceed its rated performance.	<input type="checkbox"/>	<input type="checkbox"/>	
3.1.5.	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 the performance spots as outlined by the latest NFPA Pamphlet No. 1901. Pump shall be free from objectionable pulsation and vibration.	<input type="checkbox"/>	<input type="checkbox"/>	
3.1.6.	The pump body and related parts shall be of fine grain alloy cast iron, with a minimum tensile strength of 30,000 PSI (2069 bar). All metal moving parts in contact with water shall be of high quality bronze or stainless steel. Pump utilizing castings made of lower tensile strength cast iron are not acceptable.	<input type="checkbox"/>	<input type="checkbox"/>	
3.1.7.	Pump body shall be vertically split, on a single plane, for easy removal of impeller assembly, including clearance rings.	<input type="checkbox"/>	<input type="checkbox"/>	
3.1.8.	Pump shaft to be rigidly supported by two bearings for minimum deflection. The bearings shall be heavy-duty, deep groove ball bearings in the gearbox and they shall be splash lubricated.	<input type="checkbox"/>	<input type="checkbox"/>	
3.1.9.	Mechanical seal in place of pump packing. One (1) only required on the suction (inboard) side of the pump. The mechanical seal must be two (2) inches in diameter and shall be spring loaded, maintenance free and self-adjusting. Mechanical seal construction shall be a carbon sealing ring, stainless steel coil spring, Viton rubber cup, and a tungsten carbide seat.	<input type="checkbox"/>	<input type="checkbox"/>	
3.1.10.	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.	<input type="checkbox"/>	<input type="checkbox"/>	
3.1.11.	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. (No exceptions.)	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
3.1.12.	The pump shaft shall be heat-treated, electric furnace, corrosion resistant stainless steel to be super-finished under for longer shaft life. Pump shaft must be sealed with double-lip oil seal to keep road dirt and water out of gearbox.	<input type="checkbox"/>	<input type="checkbox"/>	
3.2.	<u>GEARBOX</u>	<input type="checkbox"/>	<input type="checkbox"/>	
3.2.1.	Pump gearbox shall be of sufficient size to withstand up to 16,000 lbs ft. of drive through torque of the engine system. The drive unit shall be designed of ample capacity for lubrication reserve and to maintain the proper operating temperature.	<input type="checkbox"/>	<input type="checkbox"/>	
3.2.2.	The gearbox drive shafts shall be of heat-treated chrome nickel steel and at least 2-3/4" in diameter, on both the input and output drive shafts. They shall withstand the full torque of the engine.	<input type="checkbox"/>	<input type="checkbox"/>	
3.2.3.	All gears, both drive and pump, shall be of highest quality electric furnace chrome nickel steel. Bores shall be ground to size and teeth integrated 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. (No exceptions.)	<input type="checkbox"/>	<input type="checkbox"/>	
3.2.4.	The pump ratio shall be selected by the apparatus manufacturer to give maximum performance with the engine and transmission selected.	<input type="checkbox"/>	<input type="checkbox"/>	
3.2.5.	If the gearbox is 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.	<input type="checkbox"/>	<input type="checkbox"/>	
3.2.6.	For automatic transmission, three green warning lights shall be provided to indicate to the operator(s) when the pump has completed the shift from Road to Pump position. Two green lights to be located in truck driving compartment and one green light on pump operator's panel adjacent to the throttle control. For manual transmissions, one green warning light will be provided for the driving compartment. All lights to have appropriate identification/instruction plates.	<input type="checkbox"/>	<input type="checkbox"/>	
3.3.	<u>PUMP GEARBOX MOUNTED MANUAL OVER RIDE FOR PUMP SHIFT</u>	<input type="checkbox"/>	<input type="checkbox"/>	
3.3.1.	Provision is made on the pump gearbox to manually shift the pump transfer case from pump to road and vice versa in the event that the air shift fails	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
3.1.	<u>AIR PRIMING PUMP</u>	<input type="checkbox"/>	<input type="checkbox"/>	
3.1.1.	The priming pump shall be a Trident Emergency Products 31.001.13 AirPrime, 4-Location, Manual 3 Barrel, Button, Remote Mount compressed air powered, high efficiency, multi-stage, venture based AirPrime System. All wetted metallic parts of the priming system are to be of brass and stainless steel construction. A single panel mounted control will activate the priming pump and open the priming valve to the pump.			
3.1.2.	An additional primer control valve shall be furnished to prime the front/6" gated suction line plumbing. The Trident Emergency Products remote priming valve shall activate using the same air that powers the Airprime system when the coinciding panel valve is depressed. Priming the remote suction line evacuates air from that line and minimizes cavitation during remote suction operations. The valve control is to be co-located next to the main priming valve control on the pump operator's panel.			
3.4.	<u>PRESSURE CONTROL MECHANISM</u>	<input type="checkbox"/>	<input type="checkbox"/>	
3.4.1.	This apparatus shall be equipped with an FRC InControl 400 engine/pump governor/throttle system that is connected directly to the Electronic Control Module (ECM) mounted on the engine. The control is to operate as a pressure sensor (regulating) governor (PSG) eliminating any need for a relief valve on the discharge side of the pump.			
3.4.2.	A special preset feature shall permit a predetermined pressure or RPM to be set. The preset pressure or RPM will be displayed on the message display of the unit. The preset shall be easily adjustable by the operator.			
3.4.3.	In addition, the InControl displays engine oil pressure, water temperature, and battery voltage with alarms for when these readings are abnormal; and the inlet and outlet pump pressures - eliminating the need for compound gauges			
3.5.	<u>DRAIN</u>	<input type="checkbox"/>	<input type="checkbox"/>	
3.5.1.	The pump shall be drained completely by a master drain located at the lowest point and operated from the pump panel.			
3.6.	<u>AUXILIARY COOLING SYSTEM</u>	<input type="checkbox"/>	<input type="checkbox"/>	
3.6.1.	A heat exchanger cooling system with a control at the pump panel shall be installed so as to permit use of water			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	from the discharge side of the fire pump to cool the liquid circulating through engine system.			
3.7.	<u>DERIVATION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
3.8.	A by-pass control shall be also installed at the pump panel to prevent pump overheating when all the outlets are closed.			
3.9.	<u>PUMP PLUMBING</u>	<input type="checkbox"/>	<input type="checkbox"/>	
3.9.1.	All plumbing shall be made of stainless steel. The components like elbows, tee, flanges, etc., shall be all stainless cast products. It shall have welded sub-assemblies and join together by victaulic couplings and flanges bolted directly to the valves. No threaded type connection shall be accepted.			
3.9.2.	Many "Victaulic" connections shall be used to allow flexion of the piping and to facilitate the service.	<input type="checkbox"/>	<input type="checkbox"/>	
3.9.3.	The 2½" diameter piping or higher shall be equipped with ¾" drain with control on the side panel.	<input type="checkbox"/>	<input type="checkbox"/>	
3.9.4.	Every 2" diameter valve and over shall have a 30° down elbow.	<input type="checkbox"/>	<input type="checkbox"/>	
3.9.5.	All inlet and discharge shall be threaded to the customer standard.	<input type="checkbox"/>	<input type="checkbox"/>	
3.9.6.	The 3" diameter valve and over shall be equipped with a slow close device, except the tank suction valve.	<input type="checkbox"/>	<input type="checkbox"/>	
3.9.7.	Every control shall be identified by a colour and number code.	<input type="checkbox"/>	<input type="checkbox"/>	
3.9.8.	All 1-1/2" threads will be NPSH.	<input type="checkbox"/>	<input type="checkbox"/>	
3.9.9.	All 2-1/2" threads will be Saint John 3X8.	<input type="checkbox"/>	<input type="checkbox"/>	
3.9.10.	<u>VALVE DESCRIPTION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
	<ul style="list-style-type: none"> ▪ Tank suction: 4" Akron valve model 8840 Air actuated ▪ Tank fill : 2½" Akron valve model 8820 ▪ Pump inlet : 2½" Akron valve model 8825 5" Electric Elkhart valve model EB5B w/ APEX-S ▪ Pump outlet : 			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	<p>2½" Akron valve model 8825</p> <ul style="list-style-type: none"> ▪ 1½" pre-connects outlet : 2" Akron valve model 8820 ▪ 4" Storz outlet : 3" Akron valve model 8830 			
3.10.	<u>CONNECTION BETWEEN PUMP AND WATER TANK</u>	<input type="checkbox"/>	<input type="checkbox"/>	
3.10.1.	The tank to pump valve shall be an air actuated 4" full flow ball valve with built-in check valve between the pump body and tank valve. The control shall be located on the pump panel.			
3.10.2.	The piping and valve shall allow a nominal flow of 1900 liters per minute during 80% of the tank capacity.	<input type="checkbox"/>	<input type="checkbox"/>	
3.10.3.	One (1) 2½" tank fill with control at pump panel.	<input type="checkbox"/>	<input type="checkbox"/>	
3.11.	<u>6" SUCTION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
3.11.1.	Two (2) Storz 6" suction inlets			
3.12.	<u>WATEROUS MASTER INTAKE SUCTION VALVE- HANDWEEL CONTROL</u>	<input type="checkbox"/>	<input type="checkbox"/>	
3.12.1.	Each inlet valve shall be a full flow butterfly type valve designed to mount on the fire pump between the suction tube extension and suction tube behind the pump compartment panel. The valve shall not interfere with other suction or discharge openings on the fire pump or with pump operating controls when properly mounted.			
3.13.	<u>2½" SUCTION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
3.13.1.	One (1) 2½" suction valve shall be mounted on the left side inside the pump compartment with strainers, chrome plugs and chains. It shall have an integrated drain valve. One (1) suction valve shall be controlled on the pump panel and the others shall be directly mounted on the valve. The controls shall operate vertically.			
3.14.	<u>PRESSURE RELIEF VALVE</u>	<input type="checkbox"/>	<input type="checkbox"/>	
3.14.1.	A Class 1 adjustable automatic pressure relief valve installed on the pump and on the supply side of the valve to bleed off pressure from a connected hose to the valve intake, shall be installed on each valve intake having a connection size of 90mm (3½") or larger.			
3.15.	<u>2½" DISCHARGES</u>	<input type="checkbox"/>	<input type="checkbox"/>	

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		Yes	No	
3.15.1.	Four (4) 2½" discharges ball valves shall be supplied with chrome caps and retaining chains. All discharge shall be controlled on the pump operator panel.			
3.15.2.	All 2½" discharges valves shall be included 30° elbow and ¾" drains valves. Those discharges valves shall be located as specified: <ul style="list-style-type: none"> ▪ One (1) on the left side panel ▪ One (1) on the right side panel ▪ Two (2) on rear above the rear compartment one on each side 	<input type="checkbox"/>	<input type="checkbox"/>	
3.16.	FLOW METERS (qty 2)	<input type="checkbox"/>	<input type="checkbox"/>	
3.16.1.	There will be a flow meter installed on the 2½" discharge left side of the pump and on the 2½" discharge right side rear.			
3.17.	PRE-CONNECTS DISCHARGES VALVES	<input type="checkbox"/>	<input type="checkbox"/>	
3.17.1.	Two (2) 1½" pre-connects with 2" discharge valve with rotating type elbows shall be mounted on each cross lay. The control shall be located on the pump panel. 2" hydraulic hose stainless steel and Victaulic couplings shall be used.			
3.18.	4" STORZ DISCHARGE	<input type="checkbox"/>	<input type="checkbox"/>	
3.18.1.	One (1) 4" Storz discharge with Northline coupling model SFSA 430 30° elbows with chrome caps and retaining chains shall be installed on the right side panel with control on the left side panel. The valve and the piping shall be 3". There will be a 4" Storz to 2-1/2" male_reducer supplied for the 4" RS discharge.			
3.19.	1½" PRE-CONNECT FRONT BUMPER	<input type="checkbox"/>	<input type="checkbox"/>	
3.19.1.	One (1) 1½" pre-connect with 2" discharge valve with rotating type elbows shall be mounted in the front bumper. The control shall be located on the pump panel. 2" hydraulic hose stainless steel and Victaulic couplings shall be used.			
3.2.	2001 FOAM PRO SYSTEM	<input type="checkbox"/>	<input type="checkbox"/>	
3.2.1.	The apparatus shall be equipped with an electronic, fully automatic, variable speed, direct injection, and discharge side foam proportioning 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			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	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(s), 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.			
3.2.2.	Paddlewheel-type flowmeter(s) shall be installed in the discharges specified to be "foam capable." When the use of more than one flowmeter is required, an interface electronics module will be provided to totalize these flows and send the flow total to the microprocessor in the computer control display.	<input type="checkbox"/>	<input type="checkbox"/>	
3.2.3.	A 12 or 24-volt electric motor drive positive displacement foam concentrate pump, rated up to 2.5 gpm (9.5 L/min) @ 150 psi with operating pressures up to 400 psi (27.6 BAR), shall be installed in a suitable, accessible location. The system will draw a maximum of 40 amps @ 12 VDC or 21 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 1/2 hp (0.40 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.	<input type="checkbox"/>	<input type="checkbox"/>	
3.2.4.	Full flow check valve shall be provided to prevent foam contamination of fire pump and water tank or water contamination of foam tank.	<input type="checkbox"/>	<input type="checkbox"/>	
3.3.	<u>CONTROL DISPLAY</u>	<input type="checkbox"/>	<input type="checkbox"/>	
3.3.1.	The digital computer control display shall enable the pump operator to perform the following control and operation functions for the foam proportioning system: <ul style="list-style-type: none"> ▪ 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 			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	<ul style="list-style-type: none"> ▪ 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 			
3.4.	<u>COMPONENTS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
3.4.1.	<p>Components of the complete proportioning system shall include:</p> <ul style="list-style-type: none"> ▪ Operator control and display ▪ Paddlewheel flowmeter(s) ▪ Pump and electric motor/motor driver ▪ Wiring harnesses ▪ Low level tank switch ▪ Foam injection check valve ▪ Main waterway check valve 			
3.5.	<u>FOAM TANK</u>	<input type="checkbox"/>	<input type="checkbox"/>	
3.5.1.	One (1) 30 imp. Gallons Class A foam tank shall be recess in the water tank.			
3.6.	<u>FOAM CONNECTION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
3.6.1.	The following lines will be plumbed for foam – Both cross lays, front 1-1/2” discharge and rear left side 2-1/2 discharge.			
3.7.	<u>CAFS SYSTEM PNEUMAX 200 CFM</u>	<input type="checkbox"/>	<input type="checkbox"/>	
3.7.1.	A Waterous PTO driven 200 CFM compressor is installed with controls on the pump panel.			
3.7.2.	A Durabla brand master air check valve to be installed.	<input type="checkbox"/>	<input type="checkbox"/>	
3.7.3.	Air valves to be located directly above or below discharge valves on the pump operators panel.	<input type="checkbox"/>	<input type="checkbox"/>	
3.7.4.	Easy access to check compressor oil level to be provided.	<input type="checkbox"/>	<input type="checkbox"/>	
3.8.	<u>2" CAFS DISCHARGE KIT FOR AKRON VALVE (qty 2)</u>	<input type="checkbox"/>	<input type="checkbox"/>	
3.8.1.	A discharge is equipped with a water check valve V30-SCV, air check valve, air discharge control valve, and air injection point for 2" plumbing.			
3.9.	<u>2-1/2" CAFS DISCHARGE KIT FOR AKRON VALVE</u>	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
3.9.1.	A discharge is equipped with a water check valve V30-SCV, air check valve, air discharge control valve, and air injection point for 2-1/2" plumbing.			
SECTION -4-				
PUMP OPERATOR PANEL				
4.1.	The pump operator panel shall be located on the left side of the vehicle.	<input type="checkbox"/>	<input type="checkbox"/>	
4.2.	The pump operator panel and the right panel shall be made of 14 gauge polish stainless steel. The left side panel shall be covered with roll-up Amdor door.	<input type="checkbox"/>	<input type="checkbox"/>	
4.3.	The pump operator panel shall be made in three sections. The bottom section shall incorporate the drain valve, the mid section the controls and the gauges on the top section. All sections shall be bolted on the pump compartment to allow the easy removal. The superior section shall be vertically hinged with two (2) latches in order to facilitate the service.	<input type="checkbox"/>	<input type="checkbox"/>	
4.4.	All manometers shall be resistant to the corrosion and shall be silicon fill. There shall be double graduated and shall have a colour coded identification plate.	<input type="checkbox"/>	<input type="checkbox"/>	
4.5.	The 2½" discharges on the pump operator panel shall be horizontally controlled and the others discharges shall be «push-pull» controlled.	<input type="checkbox"/>	<input type="checkbox"/>	
4.6.	All discharge shall be controlled from the pump operator panel.	<input type="checkbox"/>	<input type="checkbox"/>	
4.7.	All inlets end outlets shall have a removable stainless steel trim plate bolted to the main panel in order to allow the easy removal of the valves for maintenance. A finition rubber shall be installed between the trim plate and the panel for appearance and heat retention for cold temperature.	<input type="checkbox"/>	<input type="checkbox"/>	
4.8.	The pump operator panel shall include the following controls and gauges.	<input type="checkbox"/>	<input type="checkbox"/>	

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		Yes	No	
	<ul style="list-style-type: none"> ▪ One (1) Fire Research model «In Control 400» pressure governor control; ▪ One (1) Class 1 ITL water level electric indicator; ▪ One (1) Class 1 ITL foam Class A level electric indicator; ▪ One (1) pump hour meter; ▪ One (1) pressure and one (1) vacuum test plug; ▪ One (1) engine auxiliary cooler valve; ▪ One (1) pump engagement indicator light; ▪ One (1) primer control; ▪ One (1) pump to tank by-pass valve; ▪ One (1) drain at every location needed to assure a complete drainage (all the drains shall be located in the bottom of the side panel); ▪ One (1) 4½" dual scale silicone pressure gauge -30 @ 0 @ 400 PSI, -100 @ 0 @ 2800 KPA; ▪ One (1) 4½" dual scale silicone vacuum gauge -30 @ 0 @ 400 PSI, -100 @ 0 @ 2800 KPA; ▪ One (1) 2½" dual scale silicone pressure gauge 0 @ 400 PSI, 0 @ 2800 KPA for each discharge; ▪ One (1) tank fill control; ▪ One (1) tank suction control; ▪ One (1) switch for lights on control panel and right panel; ▪ One (1) pump compartment heater fan switch; ▪ One (1) rotative master drain; ▪ One (1) air horn activation; ▪ One (1) transmission warning light; ▪ One (1) flush mount speaker for the radio system w/ independent volume control; ▪ One (1) microphone; ▪ One (1) ULC acceptance plate. 			
4.9.	Each suction and inlet shall be equipped with a ¾" drain ¼ turn. The drains shall be identified on the handle aligned in the bottom of the control panel. All drains controls shall be identified by a number and a colour code.	<input type="checkbox"/>	<input type="checkbox"/>	
SECTION -5-				
PUMP COMPARTMENT				
5.	The pump compartment shall be detached from the rear body in order to avoid body torsion.	<input type="checkbox"/>	<input type="checkbox"/>	
5.1.	The pump compartment, pump operator panel and pump shall be made in integrated module to allow the easy removal if needed.	<input type="checkbox"/>	<input type="checkbox"/>	
5.2.	There shall be lifting hooks incorporated in the module.	<input type="checkbox"/>	<input type="checkbox"/>	

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		Yes	No	
5.3.	The exterior panel shall be made of aluminum 5052H32, 3/16" thick and thread plate 3003-H22.	<input type="checkbox"/>	<input type="checkbox"/>	
5.4.	The frame of the pump compartment shall be made of aluminum extrusion 6061-T6 de 3" x 3" et 3" x 1½" with slot for aluminum sheet insertion.	<input type="checkbox"/>	<input type="checkbox"/>	
5.5.	A rubber shall be installed on the rear perimeter of the pump compartment in order to fill the space with the body.	<input type="checkbox"/>	<input type="checkbox"/>	
5.6.	The pump and pump compartment shall be maintained on the truck frame by rubber supports in order to reduce vibration and torsion stress.	<input type="checkbox"/>	<input type="checkbox"/>	
5.7.	All air and water tube for the components (gauges, primer, inlets, outlets, etc.) shall be colour coded for an easy servicing.	<input type="checkbox"/>	<input type="checkbox"/>	
5.8.	<u>PLUMBING AND PUMP ACCESS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
5.8.1.	There shall be on the right side a full width door with 18" high opening to give an opening for pump access. There shall be an overlap 14ga. polished stainless steel door with two (2) compression locks.			
5.9.	<u>TRANSVERSAL PRE-CONNECTS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
5.9.1.	Each cross lay shall be equipped with a swivel hose connector to allow the use of each cross lay in either direction.			
5.9.2.	A transversal compartment shall be located over the pump compartment. Each side shall be closed and the top shall be open.	<input type="checkbox"/>	<input type="checkbox"/>	
5.9.3.	Each sides of the cross lay shall be equipped with a 1¼" diameter stainless steel rollers, one (1) horizontal and (2) two vertical in order to facilitate the hose unloading.	<input type="checkbox"/>	<input type="checkbox"/>	
5.9.4.	An N.F.P.A. aluminum approved thread plate 3003-H22 step shall be installed on each side and bolted to the compartment. A nylon washer shall leave a gap between the pump compartment and the step.	<input type="checkbox"/>	<input type="checkbox"/>	
5.10.	<u>PUMP HEATER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
5.10.1.	One (1) 22673 B.T.U. heater shall be installed in the pump compartment. The control for the heater shall be located on the control panel.			
5.10.2.	One (1) aluminum heat pan shall be installed under the pump compartment. It shall have two easily removable panels.	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
		<input type="checkbox"/>	<input type="checkbox"/>	
5.10.3.	The heat pan shall be closely cut around the following accessories: exhaust system, drive shaft, air tank, etc. It shall close 90% of the open area.	<input type="checkbox"/>	<input type="checkbox"/>	
SECTION -6-				
ALUMINUM BODY				
6.	GENERAL	<input type="checkbox"/>	<input type="checkbox"/>	
6.1.1.	The apparatus body shall be constructed in order to meet federal, provincial laws and CAN/ULC-S515-13 standard and NFPA 1901-2009 latest edition.			
6.1.2.	The bidders shall be approved by the Canadian Welding Bureau for aluminum W 47.2 and steel W47.1.	<input type="checkbox"/>	<input type="checkbox"/>	
6.1.3.	The angle of departure shall have 10° when the vehicle is normally charge.	<input type="checkbox"/>	<input type="checkbox"/>	
6.2.	CONSTRUCTION	<input type="checkbox"/>	<input type="checkbox"/>	
6.2.1.	For strength, the body structure shall be made of extruded aluminum 3/16" thick tubing with slot for insertion of aluminum sheet.			
6.2.2.	The aluminum sheet shall be 5052H32 type for a good corrosion resistance.	<input type="checkbox"/>	<input type="checkbox"/>	
6.2.3.	All the walking or standing surface shall be covered with 3003-H22 NFPA approved aluminum tread plate.	<input type="checkbox"/>	<input type="checkbox"/>	
6.2.4.	The body shall be made of 3/16" and 1/8" thick aluminum.	<input type="checkbox"/>	<input type="checkbox"/>	
6.2.5.	The main side panel shall be 3/16" and reinforced alongside the top and rear post by a 3" x 3" x 3/16" extrusion. All the vertical panel should be made of 3/16" sheets.	<input type="checkbox"/>	<input type="checkbox"/>	
6.2.6.	The aluminum body shall be fully welded on all the outside joints to eliminate water and salt retention.	<input type="checkbox"/>	<input type="checkbox"/>	
6.2.7.	The subframe shall be integrated to the body with 6061 T6 3" x 3" x 1/4" cross members.	<input type="checkbox"/>	<input type="checkbox"/>	
6.2.8.	Each cross member shall be welded to the back of the compartment. The cross member each side of the rear wheel shall be the full width of the body.	<input type="checkbox"/>	<input type="checkbox"/>	
6.2.9.	For a good stress distribution and strength two cross member shall be welded side by side at the front of the	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	body and two at the rear fully welded to the back panel of the body.	<input type="checkbox"/>	<input type="checkbox"/>	
6.2.10.	The space between the cross member shall be according the tank manufacturer requirements.	<input type="checkbox"/>	<input type="checkbox"/>	
6.3.	<u>SIDES FENDERS AND LINERS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
6.3.1.	The sides fenders shall be made of aluminum tread plate 3003-H22 and be removable. There shall be no apparent retainer.	<input type="checkbox"/>	<input type="checkbox"/>	
6.3.2.	An aluminum flat bar 1½" x ¼" shall be welded on the contour of the fender and be painted as same as the body.	<input type="checkbox"/>	<input type="checkbox"/>	
6.3.3.	A removable 1/8" aluminum liner shall be installed around the rear wheels to protect the body.	<input type="checkbox"/>	<input type="checkbox"/>	
6.4.	<u>COMPARTMENT VENTILATION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
6.4.1.	Louvers must be stamped into compartment walls to provide proper air flow inside the body compartments and to prevent water from dripping into the compartment.	<input type="checkbox"/>	<input type="checkbox"/>	
6.5.	<u>REAR STEP</u>	<input type="checkbox"/>	<input type="checkbox"/>	
6.5.1.	The rear step shall be made of aluminums tread plate with 3003-H22 NFPA and shall be 14" deep. It shall be bolted to the main body. A nylon washer of ¼" thick shall leave a gap between the body and the step. The rear step shall have grip strut insertion.	<input type="checkbox"/>	<input type="checkbox"/>	
6.6.	<u>HOSE BED COMPARTMENT</u>	<input type="checkbox"/>	<input type="checkbox"/>	
13.1.1.	Four (4) hose bed compartments shall be installed over the water tank. The flooring of the hose bed must be removable aluminums grating.	<input type="checkbox"/>	<input type="checkbox"/>	
13.1.2.	Three (3) adjustable hose bed dividers made of 0.25" aluminum shall be installed in the rear hose bed. The divider shall have an extruded track-slide to allow adjustment for different hose capacities.	<input type="checkbox"/>	<input type="checkbox"/>	
6.7.	<u>BODY INSTALLATION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
6.7.1.	An aluminum_6061-T6, 3" x ¾" flat bar shall be installed over the overall length of the frame. The body cross member shall be welded to it.	<input type="checkbox"/>	<input type="checkbox"/>	
6.7.2.	The body will be mounted using 3/8" thick painted steel assembly mounting brackets. A Minimum of 4 brackets	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	will be use. The bracket will hold the body with 5/8" grade 8 bolts and heavy-duty spring. The body mounting bracket shall be designed to withstand any lateral or longitudinal movement of the body.			
6.7.3.	A rubber slat shall be installed between the frame and the flat bar.	<input type="checkbox"/>	<input type="checkbox"/>	
6.8.	<u>RUB RAILS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
6.8.1.	A "U" shaped rub rail made of aluminum anodised extrusion 6061 T6 shall be installed each side of the body.			
6.8.2.	A nylon washer shall leave a gap with the body in order to eliminate salt and water retention.	<input type="checkbox"/>	<input type="checkbox"/>	
6.8.3.	A reflective white stripe and clearance position light shall be installed in the rub rails.	<input type="checkbox"/>	<input type="checkbox"/>	
SECTION -7-				
ROLL-UP COMPARTMENT				
7.1.	<p>Compartment doors shall be equipped with Amdor brand roll-up doors complete with the following features;</p> <ul style="list-style-type: none"> ▪ 1" aluminum double wall slats with continuous ball & socket hinge joint and recessed dual durometer slat seal; ▪ Double wall reinforced bottom panel with stainless steel lift bar latching system; ▪ Bottom panel flange with cut-outs for ease of access with gloved hands; ▪ Reusable slat shoes with positive snap-lock securement,, ▪ Smooth interior door curtain to prevent equipment hang-ups; ▪ Once-piece aluminum door track/ side frame; ▪ Top gutter with non-marring seal; ▪ Non-marring recessed side seals with UV stabilizers to prevent warpage; ▪ Dual leg bottom seal, with all wear component material to be Type 6 Nylon. 	<input type="checkbox"/>	<input type="checkbox"/>	
7.2.	A 30 amp. magnetic commutator two contacts shall be used for lights control.	<input type="checkbox"/>	<input type="checkbox"/>	
7.3.	<u>AMDOR LUMA BAR COMPARTMENT LIGHTING</u>	<input type="checkbox"/>	<input type="checkbox"/>	
7.3.1.	All compartment lighting will be comprised of the Amdor Luma Bar LED system without exception or			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	substitution. The Amdor Luma Bar system utilized will include the following key features: <ul style="list-style-type: none"> ▪ Wide angle 120° surface mount LED installed on a printed circuit board for shock and vibration resistance; ▪ Lighting will be enclosed within a high impact polycarbonate enclosure; ▪ Output will exceed NFPA 1901 compartment lighting standard ; ▪ Draw not to exceed 130 mA per foot /forward voltage of 20mA per LED; ▪ 21" boards will be connected in series using a high grade Molex connector; ▪ Lighting system will include the patented ability to aim the printed circuit board for differing applications and compartments layouts; ▪ System will provide the option to utilize an extruded aluminum retainer for installation. 			

SECTION -8-

COMPARTMENTS

The following compartments shall be provided;

Location	Qty	Opening Dimensions			Conformity		Specifications
		Width	Height	Depth	Yes	No	
Left side							
Ahead of the rear wheel	1 (L1)	47"	60"	15" 27"	<input type="checkbox"/>	<input type="checkbox"/>	
Above the rear wheel	1 (L2)	58"	26"	15"	<input type="checkbox"/>	<input type="checkbox"/>	
Behind the rear wheel	1 (L3)	42"	60"	15" 27"	<input type="checkbox"/>	<input type="checkbox"/>	
Right side							
Ahead of the rear wheel	1 (R1)	47"	60"	15" 27"	<input type="checkbox"/>	<input type="checkbox"/>	
Above the rear wheel	1 (R2)	39"	26"	15"	<input type="checkbox"/>	<input type="checkbox"/>	
Behind the rear wheel	1 (R3)	42"	60"	15" 27"	<input type="checkbox"/>	<input type="checkbox"/>	
At rear							
	1 (A1)	38"	42"	28"	<input type="checkbox"/>	<input type="checkbox"/>	

SECTION -9-

SLIDING TRAYS -ADJUSTABLE SHELVES- SCBA CYLINDERS STORAGE

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS																
		Yes	No																	
9.1.	<u>SLIDING TRAYS</u>	<input type="checkbox"/>	<input type="checkbox"/>																	
9.1.1.	The sliding tray will be able to support a minimum weight of 500 lbs. It shall have an open and close holding device. <table border="1"> <thead> <tr> <th>Qty</th> <th>Location</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>1xL1, 1xR1</td> </tr> </tbody> </table>	Qty	Location	2	1xL1, 1xR1															
Qty	Location																			
2	1xL1, 1xR1																			
9.2.	<u>ADJUSTABLE SHELVES</u>	<input type="checkbox"/>	<input type="checkbox"/>																	
9.2.1.	The shelf will be bolted to an aluminum track which will permit the up and down adjustment. Each compartment shall have an aluminum track. <table border="1"> <thead> <tr> <th>Qty</th> <th>Location</th> </tr> </thead> <tbody> <tr> <td>L1</td> <td>2 shallow upper shelves</td> </tr> <tr> <td>L2</td> <td>1 shallow upper shelf</td> </tr> <tr> <td>L3</td> <td>1 deep lower shelf and 2 shallow upper shelves</td> </tr> <tr> <td>Rear</td> <td>1 deep shelf</td> </tr> <tr> <td>R1</td> <td>2 shallow upper shelves</td> </tr> <tr> <td>R2</td> <td>1 shallow upper shelf</td> </tr> <tr> <td>R3</td> <td>1 deep lower shelf and 2 shallow upper shelves.</td> </tr> </tbody> </table>	Qty	Location	L1	2 shallow upper shelves	L2	1 shallow upper shelf	L3	1 deep lower shelf and 2 shallow upper shelves	Rear	1 deep shelf	R1	2 shallow upper shelves	R2	1 shallow upper shelf	R3	1 deep lower shelf and 2 shallow upper shelves.			
Qty	Location																			
L1	2 shallow upper shelves																			
L2	1 shallow upper shelf																			
L3	1 deep lower shelf and 2 shallow upper shelves																			
Rear	1 deep shelf																			
R1	2 shallow upper shelves																			
R2	1 shallow upper shelf																			
R3	1 deep lower shelf and 2 shallow upper shelves.																			
9.3.	<u>SCBA CYLINDERS STORAGE</u>	<input type="checkbox"/>	<input type="checkbox"/>																	
9.4.	Four (4) Cast Products AD2001-21B-A-Single Brushed, Painted Black Lever Latch w/o key, Stainless Access Door Assembly, w/ Tube and Rear Mounting Gasket SCBA cylinders compartments shall be installed in the wheel well.																			
9.5.	<u>FUEL FILL</u>	<input type="checkbox"/>	<input type="checkbox"/>																	
9.5.1.	The fuel fill pocket Cast Products #FG2102-1-225CH shall be located in the left rear wheel well area.																			
9.6.	<u>SUPPORTS FOR EQUIPMENTS</u>	<input type="checkbox"/>	<input type="checkbox"/>																	
	<ul style="list-style-type: none"> ▪ One (1) electrical 3097-535-000 HLAS 975 horizontal ladder system Zico for 1-24" 2 sec., 1-14' roof, 1-10' folding ladders and 2-6" suction hose mounted on the right side of the vehicle; ▪ One (1) 10' folding ladder supports; ▪ Two (2) axes supports; ▪ Two (2) pikes poles supports; ▪ Two (2) folding wheel chocks Zico #SQCH-44H supports installed ahead of the rear wheels; ▪ One (1) XXL-B mounting bracket for customer's supplied Blitz fire monitor. 																			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
SECTION -10-				
WATER TANK 1200 I.G. (T) SHAPE				
10.	<u>CONSTRUCTION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
10.1.	The tank shall be made of polypropylene. It shall have a capacity of 1200 I.G. and conform to CAN/ULC-S515-13. A lifetime warranty shall be supplied by the tank manufacturer. A copy of the warranty shall be provided with the document bid.			
10.1.1.	The tank will be constructed of ½" thick none-corrosive stress relieved copolymer polypropylene thermoplastic.	<input type="checkbox"/>	<input type="checkbox"/>	
10.1.2.	The tank shall be so designed to be completely independent of the unit body and compartments.	<input type="checkbox"/>	<input type="checkbox"/>	
10.1.3.	All transverse swash partition shall be fabricated of 3/8" thick copolymer polypropylene minimum and shall extend to just under the cover. The longitudinal swash partition shall be fabricated 3/8" thick copolymer polypropylene minimum and shall extend from the floor of the tank through the cover.	<input type="checkbox"/>	<input type="checkbox"/>	
10.1.4.	In cases where overall height of the tank exceeds 40", reinforcement shall be installed on tank bottom to allow for more positive welding and provide greater strength.	<input type="checkbox"/>	<input type="checkbox"/>	
10.1.5.	All swash partitions shall be designed in such a manner as to reducing the water surge to a minimum for greater vehicle stability while still providing maximum air and water flow throughout the tank.	<input type="checkbox"/>	<input type="checkbox"/>	
10.1.6.	All swash partition shall inter lock with one another and shall be welded to the walls of the tank as well as to each other as per CAN/ULC-S515-04. All joints and seams shall be nitrogen welded and shall undergo a high frequency voltage testing during fabrication of the tank.	<input type="checkbox"/>	<input type="checkbox"/>	
10.1.7.	All tank fill coupling shall be equipped with a flow deflector to break up the stream of water entering the tank capable of withstanding sustained fill rate up to 3750 L.P.M.	<input type="checkbox"/>	<input type="checkbox"/>	
10.2.	<u>FILL TOWER</u>	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
10.2.1.	The tank shall be equipped with a manual fill tower combined with vent and ¼" polypropylene removable screen.			
10.2.2.	The fill tower shall be constructed of ½" copolymer polypropylene with minimum dimension of 10" x 14" and shall have a hinged type cover. Inside the fill tower approximately half way from the top shall be fastened a vent overflow pipe.	<input type="checkbox"/>	<input type="checkbox"/>	
10.2.3.	The vent overflow pipe shall be a minimum 6" polypropylene designed to run through the water tank and discharge behind the rear axle.	<input type="checkbox"/>	<input type="checkbox"/>	
10.2.4.	The fill tower shall be located in the front left corner of the tank.	<input type="checkbox"/>	<input type="checkbox"/>	
10.3.	TANK COVER	<input type="checkbox"/>	<input type="checkbox"/>	
10.3.1.	Standard tank cover shall be fabricated of ½" copolymer polypropylene in three pieces recessed 3/8" from the top of the tank.			
10.3.2.	All covers shall be welded to both the outer walls and longitudinal partitions for maximum integrity. Copolymer polypropylene solid stock shall be installed through each cover and shall serve as both anchorage location for lifting eyes and reinforcing the rigidity of the cover under fast filling conditions. The floor of the hose body compartments shall have 200lb/ft ² capacity.	<input type="checkbox"/>	<input type="checkbox"/>	
10.4.	SUMP BOX	<input type="checkbox"/>	<input type="checkbox"/>	
10.4.1.	The tank shall have one (1) sump and shall be constructed of ½" copolymer polypropylene and be located in the left front quarter of the tank. A anti swirl plate shall be installed on all tanks approximately 2" above the sump box.			
10.4.2.	The sump box shall have a 3" N.P.T. threaded outlet on the bottom and shall be used as a combination clean-out and drain.	<input type="checkbox"/>	<input type="checkbox"/>	
10.5.	MOUNTING	<input type="checkbox"/>	<input type="checkbox"/>	
10.5.1.	The tank shall rest on the body cross members and may require additional support so as not to allow for more than 520 square inches of unsupported area of the tank floor, and in cases where the tank height exceed 38" the unsupported area of the tank floor shall be reduced to not more than 390 square inches. The tank must be completely isolated from the supporting cross members with the use of rubber strips with minimum			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	thickness and width dimension of ¼" x 2" and a minimum Rockwell Hardness of 60 durometer.			
10.6.	<u>TANK ATTACHMENT</u>	<input type="checkbox"/>	<input type="checkbox"/>	
10.6.1.	The tank shall be attached by a flexible system to allow frame torsion.			
10.7.	<u>TANK DRAIN</u>	<input type="checkbox"/>	<input type="checkbox"/>	
10.7.1.	A 3" opening shall be installed on the sump for tank clean-up			
10.8.	<u>REAR DUMP VALVE</u>	<input type="checkbox"/>	<input type="checkbox"/>	
10.8.1.	One (1) Newton KD valve air actuated, 10" x 10", #1085-A 34 Stainless steel shall be mounted at rear of the vehicle. The control shall be located directly on the side of the valve. A 4036-34 Newton extension shall be supplied and installed in a compartment determined by the customer.			
10.9.	<u>REAR TANK FILL 4" STORZ 30°</u>	<input type="checkbox"/>	<input type="checkbox"/>	
10.9.1.	There shall be a 4" Storz direct fill at the rear of the tank located in the (B1) compartment. An electric valve 3" full flow Elkhart EB30 with UBEC1 panel control shall be provided. There will be a 4" Storz to 2-1/2" female reducer included for the rear direct tank fill			
10.10.	<u>PST TANK WATER LEVEL</u>	<input type="checkbox"/>	<input type="checkbox"/>	
10.10.1.	Three (3) Whelen PST tank water level with Class 1 driver module shall be located, one (1) each side ahead the (L1) and (R1) compartment and one (1) at the rear of the vehicle on the right side.			
SECTION -11-				
<u>PAINT</u>				
11.	<u>DESCRIPTION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
11.1.	Automotive high quality paint shall be used.			
11.1.1.	The vehicle shall be paint one tone as per the customer standard colour.	<input type="checkbox"/>	<input type="checkbox"/>	
11.1.2.	All the accessories shall be installed, adjusted and removed before the paint is applied. All components shall be painted separately to ensure complete paint application for corrosion protection.	<input type="checkbox"/>	<input type="checkbox"/>	
11.1.3.	The body shall be grinded, sanded, cleaned before the first protection coat.	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
11.1.4.	The inside of the compartment and the door shall be coated with a high scratch resistant Zolatone product. This product shall have a four step application; sanding and cleaning, base coat, monochrome coat and the camouflage coat to hide potential scratches.	<input type="checkbox"/>	<input type="checkbox"/>	
11.1.5.	The pump compartment shall be covered with a transparent protective coating.	<input type="checkbox"/>	<input type="checkbox"/>	
11.1.6.	One pint of touch up paint shall be provided.	<input type="checkbox"/>	<input type="checkbox"/>	
11.2.	<u>STRIPES AND LETTERING</u>	<input type="checkbox"/>	<input type="checkbox"/>	
11.2.1.	Lettering consisting of up to 80 letters of a size up to 3" tall-3 colour shall be applied according to Fire Department requirements. The lettering shall be vinyl in the colour specified by the Fire Department and shall consist of one colour letter with two colours of shadow.			
11.2.2.	A four inch high white Scotchlite stripe will be provided. The stripe will 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.	<input type="checkbox"/>	<input type="checkbox"/>	
11.2.3.	The rear body back wall shall be constructed of material to facilitate the application of chevron striping. Chevron striping to be applied, color scheme to be discussed at pre construction.	<input type="checkbox"/>	<input type="checkbox"/>	
SECTION -12-				
ELECTRICAL SYSTEM				
12.	<u>GENERAL</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.1.	All electrical equipment shall be conformed to modern automotive practice. C.M.V.S.S. (Canada Motor Vehicle Safety Standards) and CAN/ULC-S515-13.			
12.1.2.	Warning devices signalling the call for the right-of-way or stopping shall be conformed to CAN/ULC-S515-13.	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.3.	The gauge of the stranded copper or copper alloy wire conductor shall be rated to carry 125% of the maximum current for which the circuit is protected.	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.4.	All wiring from power source to using device shall not have a voltage drop exceeding 10%.	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.5.	All electrical components shall be water resistant and shall be designed to operate in heavy moisture conditions.	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
		<input type="checkbox"/>	<input type="checkbox"/>	
12.1.6.	All 12 Volts electrical wire shall be GXL automotive type.	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.7.	All wiring connections shall be made with DEUTSH type connectors. A dielectrically grease shall be applied on each connector to protect from moisture and corrosion.	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.8.	A thermo retractable sleeve shall be used on each wire to wire connection.	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.9.	All wiring shall be thoroughly secured, suitably supported and protected with loom against heat, oil and physical injury.	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.10.	A rubber grommet shall be used to protect any electrical wire passing through the body wall.	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.11.	All wires shall be colour, number and function coded. All wires shall be colour and number coded. Also the function of each wire shall be printed every 6". A sample shall be supplied with the tender.	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.11.	A cut-off switch shall be installed in the cab. The cut-off shall be connected directly on the batteries. Green "battery on" pilot light visible from driver's position required.	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.12.	Warning devices signalling the call for the right-of-way or stopping shall be conformed to CAN/ULC-S515-13.	<input type="checkbox"/>	<input type="checkbox"/>	
12.2.	<u>V-MUX MULTIPLEX SYSTEM</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.2.1.	The electrical system shall be Weldon V-Mux multiplex. No equivalent.			
12.2.2.	The multiplex electrical system shall be installed on the vehicle as per the recommendation of the Weldon Company.	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.13.	The bidder shall supply a customer's list (50 vehicles minimum) using this multiplex system.	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.14.	The multiplex electrical system shall include four (4) « input/output » nodes minimum. There shall be located in order to minimize the length of the electrical harness.	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.15.	The system shall include a diagnostic software connection at proximity of the driver.			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
12.3.	<u>WELDON VISTA IV DISPLAYS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.3.1.	The multiplex electrical system shall include two (2) Weldon Vista IV Touchscreen displays which shall be located one (1) on the left side dash in the switch panel and one (1) on the right side of the dash in the switch panel. The Touchscreen displays shall feature full color LCD display screens. The display shall include a message bar displaying the time of day, and important messages requiring acknowledgement by the user. There shall be virtual controls for the on-board diagnostics. The display screens shall be video ready for back- up cameras, thermal cameras, and DVD. A DIN type input connector ready for GPS interfacing shall be incorporated into the back of the display. The Touchscreen displays shall measure approximately 6.25 inches wide x 3.38 inches in height. The displays shall offer varying fonts and background colors. The display shall be fully programmable to the needs of the customer and shall offer virtually infinite flexibility for screen configuration options.			
12.4.	<u>SIREN CONTROL HEAD AND SPEAKER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.4.1.	A Whelen 295HFS2 electronic siren control head with remote amplifier shall be provided and flush mounted in the switch panel with a location specific to the customer's needs. The siren shall feature 200-watt output, hands free mode and shall be in "standby" mode awaiting instruction. The siren shall offer radio broadcast, public address, wail, yelp, or piercer tones and hands free operation which shall allow the operator to turn the siren on and off from the horn ring if a horn/siren selector switch option is also selected.			
12.4.2.	There shall be one (1) Federal Signal Inc. Dynamax® model ES100C, 100 watt speaker provided. The speaker shall measure 5.90 inches tall X 5.50 inches wide X 2.30 inches deep. The speaker shall include a Federal Signal "Electric F" style grille which shall measure 6.61 inches tall X 6.78 inches wide. The electronic siren speaker shall be located on the front bumper face in the center position between the frame rails.			
12.5.	<u>MECHANICAL SIREN</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.5.1.	The front bumper shall include an electro mechanical Federal Q2B™ siren, which shall be streamlined, chrome-plated and shall produce 123 decibels of sound at 10.00 feet. The siren shall be mounted to the top of the bumper on the left side.			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
12.6.	<u>DO NOT MOVE APPARATUS WARNING</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.6.1.	The front headliner of the cab shall include a flashing red TecNiq K50 LED light clearly labeled "Do Not Move Apparatus". In addition to the flashing red light, an audible alarm shall be included which shall sound while the light is activated.			
12.6.2.	The flashing red light shall be located centered left to right for greatest visibility.			
12.6.3.	The light and alarm shall be interlocked for activation when either a cab door is not firmly closed or an apparatus compartment door is not closed, and the parking brake is released.			
12.7.	<u>BACKUP ALARM</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.7.1.	An ECCO model 575 backup alarm shall be installed at the rear of the chassis with an output level of not less than 107 dB. The alarm will automatically activate when the transmission is placed in reverse.			
12.8.	<u>INTERIOR CAB LIGHTING</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.8.1.	The cab shall include a Weldon LED dome lamp located over each door. The lights shall include push switches on each lamp to activate both the clear and red portions of the light individually. The clear portion of each lamp shall be activated by opening the respective door and via the multiplexdisplay.			
12.9.	<u>HAND HELD SPOTLIGHT</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.9.1.	The cab shall include one (1) 12 volt Whelen PAR-46 hand-held magnet mount spotlight. The spotlight shall include a light head integrated on/off switch and provide 1800 lumens of illumination dispersed at 2.00 degrees. The spotlight shall be shipped loose with the chassis.			
12.10.	<u>LIGHTBAR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.10.1.	One (1) Federal Signal model VSLR8S-NFPA2, SLR series lightbar shall be mounted on the chassis cab roof.			
12.11.	<u>INBOARD FRONT WARNING LIGHTS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.11.1.	The cab front fascia shall include two (2) Federal Signal Quadra Flare LED red front warning lights in the left and right inboard positions. The lights shall feature advanced Solaris technology and include a built in flasher capable of multiple flash patterns. The lights			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	shall be mounted to the front fascia of the cab within a chrome bezel.			
12.12.	<u>INTERSECTION WARNING LIGHTS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.12.1.	Six (6) Federal Signal Quadra Flare 6x4 LED red warning lights within a chrome bezel shall be mounted one (1) on each rear position on the side of the bumper and one (1) on each side over the rear wheel well and one (1) over the front wheel well directly over the center of the front axle.			
12.13.	<u>REAR WARNING LIGHTS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.13.1.	Two (2) Federal Signal Quadra Flare LED red warning lights within a chrome bezel shall be mounted at rear of the vehicle.			
12.14.	<u>PARKING (DITCH) LIGHTS IN REAR FENDERS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.14.1.	This unit shall be equipped with two angled lights ZICO ZQL-SS mounted in the rear fender wells.			
12.15.	<u>ROTATING BEACONS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.15.1.	One (1) Federal Signal VSLR1-IPX-RA rotating beacons shall be mounted, one each side, at rear on top of the vehicle.			
12.16.	<u>TRAFFIC ADVISOR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.16.1.	One (1) Whelen model TAD8 Super LED traffic advisor shall be installed at rear of the vehicle.			
12.17.	<u>HEADLIGHTS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.17.1.	The cab front shall include four (4) rectangular LED headlamps with separate high and low beams mounted in bright chrome bezels. Each lamp shall include a heating system that de-ices the headlight.			
12.18.	<u>HEADLIGHT FLASHER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.18.1.	An alternating high beam headlamp flashing system shall be installed into the high beam headlamp circuit which shall allow the high beams to flash alternately from left to right. Deliberate operator selection of high beams will override the flashing function until low beams are again selected. Per NFPA, these clear flashing lights will also be disabled "On Scene" when the park brake is applied. The flashing headlights shall be activated through a virtual button on the MUX display.			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
12.19.	<u>FRONT TURN SIGNALS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.19.1.	The front fascia shall include two (2) Federal Signal Quadra Flare 4.00 inch X 6.00 inch programmable amber LED light heads which shall be installed in an outboard position within the front fascia chrome bezel.			
12.20.	<u>SIDE MARKER/TURN SIGNALS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.20.1.	The sides of the cab shall include (2) Tecniq S170 LED round side marker lights which shall be provided just behind the front cab radius corners. The lights shall be amber with chrome bezels.			
12.21.	<u>CLEARANCE AND IDENTIFICATION LIGHTS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.21.1.	<p>The roads lights shall be conform to the C.M.V.S.S. regulations.</p> <p>On front: (Supplied with the chassis):</p> <ul style="list-style-type: none"> ▪ Three (3) identification lights DEL type; ▪ Two (2) clearance lights DEL type; ▪ Two (2) round LED clearance/ direction lights in front corner of cab. <p>On side:</p> <ul style="list-style-type: none"> ▪ Two (2) red clearance light Grote 47092 LED; ▪ Two (2) red reflectors; ▪ Two (2) amber clearance light Grote 47093 LED; ▪ Two (2) amber reflectors. <p>On rear:</p> <ul style="list-style-type: none"> ▪ Three (3) red identification lights Grote 47092 LED; ▪ Two (2) red clearance light Grote 47092 LED; ▪ Two (2) red reflectors; ▪ One (1) LED light for licence plate. 			
12.22.	<u>REAR ROAD LIGHTS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.22.1.	<p>The roads lights shall be conform to the CMVSS regulations. All the lights shall be installed in a Whelen M6FCV3 Flange, Chrome, Three Light, Vertical, Lightheads;</p> <ul style="list-style-type: none"> ▪ Two (2) Whelen M6BTT M6 Series Super-LED Lightheads M6 BTT 12V Brake/Tail/Turn Red; ▪ Two (2) Whelen M6T M6 Series Super-LED Lightheads M6 Arrow Amber; ▪ Two (2) Whelen M6BUW M6 Series Super-LED Lightheads M6 Back-Up 12V. 			
12.23.	<u>DECK LIGHTS</u>	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
12.23.1.	Three (3) deck lights Unity AG-A-P46WLC Led shall be located, one each side, at the rear on top of the vehicle and one located on the front of the hosebed. One (1) switch shall be incorporated in the Vista IV and (1) switch shall be located at the left rear of the vehicle. The two rear deck lights shall be activated when the vehicle is move back.			
12.24.	FRONT SCENE LIGHTS	<input type="checkbox"/>	<input type="checkbox"/>	
12.24.1.	The front of the cab shall include one (1) (1) Fire Research Focus Evolution model FCA800-V20 contour roof mount scene light installed on the brow of the cab.			
12.24.2.	The lamp head shall have eight (8) ultra-bright white LEDs. The lamp head shall draw 13 amps and generate 20,000 lumens. The lamp head shall direct 50 percent of the light onto the action area while providing 50 percent to illuminate the working area. The angle of elevation of the lamp head shall be adjustable at a pivot in the mounting arm and the position locked with a round knurled locking knob. The lamp head shall incorporate heat-dissipating fins and be no more than 4.00 inches high by 11.50 inches wide. The lamp head shall be powder coated white..			
12.24.3.	There shall be one (1) scene light mounted center on the front brow of the cab.			
12.24.4.	The front scene lighting shall be activated by a virtual button on the Vista display and control screen.			
12.25.	SCENE LIGHTING	<input type="checkbox"/>	<input type="checkbox"/>	
12.25.1.	The side of the cab shall include two (2) Fire Research Spectra model scene lights, one (1) each side, which shall be surface mounted.			
12.25.2.	Each lamp head shall have sixty (60) ultra-bright white LEDs, 56 for flood lighting and 4 to provide a spot light beam pattern. Each lamphead shall draw 13/6.5 amps, and generate 15,000 lumens of light. The lamphead shall have a unique lens that directs flood lighting onto the work area and focuses the spot light beam into the distance. Each lamp head shall be no more than 5 7/8" high by 14 1/2" wide and have a profile of less than 1 7/8" beyond the mounting surface and shall be powder coated white.			
12.25.3.	The scene lighting located on the left and right sides of the cab shall be mounted rearward of the cab "B" pillar in the 10.00 inch raised roof portion of the cab between the front and rear crew doors.			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
12.25.4.	The scene lights shall be activated by two (2) virtual buttons on the Vista display and control screen(s),one (1) for each light.			
12.26.	<u>SCENE LIGHTS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.26.1.	Six (6) scene lights FRC SPA900-Q70 shall be installed, two (2) on each side upper body corners and two (2) at the rear of the vehicle. The lights shall be activated by a switch incorporated in the Vista IV and three (3) independent switches located at the rear of the vehicle to control left, right and rear scene lights. The two rear scene lights shall be activated when the vehicle is reversing.			
12.27.	<u>ENGINE COMPARTMENT LIGHT</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.27.1.	There shall be two (2) LED NFPA compliant lights mounted under the engine tunnel for area work lighting on the engine. The lights shall include a polycarbonate lens, a housing which is vibration welded and a bulb which shall be shock mounted for extended life. The lights shall activate automatically when the cab is tilted.			
12.28.	<u>PUMP COMPARTMENT LIGHT</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.28.1.	Two (2) LED lights shall be located on each side inside the pump compartment. The switch shall be on the pump operator.			
12.29.	<u>PUMP PANEL LIGHTS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.29.1.	A full Lumabar LED light shall be installed on each side of the control pump panel.			
12.30.	<u>GROUND LIGHTS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.30.1.	A 12" LED strip ground light shall be supplied at the following location: <ul style="list-style-type: none"> ▪ One (1) each side mounted under the running boards of the pump panels; ▪ Two (2) under the step at the rear of the vehicle. <p>The lights shall be activated automatically when the parking brake is applied and the chassis clearance lights are on.</p>			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
12.30.2.	Each door shall include Amdor H2O LED model AY-9500-012 ground lighting mounted to the underside of the cab step below each door. The lights shall be 12.00 inches in length. The ground lighting shall be activated when the parking brake is set, by the opening of the door on the respective cab side, and through a virtual button on the Vista display and control screen.	<input type="checkbox"/>	<input type="checkbox"/>	
12.31.	<u>UNDER BUMPER LIGHTS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.31.1.	There shall be two (2) 4.00 inch round LED NFPA compliant ground lights mounted under the bumper. The lights shall include a polycarbonate lens, a housing which is vibration welded, and LEDs which shall be shock mounted for extended life. The under bumper ground lighting shall be interlocked with the park brake and the marker light activation.			
12.32.	<u>STEP LIGHTS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.32.1.	The middle step located at each door shall include a Tecniq T44 LED light which shall activate with the opening of the respective door. The lights shall include a polycarbonate lens, a housing which is vibration welded and LEDs which shall be shock mounted for extended life.			
12.32.2.	The intermediate step well area at each door shall include a TecNiq D06 LED light within a chrome housing. The egress step lights shall provide visibility to the step well area for the first step exiting the vehicle. The egress step lights shall activate with entry step lighting.			
12.1.	<u>BATTERY CONDITIONER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.1.1.	A Kussmaul Auto Charge 40 LPC battery conditioner shall be supplied. The battery conditioner shall provide a 40 amp output for the chassis batteries and a 15 amp output circuit for accessory loads. The battery conditioner shall be mounted in the cab in the LH rear facing outer seating position.			
12.33.	<u>BATTERY CONDITIONER DISPLAY</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.33.1.	A Kussmaul battery conditioner display shall be supplied. The battery conditioner display shall be mounted in the cab, viewable through the cab mid side window behind the left front door.			
12.34.	<u>AUXILIARY AIR COMPRESSOR</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.34.1.	A Kussmaul Pump 12V air compressor shall be supplied. The air compressor shall be installed behind the driver's			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	seat. The air compressor shall be plumbed to the air brake system to maintain air pressure.			
12.35.	<u>ELECTRICAL INLET CONNECTION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.35.1.	A Kussmaul 20 amp super auto-eject electrical receptacle shall be installed on the left hand side of cab over the wheel well. It shall automatically eject the plug when the starter button is depressed.			
12.35.2.	A single item or an addition of multiple items must not exceed the rating of the electric inlet that it's connected to. The electrical inlet shall be connected to the battery conditioner. The electrical inlet connection shall include a yellow cover.			
12.36.	<u>TELESCOPIC LIGHTS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.36.1.	One (1) 150 watts, 12 volts LED FRC model FCA512-V20 and one (1) FCA530-V20 telescopic lights shall be installed on each side of operator panel including a box junction. These lights shall have her individual waterproof switch.			
12.37.	<u>INSTALL CUSTOMER SUPPLIED CHARGERS INSIDE CAB</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.37.1.	The manufacturer will install customer supplied chargers 110 Volts (charger supplied by the department) inside the chassis per fire department instructions.			
12.37.2.	The manufacturer will install customer supplied charger for ISG thermal imaging camera 12 Volts (charger supplied by the department) inside the chassis per fire department instructions.	<input type="checkbox"/>	<input type="checkbox"/>	
12.38.	<u>AM/FM RADIO</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.38.1.	The manufacturer will install an AM/FM radio. It shall be located in the cab in the dash panel.			
12.39.	<u>CAMERA</u>	<input type="checkbox"/>	<input type="checkbox"/>	
12.39.1.	One (1) Audiovox Voyager heavy duty box shaped HD camera shall be shipped loose for OEM installation in the body to afford the driver a clear view to the rear of the vehicle.			
2.212.2.	The camera system shall include a one-way communication device that shall be an integral part of the rear camera for the use of voice commands directly to the driver. The rear camera display shall activate when the vehicle's transmission is placed in reverse.			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
2.212.3.	The camera system shall be wired to two (2) Weldon Vista display located on the driver's and officer's side dash. The camera system display can be activated through the Vista display panels.			
2.212.4.	The rear camera shall be wired to speaker(s) in the cab and shall audible to the driver and officer. There shall be a virtual button provided on the Vista display and control panel to deactivate the speaker(s).			
SECTION -13-				
FINISHING				
13.2.	<u>PLASTIC FLOORING</u>	<input type="checkbox"/>	<input type="checkbox"/>	
13.2.1.	¾" thickness plastic flooring shall be installed on the bottom of each compartment, shelf, and sliding tray.			
13.2.2.	¾" thickness plastic flooring shall be installed on the transverse hose beds floors.	<input type="checkbox"/>	<input type="checkbox"/>	
13.2.3.	An aluminum channels flooring shall be installed on the main hose bed floor. It shall be properly spaced for ventilation. The flooring will be smooth and free from sharp edges to avoid hose damage. Floor will be removable for access to booster tank.	<input type="checkbox"/>	<input type="checkbox"/>	
13.3.	<u>VINYL TARPAULIN</u>	<input type="checkbox"/>	<input type="checkbox"/>	
13.3.1.	A vinyl tarpaulin shall be installed over the main hose bed. The attachments of the tarpaulin shall be with Velcro. The main hose bed tarpaulin shall have a vertical section closing the rear hose bed opening. The velcro on the body shall be attached to a series of aluminum plate of 12" to be able to squeeze the velcro between the body and the plate for a better holding of the velcro.			
13.4.	<u>TRANSVERSAL ALUMINUM COVER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
13.4.1.	A hinged aluminum cross lay hose bed cover will be provided over the cross lays. Small tarps with Velcro straps to enclose each end are provided.			
13.4.2.	The main hose bed shall have a vertical section closing the rear hose bed opening.	<input type="checkbox"/>	<input type="checkbox"/>	
13.4.3.	The compartment doors shall be installed, adjusted and well sealed to prevent entry of water and dust.	<input type="checkbox"/>	<input type="checkbox"/>	
13.4.4.	An isolation product shall be installed wherever two different material are in contact. A nylon washer shall be used with stainless steel screw.	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
13.4.5.	The complete undercarriage, wheel well, liner and from the inside bottom of the body up to the top of the tank shall be treated with a rubber guard coating.	<input type="checkbox"/>	<input type="checkbox"/>	
13.5.	<u>FOLDING STEPS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
13.5.1.	Folding steps Trident 24.05.3 with LED light incorporated shall be installed at rear of the vehicle in order to facilitate the access to the main hose bed. The quantity shall be defined with the height of the main hose bed. The maximum height between each step is 18".			
13.6.	Folding steps Trident 24.05.3 with LED light incorporated shall be installed on the front face of the compartment, on each side of the vehicle in order to facilitate the access to the transverse hose bed. The quantity shall be defined with the height of the pre-connect hose bed. The maximum height between each step is 18".	<input type="checkbox"/>	<input type="checkbox"/>	
13.	<u>RETRACTABLE STEPS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
13.6.1.	Two (2) retractable steps Slide Master #SM3-MP-24-47 shall be mounted under each side of the pump compartment for the access to pre-connects.			
13.7.	<u>REAR LADDER</u>	<input type="checkbox"/>	<input type="checkbox"/>	
13.7.1.	A deep platform incorporated in the main hose bed over (B1) compartment must be planned to reach over the tank.			
13.1.	<u>REAR TOW HOOKS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
13.7.2.	Two (2) rear chromed tow hooks shall be provided at rear of the vehicle.			
13.8.	<u>HANDRAILS</u>	<input type="checkbox"/>	<input type="checkbox"/>	
13.8.1.	Three (3) aluminum handrails with chrome supports shall be installed at the rear of the unit. There shall be two (2) vertical handrails and one (1) horizontal handrail located on each side and below the main hose bed.			
13.8.2.	Aluminum handrails with chrome supports shall be installed on each side and on top of the pump compartment in order to facilitate the access to the transversal hose bed.	<input type="checkbox"/>	<input type="checkbox"/>	
13.2.	<u>MUDGUARD</u>	<input type="checkbox"/>	<input type="checkbox"/>	
13.3.	A mudguard shall be located at rear of the front end rear wheels.			

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
13.9.	<u>CORROSION PROTECTION</u>	<input type="checkbox"/>	<input type="checkbox"/>	
13.9.1.	The accessories shall be installed on the vehicle with a special precaution against corrosion. All the electrical and hardware accessories should be temporarily positioned and the hole drilled before the painting process to assure corrosion protection around the edges of all the holes.			
13.9.2.	An anti-electrolysis product shall be applied between each hardware and electrical components and the body before final assembly.	<input type="checkbox"/>	<input type="checkbox"/>	
13.9.3.	A nylon washer shall be used between the stainless steel screw and the aluminum body.	<input type="checkbox"/>	<input type="checkbox"/>	
13.9.4.	After the paint process, before the body is installed on the vehicle and before any components installations, a black rubber guard coating shall be applied. It should cover all the weather exposed part of the body like the underside of the compartments, the wheel well, the sub frame up to the height of the water tank. Only the section of the main hose bed shall not be covered.	<input type="checkbox"/>	<input type="checkbox"/>	
SECTION -14-				
TESTS AND APPROVALS				
14.	The vehicle shall be constructed following ULC/CAN-S515-13 latest edition.	<input type="checkbox"/>	<input type="checkbox"/>	
14.1.	The U.L.C. label shall be installed on the pump panel after approval.	<input type="checkbox"/>	<input type="checkbox"/>	
	<ul style="list-style-type: none"> ▪ A 10% bid bond and a letter of intent stating that a performance bond equal to 50% of the value of the contract shall be issued if the contract is awarded to the bidder; ▪ Proof of public liability and product liability insurance for a total amount of \$10,000,000; ▪ A company resolution authorizing a duly authorized representative to sign the bid; ▪ A Underwriters' Laboratories of Canada (U.L.C.) certificate; ▪ A Canada Motor Vehicle Safety Standards (C.M.V.S.S.) certificate; ▪ A copy of ISO Certification 9001:2015; 	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	<ul style="list-style-type: none"> ▪ A Canadian Welding Bureau certificate for aluminum certifying that the bidder complies with the CSA W47.2; ▪ A Canadian Welding Bureau certificate for steel certifying that the bidder complies with the CSA W47.1; ▪ A general drawing (left side, right side and back) signed by a professional engineer having at least five years of experience in the manufacturing of fire trucks; ▪ An example of a 3D drawing showing the hardness routing of the body that will be provided at the delivery of the vehicle; ▪ An example of a nomenclature of the electrical wiring with colours codes, functions and numbers; ▪ A V-Mux Multiplex training certificate shall be supplied by the Weldon Company. Also the bidder shall supply a customer's list (50 customers minimum) using this multiplex system; ▪ The manufacturer shall be a member of the Fire Apparatus Manufacturer Association (FAMA) and should provide a copy of the certificate. 			
14.2.	<p>The following manuals (or CD if available) shall be supplied when the truck will be delivered:</p> <ul style="list-style-type: none"> ▪ Two (2) chassis operator's manuals. ▪ Two (2) engine operator's manuals. ▪ Two (2) transmission operator's manuals. 	<input type="checkbox"/>	<input type="checkbox"/>	
14.3.	<p>The following information shall be supplied on USB when the truck will be delivered:</p> <ul style="list-style-type: none"> ▪ Two (2) pump operation manuals; ▪ Two (2) pump maintenance and parts manuals; ▪ Two (2) electrical as built wiring diagrams; ▪ Two (2) manuals of the Fire Pack components. 	<input type="checkbox"/>	<input type="checkbox"/>	
SECTION -15-				
EQUIPMENTS				
12.	<p>The following basic equipment shall be supplied and installed on the vehicle:</p> <ul style="list-style-type: none"> ▪ One (1) 24', 2-sections ladder Alco-Lite PEL 24; ▪ One (1) 14' roof ladder Alco-Lite PRL 14; 	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
	<ul style="list-style-type: none"> ▪ One (1) 10' folding ladder Alco-Lite FL 10; ▪ One (1) 6' pike pole, Akron UL6; ▪ One (1) 8' pike pole, Akron UL8; ▪ One (1) 6 lb flathead axe, FLY-6 ▪ One (1) BS60 6" N.H. Pyrolite strainer; ▪ One (1) LL607 6" Storz Low Level Strainer ▪ Two (2) 6" Storz.x 10' lightweight PVC suction hose Kocheck 2P601; ▪ Two (2) Zico folding wheel chocks SAC-44-E; ▪ Five (5) helmet holder brackets; ▪ One (1) Honda EB2200 generator ▪ One (1) exhaust tip compatible with Station Plymovent system 			
12.1.	<p><u>Additional equipment requested by CAN/ULC-S515-13:</u></p> <p><u>Note: The price does not include the equipment listed in the new CAN/ULC-S515-13.</u></p>	<input type="checkbox"/>	<input type="checkbox"/>	
SECTION -16-				
PERMANENT NAME AND INFORMATION PLATE				
13.	A plate shall show the height of the completed fire fighting apparatus in metres, the length of the completed fire fighting apparatus in metres, and GVWR in kilograms.	<input type="checkbox"/>	<input type="checkbox"/>	
13.1.	<p>A plate, which is permanently affixed in the driving compartment shall provide the quantity and type of the following fluids used in the vehicle;</p> <ul style="list-style-type: none"> ▪ Engine oil; ▪ Engine coolant; ▪ Chassis transmission fluid ▪ Pump transmission lubrication fluid ▪ Pump primer fluid ▪ Drive axle(s) lubrication fluid ▪ Air conditioning refrigerant ▪ Air conditioning lubrication oil ▪ Power steering fluid ▪ Cab tilt mechanism fluid ▪ Transfer case fluid ▪ Equipment rack fluid ▪ Air compressor system lubricant ▪ Generator system lubricant ▪ Front tire cold pressure ▪ Rear tire cold pressure 	<input type="checkbox"/>	<input type="checkbox"/>	
13.2.	A label shall be mounted on the tank fill opening indicating the type of fuel to be used.	<input type="checkbox"/>	<input type="checkbox"/>	

ITEMS	DESCRIPTIONS	CONFORMITY		SPECIFICATIONS
		Yes	No	
13.3.	Hazard light sign required that reads: «DO NOT MOVE APPARATUS WHEN LIGHT IS ON. »	<input type="checkbox"/>	<input type="checkbox"/>	
13.4.	A warning label shall be located on the vehicle at the rear step areas and at any cross walkways to prohibit riding in or on these areas while the vehicle is in motion.	<input type="checkbox"/>	<input type="checkbox"/>	