



INVITATION TO BID

WATER TENDER

GENERAL INFORMATION	SUBMISSION OF BIDS
Title: Bid for North Mason Regional Fire Authority Water Tender Date Issued: November 16, 2020 Bids Due: December 3, 2020 Bid Coordinator: Assistant Fire Chief Scott Cooper Email Address: SCooper@northmasonrfa.com	Mail or Deliver To: North Mason Regional Fire Authority Attn: Assistant Fire Chief Scott Cooper Po Box 277 460 NE Old Belfair Hwy Belfair WA 98528

Sealed bids will be accepted for furnishing North Mason Regional Fire Authority with one (1) 3,000-gallon water tender, in accordance with the plans and specifications outlined by the Fire Authority.

Bids will be received at North Mason Regional Fire Authority Headquarters until 5:00 p.m. on Thursday, December 3, 2020. Bids will be opened and read aloud at 1:00 p.m. on Friday, December 4, 2020, at the Fire Authority's Headquarters.

The outside of the sealed envelope must be properly marked with:

"Bid for North Mason Regional Fire Authority Water Tender"

Bids to be on the basis of cash. Final payment will be issued upon final delivery and acceptance by the Fire Authority, in accordance with the specifications for this equipment. No bid may be withdrawn for a period of sixty (60) days after the bid closing date.

The Fire Authority reserves the right to reject any and all bids and to accept the bid it feels is in the best interest of the Fire Authority.

Special Note: Only Bidders and apparatus manufacturers conducting business inside North America shall be considered. The definition of a North American Bidder and manufacturer is: "The Company, who resides, pays taxes, manufacturers inside North America". There will be no exceptions to this requirement.

Any questions concerning the bid specifications shall be in writing and any exceptions must be approved by the Authority.



INSTRUCTIONS TO BIDDERS - WATER TENDER BID

Identification of Authority. North Mason Regional Fire Authority is the entity issuing this Invitation for Bids. The Fire Authority is a municipal corporation and a political subdivision of the state of Washington. It is the intent of these specifications to cover the furnishing of a complete apparatus equipped as specified for use as a mobile water supply fire apparatus.

The Authority's physical address is: 460 NE Old Belfair Hwy
Belfair, WA 98528

The Authority's mailing address is: PO Box 277
Belfair, WA 98528

For further information, contact Assistant Fire Chief Scott Cooper at scooper@northmasonrfa.com or call the Fire Authority at 360-275-6711 between the hours of 9:00 a.m. and 5:00 p.m. on all regular business days.

The Fire Authority representative for all matters relating to this invitation for bids is: Assistant Fire Chief Scott Cooper.

1. **Definitions.** The following terms shall have the meaning identified below when used in this document:
 - 1.1. **Bidder.** Any person or entity that submits a qualified bid in response to the Invitation for Bids by the Fire Authority.
 - 1.2. **Qualified Bid.** Any bid submitted to the Fire Authority in response to the Invitation for Bids issued by the Fire Authority that complies with the bid requirements.
 - 1.3. **Authority.** North Mason Regional Fire Authority.
 - 1.4. **Supplier.** The Bidder who is awarded the contract to supply the material and construction labor described in the bid specifications issued by the Fire Authority, whether referred to as Successful Bidder, General Contractor, Vendor or Manufacturer in subsequent documents.

- 1.5. **Acceptance.** The time at which the Fire Authority indicates the equipment, as received, substantially complies with the specifications issued by the Fire Authority.
 - 1.6. **Apparatus.** One 3,000-gallon water tender as more particularly described in the Apparatus Specifications (Exhibit B).
2. **Invitation for Bids.** North Mason Regional Fire Authority will accept bid proposals for the apparatus as follows:
 - 2.1. **Time.** Bid proposals must be received by the Fire Authority on or before 5:00 p.m. on Thursday, December 3, 2020.
 - 2.2. **Place.** Bid proposals may be mailed to the Fire Authority's mailing address or hand delivered to the Fire Authority's Headquarters.
 - 2.3. **Bid Opening.** Bids will be opened and read aloud at 1:00 p.m. on Friday, December 4, 2020, at the Fire Authority's Headquarters.
 - 2.4. **Board Action.** The Board of Commissioners will review the submitted bid proposals at an open public meeting at 5:00 p.m. on Tuesday, December 15, 2020, and may take formal action at that time or at a subsequent meeting.
3. **Acceptance/Rejection of Bids.** The Fire Authority reserves the right to reject any or all bids, to waive minor irregularities in any bids or in the bidding procedure, and to accept any bid presented which meets or exceeds the bid specifications and which the Board of Commissioners of the Fire Authority deems to be in the best interest of the Fire Authority. The Board of Commissioners reserves the right to accept the bid from the lowest Bidder, taking into consideration the interests of the Fire Authority and participating agencies as a whole. This may or may not be the bid with the lowest bid price.
4. **Instruction to Bidders and Specifications.** The invitation and instructions to Bidders and bid specifications may be obtained by contacting the Fire Authority between the hours of 9:00 a.m. and 5:00 p.m. on all regular business days or online at www.northmasonrfa.com. Any questions regarding bid specifications should be directed to Assistant Fire Chief Scott Cooper a minimum of five (5) business days prior to the bid due date. Clarifications, corrections and/or changes shall be sent in writing via email to all prospective Bidders.

5. **Bid Marking.** All bids must be submitted in a sealed envelope, clearly marked on the outside of the envelope, "Bid for North Mason Regional Fire Authority Water Tender".
6. **Bid Submission.** A Bidder may, without prejudice to the Bidder, withdraw, modify or correct a proposal after it has been deposited with the Fire Authority, provided the request is filed with the Fire Authority in writing, before the time set for opening bid proposals. The original proposal, as modified by such writing, shall be considered as a proposal submitted by the Bidder.
7. **Contents of Bid Proposal.** All bid proposals shall contain or be accompanied by the following:
 - 7.1. **Proposal.** The Bidder's detailed specifications of the apparatus and equipment which it proposes to furnish that meets or exceeds the bid specifications. Such description shall be set forth in the same sequence as set forth in the specifications. In the event any exceptions to the specifications are set forth in a bid proposal, the Bidder must also include an explanation to establish why they feel the exceptions are equivalent to, or exceed the specifications.
 - 7.2. **Drawings.** General layout drawings or pictures showing front, rear, left, right and top view of a representative apparatus must be submitted with the bid for the purpose of comparison. Critical dimensions such as overall height, overall length, body width, cab dimensions, pump module dimensions, pump gpm, compartment dimensions, water tank capacity, tank dimensions and overall body dimensions shall be on the drawings.
 - 7.3. **Qualification of Bidder.** Satisfactory evidence of the Bidder's ability to construct the fire engine as specified. The Bidder shall also state the number of years it has been building rescue apparatus and its financial condition.
 - 7.4. **References.** A list of Fire Departments that have purchased mobile water supply fire apparatus from the Bidder over the past five (5) years shall be supplied with the bid.
 - 7.5. **Availability of Parts and Services.** A statement showing the length of time that parts and services will be available after delivery of the apparatus and where such parts and service will be available.
 - 7.6. **Manuals and Diagrams.** An agreement that the Bidder will supply to the Fire Authority at the time of delivery of the apparatus, the following documents:

- 7.6.1. At least two (2) copies of complete operation and maintenance manuals covering the complete apparatus as delivered.
- 7.6.2. At least two (2) copies of complete electrical wiring diagrams covering the complete apparatus as delivered.
- 7.7. **Authority.** The bid must be signed by an authorized representative of the Bidder. The Bidder shall provide with the bid proposal, proof of such representative's authority to contractually bind the Bidder.
- 7.8. **Price.** The total bid price exclusive of state and local sales or use tax, using the attached Bid Form (Exhibit A).
- 7.9. **Delivery Date.** The Bidder shall provide in the bid proposal the amount of time in which the Apparatus will be delivered to the Fire Authority. The delivery date shall be no later than 300 days after bid award, subject only to labor strikes, acts of God or other delays not the fault of the Supplier. A provision that upon delivery of the completed apparatus to the Fire Authority, the Authority shall have a period of ten (10) days after delivery in which to inspect and test the apparatus prior to acceptance.
8. **Compliance.** The Fire Authority advises all prospective Bidders that compliance with the requirements outlined in these instructions to Bidders and bid specifications will be considered by the Board of Commissioners in determining whether to accept or reject any bid.
9. **Material Considerations.** Each of the requirements contained in this document are material, and the failure of a Bidder to comply with each requirement may constitute grounds for rejection of the bid at the discretion of the Board of Commissioners.
10. **Bidding Errors.** The Fire Authority will not be liable for any errors in any Bidder proposal, and Bidders will not be allowed to alter or modify bids after the bid submittal deadline. The Fire Authority reserves the right to correct or amend errors such as typing, transposition or other obvious errors; however, the Fire Authority is not required to make such corrections or amendments. If a Bidder claims error and asks to be relieved of an award, the Bidder will be required to promptly present certified worksheets documenting the error. If the Fire Authority, upon review of the worksheets, is convinced in the Fire Authority's sole discretion, that an honest, mathematically excusable error or omission of costs has been made, the Bidder may be relieved of bid. If a discrepancy exists between the price per unit and the extended amount of any bid item, the price per unit will control.

11. **Offer Irrevocable - Time Period.** All bid proposals shall be deemed to be offers to enter into a contract and shall be irrevocable for a period of sixty (60) days from the date of opening of the bids.
12. **Specifications.** The Apparatus Specifications provided by the Fire Authority (Exhibit B) are the minimum requirements. Any exceptions equivalent to or exceeding these specifications will be given due consideration. Bidders shall include their proposal specification sheets. **Any exceptions to strict compliance with the specifications must be noted. A List of Exceptions to Specifications shall be prepared by the Bidder and included with the bid, indicating any and all exceptions, explaining each exception and describing the specification proposed to be met.**
13. **Contract Documents.** The contract shall be substantially in the form attached as Exhibit C. The contract shall specifically enumerate all documents that are included by reference, which shall include the following documents:
 - 13.1. The formal written agreement executed by each party.
 - 13.2. The Instructions to Bidders and Apparatus Specifications prepared by the Fire Authority.
 - 13.3. The bid proposal submitted by the Bidder.
 - 13.4. All warranties covering the apparatus.
14. **Warranty.** If the warranty excludes warranties of any specific included components because such components are covered by the component manufacturer's warranty, the warranty of the component manufacturer shall be included with the bid proposal. Unless otherwise stated, the warranty of the manufacturer shall comply with the contract requirements and shall cover all components of the apparatus including accessories. The warranty obligation shall include the following:
 - 14.1. All materials and required labor.
 - 14.2. All transportation and shipping costs for the apparatus or any part of the apparatus from the Fire Authority headquarters station to the place of repair and return.
 - 14.3. The term of the warranty or warranties.

14.4. A copy of the warranty must be included in the bid.

14.5. Additional warranty requirements are identified in the Apparatus Specifications (Exhibit B).

15. **Statutes and Regulations.** The completed water tender must comply with the requirements of applicable federal statutes and regulations, applicable Washington statutes and regulations of the Department of Labor and Industries, the Department of Transportation and all other applicable state regulatory agencies. In the event the specifications issued by the Fire Authority cannot be complied with without violating such requirements, the Bidder shall so state; if not discovered until after the contract has been executed, the Supplier shall advise the Fire Authority prior to delivery.
16. **Patents.** The Supplier shall defend any and all suits and assume all liability for any claims against the Fire Authority, or any of its officials, employees and agents, for the use of any patented process, device or article forming a part of the equipment or any appliance to be furnished under the contract.
17. **Conflict of Interest.** Bidders must certify that no officer, agent or employee of the Fire Authority who has participated in the contract negotiations on behalf of the Fire Authority has a pecuniary interest in the bid proposal, and that the proposal is made in good faith without fraud, collusion or participation of any kind by any other Bidder under the same call for bids, and that the Bidder is submitting the bid on its own behalf and not as an undisclosed agent of any person or firm.
18. **Public Disclosure.** All documentation submitted to the Fire Authority may be considered public record under applicable laws and may be subject to disclosure. Bidders recognize and agree the Fire Authority will not be responsible or liable in any way for any losses the Bidder may suffer from the lawful disclosure of information or materials to third parties. Any materials requested to be treated as confidential documents, proprietary information or trade secrets must be clearly identified and readily separate from the balance of the bid submission. Such designations will not necessarily be conclusive, and Bidders may be required to justify why such material should not, upon written request, be disclosed by the Fire Authority under the applicable Public Records Act (RCW 42.56). The Fire Authority will attempt to provide at least two (2) business days' notice of a public records request for material submitted pursuant to this Invitation for Bid. Bidders must respond to the notice in writing with any objection to the production of the documents within two (2) business days of the receipt of the notice. All costs incurred by Bidders associated with any public records request are the responsibility of the Bidders.



EXHIBIT A

BID FORM – WATER TENDER

The North Mason Regional Fire Authority is seeking bids for the furnishing of a complete apparatus equipped as specified for use as a mobile water supply fire apparatus.

Sealed bids will be accepted at the North Mason Regional Fire Authority Headquarters located at 460 NE Old Belfair Highway (PO Box 277), Belfair, WA 98528 until 5:00 p.m. on Thursday, December 3, 2020. The outside of the sealed envelope must be properly marked with "Bid for North Mason Regional Fire Authority Water Tender". For further information, contact Assistant Fire Chief Scott Cooper at scooper@northmasonrfa.com or call the Fire Authority at 360-275-6711 between the hours of 9:00 a.m. and 5:00 p.m. on all regular business days.

NOTE TO ALL BIDDERS: NO BIDS RECEIVED AFTER CLOSING WILL BE ACCEPTED

No bid may be withdrawn for a period of sixty (60) days after the bid closing date. The Authority reserves the right to reject any and all bids and to accept the bid it feels is in the best interest of the Authority.

The undersigned agrees to sell to North Mason Regional Fire Authority one (1) 3,000-gallon water tender, constructed and finished as per the specifications herewith submitted for the following price exclusive of sales tax:

The time of completion from the date of bid award shall be _____ days.

APPARATUS BODY PRICE AS PROPOSED \$ _____

CHASSIS PRICE AS PROPOSED \$ _____

TOTAL COST OF COMPLETE APPARATUS Included___ Not Included___ Cost \$ _____

INSPECTION TRIPS Included___ Not Included___ Cost \$ _____

CHASSIS PREPAYMENT Included___ Not Included___ Cost \$ _____

DELIVERY CHARGES Included___ Not Included___ Cost \$ _____

MISCELLANEOUS EQUIPMENT PACKAGE Included___ Not Included___ Cost \$ _____

100% PERFORMANCE BOND Included___ Not Included___ Cost \$ _____

PRODUCTS LIABILITY INSURANCE Included___ Not Included

Each Bidder shall check box either Yes or No for the full compliance of the paragraph. This allows the Regional Fire Authority to easily compare each BID specification.

Review of Special Instructions to Bidders:

Bidder Complies: Y ___ N ___

Body Builder Supplied 10% Bid Bond

Bidder Complies: Y ___ N ___

Body Builder Supplied 100% Performance Bond

Bidder Complies: Y ___ N ___

Detailed scaled drawing of the proposed and completed apparatus

Bidder Complies: Y ___ N ___

Weight distribution chart of the proposed and completed apparatus.

Bidder Complies: Y ___ N ___

Local Dealer Insurance Certificate for Warranty Repair Facility.

Bidder Complies: Y ___ N ___

Warranty descriptions written out in full directly into the BID specifications.

Bidder Complies: Y ___ N ___

Manufacturer shall have operated at a profit for each of the past 20 years;
Refer to "CONTRACT AWARD" section for each Bidder's copies of financial statements.
(Please provide with proposal.)

Signature: _____

Printed Name: _____

Company Name: _____

Title: _____

Company UBI: _____

Company Address: _____

Phone: _____

Fax: _____

Email: _____

EXHIBIT B

APPARATUS SPECIFICATIONS – WATER TENDER

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One (1)

Y__N__

FIRE APPARATUS SPECIFICATIONS

Information for Bidders/Contractors

Sealed proposals are desired from reputable makers of automobile fire apparatus in accordance with these specifications and with the advertisement, a copy of which is attached, for the piece of apparatus listed as follows: **3,000 GALLON WATER TENDER**

One (1)

Y__N__

INTERLOCAL GOVERNMENT PURCHASING

It is the purpose of the Interlocal Cooperation Act (RCW 39.34) to allow local governmental units to cooperate with other governmental units in order to procure certain products and services under the same terms, conditions and pricing as each other. With this agreement, each party agrees to extend to the other party the right to purchase supplies, materials, equipment and services from its contracts with vendors, suppliers, providers and contractors for such supplies, materials, equipment and services to the full extent permitted by law.

Other contracting agencies are allowed to establish contracts or price agreements under the terms, conditions and prices of any contract resulting from this Invitation for Bids. Bidders shall agree to extend terms and conditions offered, pursuant to this Invitation for Bids to other contracting agencies, if awarded the contract, for a period of time as agreed upon by all parties. Pricing over this time period may be adjusted only on documented manufacturer price increases, chassis drivetrain upgrades and changes required by National Fire Protection Association (NFPA), U.S. Department of Transportation (DOT), U.S. Environmental Protection Agency (EPA) and other federal regulatory agencies.

Chapter 39.34 RCW allows cooperative purchasing between public agencies (political subdivisions). For the purposes of this chapter, the term "public agency" means any agency, political subdivision or unit of local government of this state including, but not limited to, municipal corporations, quasi municipal corporations, special purpose districts and local service districts; any agency of the state government; any agency of the United States; any Indian tribe recognized as such by the federal government; and any political subdivision of another state. Public agencies which have filed an Intergovernmental Cooperative Purchasing Agreement (ICPA) with each other may make purchases from each other's contract awards, if the Vendor has agreed to such participation. The Authority does not accept any responsibility for orders placed by other public agencies. A public agency purchasing under another agency's contract accepts responsibility for compliance with statutes (including bid limits) governing purchase by or on behalf of itself.

Other agencies interested in purchasing through a cooperative procurement shall submit inquiries to the Authority and comply in all respects with other notice and contracting requirements as set forth in Title 39 RCW of the State of Washington Statutes, Chapter 39.34 RCW Interlocal Cooperation Act.

One (1)

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GENERAL REQUIREMENTS

Each bid must be accompanied by the Bidder's accurate and Authority-specific written specifications covering the apparatus and equipment which it is proposing to furnish and to which the apparatus furnished under the contract must conform.

It is the intent of these specifications to cover the furnishing and delivery to the Authority, complete apparatus equipped as specified. All specifications herein contained are considered as minimum. Some items have been specified by brand name or model number. These have been carefully selected because of their reliability, compatibility with present equipment and local availability of parts.

No exceptions will be allowed relating to the make and model of the fire pump, valves and plumbing, gauge and types of materials, size of compartments, methods of construction and overall design features of the apparatus.

Exceptions taken in areas other than listed above must be listed on a separate page and marked "Exceptions to Specifications". Every exception taken shall be listed as to page number and paragraph. Failure to provide the required exception list with the bid proposal will be cause for rejection of that proposal. This requirement shall allow the Authority to easily compare the Bidder's specifications and proposals.

Where questions arise during construction between these specifications and the Bidder's proposal, these Authority specifications shall prevail.

Such details and other construction features not specifically covered herein shall conform to all State and Federal requirements and the NFPA Pamphlet No. 1901 "Standard for Automotive Fire Apparatus" in effect at the time the contract is signed.

One (1)

Y___N___

RELIABILITY OF CONTRACTOR

Bidder/Contractor shall furnish satisfactory evidence documenting the ability to construct the apparatus specified and shall state in the bid proposal the location of the factory where the apparatus is to be built, as well as where future service work will be performed.

Proposals will only be considered when submitted by full-time fire apparatus manufacturers who are current members of the Fire Apparatus Manufacturers Association (FAMA). FAMA is a nonprofit organization designed to keep fire truck manufacturers abreast with the latest technologies and governing standards, and to act as a liaison to the IAFC and NFPA.

The Bidder shall provide with their proposal, pictures of twenty (20) completed deliveries, where similar apparatus has been furnished and is in service. Bidders shall also provide the names, telephone numbers and contact persons for each Fire District supplied. Failure to provide pictures and required users list with the bid proposal will be cause for rejection of that proposal.

The local representative shall state the number of years they have been representing the manufacturer, the location of their main office, any local offices, main service center and any local service centers authorized to repair this particular fire apparatus.

A signed and notarized letter from the manufacturing company shall be included in the Bidder's proposal to verify this requirement.

The Bidder shall provide with their proposal, pictures of and the names, telephone numbers and contact persons, of any local service centers, where the company has been in service for a minimum of ten (10) years. Failure to provide this with the bid proposal will be cause for rejection of that proposal.

One (1)

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QUALIFICATIONS OF THE BIDDERS

Bids will only be considered from manufacturers with an established reputation in fire apparatus construction of twenty (20) or more years. Each Bidder shall furnish satisfactory evidence of continuous legal corporate entity for a minimum of twenty (20) years. The manufacturer shall be able supply the following information: the location of the factory where the apparatus is to be built, a list of a minimum 15 U/L certified fire apparatus a year for at least the last 7 years and in addition a list of regional users with a contact person's phone number and name. (NO EXCEPTIONS)

One (1)

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SPECIAL INSTRUCTIONS TO BIDDERS

Bidders are requested to read the complete bid invitation carefully and submit their proposals in strict accordance with the requirements set forth. Any questions regarding this specification must be submitted in writing and received by the Assistant Fire Chief a minimum of five (5) business days prior to the bid opening date. Clarifications, corrections and/or changes will be sent out in writing to all prospective Bidders. The Authority reserves the right to reject any or all bids, or to accept any bid presented that meets or exceeds these specifications, and which the Authority deems is in the best interest of the Authority, regardless of the amount proposed.

The complete apparatus body shall be manufactured and assembled within North America. Apparatus that are manufactured and assembled outside of North America will not be considered. (NO EXCEPTIONS)

One (1)

Y__N__

SUBMISSION OF PROPOSALS

Each proposal shall be submitted in sequence with the attached specifications for ease of checking compliance of bids with Bidder's specifications.

All proposals shall be submitted on manufacturer's letterhead and not a reproduction of these specifications. Each bid proposal shall be signed by an Officer of the manufacturing company being bid.

One (1)

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FINANCIAL STABILITY SPECIFICATIONS

Ensuring the financial stability of the proposed body builder is a paramount consideration to the Authority. Financial strength directly relates to the body builder's ability to successfully produce an apparatus without jeopardizing Authority funds. In addition, financial strength is vital to the Authority to ensure a body builder will be able to provide warranty service, along with replacement parts and service for the life of the apparatus. Failure to be able to provide these lifelong services may cause future increases in maintenance expenses and create undue burden on the Authority's budget and tax base. This is a situation that the Authority is unwilling to risk. The body builder, therefore, shall meet certain minimum financial ratios in order to qualify for a bid award. The financial ratios presented shall be that of the consolidated entity; not the consolidated entity's parent company; for the body builder.

The financial ratios required to be met shall be derived from the most recent audited financial statements of the body builder proposed.

Under no circumstance shall a bid be considered where the Bidder submits a letter of explanation taking exception to this requirement in lieu of providing the required documentation, nor shall consideration be given to Bidders that refuse to submit the required information on the basis that the body builder proposed is a private company.

The three (3) critical financial indicators to be met are as follows:

Debt-to-Equity Ratio: The debt-to-equity ratio of the entity must not exceed a 2.0 rating. A debt-to-equity ratio is defined as that of total liabilities divided by total owner's equity.

Debt Coverage Ratio: The debt coverage ratio of the entity must exceed a 100.0 rating. The higher the number, the better able a company is to meet its payment obligations with banks and creditors.

Equity Ratio: The equity ratio of the body builder must exceed a .30 rating. A higher equity ratio indicates that the body builder has increased flexibility to meet its financial obligations which translates into greater financial stability.

All financial indicators required by this section must be verified by Dun and Bradstreet, the nationally recognized, independent financial analysis company. Bids furnished without the required financial information shall render the bid nonresponsive and the Bidder dismissed from further consideration.

One (1)

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DELIVERY AND OPENING OF PROPOSAL

Each proposal and all papers bound and attached thereto, together with the Proposal Guarantee, shall be placed in an envelope and securely sealed therein.

Proposals will be received at or prior to the time set for the opening of bids. Proposals received after the "bid deadline" will be returned unopened. The bids will be opened publicly and read aloud at the time and date stated on the Invitation for Bids.

One (1)

Y___N___

REJECTION OF PROPOSALS

The Authority reserves the right to reject any or all proposals, or to accept such proposal as is in the best interest of the Authority.

All bid requirements and specifications as written are considered minimum.

Bids which substitute less substantial materials and/or methods of body construction than those specified will be rejected. Since all manufacturers have the ability to purchase the materials described as well as to shear, fabricate and assemble body panels as specified, these areas are considered a strict requirement of the specification.

Bidders taking "total exception" to these specifications, providing specifications not in this order, or sub-standard offers for in-stock apparatus are hereby advised that any such offer will result in immediate rejection of the bid proposal.

The Authority does not, in any way, obligate itself to accept the lowest bid.

Proposals may be rejected for any alteration, erasures or penciled entries. No Bidder may withdraw their proposal for at least sixty (60) days after the scheduled closing time for the receipt of bids.

One (1)

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CONTRACT AWARD

The contract will be awarded to the most "responsible Bidder" provided that bid is in the best interest of the Authority.

When analyzing bid proposals and in recommending a successful Bidder, superior design, workmanship, materials, operating costs, location of factory, past experience, length of incorporation and compliance to specifications will be taken into consideration.

A Dun & Bradstreet financial rating will be used at the discretion of the Authority, as a determining factor of the financial strength and stability of the manufacturing company being bid. The Bidder shall include in their bid proposal the Dun & Bradstreet number and contact person at the Body Builder's financial banking company. This documentation shall demonstrate to the Authority the financial stability of the manufacturing company and display an example of future service and customer support.

These specifications, together with any other documents required herein, shall be included in the contract executed between the Authority and successful Bidder. Each Bidder shall submit a copy of their proposed contract form. If there is any deviation or misunderstanding of the published specification, the Authority's published specifications will override the vendor's specification in all cases.

The Authority reserves the right to waive any formality in the bids received, when such waiver is in the best interest of the Authority and, also, to accept any item in the bid found to be of superior quality or otherwise preferred by the Authority. In no way will the Authority assume any liability for the contractor's negligence.

One (1)

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PROPOSAL GUARANTEE

Each proposal must be accompanied by a Bidder's Bond or Cash in the amount of **10%** of the bid submitted as a proposal guarantee, which is agreed by the Bidder/Contractor will be forfeited in the event this proposal is accepted and the contract is not executed. The Bid Bond shall be signed by an Officer of the manufacturing company being bid. Personal or Company checks are not acceptable as a Bonding medium.

All Bidders must have the ability to provide the requested Bidder's Bond and Performance Bonds when called for in these specifications. Companies who are only able to provide Supply Bonds in lieu of Performance Bonds will not be considered.

The bid bonds shall be provided only by the fire apparatus manufacturer and not by a local supplier or chassis company.

One (1)

Y___N___

PERFORMANCE BOND

A 100% Performance Bond, which guarantees delivery AND performance **must be supplied** by the successful Bidder at the time of award of contract. Supply Bonds will not be accepted in place of the requested Performance Bond. The Bond must be supplied by the manufacturer of the apparatus. Bonds furnished by salesmen or other agents will not be accepted. THE BIDDER

SHALL INDICATE THE INTENTION TO PROVIDE THE REQUIRED PERFORMANCE BOND IN THE PROPOSAL PACKET.

The Performance Bond shall be supplied by the apparatus body builder and not by the dealer or any other sub-contractor. The surety company must be listed in United States Treasury District Circular #570 and licensed in the State of Washington.

One (1)

Y__N__

DESIGN REQUIREMENTS

Specified design features of the apparatus have been carefully selected because of their safety, integrity and consistency with existing apparatus. It is expected that all Bidders will adhere to the compartmentation layout, etc., since these features can be produced by all fire apparatus manufacturers.

All aspects of the vehicle shall be properly engineered with priority given to firefighter safety, as well as ease of operation and maintenance of the apparatus. The vehicle shall be free from hazardous protrusions, angles or sharp corners that might bring injury to a firefighter or equipment. Previously delivered units will be judged for compliance to these factors.

All water, air, fuel, hydraulic and/or oil lines on the chassis and apparatus shall be properly located and securely tie wrapped, to prevent scuffing or abrasion. Durable-type grommets or loom material shall be used to protect the lines wherever a line passes through the apparatus body or frame rail sections.

All grease fittings, bleeders, filler plugs, drains and check points shall be located so as to be easily accessible. No special tools shall be required to access these components for normal service or maintenance of the vehicle.

All parts and components on the vehicle shall be positioned for ease of inspection and recognition of wear or failure. Easily removable access or cover plates shall be provided for all items requiring periodic service or adjustment. Access panels shall be of the hinged or quick disconnect design, allowing ease of access.

Design of the apparatus shall be such that no disassembly of the body or any of its parts is required for normal maintenance.

All components of the chassis and apparatus shall be protected against rain, snow or other adverse weather conditions.

One (1)

Y__N__

DRAWINGS

A CAD program produced line drawing of the exact apparatus being proposed, according to the Authority specifications, must be furnished with the bid. Since the blueprint drawing is required of all Bidders, any bid submitted without a drawing as specified will be considered non-responsive and automatically rejected. The drawing must include the left side with chassis cab, right and rear views of the vehicle, and is to fully detail all compartment sizes, door openings, crew cab layout, pump panels and hosebed arrangement.

The drawing must be a large size at least, "C" 18" x 24" and shall be a drawing of the exact apparatus as proposed, not a drawing of another similar unit. All submitted drawings will become a part of the bid proposal.

A drawing of “production model units” will not be acceptable.

One (1)

Y___N___

PRE-CONSTRUCTION CONFERENCE AT REGIONAL FIRE AUTHORITY

A pre-construction conference shall be conducted at the North Mason Regional Fire Authority Headquarters, at which time all final designs and equipment mounting locations will be approved, prior to any sheet metal being cut. A factory-trained dealer shall be present during the pre-construction conference to answer any design questions relating to the layout of the apparatus. All expenses for travel, meals and lodging shall be included. THE BIDDER SHALL INDICATE INTENTION TO PROVIDE THE REQUIRED PRE-CONSTRUCTION CONFERENCE IN THE PROPOSAL PACKET.

One (1)

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INSPECTION TRIPS

Two (2) Inspection trips for two (2) Authority personnel shall be made to the facility during the course of construction of the apparatus. The successful Bidder shall consult with the Authority committee chairperson as to the proper timing of the inspection trips. Air travel (for distances over 250 miles), meals and lodging expenses shall be included. THE BIDDER SHALL INDICATE INTENTION TO PROVIDE THE REQUIRED INSPECTION TRIPS IN THE PROPOSAL PACKET.

One (1)

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IN PROCESS PHOTOS

There shall be a series of photos provided as the apparatus progresses through the production process. There will be a minimum of four (4) photos per interval and a total of six intervals, one (1) upon chassis arrival, four (4) during construction and one (1) upon completion.

One (1)

Y___N___

COMPLETION DATE

Bidders shall indicate in their proposals the number of working days for delivery of the completed apparatus, from the date of bid acceptance and signed production specifications by the Authority. Any Bidder who "exaggerates or submits false statements of delivery" shall be held liable to the Authority.

One (1)

Y___N___

APPARATUS AND EQUIPMENT

Responsibility for the apparatus and all equipment shall remain with the Bidder/Contractor until the apparatus and equipment is delivered to the Authority. The Authority will be responsible for providing all equipment items required by NFPA that are not otherwise addressed in these specifications. These items shall be installed by the Authority.

One (1)

Y___N___

DELIVERY

The apparatus shall be delivered complete and ready for operation. To ensure proper break-in of all components, the apparatus shall be delivered under its own power; rail or truck freight is not

acceptable. Final delivery of the completed apparatus shall be made free on board (FOB) North Mason Regional Fire Authority Headquarters.

One (1)

Y___N___

ACCEPTANCE TESTS AND REQUIREMENTS

Acceptance tests on behalf of the Authority shall be prescribed and conducted prior to delivery or within ten (10) days after delivery, by the manufacturer's representative, in the presence of such person or persons as the Authority may designate in the requirements for delivery.

The apparatus, loaded with a full complement of hose and personnel, a full water tank and equipment as specified in "Carrying Capacity" on this page, shall meet the tests on paved roads, dry and in good condition. Tests shall be on the basis of two runs, in opposite directions over the same route, the engine not operating in excess of the manufacturer's maximum rpm.

From a standing start, through the gears, the vehicle shall attain a true speed of 35 mph within 25 seconds. From a steady speed of 15 mph the vehicle shall accelerate to a true speed of 35 mph within 30 seconds.

The vehicle shall attain a minimum top speed of 50 mph on a level road. The apparatus shall be able to maintain a speed of at least 20 mph on any grade up to and including 6%.

The manufacturer's pump test and certification tests shall be conducted by the manufacturer in accordance with requirements of NFPA 1901. Certificate of testing shall be furnished to the Authority.

One (1)

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UNDERWRITERS LABORATORIES TESTING

Any test equipment required or expense incurred for the ULI pump test shall be borne by the Bidder/Contractor supplying this equipment.

Underwriters Laboratories (UL) will be the only testing authority approved by the Authority. Any statements of "Third Party Tested" will not be acceptable. The original notarized copy shall be delivered to the Authority upon completion.

There will be no exceptions to this requirement due to legal obligations by the North Mason Regional Fire Authority.

One (1)

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FAILURE TO MEET TESTS

In the event the apparatus fails to meet the test requirements on the first trial, a second trial may be made at the option of the Bidder/Contractor within thirty (30) days of the date of the first trial. Such trials will be final and conclusive, and failure to comply with these requirements will be cause for rejection. Failure to make changes as the Fire Chief and/or the Authority may consider necessary to conform to any clause of the specifications within thirty (30) days after notice is given to the Bidder/Contractor, shall also be cause for rejection of the apparatus.

One (1)

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TRAINING

North Mason Regional Fire Authority personnel shall be properly instructed as to the proper use of the apparatus including, but not limited to, chassis, fire pump system, the apparatus and all equipment. Training shall be made by a factory-trained specialist who will be responsible for complete instruction on operation and maintenance of the chassis and the completed vehicle.

The training specialist shall remain at the Authority for a sufficient amount of time to provide thorough training of all personnel, or as instructed by the Fire Chief. All meals, motel and travel costs shall be the responsibility of the successful Bidder.

One (1)

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PAYMENT

The final payment amount, as per the proposal contract of the completed fire apparatus, will be due at the time of physical possession of the completed apparatus. Due to insurance liability, the apparatus will not be left at the Authority's location without full acceptance and payment or prior agreement between the Authority and Bidder. Final delivery price shall not include any Local, State or Federal taxes. The Bidder shall not be liable for any State or Federal mandated tax or program after sale or delivery of the apparatus.

One (1)

Y__N__

AUTHORIZED REPAIR FACILITY

All Bidders must specify in their bid proposal the location of the authorized Warranty and Repair Facility nearest the Bidder. Enclosed in the bid packet will be the name of the company, person or persons of contact to authorize the repairs, the complete address with City, State and Zip Code and the phone number including area code. There shall be an Insurance Certificate identifying the coverage made available to the Authority to protect the interest of the new fire apparatus while undergoing possible repairs at the Bidder's facility. In no way will the Authority assume any liability for the contractor's service facility negligence. The Authority reserves the right to inspect the facilities to be made available for possible repairs.

One (1)

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AUTHORIZED REPAIR PERSONNEL

All Bidders shall show they are in a position to render prompt service and furnish replacement parts throughout the useful life of the apparatus. All repair personnel shall be professionally trained on all components on the completed apparatus. The factory-trained personnel shall provide and serve in the best interests of the Authority. The Authority reserves the right to make the final determination as to the Bidder's ability.

One (1)

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LOCAL SERVICE CENTER AND INSURANCE REQUIREMENTS

The local warranty service center and dealer must submit with their bid proposal their company's Certificate of Insurance indicating their insurance coverage. The insurance shall be a minimum amount of one (1) million dollars with coverage attained with a minimum of one (1) million dollars underlying insurance. The submitted certificate shall name the Bidding company, insurance company, policy number and effective dates of the insurance policy. Bids submitted without the required Certificate, or for Certificates listing less than one (1) million dollars of underlying

coverage, will be considered nonresponsive and automatically rejected. No exceptions are allowed to the minimum insurance coverage requirement. This protects the interest of the purchaser and equipment.

One (1)

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MANUFACTURER INSURANCE REQUIREMENTS

Each Bidder must submit with their bid proposal a Certificate of Insurance listing the proposed manufacturer's product liability insurance coverage. **The insurance certificate must be made with the Authority's legal name and full description.** Liability insurance shall be a minimum amount of fifteen (15) million dollars. The submitted Certificate shall name the apparatus manufacturer, insurance company, policy number and effective dates of the insurance policy. Bids submitted without the required Certificate, or for Certificates listing less than fifteen (15) million dollars, will be considered nonresponsive and automatically rejected. No exceptions are allowed to the minimum insurance coverage requirement.

The manufacturer shall maintain full insurance coverage on the purchaser's cab and chassis from time of first possession by the manufacturer until the apparatus is delivered to the Authority. No exceptions. The Authority reserves the right to require proof of insurance from the manufacturer's insurance carrier prior to entering into a contract for the apparatus.

One (1)

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CARRYING CAPACITY

The GAWR and GCWR or GVWR of the chassis shall be adequate to carry the fully equipped apparatus including full water and other tanks, the specified hose load, unequipped personnel weight, ground ladders and a miscellaneous equipment allowance according to NFPA recommendations.

A permanent placard shall be affixed and visible to the driver which states the maximum number of personnel the vehicle is designed to carry.

The height of the fully loaded vehicle's center of gravity shall not exceed the chassis manufacturer's maximum limit.

A CAD produced line chart of the exact apparatus being proposed must be furnished with the bid. Since the weight chart is required of all Bidders, any bid submitted without a drawing as specified will be considered non responsive and automatically rejected.

The weight chart must be a large size, 8 ½" X 11" minimum and shall be of the exact apparatus as proposed, not a chart of another similar unit.

All submitted charts will become a part of the bid proposal.

One (1)

Y___N___

ENGINEERED APPARATUS

The apparatus shall be designed, and the equipment mounted with due consideration to distribution of load between the front and rear axles, so that all specified equipment, including filled water tank, a full complement of personnel and equipment will be carried without injury to the apparatus. **Weight balance and distribution shall be in accordance with the National Fire Protection Association and the Society of Automotive Engineers.**

Special consideration will be given to accessibility of various components that require periodic maintenance, ease of operations, and symmetrical proportions. A detailed accurate weights and balance chart will be submitted with the proposal for the proposed apparatus.

The completed apparatus shall be designed for all vehicles weight laws in the state of operation by the Authority.

One (1)

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CENTER OF GRAVITY

The center of gravity (CG) is defined as the center of an object's weight distribution, where the force of gravity can be considered to act. It is the point in any object about which it is in perfect balance no matter how it is turned or rotated around that point.

A calculated center of gravity chart and documentation shall be provided in the Bidder's proposal. The calculated or measured center of gravity (CG) shall be no higher than 80-percent of the rear axle track width.

The apparatus, prior to acceptance, will be required to meet the vehicle stability of the applicable NFPA Automotive Fire Apparatus Standard.

The vehicle shall be designed, and the equipment mounted with due consideration to distribution of load between the front and rear axles so that all specified equipment, including a full complement of personnel shall be carried safely without injury to the vehicle. The complete vehicle must comply with the requirements of the Revised Code of Washington (RCW) 46.44.190.

One (1)

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CHASSIS VEHICLE CONFIGURATION

Freightliner 114SD Conventional Chassis
2021 Model Year Specified
Set Back Axle - Truck
Straight Truck Provision
LH Primary Steering Location
Truck Configuration
Domiciled, USA 50 States (Including California and Carb Opt-In States)
Fire Service
Emergency Vehicles Business Segment
Liquid Bulk Commodity
Terrain/Duty: 100% (All) Of the Time, In Transit, Is Spent on Paved Roads
Maximum 8% Expected Grade
Smooth Concrete or Asphalt Pavement - Most Severe In-Transit (Between Sites) Road Surface
Freightliner Level II Warranty
Expected Front Axle(S) Load: 20000.0 Lbs.
Expected Rear Drive Axle(S) Load: 46000.0 Lbs.
Expected Gross Vehicle Weight Capacity: 66000.0 Lbs.
Fire Tank - No Main Driveline Driven Split-Shaft PTO/Pump

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CHASSIS EQUIPMENT

14 Inch Painted Steel Bumper, black
Removable Front Tow Hooks Stored on the Chassis Frame
Bumper Mounting for Single License Plate
Grade 8 Threaded Hex Headed Frame Fasteners
Tank Body 3001 to 4500 Gallons

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ELECTRONIC PARAMETERS

60 Mph Road Speed Limit
Cruise Control Speed Limit Same as Road Speed Limit
PTO Mode Engine RPM Limit - 1100 RPM
PTO RPM With Cruise Set Switch - 700 RPM
PTO RPM With Cruise Resume Switch - 800 RPM
PTO Mode Cancel Vehicle Speed - 5 Mph
PTO Governor Ramp Rate - 250 RPM Per Second
Fuel Dosing of Aftertreatment Enabled in PTO Mode-Cleans Hydrocarbons at High Temperatures Only
PTO Minimum RPM - 700
Regen Inhibit Speed Threshold - 5 Mph

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ENGINE AND EQUIPMENT

Cummins X12 455EV HP @ 1900 RPM, 1700 LB/FT @ 1000 RPM, 2000 GOV RPM, R/F/E
2016-2019 Onboard Diagnostics/2010 EPA/Carb/Final Ghg17 Configuration
2008 Carb Emission Certification - Exempted Vehicle; No Clean Idle Label Required

Standard Oil Pan
 Engine Mounted Oil Check and Fill
 Side of Hood Air Intake with NFPA Compliant Ember Screen and Fire-Retardant Donaldson Air Cleaner
 Dr 12v 275 Amp 40-Si Brushless Pad Alternator with Remote Battery Voltage Sense
 (3) DTNA Genuine, Flooded Starting, Min 3000cca, 555rc, Threaded Stud Batteries
 Battery Box Frame Mounted
 Standard Battery Jumpers
 Single Battery Box Frame Mounted LH Side Under Cab
 Wire Ground Return for Battery Cables with Additional Frame Ground Return
 Non-Polished Battery Box Cover
 Positive Load Disconnect with Cab Mounted Control Switch Mounted Outboard Driver Seat
 Cummins Naturally Aspirated 25.9 Cfm Air Compressor with Internal Safety Valve
 GVG, Fire and Emergency Service Vehicles Engine Warning
 Cummins Intebrate Compression Brake With (2) Switches; (1) On/Off And (1) Low/Medium/High Retardation Level
 Rh Outboard Under Step Mounted Horizontal Aftertreatment System Assembly with RH Horizontal Exhaust pipe forward of rear axles
 Engine Aftertreatment Device, Automatic Over the Road Regeneration and Dash Mounted Regeneration Request Switch
 6 Gallon Diesel Exhaust Fluid Tank
 100 Percent Diesel Exhaust Fluid Fill
 Standard Diesel Exhaust Fluid Pump Mounting
 LH Medium Duty Standard Diesel Exhaust Fluid Tank Location
 Standard Diesel Exhaust Fluid Tank Cap
 Stainless Steel Aftertreatment Device/Muffler/Tailpipe Shield
 Horton Drivemaster Advantage On/Off Fan Drive
 Automatic Fan Control with Dash Switch and Indicator Light, Non-Engine Mounted
 Cummins Spin on Fuel Filter
 Combination Full Flow/Bypass Oil Filter
 1500 Square Inch Aluminum Radiator
 Antifreeze To -34f, Oat (Nitrite and Silicate Free) Extended Life Coolant
 Gates Blue Stripe Coolant Hoses or Equivalent
 Constant Tension Hose Clamps for Coolant Hoses
 Radiator Drain Valve
 Delco 12v 39mt HD/OCP Starter with Thermal Protection and Integrated Magnetic Switch

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TRANSMISSION AND EQUIPMENT

Allison 4000 EVS Automatic Transmission with PTO Provision
 Allison Vocational Package 198 - Available On 3000/4000 Product Families with Vocational Model EVS
 Allison Vocational Rating for Fire Truck/Emergency Vehicle Applications Available with All Product Families
 Primary Mode Gears, Lowest Gear 1, Start Gear 1, Highest Gear 6, Available for 3000/4000 Product Families Only
 Secondary Mode Gears, Lowest Gear 1, Start Gear 1, Highest Gear 6, Available For 3000/4000 Product Families Only
 Primary Shift Schedule Recommended by DTNA And Allison, This Defined by Engine and Vocational Usage
 Secondary Shift Schedule Recommended by DTNA And Allison, This Defined by Engine and Vocational Usage

Primary Shift Speed Recommended by DTNA And Allison, This Defined by Engine and Vocational Usage
 Secondary Shift Speed Recommended by DTNA And Allison, This Defined by Engine and Vocational Usage
 Fuel Sense 2.0 Disabled - Performance - Table Based
 Driver Switch Input - Default - No Switches
 Vehicle Interface Wiring Connector Without Blunt Cuts, At End of Frame
 Electronic Transmission Customer Access Connector Firewall Mounted
 (2) Customer Installed Muncie Cs10 Series PTO's
 PTO Mounting, LH Side and Top Rh Side of Main Transmission
 Magnetic Plugs, Engine Drain, Transmission Drain, Axle(S) Fill and Drain
 Push Button Electronic Shift Control, Dash Mounted
 Transmission Prognostics - Enabled 2013
 Water to Oil Transmission Cooler, Frame Mounted
 Transmission Oil Check and Fill with Electronic Oil Level Check
 Synthetic Transmission Fluid (Tes-295 Compliant)

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WHEELBASE AND FRAME

5675mm (223 Inch) Wheelbase
 7/16x3-9/16x11-1/8 Inch Steel Frame (11.11mmx282.6mm/0.437x11.13 Inch) 120KSI
 2150mm (85 Inch) Rear Frame Overhang
 Frame Overhang Range: 81 Inch to 90 Inch
 Calc'd Back of Cab to Rear Susp C/L (Ca): 157.87 In
 Calculated Effective Back of Cab to Rear Suspension C/L (Ca): 154.87 In
 Calc'd Frame Length - Overall: 338.14
 Calculated Frame Space LH Side: 99.69 In
 Calculated Frame Space RH Side: 212.61 In
 Calc'd Space Available for Deckplate: 157.45 In
 Square End of Frame
 Front Closing Crossmember
 Standard Weight Engine Crossmember
 Standard Midship #1 Crossmember(S)
 Standard Rearmost Crossmember
 Standard Suspension Crossmember

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FRONT AXLE AND EQUIPMENT

Detroit Da-F-20.0-5 20,000# F11 71.0 KPI/3.74 Drop Single Front Axle
 Meritor 16.5x6 Q+ Cast Spider Cam Front Brakes, Double Anchor, Fabricated Shoes
 Fire and Emergency Severe Service, Non-Asbestos Front Lining
 Cast Iron Outboard Front Brake Drums
 Front Oil Seals
 Vented Front Hub Caps with Window, Center and Side Plugs - Oil
 Standard Spindle Nuts for All Axles
 Meritor Automatic Front Slack Adjusters
 Standard King Pin Bushings
 TRW Thp-60 Power Steering with Rch45 Auxiliary Gear
 Power Steering Pump
 4 Quart Power Steering Reservoir
 Oil/Air Power Steering Cooler

Current Available Synthetic 75w-90 Front Axle Lube
20,000# Flat Leaf Front Suspension
Graphite Bronze Bushings with Seals - Front Suspension
No Front Suspension Options
No Front Shock Absorbers

One (1)

Y___N___

REAR AXLE AND EQUIPMENT

Tt-46-160 46,000# R-Series Tandem Rear Axle
4.56 Rear Axle Ratio
Iron Rear Axle Carrier with Standard Axle Housing
MXL 18t Meritor Extended Lube Main Driveline with Half Round Yokes
MXL 17t Meritor Extended Lube Interaxle Driveline with Half Round Yokes
(1) Interaxle Lock Valve for Tandem or Tridem Drive Axles
Blinking Lamp with Each Interaxle Lock Switch, Interaxle Unlock Default with Ignition Off
Meritor 16.5x7 Q+ Cast Spider Heavy Duty Cam Rear Brakes, Double Anchor, Fabricated Shoes
Fire and Emergency Severe Service Non-Asbestos Rear Brake Lining
Standard Brake Chamber Location
Cast Iron Outboard Rear Brake Drums
Rear Oil Seals
Haldex Goldseal Longstroke 2-Drive Axles Spring Parking Chambers
Haldex Automatic Rear Slack Adjusters
Current Available Synthetic 75w-90 Rear Axle Lube
Standard Rear Axle Breather(S)
Hendrickson Rt463 @46,000# Rear Suspension
Hendrickson Rt/RTE - 7.19" Saddle
Standard Axle Seats in Axle Clamp Group
52 Inch Axle Spacing
Steel Beams and Bronze Center Bushings with Bar Pin Adjustable End Connections
Fore/Aft Control Rods

One (1)

Y___N___

TIRES, HUBS AND WHEELS

Michelin Xzu-S2 315/80r22.5 20 Ply Radial Front Tires
Conmet Preset Plus Premium Iron Front Hubs
Accuride 29039 22.5x9.00 10-Hub Pilot 5.25 Inset 5-Hand Steel Disc Front Wheels
Michelin XDN2 11r22.5 14 Ply Radial Rear Tires
Conmet Preset Plus Premium Iron Rear Hubs
Accuride 28828 22.5x8.25 10-Hub Pilot 2-Hand HD Steel Disc Rear Wheels

One (1)

Y___N___

BRAKE SYSTEM

Wabco 4s/4m Abs with Traction Control, with ATC Off-Road Switch
Reinforced Nylon, Fabric Braid and Wire Braid Chassis Air Lines
Fiber Braid Parking Brake Hose
Standard Brake System Valves
Standard Air System Pressure Protection System
Std U.S. Front Brake Valve
Relay Valve With 5-8 Psi Crack Pressure, No Rear Proportioning Valve

Wabco System Saver Hp With Integral Air Governor and Heater
Air Dryer Mounted Inboard on LH Rail
Steel Air Tanks Mounted Aft Inside and/or Below Frame Just Forward of Rear Suspension, No
Triple or Torpedo Tanks
Clear Frame Rails from Back of Cab to Front Rear Suspension Bracket Both Rails Outboard
BW DV-2 Auto Drain Valve Without Heater on All Tank(S)

One (1)

Y___N___

TRAILER CONNECTION

Upgraded Chassis Multiplexing Unit

One (1)

Y___N___

FUEL TANKS

50 Gallon/189 Liter Short Rectangular Aluminum Fuel Tank - LH
Rectangular Fuel Tank(S)
Plain Aluminum/Painted Steel Fuel/Hydraulic Tank(S) With Painted Bands
Fuel Tank(S) Forward
Plain Step Finish
Fuel Tank Cap(S)
Alliance Fuel Filter/Water Separator
Equiflo Inboard Fuel System
High Temperature Reinforced Nylon Fuel Line
Fuel Cooler Mounted Left Hand in Rail

One (1)

Y___N___

DESIGN

Paint: One Solid Color
Cab Color A: L0762ey Med Red Elite EY
Black, High Solids Polyurethane Chassis Paint
Powder Black Front Wheels/Rims (Pkwht21, Tkwht21, W, Tw)
Powder Black Rear Wheels/Rims (Pkwht21, Tkwht21, W, Tw)
Standard E Coat/Undercoating

One (1)

Y___N___

CAB EXTERIOR

114 Inch BBC Flat Roof Aluminum Conventional Cab
Air Cab Mounting
Nonremovable Bug screen Mounted Behind Grille
Front Fenders Set-Back Axle
Bolt-On Molded Flexible Fender Extensions
LH And Rh Exterior Grab Handles with Single Rubber Insert
Bright Finish Radiator Shell/Hood Bezel
Stationary Black Grille with Bright Accents
Chrome Hood Mounted Air Intake Grille
Fiberglass Hood
No Air Horn
Single Electric Horn
All Unit(S) Keyed Alike with Customer Specified Key Number Ft1031

Key Quantity of 2
 Rear License Plate Mount End of Frame
 Halogen Composite Headlamps with Bright Bezels
 Led Aerodynamic Marker Lights
 Daytime Running Lights - Low Beam Only
 Omit Stop/Tail/Backup Lights and Provide Wiring with Separate Stop/Turn Wires To 4 Feet Beyond End of Frame
 Standard Front Turn Signal Lamps
 Automatic On/Off, Engine Compartment, Hood Activated Work Light with Manual Override
 Dual West Coast Bright Finish Heated Mirrors with LH And Rh Remote
 Door Mounted Mirrors
 102 Inch Equipment Width
 LH And Rh 8 Inch Bright Finish Convex Mirrors Mounted Under Primary Mirrors
 Standard Side/Rear Reflectors
 Electric Horn Warning System for Park Brake Not Set with Door Open and All Ignition Key Positions
 63x14 Inch Tinted Rear Window
 Tinted Door Glass LH And RH With Tinted Non-Operating Wing Windows
 Manual Door Window Regulators
 1-Piece Solar Green Glass Windshield
 8 Liter (2 Gal) Windshield Washer Reservoir, Cab Mounted, Without Fluid Level Indicator

One (1)

Y___N___

CAB INTERIOR

Opal Gray Vinyl Interior
 Molded Plastic Door Panel
 Molded Plastic Door Panel
 Black Mats with Single Insulation
 No Dash Mounted Ash Trays and Lighter
 Forward Roof Mounted Console with Upper Storage Compartments Without Netting
 In Dash Storage Bin
 (2) Cup Holders LH And Rh Dash
 Gray/Charcoal Flat Dash
 Smart Switch Expansion Module
 5 Lb. Fire Extinguisher
 Heater, Defroster and Air Conditioner
 Standard HVAC Ducting
 Main HVAC Controls with Recirculation Switch
 Standard Heater Plumbing
 Valeo Heavy Duty A/C Refrigerant Compressor
 Binary Control, R-134a
 Premium Insulation
 Solid-State Circuit Protection and Fuses
 12v Negative Ground Electrical System
 Dome Door Activated LH And Rh, Dual Reading Lights, Forward Cab Roof
 Cab Door Latches with Manual Door Locks
 (1) 12 Volt Power Supply in Dash
 Triangular Reflectors Kit Without Flares Shipped Loose in Cab
 Seats Inc 911 Universal Series High Back Air Suspension Driver Seat with NFPA 1901-2009/2016 Compliant Seat Sensor
 Seats Inc 911 Universal Series High Back Non-Suspension Passenger Seat with Under seat Storage and NFPA 1901-2009/2016 Compliant Seat Sensor

LH And RH Integral Door Panel Armrests
Black Cordura Plus Cloth Driver Seat Cover
Black Cordura Plus Cloth Passenger Seat Cover
NFA 1901-2009 High Visibility Orange Seat Belts
Adjustable Tilt and Telescoping Steering Column
4-Spoke 18 Inch (450mm) Steering Wheel
Driver and Passenger Interior Sun Visors

One (1)

Y__N__

INSTRUMENTS AND CONTROLS

Gray Driver Instrument Panel
Gray Center Instrument Panel
Engine Remote Interface with Park Brake and Neutral Interlocks
Black Gauge Bezels
Low Air Pressure Indicator Light and Audible Alarm
2 Inch Primary and Secondary Air Pressure Gauges
Engine Compartment Mounted Air Restriction Indicator with Graduations, with Warning Light in Dash
Electronic Cruise Control with Switches in LH Switch Panel
Key Operated Ignition Switch and Integral Start Position; 4 Position Off/Run/Start/Accessory
Icu3s, 132x48 Display with Diagnostics, 28 Led Warning Lamps and Data Linked
Heavy Duty Onboard Diagnostics Interface Connector Located Below LH Dash
2 Inch Electric Fuel Gauge
Engine Remote Interface Not Configured
Engine Remote Interface Connector in Engine Compartment
Electrical Engine Coolant Temperature Gauge
2 Inch Transmission Oil Temperature Gauge
Engine and Trip Hour Meters Integral Within Driver Display
Customer Furnished and Installed PTO Controls
Electronic Stability Control
Electric Engine Oil Pressure Gauge
Overhead Instrument Panel
Electronic Mph Speedometer with Secondary Kph Scale, Without Odometer
Standard Vehicle Speed Sensor
Electronic 3000 Rpm Tachometer
No Vehicle Performance Monitor
Ignition Switch Controlled Engine Stop
Digital Voltage Display Integral with Driver Display
Single Electric Windshield Wiper Motor with Delay
Marker Light Switch Integral with Headlight Switch
One Valve Parking Brake System with Dash Valve Control Autoneutral and Warning Indicator
Self-Canceling Turn Signal Switch with Dimmer, Washer/Wiper and Hazard in Handle
Integral Electronic Turn Signal Flasher with Stop Lamps Overriding Hazard Lamps

One (1)

Y__N__

CERTIFICATION/COMPLIANCE

U.S. FMVSS Certification, Except Sales Cabs and Glider Kits

One (1)

Y___N___

ANGLE OF APPROACH

The angle of approach for the apparatus shall not be less than eight (8) degrees as specified by the current edition of NFPA 1901.

One (1)

Y___N___

ANGLE OF DEPARTURE

The angle of departure for the apparatus shall not be less than eight (8) degrees as specified by the current edition of NFPA 1901.

One (1)

Y___N___

NFPA PUMPER EQUIPMENT ALLOWANCE

In compliance with NFPA 1901 standards, the apparatus shall be engineered to provide an allowance of 2500 pounds of fire department provided loose equipment.

One (1)

Y___N___

ELECTRONIC STABILITY CONTROL

Electronic stability control shall be supplied on the chassis.

One (1)

Y___N___

LOW VOLTAGE ELECTRICAL SYSTEM SPECIFICATIONS

The electrical system shall include all panels, electrical components, switches and relays, wiring harnesses and other electrical components. The electrical equipment installed by the apparatus manufacturer shall conform to current automotive electrical system standards, the latest Federal DOT standards and the requirements of the applicable NFPA standards.

All wiring shall be stranded copper or copper alloy conductors of a gauge rated to carry 125% of the maximum current for the protected circuit. Voltage drops in all wiring from the power source to the using device shall not exceed 10%. The wiring and wiring harness and insulation shall be in conformance to applicable SAE and NFPA standards. The wiring harness shall conform to SAE J-1128 with GXL temperature properties. All exposed wiring shall be protected in a loom, with a minimum 289-degree Fahrenheit rating. All wiring looms shall be properly supported and attached to body members. The electrical conductors shall be constructed in accordance with applicable SAE standards, except when good engineering practice requires special construction.

The wiring connections and terminations shall use a method that provides a positive mechanical and electrical connection and shall be installed in accordance with the device manufacturer's instructions. Electrical connections shall be with mechanical type fasteners and large rubber grommets where wiring passes through metal panels.

The wiring between the cab and body shall be joined using Deutsche type connectors or enclosed in a terminal junction panel area. This system will permit body removal with minimal impact on the apparatus electrical system. All connections shall be crimp-type with insulated shanks to resist moisture and foreign debris such as grease and road grime. Weather-resistant connectors shall be provided throughout, to ensure the integrity of the electrical system.

Any electrical junction or terminal boxes shall be weather resistant and located away from water

spray conditions. In addition, the main body junction panel shall house the automatic reset breakers and relays where required.

There shall be no exposed electrical cabling, harnesses or terminal connections located in compartments, unless they are enclosed in a junction box or covered with a removable electrical panel. The wiring shall be secured in place and protected against heat, liquid contaminants and damage. Wiring shall be uniquely identified every 3" by color coding or permanent marking with a circuit function code and identified on a reference chart or electrical wiring schematic per requirements of applicable NFPA 1901 standards.

The electrical circuits shall be provided with low voltage overcurrent protective devices. Such devices shall be accessible and located in required terminal connection locations or weather resistant enclosures. The overcurrent protection shall be suitable for electrical equipment and shall be automatic reset type and meet SAE standards. All electrical equipment, switches, relays, terminals and connectors shall have a direct current rating of 125% of maximum current for which the circuit is protected. The system shall have electro-magnetic interference suppression provided, as required in applicable SAE standards.

The electrical system shall include the following:

- Electrical terminals in weather exposed areas shall have a non-conductive grease or spray applied. A corrosion preventative compound shall be applicable to all terminal plugs located outside of the cab or body.
- The electrical wiring shall be harnessed or be placed in a protective loom.
- Holes made in the roof shall be caulked with silicone. Large fender washers shall be used when fastening equipment to the underside of the cab roof.
- Any electrical component that is installed in an exposed area shall be mounted in a manner that will not allow moisture to accumulate in it.
- A coil of wire must be provided behind an electrical appliance to allow them to be pulled away from mounting area for inspection and service work.
- All lights that have their sockets in a weather exposed area shall have corrosion preventative compound added to the socket terminal area.

The warning lights shall be switched in the chassis cab with labeled switches in an accessible location. Individual rocker switches shall be provided only for warning lights provided over the minimum level of warning lights in either the stationary or moving modes. All electrical equipment switches shall be mounted on a switch panel mounted in the cab convenient to the operator. The warning light switches shall be of the rocker type. For easy nighttime operation, an integral indicator light shall be provided to indicate when the circuit is energized. All switches shall be appropriately identified as to their function.

A single warning light switch shall activate all required warning lights. This switch will allow the vehicle to respond to an emergency and "call for the right of way". When the parking brake is applied, a "blocking right of way" system shall automatically activate per requirements of the applicable NFPA standards. All "clear" warning lights shall be automatically turned off upon application of the parking brake.

NFPA REQUIRED TESTING OF ELECTRICAL SYSTEM

The apparatus shall be electrically tested upon completion of the vehicle and prior to delivery. The electrical testing, certifications and test results shall be submitted with delivery documentation, per requirements of the applicable NFPA standards. The following minimum testing shall be completed

by the apparatus manufacturer:

1. Reserve capacity test:

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

2. Alternator performance test at idle:

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

3. Alternator performance test at full load:

The total continuous electrical load shall be activated with the engine running up to the engine manufacturer's governed speed. The test duration shall be a minimum of two (2) hours. Activation of the load management system is permitted during this test. However, if an alarm sounds due to excessive battery discharge, as detected by the system requirements in the NFPA standards, or a system voltage of less than 11.7 volts dc for more than 120 seconds is present, the test has failed.

4. Low voltage alarm test:

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

NFPA REQUIRED DOCUMENTATION

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

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

One (1)

Y__N__

WEATHER RESISTANT ELECTRICAL JUNCTION BOX

The electrical junction or terminal boxes shall be weather resistant and located away from water spray conditions. In addition, the main body junction panel shall house the automatic reset breakers and relays where required. The main body junction panel shall be located in the pump compartment.

One (1)

Y__N__

ELECTRICAL CONSOLE WITH EMERGENCY LIGHT SWITCH PANEL - PAINTED

An electrical console shall be constructed of .125" smooth aluminum material, painted to match cab interior and mounted in the cab of the truck chassis. Console shall be designed and installed between the driver and passenger seats. The top face of the console shall be designed as the switch panel for all emergency light switches. The switch panel shall be hinged for easy access to the switch connections.

All emergency light switches shall be lighted, rocker style. Switches shall be internally lit when the switch circuit is in the on position. A plug-in identification label is to be provided and installed adjacent to each rocker switch with backlighting provided behind the label.

One (1)

Y__N__

SWITCHES

A rocker-style internally lighted switch shall be provided and wired through a heavy-duty relay to activate power to the emergency lights. All emergency light switches shall be activated by a single "EMERGENCY MASTER" on the electrical console.

Each NFPA Zone shall have its own rocker style switch control.

One (1)

Y__N__

BINDER STORAGE MODULE

One (1) cab storage module shall be provided at the rear of the center console to accommodate a minimum of three (3) 2" three ring binders. The binders shall be stored one (1) wide and three (3) high in the module. The module shall include a nylon safety belt for retaining the binder when not in use. The compartment shall be fabricated of smooth aluminum.

One (1)

Y__N__

The cabinet's exterior finish shall match the interior finish of the chassis cab.

One (1)

Y__N__

The cabinet's interior shall have a natural finish.

Two (2)

Y__N__

Two (2) cup holders shall be provided and installed.

One (1)

Y__N__

BATTERY SYSTEM

The battery system shall be supplied with the chassis.

One (1)

Y__N__

MASTER ELECTRIC SWITCH

One (1) battery disconnect switch shall be located conveniently to the driver of the apparatus. The switch shall disconnect the 12-volt power supply from the battery system.

One (1)

Y__N__

BATTERY CHARGER

One (1) Kussmaul Autocharge 1000 model #091-215-12, 18 amp fully automatic high output battery charger shall be wired to the 12-volt battery system. The charger unit shall be mounted in a clean dry area and will be accessible for service and/or maintenance.

One (1)

Y__N__

AUTO-EJECT

A Kussmaul "Super Auto-Eject" 20-amp automatic disconnect device shall be provided and installed on the 110-volt shoreline connection. The device shall be complete with weatherproof cover and matching plug with digital display, part number 091-55-194, incorporated into the cover. The Auto-Eject shall be activated by the chassis starter switch to disconnect the plug. The Super Auto-Eject shall be completely sealed to prevent contamination of the mechanism by inclement weather and road conditions. The Super Auto-Eject shall have an internal switch to open and close the AC circuit after the mating connector is inserted and before the connector is removed.

One (1)

Y__N__

SHORE POWER PLUG

The shore power plug shall be located at the left front cab door.

One (1)

Y__N__

AIR HORNS

Two (2) Stuttertone chrome plated air horns shall be mounted on the side of the hood of the commercial chassis. An air protection valve shall be provided in the air horn piping that will not allow the chassis air brake system to drop below 90 PSI.

One (1)

Y__N__

AIR HORN LANYARD

One (1) dual roof mounted pull cord shall be installed to activate the air horn system. The pull cord shall be installed within easy reach of the driver and officer.

One (1)

Y__N__

ENGINE COMPARTMENT LIGHT

One (1) 12-volt LED light with switch shall be mounted in the engine enclosure.

One (1)

Y__N__

The control switch shall be mounted on the light head.

One (1)

Y__N__

PUMP ENCLOSURE LIGHTS

One (1) LED work light shall be provided in the pump enclosure.

One (1)

Y__N__

The control switch shall be mounted on the light head.

One (1)

Y__N__

BACK-UP ALARM

One (1) automatic electric back-up alarm shall be wired to the back-up light circuit and mounted under the rear of the apparatus body.

One (1)

Y__N__

130° CAMERA WITH 18 INFRARED ILLUMINATORS & 7" DIGITAL MONITOR

A Fire Research inView™ TrueSight™ model BCA111-A00 kit shall include: (1) one 130° camera with 18 infrared illuminators and (1) one 7" digital monitor.

The 130° Camera shall include the following features: 1/3" SONY® Color CCD Sensor, 250,000 pixels for Picture Elements and Gamma Correction with R=0.45 to 1.0. Camera shall have Mirror Image capability. (1) One 66 ft. Extension Cable shall be included for the camera. (1) One Screw Kit shall be provided for camera installation. The camera shall have a built-in high gain microphone. The Image Sensor shall provide 600 TV Lines PAL: 500(H) *582(V), NTSC: 510(H) *492(V). The 2.1MM Lens shall have a 130° Viewing Angle. The Waterproof rating shall be IP69K. The 130° Camera shall include an Internal Synchronization Sync System. Infrared Distance shall be 50 Ft. (18 Infrared IR). The Usable Illumination shall be 0 Lux (with IR ON). The Power Source shall be DC 12V (+/-10%). Signal-to-Noise ratio (S/N Ratio) shall be rated for higher than 48DB. The Electronic Iris rating shall be 1/50, 1/60-1/100,000 seconds. Video Output rating shall be 1VP.P 75 Ω. The IR Switch Control shall have a CDS Automatic Control. Vibration and Impact Rating shall be 20G/100G. The Operating and Storage Temperature ratings both shall be -40°F ~ +176°F / RH 95% Max.

The model BCA111-A00 kit shall also include (1) one **7" TFT LCD Digital Color Monitor**.

The specifications shall be as follows for the monitor:

- Dot Resolution: 800 x 3 (RGB) x 480
- Display Format/Contrast: 16:9 / 500:1
- Display Brightness: 400 CD/m²
- Viewing Angle: U:50° D:60° L/R:70°
- 3 Channel Video Input
- 1 VP-P, 75Ω
- Power Supply – DC 12V-24V (+/-10%)
- Power Consumption – 5W
- Operating Temperature: -22°F ~ +176°F
- Video System: Auto NTSC/PAL
- Overall Dimensions: 7" (L) x 5" (H) x 1" (D)
- Weight: 400G

- Vibration Rating: 5G
- Dot Pitch: 0.192 (H) x 0.1805 (V)
- Internal Sync System

One (1)

Y__N__

HAND LIGHTS

All NFPA required portable hand lights supplied by the Authority must be installed before the apparatus is placed into service.

One (1)

Y__N__

INTERCOM SYSTEM

The vehicle shall be equipped with a Setcom 950 intercom system. The system shall include the following:

- One (1) System 950 Intercom Mixer with Wireless Position #IM-950W4
- One (1) Wireless Liberator Headset with Radio Transmit #CSB-900W4
- One (1) Power Cable for 900 Series Wireless Headset and Base #25-1004
- One (1) Wireless Headset with Radio Transmit #CSB-900W4 & Wireless Base #900W4
- Two (2) Adapter Cable 900 Series #25-0735-10
- Two (2) Headset Hanger Hooks #14-7014
- This system can operate with two (2) mobile radios.

One (1)

Y__N__

INTERCOM INTERFACE CABLE

Two (2) Kenwood NX series interface cable shall be provided to connect the intercom to the customer supplied/installed radio. The cable shall have the ability to connect to a single radio. The customer to provide make and model of radio for proper interface cable.

One (1)

Y__N__

MARKER LIGHTS

LED marker lights shall be installed on the vehicle in conformance to the Department of Transportation requirements.

One (1)

Y__N__

LICENSE PLATE BRACKET

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

One (1)

Y__N__

TAIL LIGHTS

One (1) pair of Whelen M6 LED tail/brake lights shall be provided. The rectangular 4"x6" lights shall be red.

One (1)

Y___N___

TURN SIGNALS

One (1) pair of Whelen M6 LED turn signals with populated sequential chevron arrow shall be provided.

One (1)

Y___N___

BACKUP LIGHTS

One (1) pair of Whelen Series M6 LED backup lights shall be installed on the rear of the apparatus body. The dimensions shall be 4" x 6" and the lens color shall be clear.

One (1)

Y___N___

FOUR LIGHT HOUSING

One (1) pair of chrome plated tail light housings shall be supplied. Each housing shall be designed to hold four (4) Whelen M6 rear lights located at the lower rear corners of the body.

One (1)

Y___N___

MID BODY LED TURN SIGNALS

One (1) pair of mid body LED turn signals shall be provided. The location of the turn lights shall be at mid-body near the rear wheel axle.

One (1)

Y___N___

GROUND LIGHTS

Each door shall include a Whelen 3SC0CDCR LED NFPA compliant ground light mounted to the underside of the cab step below each door.

Each light shall include a polycarbonate lens, a housing which is vibration welded and a bulb which shall be shock mounted for extended life.

The ground lighting shall be activated when the parking brake is set.

One (1)

Y___N___

CAB STEP LIGHTS

There shall be LED cab step lights supplied below the chassis cab doors. The lights shall be mounted below the cab doors and illuminate the chassis cab steps. There shall be two (2) LED lights located on each side of the chassis cab.

One (1)

Y___N___

GROUND LIGHTS

There shall be two (2), one each side, Whelen 3SC0CDCR LED NFPA compliant ground light mounted to the underside of the rub rail of the pump house.

Each light shall include a polycarbonate lens, a housing which is vibration welded and a bulb which shall be shock mounted for extended life.

The ground lighting shall be activated when the parking brake is set.

One (1)

Y___N___

GROUND LIGHTS

There shall be two (2) Whelen 3SC0CDCR LED NFPA compliant ground light mounted to the underside of the rear step.

Each light shall include a polycarbonate lens, a housing which is vibration welded and a bulb which shall be shock mounted for extended life.

The ground lighting shall be activated when the parking brake is set.

One (1)

Y___N___

The ground lights shall automatically activate when the parking brake is applied.

Two (2)

Y___N___

STEP LIGHT

Two (2) LED step light(s) with clear lens shall be installed.

Two (2)

Y___N___

REAR TAILBOARD LIGHTS

Two (2) LED step lights with clear lens shall be installed to illuminate the step surfaces at the rear of the apparatus body.

One (1)

Y___N___

The step/walkway light switch shall be installed and wired to the parking brake.

One (1)

Y___N___

DO NOT MOVE APPARATUS LIGHT

The front headliner of the cab shall include a flashing red Whelen round LED light, 3SR00FRR, with a red lens 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.

The flashing red light shall be 3.00 inches in diameter and shall be located centered left to right for greatest visibility. 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.

One (1)

Y___N___

PTO ENGAGED LIGHT

The front headliner of the cab shall include a flashing green Whelen round LED light, 3SR00FAA, with a green lens clearly labeled "PTO ENGAGED".

The flashing green light shall be 3.00 inches in diameter and shall be located centered left to right for greatest visibility.

One (1)

Y___N___

ELECTRIC SIREN AND CONTROL

One (1) Whelen model #295SLSA1 electronic siren shall be mounted in the cab. This unit shall feature an electronic air horn, wail, yelp, hi-lo and shall have a hard-wired PA microphone.

One (1)

Y___N___

SPEAKER

One (1) Federal Signal DynaMax 100-watt speaker, Model #ES100C, shall be installed. The speaker shall feature a Neodymium driver and a high strength composite housing that is chemical resistant and maintains rigidity at high temperatures.

One (1)

Y___N___

SPEAKER

One (1) stainless steel grille shall be installed on the speaker.

One (1)

Y___N___

SPEAKER LOCATION

The siren speaker shall be installed on the apparatus bumper extension, as determined by the body manufacturer.

One (1)

Y___N___

LIGHTBAR

One (1) Whelen Justice light bar shall be included with the apparatus cab. The light bar shall be a model JE2NFPA and shall be mounted on the roof of the cab, towards the front, above the windshield.

The light bar shall feature:

- A 56" light bar designed for high performance
- Four (4) red Linear LED corner modules
- Four (4) red CON3 LED lights
- Two (2) white CON3 LED lights with clear optic lenses
- Clear hard coated lenses to provide extended life/luster protection against UV & chemical stresses
- Designed in accordance with NFPA Zone A requirements

One (1)

Y___N___

LIGHTBAR ACTIVATION

The front upper light bar shall be activated through the master warning switch.

One (1)

Y__N__

UPPER REAR WARNING LIGHTS

One (1) pair of Whelen M9 Series Model # M9V2 combination 180° warning/perimeter light shall be provided, one each side on the upper portion of the rear of the body. A chrome mounting flange shall be supplied with the light. The M9V2 shall incorporate Linear Super-LED® and Smart LED® technology.

One (1)

Y__N__

SCENE LIGHT SWITCHING

One (1) scene light switch with indicator shall be installed on the cab main switch panel to control the left-side scene light(s). The switch shall be labeled "LEFT SCENE".

One (1)

Y__N__

SCENE LIGHT SWITCHING

One (1) scene light switch with indicator shall be installed on the cab main switch panel to control the right-side scene light(s). The switch shall be labeled "RIGHT SCENE".

One (1)

Y__N__

SCENE LIGHT SWITCHING

One (1) scene light switch with indicator shall be installed on the cab main switch panel to control the rear scene light(s). The switch shall be labeled "REAR SCENE".

One (1)

Y__N__

SCENE LIGHT SWITCHING

The rear scene lights shall activate automatically upon placing the transmission into reverse.

One (1)

Y__N__

The driver side warning/scene light shall be a Whelen Model M9V2RC, a M9 V-series red warning light and a perimeter light with a clear non-optic polycarbonate lens.

One (1)

Y__N__

The officer side warning/scene light shall be a Whelen Model M9V2AC, a M9 V-series amber warning light and a perimeter light with a clear non-optic polycarbonate lens.

One (1)

Y__N__

UPPER SIDE FRONT WARNING LIGHTS

One (1) pair of Whelen M9 Series Model # M9V2 combination 180° warning/perimeter light shall be provided, one each side on the upper portion of the body side, towards the front of the body. A chrome mounting flange shall be supplied with the light. The M9V2 shall incorporate Linear Super-LED® and Smart LED® technology.

Two (2)

Y__N__

The scene light shall be installed on an aluminum mounting plate, painted to match the body.

One (1) Y__N__
The driver side warning/scene light shall be a Whelen Model M9V2RC, a M9 V-series red warning light and a perimeter light with a clear non-optic polycarbonate lens.

One (1) Y__N__
The officer side warning/scene light shall be a Whelen Model M9V2RC, a M9 V-series red warning light and a perimeter light with a clear non-optic polycarbonate lens.

One (1) Y__N__
UPPER SIDE REAR WARNING LIGHTS

One (1) pair of Whelen M9 Series Model # M9V2 combination 180° warning/perimeter light shall be provided, one each side on the upper portion of the body side, towards the rear of the body. A chrome mounting flange shall be supplied with the light. The M9V2 shall incorporate Linear Super-LED® and Smart LED® technology.

Two (2) Y__N__
The scene light shall be installed on an aluminum mounting plate, painted to match the body.

One (1) Y__N__
The driver side warning/scene light shall be a Whelen Model M9V2RC, a M9 V-series red warning light and a perimeter light with a clear non-optic polycarbonate lens.

One (1) Y__N__
The officer side warning/scene light shall be a Whelen Model M9V2RC, a M9 V-series red warning light and a perimeter light with a clear non-optic polycarbonate lens.

One (1) Y__N__
LOWER FRONT WARNING LIGHTS

One (1) pair of Whelen model M6 LED warning lights shall be installed, one each side one the front of the chassis cab. The dimensions of the lights shall be 4-5/16" x 6-3/4".

One (1) Y__N__
The driver side warning light shall be a Whelen Model M6R red Super-LED™ with clear lens.

One (1) Y__N__
The officer side warning light shall be a Whelen Model M6R red Super-LED™ with clear lens.

Two (2) Y__N__
Each light shall be mounted with a Whelen Model M6FC chrome flange.

One (1) Y__N__
INTERSECTION WARNING LIGHTS

One (1) pair of Whelen model M2 LED warning lights, model M2WR, shall be installed, one each side of the chassis cab. The dimensions of the lights shall be 4-1/4" x 2-11/16".

One (1) Y___N___
The driver side warning light shall be a Whelen Model M2WR wide-angle red Super-LED™ with clear lens.

One (1) Y___N___
The officer side warning light shall be a Whelen Model M2WR wide-angle red Super-LED™ with clear lens.

One (1) Y___N___
LOWER MID-BODY WARNING LIGHTS

One (1) pair of Whelen model M2 LED warning lights, model M2WR, shall be installed, one each side of the apparatus, mid-body in the rub rail. The dimensions of the lights shall be 4-1/4" x 2-11/16".

One (1) Y___N___
The driver side warning light shall be a Whelen Model M2WR wide-angle red Super-LED™ with clear lens.

One (1) Y___N___
The officer side warning light shall be a Whelen Model M2WR wide-angle red Super-LED™ with clear lens.

One (1) Y___N___
LOWER REAR SIDE WARNING LIGHTS

One (1) pair of Whelen model M2 LED warning lights shall be installed, one each side of the apparatus, towards the rear of the body, in the rub rail. The dimensions of the lights shall be 4-1/4" x 2-11/16".

One (1) Y___N___
The driver side warning light shall be a Whelen Model M2WR wide-angle red Super-LED™ with clear lens.

One (1) Y___N___
The officer side warning light shall be a Whelen Model M2WR wide-angle red Super-LED™ with clear lens.

One (1) Y___N___
LOWER REAR WARNING LIGHTS

One (1) pair of Whelen model M6 LED warning lights shall be installed, one each side on the lower rear of the apparatus body. The dimensions of the lights shall be 4-5/16" x 6-3/4".

One (1) Y___N___
The driver side warning light shall be a Whelen Model M6A amber Super-LED™ with clear lens.

One (1) Y___N___
The officer side warning light shall be a Whelen Model M6R red Super-LED™ with clear lens.

One (1)

Y___N___

FLUID DATA PLAQUE

One (1) fluid data plaque containing required information shall be provided based on the applicable components for this apparatus, compliant with NFPA Standards:

- Engine oil
- Engine coolant
- Chassis transmission fluid
- Drive axle lubricant
- Power steering fluid
- Pump transmission lubrication fluid
- Other NFPA applicable fluid levels or data as required

Location shall be in the driver's compartment or on driver's door.

DATA & WARNING LABELS

One (1)

Y___N___

HEIGHT LENGTH & WEIGHT

A highly visible label indicating the overall height, length, and weight of the vehicle shall be installed in the cab dash area.

One (1)

Y___N___

NO RIDE LABEL

One (1) "NO RIDERS" label shall be applied on the vehicle at the rear step area or other applicable areas. The label shall warn personnel that riding in or on these areas, while the vehicle is in motion is prohibited.

One (1)

Y___N___

CAB SEATING POSITION LIMITS

One (1) label shall be installed in the cab to indicate seating positions for firefighters. A weight allowance of 250 pounds for each shall be factored into the gross vehicle weight rating of the chassis.

One (1)

Y___N___

HELMET WARNING TAG

One (1) label shall be installed in the cab, visible from each seating position. The label shall read "CAUTION: DO NOT WEAR HELMET WHILE SEATED." Helmets must be properly stowed while the vehicle is in motion according to the current edition of NFPA 1901.

One (1)

Y__N__

REAR TOWING PROVISIONS

There shall be two tow eyes furnished under the rear of the body and attached directly to the chassis frame rails. There shall be a reinforcement spreader bar connecting the two tow eyes. Tow eyes are to be constructed of 3/8" plate steel with a 4" I.D. hole, large enough for passing through a tow chain end hook.

One (1)

Y__N__

The tow plates shall be painted black.

One (1)

Y__N__

TIRE PRESSURE INDICATOR

There shall be a tire pressure indicator, p/n RWTG1235, at each tire's valve stem on the vehicle that shall indicate if there is insufficient pressure in the specific tire.

One (1)

Y__N__

REAR MUD FLAPS

One (1) pair of black mud flaps shall be installed behind the rear wheels.

One (1)

Y__N__

CAB STEPS

The driver's side cab step area on the 2-door chassis shall be covered with slip resistant aluminum tread plate for compliance to applicable NFPA standards.

One (1)

Y__N__

CAB STEPS

The passenger's side cab step area on the 2-door chassis shall be covered with slip resistant aluminum tread plate for compliance to applicable NFPA standards.

One (1)

Y__N__

WATEROUS CXVK SINGLE STAGE PUMP

A Waterous model CXVK fire pump shall be midship mounted, single-stage centrifugal type and shall meet the requirements of the NFPA 1901 standard. The pump must be tested by the pump manufacturer for 10 minutes hydrostatically at a pressure of 350 psig. Certification by the pump manufacturer must be provided.

IMPELLER

The bronze impeller shall be specifically designed for the fire service. The impeller shall be accurately balanced, both mechanically and hydraulically, for vibration free operation. The impeller shaft shall be stainless steel heat-treated and precisely ground to size and supported on both ends by oil or grease lubricated ball bearings.

The wear rings shall be replaceable, bronze, reverse-flow, labyrinth-type. The fire pump shall have deep groove ball bearings located outside the pump to give rugged support and

proper alignment to the impeller shaft. Bearings shall be oil or grease lubricated. All pump bearings shall be completely separated from the water being pumped.

PUMP MOUNTING

The pump shall be bolted to steel angles in pump module, using grade 8 bolts.

The midship mounted fire pump shall be mounted with steel angles and channel from the frame using grade 8 bolts, to both the frame and pump to permit removal of the pump for service. The pump shall be equipped with bolt flanges or Victaulic couplings on the suction and discharge side of the pump to provide for removal of fire pump without disturbing piping.

DRIVE LINE

Fire pump shall be driven by a heavy duty 10 bolt PTO capable of enough torque to operate the fire pump at rated capacity for continuous duty. The PTO shall be of a "Hot Shift" style.

Hollow-tube drivelines and universals shall be properly matched to the engine and transmission output torque ratings.

One (1)

Y___N___

1250 GPM FIRE PUMP SPECIFICATIONS

The centrifugal type fire pump shall be a Waterous model CXK with a rated capacity of 1250 GPM. The pump shall meet NFPA 1901 requirements.

The pump shall be certified to meet the following deliveries:

1250 GPM @ 150 PSI
1250 GPM @ 165 PSI
875 GPM @ 200 PSI
625 GPM @ 250 PSI

One (1)

Y___N___

LEFT SIDE -- 6" UNGATED INTAKE

One (1) 6" ungated suction intake shall be installed on the left side pump panel to supply the fire pump from an external water supply. The threads shall be 6" NST. The intake shall be provided with a removable screen.

One (1)

Y___N___

RIGHT SIDE -- 6" UNGATED INTAKE

One (1) 6" ungated suction intake shall be installed on the right-side pump panel to supply the fire pump from an external water supply. The intake shall be provided with a removable screen.

One (1)

Y___N___

FIRE PUMP MECHANICAL SHAFT SEAL

The Waterous fire pump shall be equipped with self-adjusting, maintenance free, 'mechanical shaft seal' which is designed to be functional in the unlikely event of a seal failure.

One (1)

Y___N___

IMPELLER HUBS

The Waterous fire pump impeller hubs shall be standard bronze type.

One (1)

Y___N___

PTO PUMP SHIFT SPECIFICATIONS -- PUMP AND ROLL

An electric powered PTO pump shift shall be installed in the cab driver's area where not subject to accidental engagement.

A rocker switch for PTO pump engagement shall be installed in the cab driver's area. The pump shift system shall permit "pump and roll" operations, as well as stationary pumping operations.

The following indicator lights shall be included with pump shift.

1. A green indicator light, labeled "PUMP ENGAGED" shall indicate pump PTO has successfully been engaged.
2. A green indicator light, labeled "OK TO PUMP" shall indicate the PTO is engaged and parking brake is activated. Pump control is through the pressure governor.
3. A red flashing indicator light, labeled "PUMP & ROLL" shall indicate the PTO is engaged and parking brake is released. Pump control is through the driver's throttle pedal.
4. Pump shift and interlocks shall comply with applicable sections of the NFPA standards.
5. An instruction label and nameplate shall be provided to indicate proper pump engagement instructions.

One (1)

Y___N___

TRIDENT PRIMER – AUTOMATIC

An automatic fire pump priming system shall be provided and installed. The system shall be oil-less type and environmentally safe. Once engaged, the system shall be fully automatic and not require any action from the pump operator/engineer when pump draft is lost. This feature provides an additional safety margin by maintaining pump flow from the available water source automatically during drafting operations. When air is introduced during a drafting operation from conditions such as whirlpools or turbulence from porta-tank refill operations, the priming system shall automatically engage to remove the air and stabilize water flow and pump pressure. For additional safety, the entire system shall operate at less than 70dBA of ambient noise.

The priming system shall engage automatically whenever the pump discharge falls below five (5) psi and shall remain engaged until a pump prime has been achieved. The priming system shall automatically disengage when a positive pump discharge pressure has been established. The electrical current draw from the chassis batteries shall not exceed four (4) amps at any given time of operation and allow for unlimited run time without causing an overheat condition for of any of the system components.

A single engagement switch shall be provided on the pump control panel that will allow the operator to engage the automatic pump priming system. There shall be a light provided on the pump control panel to indicate when the system is engaged. The pump shall be capable of taking suction and

discharging water with a lift of 10 feet in not more than 30 seconds with the pump dry, through 20 feet of suction hose of appropriate size. The priming system shall comply with applicable sections of NFPA standards.

One (1)

Y___N___

PRIMER CONTROL

A manual push button shall be provided on the pump operator's panel, for the manually priming the main pump.

One (1)

Y___N___

PRESSURE GOVERNOR AND ENGINE-PUMP MONITORING

One (1) Fire Research InControl series TGA300 pressure governor and monitoring display kit shall be installed. The kit shall include a control module, intake pressure sensor, discharge pressure sensor, and cables. The control module case shall be waterproof and have dimensions not to exceed 5 1/2" high by 10 1/2" wide by 2" deep. Inputs for monitored information shall be from a J1939 databus or independent sensors. Outputs for engine control shall be on the J1939 databus or engine specific wiring.

The following continuous displays shall be provided:

- Pump discharge; shown with four daylight bright LED digits more than 1/2" high
- Pump Intake; shown with four daylight bright LED digits more than 1/2" high
- Pressure / RPM setting; shown on a dot matrix message display
- Pressure and RPM operating mode LEDs
- Throttle ready LED
- Engine RPM; shown with four daylight bright LED digits more than 1/2" high
- Check engine and stop engine warning LEDs
- Oil pressure; shown on a dual color (green/red) LED bar graph display
- Engine coolant temperature; shown on a dual color (green/red) LED bar graph display
- Transmission Temperature: shown on a dual color (green/red) LED bar graph display
- Battery voltage; shown on a dual color (green/red) LED bar graph display.

The dot-matrix message display shall show diagnostic and warning messages as they occur. It shall show monitored apparatus information, stored data, and program options when selected by the operator. All LED intensity shall be automatically adjusted for day and nighttime operation.

The program shall store the accumulated operating hours for the pump and engine to be displayed with the push of a button. It shall monitor inputs and support audible and visual warning alarms for the following conditions:

- High Battery Voltage
- Low Battery Voltage (Engine Off)
- Low Battery Voltage (Engine Running)
- High Transmission Temperature
- Low Engine Oil Pressure
- High Engine Coolant Temperature
- Out of Water (visual alarm only)
- No Engine Response (visual alarm only).

The program features shall be accessed via push buttons located on the front of the control panel. There shall be an USB port located at the rear of the control module to upload future firmware enhancements.

Inputs to the control panel from the pump discharge and intake pressure sensors shall be electrical. The discharge pressure display shall show pressures from 0 to 600 psi. The intake pressure display shall show pressures from -30 in. Hg to 600 psi.

The governor shall operate in two control modes, pressure and RPM. No discharge pressure or engine RPM variation shall occur when switching between modes. A throttle ready LED shall light when the interlock signal is recognized. The governor shall start in pressure mode and set the engine RPM to idle. In pressure mode the governor shall automatically regulate the discharge pressure at the level set by the operator. In RPM mode the governor shall maintain the engine RPM at the level set by the operator except in the event of a discharge pressure increase. The governor shall limit a discharge pressure increase in RPM mode to a maximum of 30 psi. Other safety features shall include recognition of no water conditions with an automatic programmed response and a push button to return the engine to idle.

The pressure governor, monitoring and master pressure display shall be programmed to interface with a specific engine.

One (1)

Y__N__

APPROVED PUMP PANEL DRAWING

A pump panel drawing shall be provided for approval by the Authority prior to building the pump panel.

One (1)

Y__N__

PUMP ANODES

There shall be sacrificial, zinc anodes in the pump steamer ports which shall protect the pump and piping from electrolysis. These anodes shall also act as screens.

One (1)

Y__N__

PUMP PLUMBING SYSTEM

The fire pump plumbing system shall be of rigid stainless-steel pipe or flexible piping with stainless steel fittings. Mechanical grooved couplings shall be installed to permit flexing of the plumbing system and allow for quick removal of piping or valves for service. Flexible hose couplings shall be threaded stainless steel or mechanical grooved coupling connections.

The fire pump and plumbing shall be hydrostatically tested in compliance to applicable sections of NFPA standards. The test results shall be included in the delivery documentation.

One (1)

Y__N__

FIRE PUMP MASTER DRAIN

The fire pump plumbing system and fire pump shall be piped to a single pump panel mounted 'handwheel' type master pump drain assembly. The master drain valve shall be a bronze master drain with a rubber disc seal, a universal joint and a handwheel control on the pump panel. The master drain shall also provide for low point drainage of the fire pump and auxiliary devices.

One (1)

Y__N__

ADDITIONAL LOW POINT DRAINS

The plumbing system shall be equipped with additional low point manually operated drain valves to allow total draining of the fire pump plumbing system. These valves shall be accessible from the side of the vehicle and labeled for exact location.

One (1)

Y__N__

STAINLESS STEEL INTAKE MANIFOLD

The suction manifold assembly shall be fabricated with Schedule #10 type 304 stainless steel. All threaded fittings shall be a minimum of Schedule 10 stainless steel. The suction manifold assembly shall have radiused sweep elbows to minimize water turbulence into the suction volute. The suction manifold shall be welded and pressure tested prior to installation. The stainless-steel manifold assembly shall be attached to the pump intake volute with a heavy-duty, flexible Victaulic coupling.

The stainless-steel manifold assembly shall have a ten (10) year warranty.

One (1)

Y__N__

STAINLESS STEEL DISCHARGE MANIFOLD

The discharge manifold assembly shall be fabricated with minimum of Schedule #10 Type 304 stainless steel. All threaded fittings shall be a minimum of Schedule #40 stainless steel. The discharge manifold assembly shall have radiused sweep elbows to minimize water turbulence. The manifold shall be welded and pressure tested prior to installation. The stainless-steel manifold inlet shall be attached to the pump discharge and have additional brackets as required to support the discharge manifold, valves and related components.

The stainless-steel manifold assembly shall have a ten (10) year warranty.

One (1)

Y__N__

FIRE PUMP & PLUMBING SYSTEM PAINTING

The fire pump and plumbing system shall be painted by the fire apparatus manufacturer. The fire pump and the plumbing shall be painted metallic silver.

One (1)

Y__N__

HOSE THREADS

The hose threads shall be National Standard Thread (NST) on all base threads on the apparatus intakes and discharges.

One (1)

Y__N__

WATER TANK TO PUMP LINE

One (1) 3" water tank to fire pump line shall be provided with a full flow quarter turn ball valve, 4" piping, and with flex hose and stainless-steel hose clamps. The tank to pump line shall be equipped with a check valve to prevent pressurization of the water tank.

The line shall be flow tested during the fire pump testing and shall meet applicable requirements of NFPA standards.

One (1) Y___N___
The tank to pump valve shall be controlled at the pump operator's panel.

One (1) Y___N___
The valve shall be an Akron 8000 Series three-inch (3") valve with a stainless ball.

One (1) Y___N___
One (1) Akron valve equipped with a manually operated pull rod, with quarter-turn locking feature shall be provided on the intake. The handle shall be equipped with a color-coded name plate.

One (1) Y___N___

FIRE PUMP TO WATER TANK FILL LINE

One (1) 3" fire pump to water tank refill and pump bypass cooler line shall be provided. The valve shall be a full flow quarter turn ball valve with 3" piping and flex hose to tank. The valve control handle shall have a nameplate located near the valve control.

One (1) Y___N___
The valve shall be an Akron 8000 Series two-inch (3") valve with a stainless ball.

One (1) Y___N___
One (1) Akron valve equipped with a manually operated pull rod, with quarter-turn locking feature shall be provided on the intake. The handle shall be equipped with a color-coded name plate.

One (1) Y___N___

MIDSHIP FIRE PUMP DRIVESHAFTS AND INSTALLATION

The midship PTO fire pump shall be installed and shall include installation of the fire pump, modification and/or fabrication of new drivelines and all pump-mounting brackets. The PTO drive shaft(s) shall be spin balanced prior to final installation.

One (1) Y___N___

FIRE PUMP COOLING

The fire pump shall be equipped with 3/8" cooling line from the pump to the water tank. This re-circulation line shall be controlled by a pump panel control valve with nameplate label noting it as the "fire pump bypass cooler". There shall be a check valve installed in the pump cooler line to prevent tank water from back flowing into the pump when it is not in use.

One (1) Y___N___

CHASSIS ENGINE HEAT EXCHANGER COOLING SYSTEM

The apparatus shall be equipped with a heat exchanger for supplementary chassis engine cooling during fire pump operations. A manually opened valve, mounted at the operator's panel, shall direct water from the fire pump to the heat exchanger that is mounted in the engine radiator cooling hose. The system shall provide cooling water from the fire pump to circulate around the engine radiator coolant without mixing or coming in direct contact with the engine coolant.

A nameplate label shall be installed on the pump panel noting "engine cooling system" with "on-off" opening directions noted.

One (1)

Y___N___

UNDERWRITERS LABORATORIES FIRE PUMP TEST

The pump shall undergo an Underwriters Laboratories Incorporated test per applicable sections of NFPA standards, prior to delivery of the completed apparatus.

The UL acceptance certificate shall be furnished with the apparatus on delivery.

One (1)

Y___N___

FIRE PUMP TEST LABEL

A fire pump performance and rating label shall be installed on the fire apparatus pump panel. The label shall denote levels of pump performance and testing completed at factory. These shall include GPM at net pump pressure, RPM at such level, and other pertinent data as required by applicable NFPA standards. In addition, the pressure control device, tank to pump flow tests, and other required testing shall be completed.

In addition, the entire pump, suction and discharge passages shall be hydrostatically tested to a pressure as required by applicable NFPA standards. The pump shall be fully tested at the pump manufacturer's factory to the performance specifications as outlined by applicable NFPA standards. Pump shall be free from objectionable pulsation and vibration.

If applicable, the fire pump shall be tested and rated as follows:

- 100% of rated capacity at 150 pounds net pressure.
- 70% of rated capacity at 200 pounds net pressure.
- 50% of rated capacity at 250 pounds net pressure.
- 100% or rated capacity at 165 pounds net pressure.

One (1)

Y___N___

GATED 5" INTAKE -- FRONT RIGHT BUMPER

One (1) front right side bumper gated suction intake with 5" piping shall be provided. Intake pipe shall be provided with drain valves mounted at all low points of plumbing.

Intake shall be gated with an Akron Model 7950 electrically operated 5" butterfly valve, with control at the pump operator's panel. The valve operating mechanism shall prevent movement of the valve from the fully closed position to the fully open position or vice versa, in less than three seconds. The valve control shall have a colored identification label.

A pressure dump/relief valve shall be included that is factory preset at 125 PSI and field adjustable from 75 to 250 PSI. The pressure dump/relief valve shall provide over-pressure protection for the suction hose even when the intake valve is closed. The outlet of the dump/relief valve shall be 2.5" in diameter to allow directing the discharge flow away from the pump operator's position.

An inlet fitting with 5" NPT x 5" NST thread shall be provided, complete with a removable strainer screen. The front intake plumbing shall be bolted to the pump and be assembled with Victaulic type couplings.

- One (1) Y___N___
An Innovative Controls ¾" cast bronze quarter-turn drain/bleeder valve shall be installed. The valve shall be complete with a chrome plated bronze ball, reinforced Teflon seals, and blow-out proof stem rated to 600 PSI. A chrome plated zinc handle shall be provided on each drain valve complete with a recessed ID label provision. The handle shall lift, to open and push down, to close.
- One (1) Y___N___
FRONT RIGHT SIDE INTAKE -- HORIZONTAL THROUGH BUMPER
The front suction 5" piping shall extend straight-forward ahead of the cab at bumper level for the chassis. The piping shall be stainless steel with Victaulic couplings installed.
- One (1) Y___N___
One (1) 5" NST male to 6" NST female adapter shall be provided. The threads shall be attached to the intake piping and secured with set screw(s).
- One (1) Y___N___
One (1) 6" chrome plated cap shall be provided. The threads shall be NST and the cap shall be equipped long handles.
- One (1) Y___N___
LEFT SIDE -- 2-1/2" GATED INTAKE
One (1) 2-1/2" gated suction intake shall be installed on left side pump panel to supply the fire pump from an external water supply. The control valve shall be a quarter turn ball valve and shall have 2-1/2" NST female thread of chrome plated brass.
The intake shall be equipped with a ¾" drain and bleeder valve. A nameplate label and removable screen shall be installed.
- One (1) Y___N___
An Innovative Controls ¾" cast bronze quarter-turn drain/bleeder valve shall be installed. The valve shall be complete with a chrome plated bronze ball, reinforced Teflon seals and blow-out proof stem rated to 600 PSI. A chrome plated zinc handle shall be provided on each drain valve complete with a recessed ID label provision. The handle shall lift to open and push down to close.
- One (1) Y___N___
One (1) 2-1/2" chrome plated plug shall be provided. The threads shall be NST and the plug shall be equipped rocker lugs and chain or cable securement.
- One (1) Y___N___
The valve shall be an Akron 8000 Series two and one half-inch (2-1/2") valve with a stainless ball.
- One (1) Y___N___
The valve shall be equipped with one (1) manually operated, swing-type manual control located adjacent the intake. The valve shall be equipped with a color-coded name plate.

One (1)

Y___N___

TWO (2) 1-1/2" CROSSLAY DISCHARGES

Two (2) pre-connect 1-3/4" hose crosslays shall be installed over pump enclosure, with quarter turn 2" diameter ball valves. The outlets shall be a 2" NPT female swivel x 1-1/2" male NST hose threads.

The crosslay hosebeds shall have smooth aluminum sides. The hosebed decking shall be constructed with slots integrated into the hosebed floor.

Each hosebed shall provide for a minimum capacity of 200 feet of 1-3/4" diameter double jacket hose with nozzle, for hose provided by the fire department. The entire hose load will be oriented in a single vertical stack. A divider shall be installed to separate the crosslay beds.

Two (2)

Y___N___

An Innovative Controls 3/4" cast bronze quarter-turn drain/bleeder valve shall be installed. The valve shall be complete with a chrome plated bronze ball, reinforced Teflon seals, and blow-out proof stem rated to 600 PSI. A chrome plated zinc handle shall be provided on each drain valve complete with a recessed ID label provision. The handle shall lift to open and push down to close.

Two (2)

Y___N___

The specified valve shall be an Akron 8000 Series two-inch (2") valve with a stainless ball.

Two (2)

Y___N___

For valve actuation, the specified discharge shall be equipped with a side mount valve control. The ergonomically designed 1/4 turn push-pull T-handle shall be chrome plated zinc with recessed labels for color coding and signage. The gear-control rod, double laminated locking clips, and rod housing shall be stainless steel and provide true positive lock that will eliminate valve drift. Bronze and Teflon impregnated stainless steel bushings in both ends of rod housing shall eliminate rod deflection, never need lubrication and ensure consistent long-term operation.

The control assembly shall include a decorative chrome-plated zinc panel mounted bezel with recessed color-coded label.

Two (2)

Y___N___

Two (2) 2-1/2" IC discharge pressure gauges (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.

One (1)

Y___N___

2-1/2" CROSSLAY DISCHARGE

One (1) pre-connect 2-1/2" hose crosslay shall be installed over the pump enclosure with a quarter turn 2-1/2" diameter ball valve. The outlet shall be a 2-1/2" NPT female swivel x 2-1/2" male NST hose threads.

The hosebed decking shall be constructed with slots integrated into the hosebed floor.

The hose bed shall provide for a minimum capacity of 200 feet of 2-1/2" diameter double jacket hose with the hose and nozzle provided by the fire department. The entire hose load will be oriented in a single vertical stack OR two parallel side-by-side stacks.

- One (1) Y__N__
A Class 1 automatic type 3/4" bleeder valve shall be installed.
- One (1) Y__N__
The specified valve shall be an Akron 8000 Series two and one half-inch (2-1/2") valve with a stainless ball.
- One (1) Y__N__
For valve actuation, the specified discharge shall be equipped with a side mount valve control. The ergonomically designed 1/4 turn push-pull T-handle shall be chrome plated zinc with recessed labels for color coding and signage. The gear-control rod, double laminated locking clips, and rod housing shall be stainless steel and provide true positive lock that will eliminate valve drift. Bronze and Teflon impregnated stainless steel bushings in both ends of rod housing shall eliminate rod deflection, never need lubrication and ensure consistent long-term operation.
- The control assembly shall include a decorative chrome-plated zinc panel mounted bezel with recessed color-coded label.
- One (1) Y__N__
One (1) 2-1/2" IC discharge pressure gauges (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.
- One (1) Y__N__
CROSSLAY HINGED COVER WITH END FLAPS
- The crosslay hosebed shall be equipped with a single aluminum diamond plate hinged cover with vinyl end flaps with hook & loop fasteners. The cover shall have rubber bumpers, latching devices, and lift up handle on each end of the cover.
- The hosebed cover shall be labeled, "Not a Standing or Walking Surface", per NFPA.
- One (1) Y__N__
The vinyl cover shall be black in color.
- One (1) Y__N__
CROSSLAY HOSE BED TRIM
- The crosslay hosebed shall be equipped anodized aluminum angle overlays, one on each end of the hosebed.
- One (1) Y__N__
CROSSLAY HOSEBEDS
- Crosslay hosebed(s) shall be mounted over the upper pump panel or gauge panel in the upper portion of the pump enclosure. The crosslay hosebed shall be approximately 12" from the top of the pump enclosure.

One (1)

Y__N__

DECONTAMINATION WATER SYSTEM

A 3/4" discharge shall be included on the Driver's pump panel. The discharge shall allow warmed water from the Chassis Engine Heat Exchanger Cooling System to be used for firefighter decontamination. An Innovative Controls 3/4" cast bronze quarter-turn shall be used to redirect warmed water from the tank return to the discharge.

The Decontamination Water System will source its water from the main booster tank.

One (1)

Y__N__

LEFT SIDE PUMP PANEL -- 2-1/2" DISCHARGE

One (1) 2-1/2" discharge shall be installed on the left side pump panel area and shall be controlled by a quarter turn ball valve. The discharge shall have 2-1/2" NST male hose threads. A color-coded nameplate label shall be provided adjacent the control handle.

One (1)

Y__N__

An Innovative Controls 3/4" cast bronze quarter-turn drain/bleeder valve shall be installed. The valve shall be complete with a chrome plated bronze ball, reinforced Teflon seals and blow-out proof stem rated to 600 PSI. A chrome plated zinc handle shall be provided on each drain valve complete with a recessed ID label provision. The handle shall lift to open and push down to close.

One (1)

Y__N__

One (1) chrome plated elbow with rocker lugs shall be provided with 2-1/2" NST swivel female x 2-1/2" NST male hose threads.

One (1)

Y__N__

One (1) 2-1/2" NST rocker lug chrome plated vented cap and cable or chain securement shall be provided.

One (1)

Y__N__

The specified valve shall be an Akron 8000 Series two and one half-inch (2-1/2") valve with a stainless ball.

One (1)

Y__N__

For valve actuation, the specified discharge shall be equipped with a side mount valve control. The ergonomically designed 1/4 turn push-pull T-handle shall be chrome plated zinc with recessed labels for color coding and signage. The gear-control rod, double laminated locking clips, and rod housing shall be stainless steel and provide true positive lock that will eliminate valve drift. Bronze and Teflon impregnated stainless steel bushings in both ends of rod housing shall eliminate rod deflection, never need lubrication and ensure consistent long-term operation.

The control assembly shall include a decorative chrome-plated zinc panel mounted bezel with recessed color-coded label.

One (1)

Y__N__

One (1) 2-1/2" IC discharge pressure gauges (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.

One (1)

Y__N__

LEFT SIDE PUMP PANEL -- 3" x 4" DISCHARGE

One (1) 3" discharge shall be installed on the left-side pump panel area and shall be controlled by a full flow 3" slow-close quarter turn ball valve. The discharge shall have 4" NST male hose threads. A color-coded nameplate label shall be provided adjacent the control handle.

One (1)

Y__N__

An Innovative Controls 3/4" cast bronze quarter-turn drain/bleeder valve shall be installed. The valve shall be complete with a chrome plated bronze ball, reinforced Teflon seals and blow-out proof stem rated to 600 PSI. A chrome plated zinc handle shall be provided on each drain valve complete with a recessed ID label provision. The handle shall lift to open and push down to close.

One (1)

Y__N__

One (1) lightweight aluminum elbow with 30-degree slant shall be provided. Threads shall be 4" Storz with lugs and manual locks x 4" female swivel NST with rocker lugs.

One (1)

Y__N__

One (1) 4" lightweight aluminum Storz cap with cable or chain securement shall be provided.

One (1)

Y__N__

The specified valve shall be an Akron 8000 Series three-inch (3") valve with a stainless ball.

One (1)

Y__N__

One (1) Akron valve equipped with a manually operated pull rod, with quarter-turn locking feature and a manual slow-close device shall be provided on the specified discharge. The handle shall be equipped with color-coded type name plate.

One (1)

Y__N__

One (1) 2-1/2" IC discharge pressure gauges (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.

One (1)

Y__N__

RIGHT SIDE PUMP PANEL -- 2-1/2" DISCHARGE

One (1) 2-1/2" discharge shall be installed on the right-side pump panel area and shall be controlled by a quarter turn ball valve. The discharge shall have 2-1/2" NST male hose threads. A color-coded nameplate label shall be provided adjacent the control handle.

One (1)

Y__N__

An Innovative Controls 3/4" cast bronze quarter-turn drain/bleeder valve shall be installed. The valve shall be complete with a chrome plated bronze ball, reinforced Teflon seals and blow-out proof stem rated to 600 PSI. A chrome plated zinc handle shall be provided on each drain valve complete with a recessed ID label provision. The handle shall lift to open and push down to close.

One (1)

Y__N__

One (1) chrome plated elbow with rocker lugs shall be provided with 2-1/2" NST swivel female x 2-1/2" NST male hose threads.

One (1)

Y__N__

One (1) 2-1/2" NST rocker lug chrome plated vented cap and cable or chain securement shall be

provided.

One (1) Y___N___
The specified valve shall be an Akron 8000 Series two and one half-inch (2-1/2") valve with a stainless ball.

One (1) Y___N___
For valve actuation, the specified discharge shall be equipped with a side mount valve control. The ergonomically designed 1/4 turn push-pull T-handle shall be chrome plated zinc with recessed labels for color coding and signage. The gear-control rod, double laminated locking clips, and rod housing shall be stainless steel and provide true positive lock that will eliminate valve drift. Bronze and Teflon impregnated stainless steel bushings in both ends of rod housing shall eliminate rod deflection, never need lubrication and ensure consistent long-term operation.

The control assembly shall include a decorative chrome-plated zinc panel mounted bezel with recessed color-coded label.

One (1) Y___N___
One (1) 2-1/2" IC discharge pressure gauges (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.

One (1) Y___N___
RIGHT SIDE PUMP PANEL -- 3" x 4" DISCHARGE

One (1) 3" discharge shall be installed on the right-side pump panel area and shall be controlled by a full flow 3" slow-close quarter turn ball valve. The discharge shall have 4" NST male hose threads. A color-coded nameplate label shall be provided adjacent the control handle.

One (1) Y___N___
An Innovative Controls 3/4" cast bronze quarter-turn drain/bleeder valve shall be installed. The valve shall be complete with a chrome plated bronze ball, reinforced Teflon seals, and blow-out proof stem rated to 600 PSI. A chrome plated zinc handle shall be provided on each drain valve complete with a recessed ID label provision. The handle shall lift to open and push down to close.

One (1) Y___N___
One (1) lightweight aluminum elbow with 30-degree slant shall be provided. Threads shall be 4" Storz with lugs and manual locks x 4" female swivel NST with rocker lugs.

One (1) Y___N___
One (1) 4" lightweight aluminum Storz cap with cable or chain securement shall be provided.

One (1) Y___N___
The specified valve shall be an Akron 8000 Series three-inch (3") valve with a stainless ball.

One (1) Y___N___
One (1) Akron valve equipped with a manually operated pull rod, with quarter-turn locking feature and a manual slow-close device shall be provided on the specified discharge. The handle shall be equipped with color-coded type name plate.

One (1) Y___N___
One (1) 2-1/2" IC discharge pressure gauges (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.

One (1)

Y__N__

ELECTRIC REWIND HOSE REEL

One (1) Hannay painted steel hose reel with leak proof ball bearing swing joint, adjustable friction brake, electric rewind shall be installed. The reel shall be plumbed with wire reinforced; high-pressure hose coupled. The reel shall be bolted to a mounting system for easy service or removal.

The hose reel is to be mounted in the area above the pump.

One (1)

Y__N__

A push button hose reel rewind switch shall be installed to control the electric rewind hose reel. The exact location shall be determined at construction.

One (1)

Y__N__

One (1) 1" discharge shall be provided and piped from the fire pump to the hose reel with flexible high-pressure hose. The quarter turn ball valve shall be controlled on pump panel. A color-coded nameplate label shall be provided near the valve control handle.

One (1)

Y__N__

An Innovative Controls ¾" cast bronze quarter-turn drain/bleeder valve shall be installed. The valve shall be complete with a chrome plated bronze ball, reinforced Teflon seals and blow-out proof stem rated to 600 PSI. A chrome plated zinc handle shall be provided on each drain valve complete with a recessed ID label provision. The handle shall lift, to open and push down, to close.

One (1)

Y__N__

The specified hose reel shall be piped to the normal pressure side of the fire pump.

One (1)

Y__N__

One (1) Akron 8000 Series one-inch (1") valve with a stainless ball shall be supplied.

One (1)

Y__N__

For valve actuation, the specified discharge shall be equipped with a side mount valve control. The ergonomically designed 1/4 turn push-pull T-handle shall be chrome plated zinc with recessed labels for color coding and signage. The gear-control rod, double laminated locking clips, and rod housing shall be stainless steel and provide true positive lock that will eliminate valve drift. Bronze and Teflon impregnated stainless steel bushings in both ends of rod housing shall eliminate rod deflection, never need lubrication and ensure consistent long-term operation.

The control assembly shall include a decorative chrome-plated zinc panel mounted bezel with recessed color-coded label.

One (1)

Y__N__

One (1) 2-1/2" IC discharge pressure gauges (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.

One (1)

Y__N__

Three (3) 50'-foot lengths of 1" water hose (150') with pin lug couplings and 800 PSI working pressure shall be provided and mounted on the specified hose reel.

One (1)

Y__N__

The specified booster reel nozzle shall be mounted adjacent the hose reel area in secure clip or

clamp type mountings.

One (1)

Y___N___

One (1) stainless steel roller assembly shall be provided on the left side hose reel.

One (1)

Y___N___

One (1) stainless steel roller assembly shall be provided on the right-side hose reel.

One (1)

Y___N___

HOSE REEL PAINTING

The hose reel(s) shall be painted silver grey.

One (1)

Y___N___

FOAM PRO FOAM SYSTEM

One (1) FoamPro part number S107-1600/2.0 electronic foam system shall be provided. The system shall be designed for use with Class A foam concentrate. The foam proportioning operation shall be designed for direct measurement of water flows and shall remain consistent within the specified flows and pressures. The system shall be capable of accurately delivering foam solution as required by applicable sections of the NFPA standards.

The system shall be equipped with a control module suitable for installation on the pump panel. There shall be a microprocessor incorporated within the motor driver that shall receive input from the system's flowmeter, while also monitoring the foam concentrate pump output. The microprocessor shall compare the values to ensure that the desired amount of foam concentrate is injected onto the discharge side of the fire pump. A "foam capable" paddlewheel-type flowmeter shall be installed in the discharge side of the piping system.

The control module shall enable the pump operator to:

- Activate the foam proportioning system
- Select the proportioning rates from 0.1% to 1.0%
- See a "low concentrate" warning light flash when the foam tank level becomes low and in two (2) minutes, if the foam concentrate has not been added to the tank, the foam concentrate pump shall be capable of shutting down.

A 12-volt electric motor driven positive displacement plunger pump shall be provided. The pump capacity range shall be 0.1 to 1.7 GPM (6.4L/min) at 200 PSI (13.8 BAR) with a maximum operating pressure up to 400 PSI (27.6 BAR). The system shall draw a maximum of 30 amps at 12 volts. The motor shall be controlled by the microprocessor which shall be mounted to the base of the pump. It shall receive signals from the control module and power the 1/3 horsepower (.25 Kw) electric motor in a variable speed duty cycle to ensure that the correct proportion of concentrate is injected into the water stream.

A full flow check valve shall be provided in the discharge piping to prevent foam contamination of the fire pump and water tank. A 5 PSI (.35 BAR) opening pressure check valve shall be provided in concentrate line.

Components of the complete proportioning system as described above shall include:

- Operator control module
- Paddlewheel flowmeter

- Pump and electric motor/motor driver
- Wiring harnesses
- Low level tank switch
- Foam tank
- Foam injection check valve
- Main waterway check valve
- Flowmeter and tee with 2" male NPT threads.

The foam system shall be installed and calibrated to manufacturer's requirements. In addition, the system shall be tested and certified by the apparatus manufacturer to meet applicable NFPA standards.

The foam system design shall be tested and pass environmental testing in accordance to SAE standards. The system shall be third party tested to certify compliance with RFI/EMI emissions per MIL-STD-416E.

An installation and operation manual shall be provided for the unit. The system shall have a one (1) year limited warranty by the foam system manufacturer.

One (1)

Y___N___

CONTROL CONNECTION CABLE -- FOAM SYSTEM

The FoamPro 1600 Series foam system shall be provided with a twelve (12) foot control cable from the controller to the foam pump assembly.

One (1)

Y___N___

PUMP PANEL CONTROL -- FOAM SYSTEM

The FoamPro 1600 Series foam system shall be provided with a standard pump panel mounted FoamPro control head.

One (1)

Y___N___

FLOWMETER AND TEE -- FOAM SYSTEM

A FoamPro brass flowmeter shall be provided. The flowmeter shall be installed in the "foam capable" discharge line. The flowmeter shall have maximum accuracy between the flow range of 10 GPM and 320 GPM and be capable of operation between 3 GPM to 380 GPM. The tee shall have 1-1/2" NPT and 2" Victaulic inlet and outlets connections.

One (1)

Y___N___

LOW-LEVEL TANK SENSOR FOAM TANK

A FoamPro low-level foam tank sensor shall be provided. The sensor shall be capable of mounting side of foam tank that shall interface with the microprocessor. The unit shall have a 1/8" NPT thread size.

One (1)

Y___N___

MAIN WATERWAY CHECK VALVE -- FOAM SYSTEM

A FoamPro full-flow check valve shall be provided. The valve shall prevent foam contamination of the fire pump and water tank or water contamination of the foam tank. The unit shall have a

nickel-electro plated body with stainless steel components. The valve shall have 2" NPT threads with an injection and drain port size of 1/2" NPT.

One (1)

Y___N___

FOAM SYSTEM -- INJECTOR FITTING

A FoamPro injector fitting shall be provided with the foam system.

One (1)

Y___N___

INSTRUCTION AND RATING LABEL -- FOAM SYSTEM

A FoamPro part number 6032-0018 instruction and system rating label shall be provided. The label shall display information for a FoamPro 1600 Series foam system and shall meet applicable sections of the NFPA standards.

One (1)

Y___N___

SCHEMATIC LABEL -- FOAM SYSTEM

A FoamPro part number 6032-0015 foam system schematic label shall be provided shall be installed on the pump panel near foam controls. The label shall be a diagram of a single tank foam system layout and shall meet applicable sections of the NFPA standards.

One (1)

Y___N___

1" FOAM TANK CONTROL -- CLASS A

One (1) Class A foam tank shall be plumbed with 1" valve and corrosion resistant hose from the foam tank to the foam inlet of the foam system. The manually opened valve shall be provided behind the pump panel with a label.

One (1)

Y___N___

INTEGRAL CLASS A FOAM TANK -- 12 GALLON

One (1) twelve (12) gallon Class A foam tank shall be installed within the water tank. The non-corrosive foam tank shall meet applicable sections of NFPA standards. The foam concentrate tank shall be provided with sufficient wash partitions so that the maximum dimension perpendicular to the plane of any partition shall not exceed 36 inches. The swash partition(s) shall extend from wall to wall and cover at least 75 percent of the area of the plane of the partition.

The foam concentrate tank shall be provided with a fill tower or expansion compartment having a minimum area of 12 square inches and having a volume of not less than 2 percent of the total tank volume. The fill tower opening shall be protected by a completely sealed air-tight cover. The cover shall be attached to the fill tower by mechanical means. The fill opening shall be designed to incorporate a 1/4-inch removable screen and shall be located so that foam concentrate from a five (5) gallon container can be dumped directly to the bottom of the tank to minimize aeration without the use of funnels or other special devices.

The foam tank fill tower shall be equipped with a pressure/vacuum vent that enables the tank to compensate for changes in pressure or vacuum when filling or withdrawing foam concentrate from the tank. The pressure/vacuum vent shall not allow atmospheric air to enter the foam tank except during operation or to compensate for thermal fluctuations. The vent shall be protected to prevent foam concentrate from escaping or directly contacting the vent at any time. The vent shall be of sufficient size to prevent tank damage during filling or foam withdrawal.

A color-coded label or visible permanent marking that reads "FOAM TANK FILL" shall be placed at or near any foam concentrate tank fills opening. A label shall be placed at or near any foam concentrate tank fill opening that specifies the type of foam concentrate the system is designed to use. Any restrictions on the types of foam concentrate that can be used with the system shall also be stated, and a warning message that reads "WARNING: DO NOT MIX BRANDS AND TYPES OF FOAM."

The foam concentrate tank outlet connection shall be designed and located to prevent aeration of the foam concentrate and shall allow withdrawal of 80 percent of the foam concentrate tank storage capacity under all operating conditions with the vehicle level.

One (1)

Y___N___

The foam tank(s) shall be fabricated by United Plastic Fabricating.

One (1)

Y___N___

FOAM TANK DRAIN -- UNDER TANK

The foam tank shall have one (1) 1" gate valve drain provision installed.

One (1)

Y___N___

FOAM SYSTEM DESIGN AND PERFORMANCE REQUIREMENTS

The proportioning system shall be capable of proportioning foam concentrate in accordance with the foam concentrate manufacturer's recommendations for the type of foam concentrate used in the system over the system's design range of flow and pressures. The foam proportioning system water flow characteristics and the range of proportioning ratio shall be specified as noted herein. The latest foam system shall be in compliance with applicable NFPA standards as it relates to this specified system

Plumbing and Strainer

The foam concentrate supply line shall be non-collapsible. A means shall be provided to prevent water back flow into the foam proportioning system and the foam concentrate storage tank.

A strainer or filter shall be provided on the foam concentrate supply side of the foam proportioner to prevent any debris that might affect the operation of the foam proportioning system from entering the system. The strainer assembly shall consist of a removable straining element, housing, and retainer. The strainer assembly shall allow full flow capacity of the foam supply line.

Foam System Controls

The foam proportioning system operating controls shall be located at or near the pump operator's position and shall be clearly identified. Foam proportioning system shall be provided with accessible controls to completely flush the system with water according to the manufacturer's instructions.

Labels and Instructions

An instruction plate shall be provided for the foam proportioning system that include, at a minimum, piping schematic of the system and basic operating instructions. Labels that are marked clearly with the identification and function shall be provided for each control, gauge and indicator related to the foam proportioning system.

A label shall be provided on the pump operator's panel that identifies the type of foam concentrate that the foam proportioning system is designed to use. It shall also state the minimum/maximum foam proportioning rate at the minimum/maximum foam proportioning rated system flow and pressure.

Two (2) copies of an operations and maintenance manual shall be provided. They shall include a complete diagram of the system together with operating instructions and details outlining all recommended maintenance procedures.

Foam System Testing

The accuracy of the foam proportioning system shall be certified by the foam equipment manufacturer and also tested by the installer prior to delivery of the apparatus in compliance to NFPA standards.

One (1)

Y__N__

SIDE MOUNT PUMP ENCLOSURE

The side mount pump enclosure shall be removable and supported from the chassis frame rails. This enclosure will allow independent flexing of the pump enclosure from the body and allow for quick removal. The support structure shall be constructed of extruded aluminum tubing and angle.

All pump suction and discharge controls are to be mounted on the driver side pump operator's panel so as to permit operation of the pump from a central location. The fire pump, valves and controls shall be accessible for service and maintenance as required by applicable sections of NFPA standards.

The "master" gauges shall be suitably enclosed and mounted on a full pump compartment width "hinged" gauge panel constructed of the same material as the pump operators control panel, allowing access to the backside of all gauges and gauge lines. The individual gauges shall be mounted in line with the control handle or adjacent to the control handle. Panel is to include a stainless-steel piano hinge, flush mounted chrome plated trigger latch, and stainless-steel cable end stops. Electrical wiring and all gauge lines shall be properly tie wrapped to prevent kinking or cutting of the lines when the panel is opened.

The following controls and equipment as specified in the specifications, shall be provided on the pump panel or within the pump enclosure:

- Primer.
- Pump and plumbing area service lights.
- Pressure control device and throttle control.
- Fire pump and engine instruments.
- Pump intakes and discharge controls.
- Master intake and discharge gauges.
- Tank fill control.
- Tank suction control.
- Water tank level gauge.
- Pump panel lights.

Crosslay Installation

The area atop the pump enclosure shall be notched for the installation of a crosslay hose bed. The hosebed shall have smooth sides and a perforated floor to allow for drainage. Provisions shall be provided to secure hose and equipment per requirements of applicable NFPA standards.

One (1)

Y___N___

OPEN DUNNAGE COMPARTMENT -- OVER PUMP ENCLOSURE

One (1) open compartment shall be located on the top of the pump module. The compartment will be constructed as large as space permits with removable slip resistance floor material or decking in the base of the compartment.

One (1)

Y___N___

LEFT FLOATING HOSEWELL -- SIDE MOUNT PANEL

The left side mount pump panel shall be equipped with side running board hosewell. The running board will extend along the width of the pump enclosure from the forward end of the body module to behind the chassis cab.

The running board shall be constructed of aluminum tread plate, bolted in place with stainless steel fasteners. The hosewell shall be free floating, allowing it to lift up if it strikes ground debris. The step surfaces shall be in compliance with applicable sections of NFPA requirements.

One (1)

Y___N___

RIGHT FLOATING HOSEWELL -- SIDE MOUNT PANEL

The right-side mount pump panel shall be equipped with side running board hosewell. The running board will extend along the width of the pump enclosure from the forward end of the body module to behind the chassis cab.

The running board shall be constructed of aluminum tread plate, bolted in place with stainless steel fasteners. The hosewell shall be free floating, allowing it to lift up if it strikes ground debris. The step surfaces shall be in compliance with applicable sections of NFPA requirements.

One (1)

Y___N___

PUMP ENCLOSURE ACCESS DOOR -- RIGHT SIDE UPPER

A pump panel access door shall be provided on the upper right side of the side mount pump enclosure. The access door shall be approximately 18" high and as wide as possible. The door shall be constructed aluminum coated with black Line-X with push button type latches.

One (1)

Y___N___

PUMP PANEL -- SIDE MOUNT

The pump operator's panel, along with the lower left hand and right-hand pump panels shall be constructed of Line-X aluminum material and be fastened to the pump enclosure with 1/4" stainless steel bolts.

The instrument area shall have a stainless-steel continuous hinge that shall swing for easy access to gauges.

One (1)

Y__N__

HINGED PUMP PANEL -- LEFT SIDE

The pump panel installed on the on the left-hand side of the pump enclosure shall be hinged with push-button latches.

One (1)

Y__N__

HINGED PUMP PANEL -- RIGHT SIDE

The pump panel installed on the on the right-hand side of the pump enclosure shall be hinged with push-button latches.

One (1)

Y__N__

PUMP PANEL STAINLESS STEEL TRIM PANELS

Stainless steel intake and discharge trim rings shall be installed to the apparatus with mounting bolts. These assemblies will be used to identify intake and discharge ports with color and verbiage, using separate identification tags protected by chrome plated bezels. These trim rings are designed and manufactured to withstand the environment and shall be backed by a warranty equal to that of the exterior paint and finish. All labels shall be backed with 3M permanent adhesive (200MP), which meets UL969 and NFPA standards.

One (1)

Y__N__

LABELS

Safety, information, data and instruction labels for apparatus shall be provided and installed at the operator's instrument panel.

The labels shall include rated capacities, pressure ratings, and engine speeds as determined by the certification tests. The no-load governed speed of the engine, as stated by the engine manufacturer, shall also be included.

The labels shall be provided with all information and be attached to the apparatus prior to delivery.

One (1)

Y__N__

COLOR CODED PUMP PANEL LABELING AND NAMEPLATES

Discharge and intake valve controls shall be color coded in compliance to guidelines of applicable sections of NFPA standards.

Innovative Controls permanent type nameplates and instruction panels shall be installed on the pump panel for safe operation of the pumping equipment and controls.

One (1)

Y__N__

MIDSHIP PUMP PANEL LIGHTS -- LEFT SIDE

Three (3) Tecniq E10-W0001-1 or equal LED lights with clear lenses shall be installed under an instrument panel light hood on the left side pump panel. The lights shall be controlled by a switch located on the operator's instrument panel.

One (1)

Y___N___

MIDSHIP PUMP PANEL LIGHTS -- RIGHT SIDE

Two (2) Tecniq E10-W0001-1 or equal LED lights with clear lenses shall be installed under an instrument panel light hood on the right-side pump panel. The lights shall be controlled by a switch located on the operator's instrument panel.

One (1)

Y___N___

PUMP ENGAGED LIGHT

One (1) pump panel light shall be illuminated at the time the fire pump is engaged into operation. The remaining lights shall be controlled by a switch located on the operator's instrument panel.

One (1)

Y___N___

MASTER DISCHARGE AND INTAKE GAUGES

Two (2) 4" diameter IC discharge pressure and intake gauges (30"-0-600 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.

The master gauges shall have clear scratch resistant molded crystals with captive O-ring seals shall be used to ensure distortion free viewing and to seal the gauge. The gauges shall be filled with a synthetic mixture to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from -40°F to +160°F. Each gauge shall exceed ANSI B40.1 Grade A requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy. A polished chrome-plated brass bezel shall be provided to prevent corrosion and protect the lens and gauge case.

One (1)

Y___N___

TEST TAPS

Test taps for pump intake and pump pressure shall be provided on the pump instrument panel and be properly labeled.

One (1)

Y___N___

WATER/FOAM TANK LEVEL GAUGE - PUMP PANEL

The apparatus shall be equipped with an Innovative Controls SL Series Tank Level Monitor System shall be installed. The display model # shall be 3030359-04. The system shall include an electronic dual water/foam display module, two (2) pressure transducer-based sender units, and two (2) 15' connection cables. The display module shall show the volume of water/foam in the tanks using 10 super bright easy-to-see LEDs arrangement. The 10-LED arrangement shall form a straight vertical pattern to easily distinguish the tank level at a glance. Tank level indication is enhanced by the use of green LEDs at the full and near-full levels, amber LEDs between $\frac{3}{4}$ and $\frac{1}{4}$ tank levels, and red LEDs at the near-empty and empty levels. The electronic dual water/foam display module shall be waterproof and shock resistant being encapsulated in a urethane-based potting compound. The potted dual water/foam display module shall be mounted to a chrome plated panel-mount bezel with a durable easy-to-read polycarbonate insert featuring blue graphics and a water icon for water and red graphics and a foam icon for foam.

All programming functions shall be accessed and performed from the front of the display module. The programming includes self-diagnostics, manual or self-calibration, and networking capabilities to connect remote slave displays. Low tank level warnings shall include flashing red LEDs starting below the ¼ level and an output for an audible alarm.

The display module shall receive an input signal from a pressure transducer. This stainless-steel sender unit shall be installed on the outside of the water tank near the bottom. All wiring, cables and connectors shall be waterproof without the need for sealing grease.

Location of the water/foam tank level display shall be at the pump panel.

One (1)

Y___N___

WATER TANK - 3000 GALLON

The apparatus shall be equipped with a three-thousand (3000) gallon polypropylene water tank. The tank shall be equipped with a four-inch (4") overflow pipe (a six-inch (6") overflow pipe shall be provided if required by dump valve installation).

One (1)

Y___N___

WATER TANK

The apparatus shall be equipped with a "T" shaped tank.

One (1)

Y___N___

WATER TANK FILL TOWER

A fill tower measuring approximately 10" x 10" square shall be provided on the water tank up to and including 3500 gallons total capacity.

One (1)

Y___N___

The apparatus shall be equipped with a polypropylene water tank. The tank body and end bulkheads shall be constructed of .75" thick, polypropylene, nitrogen-welded and tested inside and out. Tank construction shall conform to applicable NFPA standards. The tank shall carry a lifetime warranty.

The transverse and longitudinal .375" thick swash partitions shall be interlocked and welded to each other as well as to the walls of the tank. The partitions shall be designed and equipped with vent holes to permit air and liquid movement between compartments.

The .5" thick cover shall be recessed .375" from the top of the side walls. Hold down dowels shall extend through and be welded to both the covers and the transverse partitions, providing rigidity during fast fill operations. Drilled and tapped holes for lifting eyes shall be provided in the top area of the booster tank.

A combination vent/water fill tower shall be provided at front of the tank. The 0.5" thick polypropylene fill and overflow tower shall be equipped with a hinged lid and a removable polypropylene screen. The overflow tube shall be installed in fill tower and piped with a minimum schedule 40 PVC pipe through the tank.

The water tank sump shall be located in the forward area of the tank. There will be a schedule 40 polypropylene tank suction pipe from the front of the tank to the tank sump. The tank drain and clean out shall be located in the bottom of the tank sump. The sump shall have a minimum 3" threaded outlet on the bottom to be used for a combination clean out and drain.

The pump to tank refill connection shall be sized to mate with tank fill discharge line. A deflector shield inside the tank will also be provided.

The tank shall rest on the body cross members in conjunction with such additional cross members, spaced at a distance that would not allow for more than 530 square inches of unsupported area under the tank floor. In cases where overall height of the tank exceeds 40 inches, cross member spacing must be decreased to allow for not more than 400 square inches of unsupported area.

The tank must be isolated from the cross members through the use of hard rubber strips with a minimum thickness and width dimension of 1/4" x 1" and a hardness of approximately 60 durometers. The rubber must be installed so it will not become dislodged during normal operation of the vehicle. Additionally, the tank must be supported around the entire bottom outside perimeter and captured both in the front and rear as well as side to side to prevent tank from shifting during vehicle operation.

A picture frame type cradle mount with a minimum of 2" x 2" x 1/4" mild steel, stainless steel or aluminum angle shall be provided or the use of corner angles having a minimum dimension of 4" x 4" x 1/4" by 6" high are permitted for the purpose of capturing the tank.

Although the tank is designed on a free-floating suspension principle, it is required that the tank have adequate vertical hold down restraints to minimize movement during vehicle operation. If proper retention has not been incorporated into the apparatus hose floor structure, an optional mounting restraint system shall be located on top of the tank, halfway between the front and the rear on each side of the tank. These stops can be constructed of steel, stainless steel or aluminum angle having minimum dimensions of 3" x 3" x 1/4" and shall be approximately 6" to 12" long. These brackets must incorporate rubber isolating pads with a minimum thickness of 1/4" inch and a hardness of 60 durometer affixed on the underside of the angle. The angle should then be bolted to the body side walls of the vehicle while extending down to rest on the top outside edge of the upper side wall of the tank.

Hose beds floors must be so designed that the floor slat supports extend full width from side wall to side wall and are not permitted to drop off the edge of the tank or in any way come in contact with the individual covers where a puncture could occur. Tank top must be capable of supporting loads up to 200 lbs per sq. foot when evenly distributed. Other equipment such as generators, portable pumps, etc. must not be mounted directly to the tank top unless provisions have been designed into the tank for that purpose. The tank shall be completely removable without disturbing or dismantling the apparatus structure.

One (1)

Y___N___

The tank construction shall include PolyProSeal™ technology wherein a sealant shall be installed between the plastic components prior to being fusion welded. This sealing method shall provide a liquid barrier, offering leak protection in the event of a weld compromise.

The tank shall be equipped with Polychromatic fill towers. The water fill tower shall be blue in color. The foam tank fill towers, if applicable, shall be yellow for foam A and green for foam B and black for any additional foam fill towers.

The water tank shall be certified for the capacity of the water tank prior to delivery of the apparatus. This capacity shall be recorded on the manufacturer's record of construction and the certification shall be provided to the purchaser when the apparatus is delivered.

The tank shall be manufactured by United Plastic Fabricating (UPF).

One (1)

Y___N___

DIRECT TANK FILL

One (1) 4.0" diameter direct tank fill inlet shall be provided. The inlet shall have a 4.0" diameter slow-close gear operated valve and shall include a 4" NSTM male adapter and cap.

The valve and control handle shall be located at the rear of the apparatus body. The fill line shall have an "in-tank" slow fill safety protection system to protect the tank during filling for high flow conditions.

One (1)

Y___N___

QUICK DUMP - REAR

One (1) Newton 10" quick dump valve shall be provided and externally mounted. The location shall be at the center rear of the apparatus.

One (1)

Y___N___

Dual electric operated controls shall be provided to open and close the rear dump valve, one (1) switch (one for each valve) shall be conveniently located in the cab and one (1) on the rear of the apparatus body.

One (1)

Y___N___

The Newton dump valve installed on the water tank shall be painted grey.

One (1)

Y___N___

One (1) swivel dump shall be fabricated with .125" aluminum and attached to the Newton Quick Dump. The swivel dump shall have the ability to dump water from the driver's side or the officer's side and any point in between. The swivel dump is 70 inches long when fully extended. The swivel dump shall have an extension that is hinged and can be folded up when the dump is not in use. The dump shall have the ability to be stowed on either the driver's side or the officer's side of the truck.

The latch that holds the extension in the stowed position shall also help support the swivel dump extension. When the extension is in the down and extended position, there shall be no less than a 34-inch clearance from level ground to the bottom of the dump to ensure that there is enough clearance for the swivel dump to offload into all portable drop tanks.

The dump shall meet NFPA requirements for water delivery on three (3) sides of the vehicle.

One (1)

Y___N___

ALUMINUM HOSEBED GRATING

The hose bed compartment deck shall be constructed entirely from maintenance-free, extruded aluminum slats. The slats shall have an anodized, radiused ribbed top surface. The slats shall be of widths approximately 3/4" high x 6" wide and shall be assembled into a one-piece grid system to prevent the accumulation of water and allow ventilation to assist in drying hose.

The apparatus hose body shall be properly reinforced without the use of angles or structural shapes and free from all projections that might injure the fire hose.

The main apparatus hose body shall run the full length of the apparatus body from behind the pump panel area to the rear face of the body.

The upper rear interior of the hose body on the right and left sides shall be overlaid with brushed stainless steel to protect the painted surface from damage by hose couplings.

One (1)

Y___N___

HOSE BED STORAGE CAPACITY

The hose bed shall be designed to have a storage capacity for a minimum of 55 cubic feet of fire department supplied fire hose.

Two (2)

Y___N___

ALUMINUM HOSEBED DIVIDER

Two (2) adjustable hosebed divider constructed of .250" aluminum shall be installed on the apparatus.

Two (2)

Y___N___

Each hosebed divider installed on the apparatus shall be provided with a hand hole cut-out approximately 3" wide x 8" long.

One (1)

Y___N___

VINYL HOSEBED COVER

The apparatus shall be equipped with a vinyl hosebed cover with a weighted rear flap. The cover, approximately 74" wide, shall be secured utilizing a Velcro fastening system at the front and sides of the hosebed body.

One (1)

Y___N___

The vinyl cover shall be black in color.

One (1)

Y___N___

1/8" ALUMINUM BODY

The body shall be fabricated of aluminum extrusions, smooth aluminum sheet and aluminum treadplate.

The aluminum extrusion alloy shall be 6061 with a temper rating of T6 and have a tensile strength of 45,000 PSI and yield strength of 40,000 pounds. The aluminum extrusions shall 3" x 3" aluminum tubing, 1-3/4" x 3" aluminum tubing and 3" x 3" aluminum angle and specially designed extrusions, up to .250" wall thickness where applicable.

The smooth aluminum sheet material alloy shall be 5052 with a temper rating of H32 and have a tensile strength of 33,000 PSI and yield strength of 28,000 pounds.

The aluminum treadplate alloy shall be 3003 with a temper rating of H22 and have a tensile strength of 30,000 PSI and yield strength of 28,000 pounds.

The extrusions shall be designed as structural-framing members with the smooth aluminum and treadplate fabricated to form compartments, hosebeds and floors. All aluminum material shall be welded together using the latest mig spray pulse arc welding system.

Compartment floors shall be of the sweep out design with the floor higher than the compartment door lip and to be water and dust proof. All compartments shall be made to the maximum practical dimensions to provide maximum storage capacity. To ensure maximum storage space, the apparatus shall be constructed without any void spaces between the body and the compartment walls. Double wall construction does not meet this requirement.

All exterior compartments shall have polished aluminum drip moldings installed above the doors where necessary to prevent water from entering the compartments.

Wheel well panels shall be formed aluminum that is welded in place. There shall be no visible bolt heads, retention nuts or fasteners on the exterior surface of the panel. To fully protect the wheel well area from road debris and to aid in cleaning, a full depth radius wheel well liner shall be provided. The frame side of the wheel well area on each side of the opening shall be attached to the frame side of the front and rear compartments. All seams on the frame side of the body shall be welded and caulked to prevent moisture from entering the compartments.

The rear wheel wells shall be radius cut for a streamlined appearance. A fenderette shall be furnished at each rear wheel well opening, held in place with stainless steel fasteners.

One (1)

Y___N___

FASTENERS

All aluminum and stainless-steel components shall be attached using stainless steel fasteners.

Compartment door hinges, handrails and running boards shall be attached using minimum 1/4" diameter machine bolt fasteners.

3/16" diameter fasteners shall only be used in nonstructural areas such as: door handles, trim moldings, gauge mounting, etc.

One (1)

Y___N___

ELECTROLYSIS CORROSION CONTROL

The apparatus shall be assembled using ECK or electrolysis corrosion control, on all high corrosion potential areas, such as door latches, door hinges, trim plates, fenderettes, etc. This coating is a high zinc compound that shall act as a sacrificial barrier to prevent electrolysis and corrosion between dissimilar metals. This shall be in addition to any other barrier material that may be used.

All 1/4" diameter and smaller screws and bolts shall be stainless steel.

Due to the expected life of the vehicle, proposals will only be acceptable from manufacturers that include these corrosion features.

One (1)

Y___N___

COMPARTMENT FLOORS

The compartment floors shall be constructed of smooth aluminum material, to match the compartment interior walls. All compartment flooring and shelving shall be protected by removable plastic tiles to allow for water drainage.

One (1)

Y__N__

GALVANIZED SUB-FRAME

The apparatus body subframe shall be constructed entirely of heavy steel structural channel material.

Two full frame lengths, three-inch (3") 3.4 pound per foot longitudinal steel channels shall form the sides of the body subframe and sides of the water tank cradle. Subframe crossmembers shall be fabricated with three inch (3") 3.4 pound per foot heavy steel channel cross members welded to the longitudinal body subframe sides and the full-length frame pads.

Two full frame length 1/2" x 3" flat steel frame pads shall be attached to the body subframe and rest on top of the chassis frame rails for proper frame weight distribution.

The steel frame pads, longitudinal steel channels and subframe crossmembers shall be attached to the chassis frame rails using heavy "U" bolt fasteners to allow removal of the subframe and body assembly from the chassis. There shall be a barrier provided between the subframe and body to prevent electrolysis.

The rear subframe and lower body platform support members shall be of the "two piece" design, fabricated of 3.4 lb. Per foot heavy channel and welded to the full length subframe channel liners at the rear.

A minimum of two rear platform support channels shall be provided and constructed of 3.4 lb. Per foot heavy steel material. Each support channel shall have welded in gusset where the support meets the rear subframe rails.

After fabrication, the entire subframe assembly shall be hot dip galvanized to prevent corrosion. The hot dip galvanized subframe shall have a lifetime warranty against failure due to corrosion.

This steel subframe shall carry the weight of the apparatus body, tank, water and equipment. This method of apparatus construction gives an excellent strength/weight ratio.

One (1)

Y__N__

BODY CONFIGURATION

The aluminum apparatus body shall be up to 220" long, reference the drawing for actual body length.

One (1)

Y__N__

TANDEM AXLE WHEEL AREA

For ease of accessibility and maintenance, wheel well panels shall be double break formed painted smooth plate that is welded in place.

To fully protect the wheel well area from road debris and to aid in cleaning, a full depth (minimum of 25") radius wheel well liner shall be provided. Wheel well liner shall be smooth aluminum to prevent corrosion.

One (1)

Y__N__

FENDERETTES

The rear wheel wells shall be radius cut for a streamlined appearance. A polished stainless steel fenderette shall be furnished at each rear wheel well opening, held in place with concealed stainless-steel fasteners.

One (1)

Y__N__

HOSEBED WIDTH

The width of the pumper body hosebed shall be 74".

One (1)

Y__N__

COMPARTMENT HEIGHT

The left-side body compartments shall be 30" high.

One (1)

Y__N__

COMPARTMENT HEIGHT

The right-side body compartments shall be 30" high.

One (1)

Y__N__

HINGED COMPARTMENT FLUSH DOOR CONSTRUCTION

All hinged compartment doors shall be of the flush style so that the entire door fits flush against the apparatus body sides. Doors shall be designed, in the closed position, to have the painted edges protected from damage on the tops by forming the tread plate compartment tops into an extended drip edge and on the bottom by the rub rail.

Doors shall be a minimum 2" thick, fabricated of a minimum of 1/8" smooth aluminum. Full panel inner compartment door liners shall be provided and constructed from smooth aluminum. The compartment doors shall have a foam panel glued in place between the exterior and interior door skin. Exterior door panels shall be smooth with no welds visible on the exterior skin. Double door compartments shall be equipped with a secondary latch to hold the secondary door in position.

All compartment door hinges shall be full-length piano type constructed of a minimum 16-gauge type 304, stainless steel with 3/16" stainless steel hinge pin with dual directional bolt holes for ease of adjustment.

All compartment doors shall be provided with hollow core weather stripping to provide a weather tight seal at the door opening and to prevent road spray and debris from entering the compartment.

A non-moisture absorbing gasket shall be installed between the door latch and the door skin panel.

Six (6)

Y__N__

EXTERIOR DOOR HANDLES

All compartment doors shall be furnished with die cast, **black** finished two-point pull handle assembly with slam type latches. The latch shall utilize a "free-floating" handle with recessed

pocket for ease-of-use even when wearing mitts or gloves. The compartment door shall open with a simple, easy "pull" of the latch handle.

Door handles shall be held in place with blind mounting brackets for security and appearance. To prevent possible interaction between dissimilar metals, assembly shall not break any painted surface. A non-moisture absorbing gasket shall be installed on the door latch by the latch manufacturer isolating the latch assembly from the door panel surface. The door handle assembly and installation shall be water and weather resistant.

Handles which are held in place with visible fasteners, two-sided tape or glue do not meet the intent of this requirement.

One (1)

Y__N__

LEFT FRONT COMPARTMENT

There shall be one (1) low compartment located ahead of the rear wheels. The compartment shall be equipped with a low double hinged door.

The compartment shall be equipped with the following:

One (1)

Y__N__

One (1) louver with filter shall be installed in the compartment.

One (1)

Y__N__

ADJUSTABLE SHELVING TRACKS

The compartments shall be equipped with two (2) aluminum adjustable tracks, vertically mounted, that are bolted in place for adjustable shelving and equipment mounting.

One (1)

Y__N__

ADJUSTABLE SLIDE-OUT TRAY

One (1) adjustable tray shall be constructed of .188" smooth aluminum plate with 1.5" formed vertical lip front & back. Shelf supports on each side to be constructed of .188" aluminum and bolted to an aluminum extrusion (mounted vertically) by use of 3/8" bolts and spring-loaded cam locks. If shelf is longer than 40" a reinforcement by aluminum gusset is to be placed full-length on bottom of shelf. The shelf shall be capable of extending a minimum of 75% out of the compartment

The shelf shall have a minimum capacity of 250 pounds at 75% extension.

One (1)

Y__N__

COMPARTMENT LIGHTS

Two (2) OnScene Solutions Access LED lights shall be installed, one on each side of the door opening. The lights shall contain 36 LEDs per light producing approximately 180 lumens (six LEDs and 30 lumens every 9"). The light stick shall be rated at 100,000 hours of service and shall be provided with a 5-year free replacement warranty. The light shall have a 5/8" LEXANTM polycarbonate tube enclosure for severe duty applications.

The light stick shall be waterproof and be connectible via a jumper wire to add additional lights in series if required.

One (1) Y___N___
The compartment light will be controlled by an automatic "On-Off" switch located on each compartment door.

One (1) Y___N___

LEFT REAR COMPARTMENT

There shall be one (1) low compartment located behind the rear wheels. The compartment shall be equipped with a low single hinged door.

The compartment shall be equipped with the following:

One (1) Y___N___

One (1) louver with filter shall be installed in the compartment.

One (1) Y___N___

ADJUSTABLE SHELVING TRACKS

The compartments shall be equipped with two (2) aluminum adjustable tracks, vertically mounted, that are bolted in place for adjustable shelving and equipment mounting.

One (1) Y___N___

COMPARTMENT LIGHTS

Two (2) OnScene Solutions Access LED lights shall be installed, one on each side of the door opening. The lights shall contain 36 LEDs per light producing approximately 180 lumens (six LEDs and 30 lumens every 9"). The light stick shall be rated at 100,000 hours of service and shall be provided with a 5-year free replacement warranty. The light shall have a 5/8" LEXANTM polycarbonate tube enclosure for severe duty applications.

The light stick shall be waterproof and be connectible via a jumper wire to add additional lights in series if required.

One (1) Y___N___

The compartment light will be controlled by an automatic "On-Off" switch located on each compartment door.

One (1) Y___N___

RIGHT FRONT COMPARTMENT

There shall be one (1) low compartment located ahead of the rear wheels. The compartment shall be equipped with a low double hinged door.

The compartment shall be equipped with the following:

One (1) Y___N___

One (1) louver with filter shall be installed in the compartment.

One (1)

Y__N__

ADJUSTABLE SHELVING TRACKS

The compartments shall be equipped with two (2) aluminum adjustable tracks, vertically mounted, that are bolted in place for adjustable shelving and equipment mounting.

One (1)

Y__N__

ADJUSTABLE ROLL-OUT TRAY

One (1) adjustable tray shall be constructed of .188" smooth aluminum plate with 1.5" formed vertical lip front & back. Shelf supports on each side to be constructed of .188" aluminum and bolted to an aluminum extrusion (mounted vertically) by use of 3/8" bolts and spring-loaded cam locks. If shelf is longer than 40" a reinforcement by aluminum gusset is to be placed full-length on bottom of shelf. The shelf shall be capable of extending a minimum of 75% out of the compartment

The shelf shall have a minimum capacity of 250 pounds at 75% extension.

One (1)

Y__N__

COMPARTMENT LIGHTS

Two (2) OnScene Solutions Access LED lights shall be installed, one on each side of the door opening. The lights shall contain 36 LEDs per light producing approximately 180 lumens (six LEDs and 30 lumens every 9"). The light stick shall be rated at 100,000 hours of service and shall be provided with a 5-year free replacement warranty. The light shall have a 5/8" LEXANTM polycarbonate tube enclosure for severe duty applications.

The light stick shall be waterproof and be connectible via a jumper wire to add additional lights in series if required.

One (1)

Y__N__

The compartment light will be controlled by an automatic "On-Off" switch located on each compartment door.

One (1)

Y__N__

RIGHT REAR COMPARTMENT

There shall be one (1) low compartment located behind the rear wheels. The compartment shall be equipped with a low single hinged door.

The compartment shall be equipped with the following:

One (1)

Y__N__

One (1) louver with filter shall be installed in the compartment.

One (1)

Y__N__

ADJUSTABLE SHELVING TRACKS

The compartments shall be equipped with two (2) aluminum adjustable tracks, vertically mounted, that are bolted in place for adjustable shelving and equipment mounting.

One (1)

Y___N___

COMPARTMENT LIGHTS

Two (2) OnScene Solutions Access LED lights shall be installed, one on each side of the door opening. The lights shall contain 36 LEDs per light producing approximately 180 lumens (six LEDs and 30 lumens every 9"). The light stick shall be rated at 100,000 hours of service and shall be provided with a 5-year free replacement warranty. The light shall have a 5/8" LEXANTM polycarbonate tube enclosure for severe duty applications.

The light stick shall be waterproof and be connectible via a jumper wire to add additional lights in series if required.

One (1)

Y___N___

The compartment light will be controlled by an automatic "On-Off" switch located on each compartment door.

One (1)

Y___N___

REAR BODY CONFIGURATION

The rear of the apparatus body shall be of the flat back design.

One (1)

Y___N___

REAR COMPARTMENT

There shall be no compartment located on the rear of the body.

One (1)

Y___N___

REAR STEP - 12" BOLT-ON

A 12" deep step surface shall be provided at the rear of the apparatus body, bolted in place and easily removable for replacement or repair. The tailboard shall be constructed of .188" aluminum diamond plate or equal non-slip surface in compliance with NFPA 1901 standards.

A label shall be provided warning personnel that riding on the rear step while the apparatus is in motion is prohibited.

One (1)

Y___N___

HARD SUCTION MOUNTING

A Ziamatic model HHS-TMV-2 Vertical Hard Suction Mount shall be installed on the right side of the body for ease of access to suction hose.

Two (2)

Y___N___

SUCTION HOSE SOURCE

New suction hose shall be provided by the body builder and feature long handles.

One (1)

Y__N__

PORTABLE WATER TANK MOUNTING SYSTEM

There shall be one (1) ZICO Quic-Lift Hydraulic Portable Tank System, Model PTS-HA storage carrier provided on the left side of the booster tank and above the lower compartments to carry a portable folding tank. The tank carrier shall hold the folding tank in the vertical position for travel, and fold down over the lower body side for loading and unloading. The folding tank carrier shall have two high strength aluminum casting sets, dual self-contained hydraulic actuators and a PTS-HA-CH center hinge. The hydraulic actuators shall be controlled with a weather-tight momentary switch located on left side of the body. There shall be a reinforcement plate installed on the compartment top where the folding tank carrier is attached. The Quic-Lift Hydraulic Portable Tank System shall be capable of being lowered manually if a failure occurs.

One (1)

Y__N__

The folding tank storage carrier shall be provided without a cover or enclosure for the folding tank.

One (1)

Y__N__

FOLDING TANK SOURCE

New folding tank shall be provided by the body builder.

One (1)

Y__N__

FOLDING STEPS LEFT SIDE FRONT

Three (3) folding steps of die cast high-strength zinc/aluminum alloy, plated with a superior automotive grade chrome finish shall be provided. The greater than 42 sq. in. serrated non-skid step traction area also offers an oversized non-slip grasp handhold. A heavy-duty stainless-steel spring design firmly holds the step in the open or closed positions. A rubber stop prevents any transit noise and rattles in the closed position. Step lighting shall be from a LED light mounted above the step.

The step has been third part tested to assure conformation of NFPA 1901 and FHA, 49CFR specifications for stepping surfaces and handhold.

The step shall be installed on the left side front compartment face.

One (1)

Y__N__

FOLDING STEP RIGHT SIDE FRONT

A folding step of die cast high-strength zinc/aluminum alloy, plated with a superior automotive grade chrome finish shall be provided. The greater than 42 sq. in. serrated non-skid step traction area also offers an oversized non-slip grasp handhold. A heavy-duty stainless-steel spring design firmly holds the step in the open or closed positions. A rubber stop prevents any transit noise and rattles in the closed position. Step lighting shall be from a LED light mounted above the step.

The step has been third part tested to assure conformation of NFPA 1901 and FHA, 49CFR specifications for stepping surfaces and handhold.

The step shall be installed on the right-side front compartment face.

One (1)

Y__N__

HANDRAIL TOP OF BODY SIDES

Two (2) extruded aluminum non-slip handrails, approximately 12" in length, shall be provided and mounted, one (1) each side at the top of the body sides, at the front of the apparatus body.

One (1)

Y___N___

FRONT BODY PANELS

The front of the body compartments from the lower edge to the top of the compartment doors shall be painted.

One (1)

Y___N___

CATWALKS

Aluminum tread plate catwalks shall be installed on the top of the compartments.

One (1)

Y___N___

REAR BODY PROTECTION PANELS

The rear body panels of the body shall be a smooth material, to allow for the proper application and installation of a "Chevron" stripe on the rear.

One (1)

Y___N___

ACCESS LADDER EZ CLIMB - LEFT REAR

There shall be a swing out and down access ladder supplied and installed on the apparatus, for accessing the top of the apparatus. It shall be of an all-aluminum design and shall incorporate treads six (6") inches deep and no more than eighteen (18") inches apart. The ground to the first step dimension, on level ground, shall be no more than twenty-four (24") inches.

The access ladder shall have integrated hand holds in the steps, to aid in the ascent/descent of the ladder.

When in the deployed position the ladder shall have an angle of approximately 75-degrees to facilitate ascending and descending the ladder. The ladder shall be retained in the stowed and deployed position by two (2) gas cylinders and shall not require the use of latches to hold it in position.

One (1)

Y___N___

HANDRAIL EZ-CLIMB LADDER

Two (2) extruded aluminum non-slip handrails with offset brackets shall be installed on the EZ-Climb access ladder, one (1) on each side.

One (1)

Y___N___

HANDRAIL BELOW HOSEBED

One (1) extruded aluminum non-slip handrail, approximately 48" in length, shall be provided and horizontally mounted below the hosebed on the rear of the apparatus.

One (1)

Y___N___

EXTRUDED ALUMINUM RUB RAILS

Full body length polished aluminum rub rails shall be bolted in place on the lower right and left body sides. The side rub rails shall be a heavy extruded aluminum "C" channel.

One (1)

Y___N___

NYLON SPACERS FOR RUB RAILS

There shall be nylon spacers provided between the rub rail and the body. This shall allow wash out and replacement in the event of damage.

One (1)

Y___N___

WHEEL WELL PROVISION LOCATION

The wheel well provisions shall be located on the left side of the apparatus, ahead of the rear wheels.

One (1)

Y___N___

One (1) breathing air cylinder storage compartment shall be provided and located in the rear wheel well of the apparatus body.

The cylinder storage compartment shall be constructed entirely of black polymer. The door assemblies shall be provided with a gasket between door and body side, bolted in-place and removable for repair or replacement.

Compartment shall be provided with SCBA cylinder scuff protection. A brushed stainless-steel door shall be provided.

One (1)

Y___N___

One (1) one-inch (1") wide loop of black webbing shall be installed in each SCBA compartment to prevent the bottle from sliding out of the compartment in case of door failure. The loop shall be mounted, centered in the compartment and shall hang within one-inch (1") of the compartment floor to allow the bottle to pass by the strap when the bottle is placed in the compartment. The strap shall loop over the valve.

One (1)

Y___N___

WHEEL WELL PROVISIONS LOCATION

The wheel well provisions shall be located on the left side of the apparatus, between the rear tandem wheels.

One (1)

Y___N___

One (1) SCBA storage compartment shall be provided and located in the rear wheel well of the apparatus body. The compartment shall fully contain one MSA G1 SCBA.

The SCBA storage compartment shall be constructed entirely of black polymer. The door assemblies shall be provided with a gasket between door and body side, bolted in-place and removable for repair or replacement.

Compartment shall be provided with SCBA cylinder scuff protection. A brushed stainless-steel door shall be provided.

One (1)

Y__N__

One (1) one-inch (1") wide loop of black webbing shall be installed in each SCBA compartment to prevent the bottle from sliding out of the compartment in case of door failure. The loop shall be mounted, centered in the compartment and shall hang within one-inch (1") of the compartment floor to allow the bottle to pass by the strap when the bottle is placed in the compartment. The strap shall loop over the valve.

One (1)

Y__N__

WHEEL WELL PROVISION LOCATION

The wheel well provisions shall be located on the left side of the apparatus, behind of the rear wheels.

One (1)

Y__N__

One (1) breathing air cylinder storage compartment shall be provided and located in the rear wheel well of the apparatus body.

The cylinder storage compartment shall be constructed entirely of black polymer. The door assemblies shall be provided with a gasket between door and body side, bolted in-place and removable for repair or replacement.

Compartment shall be provided with SCBA cylinder scuff protection. A brushed stainless-steel door shall be provided.

One (1)

Y__N__

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One (1)

Y__N__

WHEEL WELL PROVISION LOCATION

The wheel well provisions shall be located on the right side of the apparatus, ahead of the rear wheels.

One (1)

Y__N__

One (1) breathing air cylinder storage compartment shall be provided and located in the rear wheel well of the apparatus body.

The cylinder storage compartment shall be constructed entirely of black polymer. The door assemblies shall be provided with a gasket between door and body side, bolted in-place and removable for repair or replacement.

Compartment shall be provided with SCBA cylinder scuff protection. A brushed stainless-steel door shall be provided.

One (1)

Y__N__

One (1) one-inch (1") wide loop of black webbing shall be installed in each SCBA compartment to prevent the bottle from sliding out of the compartment in case of door failure. The loop shall be

mounted, centered in the compartment and shall hang within one-inch (1") of the compartment floor to allow the bottle to pass by the strap when the bottle is placed in the compartment. The strap shall loop over the valve.

One (1)

Y___N___

WHEEL WELL PROVISIONS LOCATION

The wheel well provisions shall be located on the right side of the apparatus, between the rear tandem wheels.

One (1)

Y___N___

One (1) SCBA storage compartment shall be provided and located in the rear wheel well of the apparatus body. The compartment shall fully contain one MSA G1 SCBA.

The SCBA storage compartment shall be constructed entirely of black polymer. The door assemblies shall be provided with a gasket between door and body side, bolted in-place and removable for repair or replacement.

Compartment shall be provided with SCBA cylinder scuff protection. A brushed stainless-steel door shall be provided.

One (1)

Y___N___

One (1) one-inch (1") wide loop of black webbing shall be installed in each SCBA compartment to prevent the bottle from sliding out of the compartment in case of door failure. The loop shall be mounted, centered in the compartment and shall hang within one-inch (1") of the compartment floor to allow the bottle to pass by the strap when the bottle is placed in the compartment. The strap shall loop over the valve.

One (1)

Y___N___

WHEEL WELL PROVISION LOCATION

The wheel well provisions shall be located on the right side of the apparatus, behind of the rear wheels.

One (1)

Y___N___

One (1) breathing air cylinder storage compartment shall be provided and located in the rear wheel well of the apparatus body.

The cylinder storage compartment shall be constructed entirely of black polymer. The door assemblies shall be provided with a gasket between door and body side, bolted in-place and removable for repair or replacement.

Compartment shall be provided with SCBA cylinder scuff protection. A brushed stainless-steel door shall be provided.

One (1)

Y___N___

One (1) one-inch (1") wide loop of black webbing shall be installed in each SCBA compartment to prevent the bottle from sliding out of the compartment in case of door failure. The loop shall be mounted, centered in the compartment and shall hang within one-inch (1") of the compartment floor to allow the bottle to pass by the strap when the bottle is placed in the compartment. The strap shall loop over the valve.

One (1)

Y___N___

TWO TONE BODY PAINT PROCESS

All bright metal fittings, if unavailable in stainless steel shall be heavily chrome plated. Iron fittings shall be copper plated prior to chrome plating. If applicable, any and all accessory items shall be removed from the body prior to cleaning and painting. Any accessory items that are to be painted, shall be painted separately and installed after the body is painted and cured.

All seams shall be caulked, both inside and along the exterior edges, with a urethane automotive sealant to prevent moisture from entering between any body panels.

The body and all parts shall be thoroughly washed with a grease cutting solvent (PPG CFX436) prior to any sanding. After the body has been sanded and the weld marks and minor imperfections are filled and sanded, the body shall be washed again with (PPG CFX436) to remove any contaminants on the surface.

The next two to four coats (depending on need) shall be a PPG DelFleet F4936 High Solids Epoxy Gray Primer. The film build shall be 4-6 mils when dry. The primer surfacer coat, after appropriate dry time, shall be sanded with 320-600 grit sandpaper to ensure maximum gloss of the paint. The last step is the application of at least three coats of PPG DelFleet polyurethane FBC-color, the film build being 2-3 mils dry. Followed by three coats PPG DelFleet F3906 high build clear, the film build being 2-3 mils dry. This shall provide a UV barrier to prevent fading and chalking.

All products and technicians are certified by PPG every two (2) years.

The apparatus shall be Red and Black to match the chassis.

One (1)

Y___N___

INTERIOR COMPARTMENT FINISH

Four (4) apparatus side compartment interiors are to be painted with a spatter finish material. The compartments shall be cleaned with a grease remover, and then the surface sanded and prepared for painting. The compartment shall be provided with two (2) coats of white epoxy. The compartments are then coated with a **gray** splatter paint top coat.

One (1)

Y___N___

TOUCH-UP PAINT

Two (2) two (2) ounce bottles of touch-up paint (one for each color) shall be furnished with the completed truck at final delivery.

One (1)

Y___N___

UNDERCOATING

The entire underside of the tandem axle apparatus body is to be cleaned and properly prepared for application of a sprayed on automotive type undercoating for added corrosion resistance. Undercoating is to be a solvent based, rubberized coating, black in color.

One (1)

Y___N___

LETTERING

The Authority shall supply the apparatus lettering.

One (1)

Y___N___

REFLECTIVE STRIPING

A 1" x 6" x 1" wide 3M brand Scotchlite reflective multi-stripe shall be affixed to the perimeter of the vehicle. There shall be a 1" gap between each of the stripes. Striping shall conform to applicable NFPA requirements. At least 50% of the perimeter length of each side and width of the rear, and at least 25% of the perimeter width of the front of the vehicle shall have reflective striping.

One (1)

Y___N___

COLOR OF STRIPING MATERIAL

The color of the 3M brand striping material shall be black.

One (1)

Y___N___

CHEVRON STRIPING

The front bumper shall have 3M reflective red and black striping installed. The chevron style striping shall be applied at a 45-degree upward angle.

One (1)

Y___N___

CHEVRON STRIPING

The entire rear portion of the body shall have 3M reflective red and black striping installed. The chevron style striping shall be applied at a 45-degree upward angle pointing towards the center upper portion of the rear panel.

One (1)

Y___N___

REFLECTIVE STRIPE

Reflective striping shall be installed on the interior of each chassis door. The lower portion of the doors shall have red and black Chevron applied to it that matches the rear of the apparatus. A matching reflective stripe shall be applied on the vertical outer edge of the door.

One (1)

Y___N___

YELLOW SAFETY TAPE - STANDING & WALKING SURFACES

The apparatus shall be NFPA standard 15.7.1.6 designating any horizontal standing or walking surface higher than 48-in (1220 mm) from the ground and not guarded by railing or structure at least 12-in (300 mm) high shall have at least a 1-in (25 mm) wide safety yellow line delineation that contrasts with the background to mark the outside perimeter of the designated standing or walking surface area, excluding steps and ladders.

One (1)

Y___N___

WHEEL CHOCKS WITH MOUNTS

A pair of Zico Model SAC-44 Quic-Chok folding wheel chocks shall be provided and mounted under the apparatus body with model SQCH-44H horizontal mounting brackets.

One (1)

Y___N___

FOLDING PORTABLE WATER TANK

One (1) 3000-gallon, 22 oz red vinyl, portable water tank shall be provided. The tank shall include an aluminum support frame.

ADDITIONAL REQUIREMENTS

One (1)

Y__N__

TOLL FREE SERVICE NUMBER

Due to the nature of emergency fire and rescue services being subject to respond at any time of the day or night, the Authority requires that this also applies to the selling Dealer and the manufacturer. On a typical day to day basis, the request for service is expected to be requested from the selling Dealer. If the Dealer's service center is not readily available, the Authority needs assurance that the OEM (Original Equipment Manufacturer) can be reached for assistance.

With that said, each Bidder shall supply a toll-free telephone number that provides OEM emergency service assistance. This number, when called, shall be directed to a call center, then to an OEM service technician, 24-hours a day, 365 days a year.

There shall be a minimum of ten (10) OEM service technicians at any time in the queue to answer an incoming emergency service call. One (1) of which shall be the OEM's National Service Manager. In the interest of providing the minimum level of acceptable service for the new apparatus, this shall be considered a requirement of the Successful Bidder/proposal.

One (1)

Y__N__

DOCUMENTATION

The manufacturer must supply at time of delivery, at least one copy of:

1. Engine manufacturer's certified brake horsepower curve showing the maximum no load governed speed.
2. Manufacturer's record of pumper construction details.
3. Pump manufacturer's certification of suction capability.
4. Pump manufacturer's certification of hydrostatic test.
5. Certification of inspection and testing by Underwriter's Laboratories Incorporated.
6. A copy of the apparatus manufacturer's approval for stationary pumping applications.
7. Weight documents from a certified scale showing actual loading on the front axle, rear axle, and overall vehicle.
8. The operation manual covering the fire apparatus as delivered.

A test data plate shall be provided at the pump operator's position which gives the rated discharges and pressures together with the speed of the engine as determined by the manufacturer's test for this unit. Plate must comply with requirements of NFPA 1901.

A permanent data plate shall be affixed in the driver's compartment specifying the quantity and type of the following fluids used in the vehicle.

Permanent placards shall be affixed and visible to all seated occupants instructing the occupants to wear their seat belts. A permanent placard shall be affixed to the rear step area to instruct that riding on the rear step is prohibited.

One (1)

Y__N__

BODY MANUAL - PRINTED WITH DIGITAL COPY

The manufacturer shall provide with the vehicle upon delivery, one (1) complete delivery manual. This manual shall be in a notebook type binder, with reference tabs for each section of the vehicle. In addition to the printed material, a digital copy shall be provided.

Within each section shall be:

- Individual component manufacturer instruction and parts manuals
- Warranty forms for the body
- Warranty forms for all major components
- Warranty instructions and format to be used in compliance with warranty obligations
- Wiring diagrams
- Installation instruction and drawings for major parts
- Visual graphics and electronic photos for the installation of major parts
- Necessary normal routine service forms, publications and components of the body portion of the apparatus
- Technical publications for training and instruction on major body components
- Warning and safety related notices for personnel protection
- Cab and chassis manuals on parts, service and maintenance shall be provided

One (1)

Y___N___

OPERATION AND FAMILIARIZATION MANUAL

The apparatus manufacturer shall supply, at delivery, customized Operation & Familiarization Manual, complete with full-color photos of the actual, completed apparatus with each feature and control identified and its function explained.

Safety, Operation, Maintenance and Troubleshooting sections will include information about each major component of the apparatus (chassis, pump, foam system, generator, electrical devices, etc.). The manual shall be specific to the apparatus being delivered.

All safety and warning labels shall be represented in the manual for subsequent safety inspections to ensure their continued presence on the apparatus.

The manufacturer shall submit a sample manual with the bid proposal. Failure to do so will result in rejection of the proposal. Reference to "on delivery" or "at pre-build" submission is not an acceptable response for the bid document.

“Similar” or “Representative” manuals will not be accepted.

One (1)

Y___N___

ENGINE AND TRANSMISSION MANUALS

One (1) paper copy and one (1) digital copy of the Cummins engine service manual and one (1) paper copy and one (1) digital copy of the Allison brand transmission service manual shall accompany the cab and chassis.

One (1)

Y___N___

AS BUILT WIRING DIAGRAMS

Each cab and chassis shall include one (1) digital copy of the wiring schematics and component wiring. The wiring schematics shall be developed on a software program such as VeSys Design or an equivalent that provides continuity in files and diagram. The software shall allow you to trace through the design schematics to identify cross referenced items such as in-line connectors and wires. The software shall be interactive, allowing you to view one electrical assembly drawing; when you click on a wire routing, the program will take you to the related circuit assembly or

termination point. The software shall also provide a search function that allows you to view multiple diagrams using readily available pdf viewers. The digital copy of the wiring schematics shall be compatible with handheld devices such as I-Pads.

WARRANTIES

One (1)

Y__N__

BUMPER TO BUMPER WARRANTY – ONE YEAR

The manufacturer shall warrant each new motorized fire apparatus for a period of ONE (1) year from the date of delivery, except for chassis and other components noted herein. Under this warranty, the manufacturer agrees to furnish any parts to replace those that have failed due to defective material or workmanship

This warranty shall not apply to those items that are usually considered normal maintenance and upkeep services: including, but not limited to, normal lubrication or proper adjustment of minor auxiliary pumps or reels.

One (1)

Y__N__

ALUMINUM BODY WARRANTY - FIVE YEAR

The manufacturer warrants to the Authority, that the all-aluminum body, under normal use and with reasonable maintenance, be structurally sound and will remain free from corrosion perforation for a period of FIVE (5) years.

One (1)

Y__N__

FRAME WARRANTY - LIFETIME

The frame and cross members shall carry a LIFETIME warranty, with complete detail outlined in a warranty document to be provided upon request by the Authority.

One (1)

Y__N__

GALVANIZED SUBFRAME WARRANTY - LIFETIME

Subject to the provisions, limitations and conditions set forth in this warranty, the manufacturer, hereby warrants to the Authority that each new hot dip galvanized body subframe (exclusive of paint finish and hardware) is structurally sound and free of all structural defects of both material and workmanship and further warrants that it will maintain such structural integrity for the duration of ownership by the Authority.

One (1)

Y__N__

FRONT AXLE WARRANTY – FIVE YEAR

The front axle shall be warranted for FIVE (5) years or 500,000 miles, whichever comes first, under the general service application.

One (1)

Y__N__

REAR AXLE WARRANTY – FIVE YEAR

The rear axle(s) shall be warranted for FIVE (5) years, with unlimited miles under the general service application.

One (1)

Y___N___

CAB AND CHASSIS WARRANTY – ONE YEAR

The cab and chassis shall carry a TWELVE (12) month warranty providing parts and labor, beginning on the date the complete apparatus is delivered to the Authority. The complete detail of the warranty shall be outlined in a warranty document to be provided upon request by the Authority.

One (1)

Y___N___

PAINT WARRANTY – FIVE YEAR

The PPG paint performance guarantee will cover the areas of the vehicle finished with the specified product for a period of FIVE (5) years beginning the day the vehicle is delivered to the Authority.

One (1)

Y___N___

TRANSMISSION WARRANTY – FIVE YEAR

The Allison transmission shall be warranted for a period of FIVE (5) years, with complete detail outlined in a warranty document to be provided upon request by the Authority.

One (1)

Y___N___

ENGINE WARRANTY – SEVEN YEAR

The Cummins engine shall be warranted for a period of FIVE (5) years or 100,000 miles, whichever comes first, with complete detail outlined in a warranty document to be provided upon request by the Authority.

One (1)

Y___N___

PUMP WARRANTY – SEVEN YEAR

Waterous warrants, to the Authority only, that products and parts manufactured by Waterous will be free from defects in material and workmanship under normal use and service for a period of SEVEN (7) years from the date the product is first placed in service, or seven and one half 7-1/2 years from the date of shipment by Waterous, whichever period will be the first to expire. Waterous will replace without charge, repair or make a fair allowance for any defect in material or workmanship.

One (1)

Y___N___

STAINLESS STEEL PLUMBING WARRANTY – TEN YEAR

The manufacturer shall provide a TEN (10) year warranty on the stainless-steel plumbing components and installation. The manufacturer shall supply details of their warranty information with their bid submission.

One (1)

Y___N___

WATER TANK WARRANTY

UNITED PLASTIC FABRICATION INC. warrants each UPF POLY-TANK IIE Booster/Foam tank to be free from manufacturing defects in material and workmanship for the service life of the vehicle. Every UPF POLY-TANK IIE is thoroughly inspected and tested for leaks before leaving the facility. Should any problems develop with the UPF POLY-TANK IIE booster/foam tank and will not meet performance criteria during the service life of the vehicle, the Authority will notify

UPF in writing or call our TOLL-FREE SERVICE HOT LINE 1-800-USA-POLY, provide UPF with the serial number and a description of the problem.

If the tank problem would render the truck out of service, UPF will dispatch a service technician WITHIN 48 HOURS (2 DAYS) to repair the tank. If the vehicle can remain in service, UPF will dispatch a service technician within a mutually agreed upon time period. UPF will repair or replace the tank with a new UPF POLY-Tank IIE. UPF will cover customary and reasonable costs to remove and install the UPF POLYTANK IIE.



EXHIBIT C

CONTRACT FORM

AGREEMENT BETWEEN NORTH MASON REGIONAL FIRE AUTHORITY AND [REDACTED] FOR THE PURCHASE OF ONE (1) NEW 3,000-GALLON WATER TENDER .

THIS AGREEMENT is made and entered into by North Mason Regional Fire Authority, Washington municipal corporation hereinafter "Authority"; and [REDACTED] "Vendor."

In consideration of the payments, covenants and agreements hereinafter mentioned, to be made or performed by the parties hereto, the parties covenant and agree to the following:

1. **Term – Agreement.** The term "Agreement" as used herein, shall constitute this document entitled "Agreement between North Mason Regional Fire Authority and [REDACTED] for the purchase of one (1) new 3,000-gallon water tender" and the following attachments, which are incorporated by this reference:

Attachment A, entitled "Proposal," together with all specifications and drawings referenced in the Proposal.

Attachment B, entitled "Apparatus Specifications" as prepared by Authority and completed by Vendor.

Attachment C, entitled "Instructions to Bidders" as prepared by Authority.

2. **Term – Apparatus.** This Agreement is for the purchase of one (1) new 3,000-gallon water tender together with all described parts, systems and equipment that conforms to the terms of this Agreement.

3. **Scope of Work.**

- 3.1. Vendor agrees to build and deliver to the Authority one (1) fully functional apparatus that meets the specifications set forth in this Agreement and its various attachments.
- 3.2. The Authority promises and agrees with Vendor to engage Vendor to provide the apparatus as described in this Agreement and for Vendor to complete and finish the same according to the plans and specifications set forth in this Agreement and attachments.
- 3.3. The parties agree that the apparatus will conform to all Federal Department of Transportation rules and regulations in effect at the time of signing of the Agreement, and with all National Fire Protection Association guidelines for Automotive Fire Apparatus as published at the time of signing of this Agreement.

4. Delivery and Risk of Loss.

- 4.1. Vendor agrees to deliver to the Authority one (1) fully functional apparatus, free of defects, that conforms to the specifications set forth in this Agreement on or before _____, 2021, F.O.B. _____; provided, the risk of loss for any defect or damage to the apparatus shall remain with Vendor until the apparatus is accepted by the Authority.
- 4.2. Vendor shall, at the request of the Authority, provide a representative to demonstrate the operation of the apparatus and to train and instruct Authority representatives regarding the operation of the apparatus at the time of delivery.

5. Payment.

- 5.1. To be based on Authority's selection of Vendor Proposal.
- 5.2. On receipt of payment, Vendor shall cause all titled equipment being purchased to be titled in the name of Authority free and clear of any third party interests or liens regardless of the equipment location. The Authority's ownership interest is intended as a security and shall not be construed as acceptance of the apparatus.

6. Inspection.

- 6.1. The Authority is entitled to inspect the apparatus at the times and in the manner specified in the Bid Specifications.
- 6.2. The Authority representatives shall, at a minimum, be afforded twenty-four (24) hours of time to inspect the apparatus during the inspection. Additional inspection time shall be afforded for the inspection of any item that is discovered by an Authority representative to be defective. All deficiencies shall be corrected prior to the apparatus leaving the Vendor's facility.
- 6.3. There shall be a post-delivery final inspection conducted at the Authority's premises to ensure that the apparatus conforms to the terms of this Agreement and passes all inspections and tests as required by the Authority or other laws or regulations prior to acceptance of the apparatus. The initial post-delivery inspection and testing shall be completed within ten (10) days of delivery of the apparatus. In the event the apparatus fails to meet the tests as required by the Authority on first trials, second trials may be conducted by the Authority, at the sole option of the Authority, within thirty (30) days from the date of the first trials. Such trials shall be final and conclusive.
- 6.4. Vendor specifically agrees that its failure to afford the Authority the opportunity to inspect the apparatus pursuant to the terms of this Agreement shall be sufficient cause, in and of itself, for the rejection of the apparatus and a full refund of any prepaid purchase price.

6.5. Notwithstanding any right of inspection, Vendor shall notify the Authority of any known or discoverable defect in the apparatus that exists on the date the apparatus is delivered, or is later discovered by Vendor.

7. **Acceptance.** Acceptance of the apparatus shall occur after the apparatus passes post-delivery inspections and tests. Risk of loss for any defect or damage to the apparatus shall remain with Vendor until the apparatus is accepted. The fact that the Authority uses the apparatus for the inspection and tests shall not constitute acceptance.

8. **Rejection.** The Authority reserves the right to inspect the apparatus for any defects, irregularities, non-conformities and defects in workmanship and appearance, and to reject a non-conforming or defective apparatus. The Authority will notify Vendor of the rejection of the apparatus in writing. The Authority will also provide Vendor with a written description of the reason(s) for rejection. The Authority will hold the apparatus in its possession with reasonable care at Vendor's disposition for a time sufficient to permit Vendor to remove the apparatus. If Vendor gives no instructions within a reasonable time after notification of the rejection, the Authority will store the Apparatus at Vendor's expense and such expense shall become a security interest in favor of the Authority. The parties understand that in the case of rejection, the Authority is not required to store the apparatus in an enclosed area.

9. **Cure.**

9.1. If the Authority has rejected the apparatus for a defect or non-conformity, or the apparatus has or develops a defect after acceptance of the apparatus, Vendor shall have thirty (30) days to cure the defect; provided, Vendor provides the Authority written notice of Vendor's intent to cure the defect and assures the Authority that it is capable of curing such defect. The Authority shall notify Vendor in writing of its discovery of any defect within thirty (30) days of the actual discovery of the defect. The cure of the defect shall be at the sole expense of the Vendor, and Vendor shall cover all costs of such cure.

9.2. Unless otherwise agreed to in a separate writing signed by the parties, Vendor shall have one opportunity to cure each defect for which it has been placed on notice or which Vendor discovers. Any agreement to cure defects of the apparatus shall not constitute a settlement of claims brought pursuant to the terms of this Agreement.

9.3. If, at any time, Vendor discovers a defect in the apparatus, Vendor shall, within two (2) days of discovery, notify the Authority of such defects in writing and shall promptly cure such defect, if Vendor so chooses, pursuant to this section.

10. **Warranty.**

10.1. Vendor warrants and guarantees that the apparatus will be manufactured in accordance with the specifications set forth in the attachments to this Agreement. Vendor shall provide express warranties consistent with the requirements in the Bid Specifications.

- 10.2. The implied warranties of merchantability and fitness for a particular purpose, as set forth in sections 62A.2-314 and -315 of the Revised Code of Washington, shall apply to the apparatus. These implied warranties shall apply even though they may be disclaimed in an attachment to this Agreement or other documents supplied by the Vendor, such that this section shall prevail over such disclaimer, and such disclaimer shall not apply. The inspection of or failure to inspect the apparatus shall not constitute a waiver or cancellation of the implied warranties.
- 10.3. If the Apparatus or any component, unit or subsystem is repaired, rebuilt or replaced pursuant to this Agreement, such warranty work, component, unit or subsystem shall have the remaining unexpired warranty of the apparatus, the original component, unit or subsystem or a warranty of six (6) months, whichever period is longer.
- 10.4. Vendor shall provide all paperwork relating to warranty coverage of the apparatus or their components to the Authority upon delivery of the Apparatus. In the event of any discrepancy or inconsistency between the paperwork and this Agreement, the provisions providing the greatest warranty protection to the Authority shall control.
- 10.5. The warranty period set forth in this Agreement shall not run during any period in which the Apparatus is not functional due to a defect in the Apparatus so long as the Authority places Vendor on written notice of the defect.
- 10.6. In the event a component manufacturer requires that the purchaser register its purchase with the manufacturer to make effective a component manufacturer's warranty, Vendor shall take all steps necessary to register such purchase with the component manufacturer. In the event Vendor fails to properly register the Authority's purchase with the component manufacturer, then Vendor shall assume the status of warrantor of such component as if such registration had occurred. The Authority's failure to discover any defect during any inspection or at any other time shall not constitute a waiver of the warranty applicable to such defect.

11. Performance Bond. If any portion of the Purchase Price is payable prior to the Authority's acceptance of the apparatus, Vendor shall provide and execute a Performance Bond for the full contract amount, unless waived in writing by the Authority. This performance bond shall:

11.1. Be signed by an approved surety (or sureties) that:

11.1.1. Is registered with the Washington State Insurance Commissioner, and

11.1.2. Appears on the current authorized Insurance List for the State of Washington published by the Office of the Washington Insurance Commissioner.

11.2. Be conditioned on and guarantee the faithful performance of the contract by Vendor within the prescribed time.

11.3. Guarantee that the surety shall indemnify, defend, and protect the Authority against any claim of direct or indirect loss resulting from the failure:

11.3.1. Of Vendor (or any of the employees, sub-contractors, volunteer sub-contractors of Vendor) to faithfully perform the contract, and

11.3.2. Of Vendor (or the sub-contractors) to pay all laborers, mechanics, subcontractors, volunteers, material person or any other person who provides supplies or provisions for carrying out the work.

11.4. The Authority may require the surety companies on the Performance Bond to appear and qualify themselves. When the Authority deems the surety or sureties to be inadequate, it may, upon written demand, require Vendor to furnish additional surety to cover any remaining work. Until the added surety is furnished, payments on the contract will stop.

11.5. The parties agree that no liability shall attach to the Authority by reason of entering into this Agreement except as expressly provided herein.

12. **Non-Assignment.** Vendor shall not assign this Agreement nor any part thereof, nor any monies due or to become due thereunder, without the prior written approval of the Authority. Vendor shall not sublet any part of this Agreement without first having obtained the written consent of the Authority to do so. IN CASE SUCH CONSENT TO SUBLET ANY PART OF THIS AGREEMENT IS GIVEN BY THE AUTHORITY, IT SHALL IN NO WAY RELEASE VENDOR FROM ANY RESPONSIBILITY UNDER THIS AGREEMENT, AND VENDOR SHALL BE HELD IN ALL RESPECTS ACCOUNTABLE AS IF NO CONSENT HAS BEEN GIVEN. VENDOR WILL BE REQUIRED TO GIVE PERSONAL ATTENTION TO THE WORK THAT IS SUBLET.

13. **Indemnification.** Vendor shall defend, indemnify and hold the Authority, it's officers, officials, employees, agents and volunteers harmless from injury and all claims, injuries, damages, losses and suits including all legal costs and attorney fees arising out of or in connection with the performance of this Agreement except for injuries and damages resulting from the sole negligence of the Authority. The Authority's inspection or acceptance of the apparatus when completed will not be grounds to avoid any of these covenants of indemnification. The provisions of this section shall survive the expiration or termination of this Agreement. The Authority shall: (1) promptly notify Vendor of any claim for which indemnification may be sought; (2) cooperate fully in the defense of such claim; and (3) permit Vendor to settle or compromise such claim on terms and conditions which, in good faith, it determines are appropriate.

14. **Insurance.** The Vendor shall procure and maintain for the duration of the Agreement, insurance against claims for injuries to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the Vendor, its agents, representatives, employees or subcontractors. The Vendor's insurance must be primary, and any insurance or self-insurance maintained by the Authority shall not contribute to it. If any part of this Contract is subcontracted, these insurance requirements also apply to all subcontractors.

15. **Discrimination.** In the hiring of employees for the performance of work under this Agreement or any sub-contract hereunder, Vendor, its sub-contractors or any person acting on behalf of Vendor or its sub-contractor shall not, by reason of race, religion, color, sex, sexual orientation, national origin or the presence of any sensory, mental or physical disability, discriminate against any person who is qualified and available to perform the work to which the employment relates.
16. **Severability.** If any term, provision, condition or other portion of this Agreement, or its application to any person is held to be inoperative, invalid or void, then the same shall not affect any other term, provision, condition or any other portion of this Agreement or its application to any person.
17. **Cumulation of Remedies.** All remedies available to either party for breach of this Agreement are cumulative and may be exercised concurrently or separately, and the exercise of any one remedy shall not be deemed an election of such remedy to the exclusion of other remedies.
18. **Non-Waiver of Breach.** No term or provision hereof shall be deemed waived and no breach consented to unless such waiver or consent shall be in writing and signed by the party claimed to have waived or consented. Any consent by any party, or waiver of, the breach of the other whether expressed or implied shall not constitute a continuing waiver of or consent to, nor excuse a different or subsequent breach. The failure of the Authority to enforce one portion of this Agreement shall not constitute a waiver, or excuse the breach, of another portion of this Agreement.
19. **Authority.** Each party has full power and authority to enter into and perform this Agreement, and the person signing this Agreement on behalf of each party has been properly authorized and empowered to enter into this Agreement. Each party further acknowledges that it has read this Agreement and understands and agrees to be bound by its terms.
20. **Choice of Law/Attorney Fees and Courts.** This Agreement shall be exclusively governed and controlled by the laws of the State of Washington. Jurisdiction and venue for any action relating to this Agreement shall exclusively be in the Superior Court for Mason County, Washington. In the event of litigation concerning the terms of or performance under this agreement, the prevailing party, in addition to costs, shall be entitled to reasonable attorney's fees as determined by the court.
21. **Termination.** This Agreement may be terminated in whole or in part:
- 21.1. By the Authority if Vendor fails to deliver a conforming apparatus within thirty (30) days after the time for delivery specified in this Agreement or after thirty (30) days for a cure of any defect or non-conformity. The Authority shall notify Vendor of the termination, the reasons thereof, and the effective date.
- 21.2. By the mutual written agreement of the Authority and Vendor. The Agreement to terminate shall include the conditions of termination, the effective date and in the case of termination in part, the portion to be terminated.

21.3. After the effective date of termination, no charges incurred under this Agreement, or terminated portions thereof, are allowable.

22. **Notice to Proceed.** Vendor shall commence all work immediately upon execution of the Agreement and shall provide a performance bond and a copy of an insurance policy(ies)\certificate(s).

23. **Sales Tax.** The Authority shall be responsible for paying Washington State Sales Tax on the contract amount at a rate that is current when and where the unit is purchased. Sales tax collected by Vendor will be subject to WAC 458-20-145, Special Rule No. I. 25.

24. **Ownership and Title.** Upon acceptance of the apparatus and payment by the Authority pursuant to this Agreement, ownership and title of the apparatus shall pass to the Authority free and clear of any interest or lien.

25. **Modification.** This Agreement may only be amended or modified by the mutual written agreement of the parties. All amendments or modifications shall be signed by both parties and be attached to this Agreement.

26. **Standard of Performance.** All work to be performed by Vendor shall be performed in a workman-like manner in accordance with generally accepted professional practices in effect at the time such work is performed.

27. **Entire Agreement.** This Agreement constitutes the entire agreement between the Authority and Vendor. With the exception of properly executed written modifications, representations, either written or oral, that do not conform to the "modification" section of this Agreement, shall not be considered part of this Agreement.

28. **Conflict of Terms.** The terms of this Agreement, including the Attachments, shall be read together. Unless otherwise specified in this Agreement, in the event that any of the terms of the Agreement including the Attachments conflict with each other, the following shall be the order of precedence:

28.1. The terms of this Document entitled "Agreement between North Mason Regional Fire Authority and _____ for the purchase of one (1) new 3,000-gallon water tender" shall take precedence over the terms of any other portion of this Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed the day and year written below. If the dates written below do not coincide, the latest written date shall act as the effective date of this Agreement

North Mason Regional Fire Authority

Signature: _____

Signature: _____

Print Name: _____

Print Name: Beau Bakken

Title: _____

Title: Fire Chief

Date: _____

Date: _____

SAMPLE