BID DOCUMENTS

FOR

FORD F-550 FIRE TRUCK

CITY OF OWOSSO
301 W. MAIN STREET
OWOSSO, MICHIGAN 48867

June 22, 2017

NOTICE TO BIDDERS

FORD F-550 FIRE TRUCK
FOR THE CITY OF OWOSSO, MICHIGAN

Sealed proposals will be received by the city of Owosso for the **FORD F-550 FIRE TRUCK** bid and should be addressed to:

Bid Coordinator
City of Owosso
301 W. Main Street
Owosso, Michigan 48867

Major items include: Ford 2017 F-550 Chassis, 4 x 4, Sd Crew Cab, 1,500 GPM Mini Pumper Fire Truck

Bids will be accepted until **3:00 p.m. Tuesday July 18, 2017** for the FORD F-550 FIRE TRUCK at which time bids will be publicly opened and read aloud.

All bids must be in writing and must contain an original signature by an authorized officer of the firm. Electronic bids (i.e., telephonic, fax, email, etc.) are **NOT** acceptable.

All bids shall clearly contain on the outside of the **sealed** envelope in which they are submitted:

FORD F-550 FIRE TRUCK

Hard copies of the proposal, contract forms and specifications are on file and may be obtained for a fee in accordance with the city's FOIA Policy at the office of the Bid Coordinator, City Hall, 301 West Main Street, Owosso, Michigan 48867. Bid documents are available at no charge on our website at www.ci.owosso.mi.us or on the MITN website at www.mitn.info.

The city reserves the right to accept any proposal; or to reject any proposal; to waive irregularities in a proposal; or to negotiate if it appears to be in the best interest of the city of Owosso.

INQUIRIES/ADDENDUMS

Addendums will be available on the city's website at www.ci.owosso.mi.us and on the MITN website at www.mitn.info.

All inquiries regarding this bid request must be received at least five (5) calendar days prior to the submission and shall be received in, and responded to, in writing, or via FAX at 989-725-0529 or by e-mail to kevin.lenkart@ci.owosso.mi.us.

INSTRUCTIONS TO BIDDERS

1. Each proposal must be signed by the bidder with his usual signature. Bids by partnerships should be signed with the partnership name by one of the members of the partnership or by an authorized representative, followed by the signature and title of the person signing. Proposals by corporations must be signed with the name of the corporation, followed by the signature and designation of the president, vice-president or person authorized to bind it in the matter. **Any paperwork not filled out properly or signed will cause the bid to be considered non-responsive and shall be rejected by the city.**

2. Proposals, to receive consideration, must be received prior to the specified time of opening and reading as designated in the invitation.

3. Bidders are requested to use the proposal form furnished by the city when submitting their proposals. Envelopes must be **sealed** when submitted and clearly marked on the outside indicating the name of the bid.

4. Proposals having and erasures or corrections thereon may be rejected unless explained or noted over the signature of the bidder.

5. References in the specifications or description of materials, supplies, equipment, or services to a particular trade name, manufacturer's catalog, or model number are made for descriptive purposes to guide the bidder in interpreting the type of materials or supplies, equipment, or nature of the work desired. They should not be construed as excluding proposals on equivalent types of materials, supplies, and equipment or for performing the work in a manner other than specified. However, the bidders' attention is called to General Condition seven (7).

6. Proposals should be mailed or delivered to: Bid Coordinator's Office, City Hall, 301 W. Main Street, Owosso, MI 48867.

7. Special conditions included in this inquiry shall take precedence over any conditions listed under General Conditions or Instructions to Bidders.

8. Insurance coverage – The winning bidder, prior to execution of the contract, shall file with the city copies of completed certificates of insurance naming the city of Owosso as an additional insured party, as evidence that the contractor carries adequate insurance satisfactory to the city.

9. The city of Owosso has a local preference policy for the purchase of goods and services. The policy in part states: *A business located within the city limits and paying real or personal property taxes to the city of Owosso will be granted a six percent (6%) bid advantage or $2,500, whichever is less, over a business located outside Shiawassee County. A business located outside the city limits but within Shiawassee County and paying property taxes to the county will be granted a three percent (3%) bid advantage or $2,500, whichever is less, over a business located outside Shiawassee County. The preference also applies to subcontractors performing twenty-five percent (25%) or more of the work of a general contract.*

10. **The following items must be included with the bid response:**
    a. **Vendor Proposal**
    b. **Local Preference Affidavit**
    c. **W-9 Request for Taxpayer ID No. and Certification**
    d. **Signature Page & Legal Status/ Acknowledgement of Addendum(s)**

Bid Proposal

FORD F-550 FIRE TRUCK

TO: THE CITY OF OWOSSO (HEREINAFTER CALLED THE "CITY")
Bidder must provide pricing for each item listed. If additional pricing elements are being offered by the bidder, list under "other items offered."

The undersigned, having examined the bid proposal forms and specifications, does hereby offer to supply the items as detailed in the FORD F-550 FIRE TRUCK bid from listed below at the following prices to wit:

Item	Description	Qty.	Unit	Unit Price
1	2017 FORD F-550 4X4 SD CREW CAB 1500 GPM MINI PUMPER FIRE TRUCK	1	EA	

Bidder's Initial _____

VARIANCE FROM SPECIFICATIONS: If the bidder is unable to comply with the specifications as outlined, the bidder shall clearly note these variations from the specifications. The bidder may also propose additions to these specifications for the city to consider, but the costs associated with these additions shall be stated separately.

On behalf of _____, I hereby submit this proposal for **FORD F-550 FIRE TRUCK** for your consideration. The undersigned acknowledges that this proposal is subject to the General Conditions and the General Specifications included in the contract documents. In submitting this proposal, it is understood that the right is reserved by the CITY to reject any and all proposals, and waive any irregularities in the bidding process. The CITY may award this contract based on any combination of the total bid and/or alternates.

Dated and signed at _____ State of _____

This _____ day of _____, 20____.

_____
Bidder

Witness:
_____ By/s/

_____
Business Address

_____
Signature

_____
Printed Name

_____
Title

_____
Telephone Number

_____
E-Mail Address

GENERAL CONDITIONS

1. LOCAL PREFERENCE POLICY
The city of Owosso has a local preference policy for the purchase of goods and services. The policy in part states: *A business located within the city limits and paying real or personal property taxes to the city of Owosso will be granted a 6% bid advantage or $2,500, whichever is less, over a business located outside Shiawassee County. A business located outside the city limits but within Shiawassee County and paying property taxes to the county will be granted a 3% bid advantage or $2,500, whichever is less, over a business located outside Shiawassee County. The preference also applies to subcontractors performing 25% or more of the work of a general contract.*

2. BID ACCEPTANCE
The city reserves the right to reject any or all proposals. Unless otherwise specified, the city reserves the right to accept any item in the proposal. In case of error in extending the total amount of the bid, the unit prices shall govern.

3. PAYMENT
Unless otherwise stated by the bidder, time, concerning discount offered, will be computed from date of delivery and acceptance at destination or from date correct bill or claim voucher properly certified by the contractor is received. When so stated herein, partial payments, based on a certified approved estimate by the city of materials, supplies or equipment delivered or work done, may be made upon presentation of a properly-executed claim voucher. The final payment will be made by the city when materials, supplies, equipment or the work done have been fully delivered or completed to the full satisfaction of the city.

4. BID DEFAULT
In case of default by the bidder or contractor, the city of Owosso may procure the articles or services from other sources and hold the bidder or contractor responsible for any excess cost occasioned thereby.

5. UNIT PRICES
Prices should be stated in units of quantity specified.

6. QUOTED PRICES
Unless otherwise stated by the bidder, prices quoted will be considered as being based on delivery to a designated destination and to include all charges for packing, crating, containers, shipping, etc., and being in strict accordance with specifications and standards as shown.

7. SUBSTITUTIONS
Wherever a reference is made in the specifications or description of the materials, supplies, equipment, or services required, to a particular trade name, manufacturer's catalog, or model number, the bidder, if awarded a contract or order, will be required to furnish the particular item referred to in strict accordance with the specifications or description unless a departure or substitution is clearly noted and described in the proposal.

8. HOLD CITY HARMLESS
The bidder, if awarded an order or contract, agrees to protect, defend, and save the city harmless against any demand for payment for the use of any patented material, process, article, or device that may enter into the manufacture, construction, or form a part of the work covered by either order or contract. Bidder further agrees to indemnify and save the city harmless from suits or action of every nature and description brought against it, for or on account of any injuries or damages received or sustained by any party or parties, by or from any of the acts of the contractor, his employees, subcontractors, or agents.

9. COMPETITIVE BIDDING STATUTES
The laws of the state of Michigan, the charter and ordinances of the city of Owosso, as far as they apply to the laws of competitive bidding, contracts and purchases, are made a part hereof.

10. SAMPLES

Samples, when requested, must be furnished free of expense to the city and, if not destroyed, will upon request be returned at the bidder' expense.

11. EQUAL EMPLOYMENT OPPORTUNITY AND OTHER CLAUSES

The contractor shall agree not to discriminate against any employee or applicant for employment because of age, race, religion, color, handicap, sex, physical condition, developmental disability as defined by Michigan Complied Statutes, or national origin. This provision shall include but not be limited to the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rate of pay or other forms of compensation, and selection for training including apprenticeship. The contractor further agrees to take affirmative action to ensure equal employment opportunities for persons with disabilities. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provision of the non-discrimination clause.

LOCAL PREFERENCE POLICY

The following affidavit should be completed if a bidder is located within Shiawassee County or intends to sub-contract more than twenty-five percent (25%) to a Shiawassee County based business: The city of Owosso has a local preference policy for the purchase of goods and services as recorded in the city ordinance in section 2-348. "Lowest qualified bidder" defined.

1. The term "lowest qualified bidder," as used in this division, shall mean the lowest bidder having qualifications to perform the work which are satisfactory to the council. The lowest bidder shall be determined based on an adjusted bid tabulation which shall be prepared in the following manner: To the bid of any bidder which is neither a city-based business nor a county-based business shall be added an amount equal to six (6) percent of the bid or two thousand five hundred dollars ($2,500.00), whichever is less.

2. To the bid of any bidder which is a county-based business shall be added an amount equal to three (3) percent of the bid or two thousand five hundred dollars ($2,500.00), whichever is less; provided, however, that if no bid is received from a city-based business, no additional amount shall be added to the bid of a county-based business.

3. "Owosso-based business" shall be interpreted to mean a business registered with the county clerk or a corporation registered with the state having a business address within the city limits which pays real and/or personal property taxes levied by the city.
   The term "county-based business" shall be interpreted to mean a business other than a city-based business registered with the county clerk or a corporation registered with the state having a business address within the county which pays real and/or personal property taxes levied by the county.

4. If twenty-five (25) percent or more of a contract for construction or other services is to be subcontracted by a city-based business bidder to a non-city-based business or businesses, or by a county-based business bidder to a non-county-based business or businesses, the adjusted bid shall be calculated by applying the provisions of this section separately to each portion of the contract based on the status of the contractor or subcontractor performing that portion of the contract as a city-based or county-based business.

AFFIDAVIT

In accordance with Section 2-348 of the Owosso city code, the bid from a business located in Shiawassee County shall be adjusted to reflect a preference. In order for the city to calculate the adjustment, the bidder hereby deposes and states that their business address is registered, and is currently paying real and/or personal property taxes in Shiawassee County at the following address:

_____
Registered business address

The affiant further deposes and states that a sub-contract with a business registered, and paying real and/or personal property taxes in Shiawassee County will be executed for a percentage equal to or greater than twenty-five percent (25%) as stated below:

_____
Business name and address of sub-contractor

_____
Percentage of contract

_____
Authorized signature

_____
Title

_____
Company name

_____
Date

SIGNATURE PAGE AND LEGAL STATUS

The undersigned certifies that he is an official legally authorized to bind his firm and to enter into a contract should the city accept this proposal.

Bid proposal by _____
(Name of Firm)

Legal status of bidder. Please check the appropriate box and **USE CORRECT LEGAL NAME.**

A. Corporation ____ ; State of Incorporation _____

B. Partnership ____ ; List of names _____

_____

C. DBA ____ ; State full name _____ DBA

_____

_____

D. Other ____ ; Explain _____

_____

Signature of Bidder _____ Title _____
(Authorized Signature)

Printed name _____

Signature of Bidder _____ Title _____
(Authorized Signature)

Printed name _____

Address _____ City _____ Zip _____

Telephone ( ) _____

Signed this _____ day of _____ 20____.

Bidder acknowledges receipt of the following Addenda:

ADDENDUM NO.	BIDDER'S INITIALS
_____	_____
_____	_____
_____	_____

W-9 LEGAL STATUS & TAX ID FORM
INSTRUCTIONS

Sole proprietor. Enter your individual name as shown on your income tax return on the “Name” line. You may enter your business, trade, or “doing business as (DBA)” name on the “Business name/disregarded entity name” line.

Partnership, C Corporation, or S Corporation. Enter the entity's name on the “Name” line and any business, trade, or “doing business as (DBA) name” on the “Business name/disregarded entity name” line.

Disregarded entity. Enter the owner's name on the “Name” line. The name of the entity entered on the “Name” line should never be a disregarded entity. The name on the “Name” line must be the name shown on the income tax return on which the income will be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a domestic owner, the domestic owner's name is required to be provided on the “Name” line. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on the “Business name/disregarded entity name” line. If the owner of the disregarded entity is a foreign person, you must complete an appropriate Form W-8.

Note. Check the appropriate box for the federal tax classification of the person whose name is entered on the “Name” line (Individual/sole proprietor, Partnership, C Corporation, S Corporation, Trust/estate).

Limited Liability Company (LLC). If the person identified on the “Name” line is an LLC, check the “Limited liability company” box only and enter the appropriate code for the tax classification in the space provided. If you are an LLC that is treated as a partnership for federal tax purposes, enter “P” for partnership. If you are an LLC that has filed a Form 8832 or a Form 2553 to be taxed as a corporation, enter “C” for C corporation or “S” for S corporation. If you are an LLC that is disregarded as an entity separate from its owner under Regulation section 301.7701-3 (except for employment and excise tax), do not check the LLC box unless the owner of the LLC (required to be identified on the “Name” line) is another LLC that is not disregarded for federal tax purposes. If the LLC is disregarded as an entity separate from its owner, enter the appropriate tax classification of the owner identified on the “Name” line.

Other entities. Enter your business name as shown on required federal tax documents on the “Name” line. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on the “Business name/disregarded entity name” line.

Please see attached W-9 Request for Taxpayer Identification Number and Certification form for more information on filling out the W-9 form.

Form **W-9**
(Rev. December 2011)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Give Form to the requester. Do not send to the IRS.

Print or type
See Specific Instructions on page 2.

Name (as shown on your income tax return)

Business name/disregarded entity name, if different from above

Check appropriate box for federal tax classification:
☐ Individual/sole proprietor ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶

☐ Other (see instructions) ▶

☐ Exempt payee

Address (number, street, and apt. or suite no.)

Requester's name and address (optional)

City, state, and ZIP code

List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on the "Name" line to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

Social security number

			–			–				

Employer identification number

		–							

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
3. I am a U.S. citizen or other U.S. person (defined below).

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 4.

Sign Here **Signature of U.S. person** ▶ **Date** ▶

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income.

Note. If a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax on any foreign partners' share of income from such business. Further, in certain cases where a Form W-9 has not been received, a partnership is required to presume that a partner is a foreign person, and pay the withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid withholding on your share of partnership income.

ESTABLISHED BUILDER

The complete apparatus shall be manufactured within the continental United States. Vehicles manufactured outside of the continental USA shall not be considered. No exceptions will be permitted to this section of the document.

Bids shall only be considered from companies that have an established reputation in the field of fire apparatus construction and have been in continuous business for a minimum of thirty-five (35) years. A written chronological history of the bidder shall be included in the bid response package.

Each bidder shall furnish satisfactory evidence of their ability to construct the apparatus specified, and shall state the location of the factory where the apparatus is to be built. They shall also show that they are in a position to render prompt service and to furnish replacement parts for said apparatus including a complete parts stock for the custom chassis, to include windshields, doors, door hardware, dash instruments, engine and transmission parts, bumpers, etc. which must be kept in stock at the bidders manufacturing facility. There shall be no exception to these requirements.

INTENT OF SPECIFICATIONS

It is the intent of these specifications to cover the furnishing and delivery to the purchaser of a completed fire apparatus equipped as hereafter specified. With a view to obtaining the best results and the most acceptable fire apparatus for service in the Fire Department, these specifications cover only the general requirements as to the type of construction and test to which the vehicle must conform, together with certain details as to finish, equipment, and appliances with which the successful bidder must conform. Details of construction and materials where not otherwise specified are left to the discretion of the contractor, who shall be solely responsible for the design and construction of all non-specified features. The completed vehicle shall conform to the requirements of the National Fire Protection Association Pamphlet No. 1901, latest edition, for Motor Fire Apparatus, and shall exceed 1901 where specified herein for all applicable equipment noted.

When evaluating bids, the importance of reduced life cycle costs and public safety associated with fire fighting apparatus shall be a major consideration and all evaluations shall exclude vehicles of a type that deviate from these specifications.

Apparatus with a design that utilize a commercial bus or truck chassis with the installation of a custom cab will not be accepted.

Bids shall only be considered from companies that have an established reputation in the field of fire apparatus manufacturing.

Each bidder shall furnish satisfactory evidence of the ability to construct the completed apparatus specified, and shall state the location of the factory where the chassis and body shall be built. They shall also show that they are in a position to render prompt service and to furnish replacement parts for said completed apparatus.

The workmanship must be of the highest quality in its respective field. Special consideration shall be given to the following points:

1) Accessibility of the various components which require periodic maintenance or lube checks.

2) Ease of vehicle operation.

3) Visibility of the driver.

4) Features supplied that are beneficial to the intended operation of the completed apparatus.

Construction must be rugged and design must be certified to carry the loads as specified and to meet the road requirements and speed conditions as set forth under "Performance Test and Requirements".

Welding shall not be employed in the assembly of the completed vehicle in a manner that shall prevent the removal of a major component part for service and/or repair.

These specifications have not been established to preclude any bidders. However, the purchaser does not intend to make a decision solely based upon lowest price as determined by the US Supreme Court ruling "Paddock vs. Whitten" but intends to purchase an apparatus that meets the intentions, service, and needs of the Fire Department.

MODELS TO BE BID

The model requested in the purchase description that follows is intended to be the "Top of the Line" model for the manufacturer. Sub-standard models that delete trim, functionality, service, and safety items shall not be acceptable. A statement from the bidder shall be provided in the bid proposal that states that the chassis offered is the "Top of the Line" model from the manufacturer.

ROAD TEST CERTIFICATION

A road test shall be conducted with the finished apparatus fully loaded. During this time, the apparatus shall not show loss of power and/or overheating. The transmission driveshaft or shafts and rear axle shall run free from abnormal vibration or noise throughout the operating range of the apparatus. The apparatus, when loaded, shall have not less than 25% or more than 45% of the weight on the front axle and not less than 55% or more than 75% on the rear axle.

A. The apparatus must be capable of accelerating to 35 mph from a standing start within 25 seconds on a level concrete highway without exceeding the maximum governed RPM of the engine.

B. The apparatus must be capable of accelerating from a steady speed of 15 mph to a true speed of 35 mph within 30 seconds. This shall be accomplished without moving the gear selector.

C. The fully loaded apparatus shall be capable of obtaining a speed of 50 to 55 mph on a level concrete highway.

D. The manufacturer shall furnish copies of the engine installation approvals signed by the appropriate engine company upon delivery of the chassis to the Fire Department. No exceptions will be permitted to this section of the document.

E. The manufacturer shall furnish copies of the transmission approval signed by the transmission manufacturer upon delivery of the chassis to the Fire Department. No exceptions will be permitted to this section of the document.

F. The manufacturer shall furnish copies of the front and rear axle approvals upon delivery of the chassis to the Fire Department. No exceptions will be permitted to this section of the document.

ROAD TEST FAILURE

In the event the apparatus fails to meet the test requirements of these specifications on the first trials, second trials may be made at the option of the manufacturer within thirty (30) days of the first trials. Such trials shall be final and conclusive and failure to comply with changes as the purchaser may consider necessary to conform to any clause of the specifications within thirty (30) days after notice is given to the manufacturer of such changes, shall also be cause for rejection of the apparatus. Permission to keep or store the apparatus in any building owned or occupied by the purchaser, or its use by the Fire Department during the above specified period with permission of the manufacturer, shall not constitute acceptance.

LIABILITY

The bidder, if his bid is accepted, shall defend any and all suits and assume all liability for use of any patented process, device, or article forming a part of the completed vehicle or any appliance under the contract.

INSPECTION TRIPS

Two (2) inspection trips for up to four (4) Fire Department personnel each shall be made to the manufacturer's facility during the course of construction of the apparatus. Air travel (for distances over 250 miles), meals, and lodging expenses shall be included.

APPARATUS FAMILIARIZATION

Fire Department personnel shall be instructed as to the use of the entire apparatus including, but not limited to, chassis, fire pump system, the apparatus, and supplied equipment.

The familiarization specialist shall remain at the Fire Department for one (1) days (not less than eight (8) hours), to provide instruction to all personnel, or as instructed by Chief of the Department. All meals, motel, and travel costs shall be the responsibility of the successful bidder.

NFPA 4.3.2 After delivery of the fire apparatus, the purchaser shall be responsible for ongoing training of its personnel to proficiency regarding the proper and safe use of the apparatus and associated equipment as defined in NFPA 1002, Standard for Fire Apparatus Driver/Operator Professional Qualifications, and NFPA 1500, Standard on Fire Department Occupational Safety and Health Program.

DELIVERY DATA REQUIREMENTS

Delivery of the completed vehicle shall be no more than two-hundred seventy (270) calendar days after acceptance of the formal contract by the successful bidder.

The manufacturer shall specify in his bid the number of calendar days after acceptance of the formal contract by the manufacturer, that the completed vehicle shall be delivered to the purchaser. The manufacturer shall not be held liable for damages arising from its failure to make or delay in making deliveries because of fire, flood, riot, major component shortage, accidents, acts of God, or any circumstances beyond their control.

Information required at time of delivery to be supplied by the manufacturer:

A. Line set ticket showing parts used by the manufacturer in construction of the cab and chassis.

B. Electrical "as built" schematic booklet.

C. Air system "as built" schematic booklet.

D. Final build data sheet showing serial numbers for the following:

E. Final build measurement data sheet showing the following:

1) Bumper extension
2) Wheelbase
3) Rear overhang

F. Unless otherwise specified, a minimum of one (1) copy of complete, as delivered apparatus and chassis operation and general maintenance instructions including, but not limited to the chassis, engine, transmission, axles, and lubrication charts shall be supplied.

SINGLE SOURCE MANUFACTURER

Bids shall only be accepted from a single source apparatus manufacturer. The definition of single source shall be "a manufacturer that designs and manufactures their products using an integrated approach, including the cab and chassis, pump module, and apparatus body being fabricated and assembled on the bidder's premises". The warranties relative to the chassis and body design (excluding component warranties such as engine, transmission, axles, pump, etc.) must be from a single source manufacturer and not split between manufacturers (i.e. body and chassis). The bidder shall provide evidence that they comply with this requirement. No exceptions will be permitted to this section of the document.

TREATMENT OF BID EXCEPTIONS

It shall be mandatory for any prospective bidder that deviates from the proposed specifications to give a full description of all deviations.

When the bidder checks the "yes" column in the bid the bidder is making testimony that the bidder is in full compliance with the entire paragraph.

Where bidder's specifications and/or construction differ in any way from the bid specification, a full and complete description in specification shall be required. Drawings shall also be required to show alternative construction methods. Partial descriptions, or general clarifications covering groups of sections of the specification, shall be unacceptable and shall be cause for complete rejection of the bid.

Proposals taking total exception to the purchase specifications contained herein shall not be accepted and the bidder's proposal shall be deemed non-responsive and treated accordingly.

SPECIAL NOTE ON SUBSTITUTIONS

Where a subassembly manufacturer's name or "brand" name for a product is given in a specification description, the product identified is the desired product to use. Manufacturers using a product other than the named product must take an exception to the paragraph. Where the words "or equal" are used in a paragraph in reference to an identified product, an apparatus manufacturer can make an equal product substitution without taking an exception to the specification paragraph.

Each bidder is encouraged to provide descriptive literature with their bid packet on any equipment or features that are proposed in lieu of those named and/or described in the specifications. Literature shall be originals and will be retained by the department for evaluation purposes. Such literature shall be required before the pre bid conference on any equipment proposed by the successful bidder that is unfamiliar to the department.

BID CLARIFICATIONS

Each clarification shall refer to the bid specification page number and paragraph. Any such clarification that appears vague or misleading shall be considered an exception. Complete clarifications are required describing the reason for the deviation. The completed vehicle shall be inspected upon delivery for compliance with specifications. Deviations shall not be tolerated and shall be cause for rejection of the cab and chassis unless they were originally listed in the bidder's proposal.

BID DOCUMENTS REQUIRED

The bidder shall utilize this document in its bid. The bidder shall indicate below each item if they comply with that paragraph by checking "yes" or "no".

The bidder shall provide detailed information on the materials to be used to construct all parts of the apparatus. A bidder's use of terms such as "intent" are considered vague and unacceptable responses will disqualify the bid.

Copies of the bid document electronically reproduced used as a response specification are grounds for immediate disqualification of the bidder's submission.

No exceptions will be permitted to this section of the document.

DETAILED DRAWINGS REQUIRED

The bidder shall submit two (2) copies of a D-size (full size) engineered construction drawings with its bid. No bids will be considered without complete engineered construction drawings submitted with the bid. Submitted drawings must be specifically for the proposed apparatus and depict all major specified components.

These drawings shall show the following minimum views: front view; street side with proposed chassis; curbside with proposed chassis; rear view; top view with proposed chassis; hose bed height, and approach and departure angle.

The drawings shall contain the dimensions for the overall length (in feet and inches), overall height (in feet and inches), wheelbase, angle of approach, angle of departure, overall width of the apparatus, hose bed volume dimensions indicating the hosebed width, length, and height.

Submission of "similar to" or "standard" drawings, or statements referencing submission of drawings after award of contract, will disqualify the bid.

No exceptions will be permitted to this section of the document.

CONTRACT AWARD

The contract shall be awarded to the lowest and best bidder meeting these specifications. Since the complete vehicle materials specified are commercially available, these specifications shall in no way be considered proprietary. Each bidder shall submit on his proposal page a single line item price for all items listed in the specifications. Price shall be based on payment upon receipt of the accepted complete vehicle by the Fire Department. No discounts, options, or prepayment schedules shall be listed on the proposal page. All such items shall be listed on a separate page entitled OPTIONS and may or may not be considered at the discretion of the fire department.

VEHICLE SUPPORT DOCUMENTATION

For long term support of the vehicle and in order to provide proper maintenance, the following information shall be required with the delivery of the vehicle. It may be required to have this information provided during the bid process to ensure that the proper information is available from a potential vendor. Failure to provide this information in the exact requested format as a minimum shall be cause for rejection of the bid. Three-ring binders filled with vendor catalogs being supplied as a maintenance and operation manual shall not be acceptable under the conditions of this bid.

This vehicle shall be in operation for a minimum of twenty (20) years. Fiscal responsibility of the vehicle extends beyond the initial cost of the apparatus. Reducing service and maintenance costs of the vehicle during its useful life is a major consideration in the purchase of this apparatus. The requested documentation shall be utilized to properly train personnel for operation of the vehicle and to develop proper preventative maintenance programs to reduce operating cost of the vehicle.

With delivery of the vehicle, the following information shall be provided in electronic format. The format shall be such as to provide hyperlinks to major categories and/or subjects from a content page. A word search engine shall provide quick transport of the user to any area within the document when a keyword or phrase is found. The entire manual shall be able to be printed from the electronic media to paper form. The manual must be compatible with both PC and Mac platforms.

An electronic Operator's and Maintenance Manual shall be provided. This manual shall encompass complete information for the vehicle and vehicle systems including all accessories and/or options.

The Operator section of the manual shall describe each component, gauge and switch with proper operation and operational warnings.

The Maintenance section of the manual shall provide proper maintenance of the vehicle for all systems and components supplied.

A Lubrication section shall be provided in the manual. This section shall provide all lubricant types and capacities for the vehicle. Included in this section of the manual shall be lubrication diagrams to visually locate the lubrication points of the vehicle.

An electronic Electrical System Manual shall be provided. This manual shall provide complete wiring schematics for the vehicle.

The manual shall be provided with diagrams of the vehicle showing the wiring harness routing within the vehicle. Each of these diagrams shall include the connectors between the harnesses that provide a hyperlink to a drawing of the actual connector where pin functions can be examined.

Schematics for each system of the vehicle shall be provided with hyperlinks to the connectors for pin designations and to the vehicle drawings for harness location within the vehicle.

An electronic Air System Manual shall be provided. This manual shall provide complete air system schematics for the vehicle. The manual shall be provided with diagrams of the vehicle showing the air tubing routing within the vehicle.

Schematics for each system of the vehicle shall be provided with hyperlinks to the tanks and valves and to the vehicle drawings for exact location within the vehicle.

Additional documentation to be provided:

A vehicle build sheet shall be provided. This build sheet shall include the major assemblies used in construction of the vehicle. Final inspection data including the serial numbers of the engine, transmission, axles, and tires equipped on the vehicle.

SUBMISSION OF BID REQUIREMENTS

Bids shall be submitted in accordance with the following instructions:

1. The bid form provided herein shall be completed and returned with the appropriate "yes" or "no" marked under each paragraph in the "Bidder Complies" column. A paragraph indicated with both the "yes" and "no" column marked shall be considered non-responsive and treated accordingly.

2. Each bidder shall submit their own proposal specifications, detailing their construction. This is necessary to evaluate each bidder's actual intent of building the equipment as specified herein. The bidder's proposal format shall be the same order as these specifications to allow the Fire Department to compare all bids easily and prevent confusion. Failure to comply shall be cause for rejection of the bid.

3. Each bid shall include the weight ratings, wheelbase, principal dimensions, transmission and axle ratios, and a certified brake horsepower curve showing the maximum no load governed speed of the engine proposed.

4. Failure to submit detailed information or drawings where specified herein shall result in rejection of the bid.

5. Bids shall be returned in a sealed envelope clearly marked "BID FOR FIRE APPARATUS". Facsimile bids are not acceptable.

6. Verbal bids and changes in the bid price after the bid opening prior to award shall not be allowed. Any such attempt shall not be accepted and cause immediate rejection of the entire bid.

ORIGIN OF MANUFACTURER

Any manufacturer submitting a proposal or bid to these specifications shall meet the following conditions:

1. The manufacturer of the apparatus herein specified shall be wholly owned (100%) and managed by a company, corporation and/or parent company that is wholly based and permanently resides in the United States of America.

2. The company, corporation, and/or parent company, and all assets belonging to such, shall be wholly owned and managed by the entities specified above.

3. Any proposal, bid or response to these specifications by any foreign based, owned or managed (in part or in whole) company, corporation and/or parent company, shall be cause for immediate rejection.

4. Any proposal, bid or response to these specifications by any company, corporation and/or parent company, that is owned, operated, managed or held in contract, in part or wholly by a foreign interest partnership or other agreement, shall be cause for immediate rejection.

There shall be no exception to these requirements.

SPECIFICATIONS

FORD F-550 CAB & CHASSIS

2017 F-550 Chassis, SD Crew Cab 4x4

Powertrain
Engine: 6.7L 4V 330hp. OHV Power Stroke V8 Turbo Diesel B20
Includes split-shaft calibration compatibility. Includes: - Dual 750 CCA Batteries
Transmission: TorqShift 6-Speed Automatic (6R140). Includes SelectShift.
Limited Slip w/4.88 Axle Ratio
GVWR: 19,500 lb Payload Plus Upgrade Package
Includes upgraded frame, rear-axle and low deflection/high capacity springs. Increases max RGAWR to 14,706.

COMPLY …… YES _____ NO _____

Suspension/Handling
Front Mono-beam non-independent suspension with anti-roll bar, HD shocks * Rear rigid axle leaf spring suspension with anti-roll bar, HD shocks * Firm ride Suspension * Hydraulic power-assist re-circulating ball Steering * Front and rear 19.5 x 6 argent steel wheels * LT225/70SR19.5 GBSW AS front and rear tires * Dual rear wheels

COMPLY …… YES _____ NO _____

Body Exterior
4 doors * Conventional left rear passenger * Conventional right rear passenger * Driver and passenger folding door mirrors * Black door mirrors * Black bumpers * Trailer harness * Clearcoat paint * Front and rear 19.5 x 6 wheels

COMPLY …… YES _____ NO _____

Convenience
Manual air conditioning with air filter * Manual windows * Manual door locks * Manual tilt steering wheel * Manual telescopic steering wheel * Day-night rearview mirror * 1 1st row LCD monitor * Front cupholders * Passenger visor mirror
* Full overhead console

COMPLY …… YES _____ NO _____

Seats and Trim
Seating capacity of 6 * Front 40-20-40 split-bench seat * 4-way driver seat adjustment * Manual driver lumbar support * 4-way passenger seat adjustment * Centre front armrest with storage * 60-40 folding rear split-bench seat

COMPLY …… YES _____ NO _____

Entertainment Features
AM/FM stereo radio * 6 speakers * Fixed antenna

COMPLY …… YES _____ NO _____

Lighting, Visibility and Instrumentation
Halogen aero-composite headlights * Delay-off headlights * Fully automatic headlights * Variable intermittent front windshield wipers * Light tinted windows * Front and rear reading lights * Tachometer * Oil pressure gauge * Outside temperature display * Trip computer * Trip odometer

COMPLY …… YES _____ NO _____

Safety and Security
4-wheel ABS brakes * 4-wheel disc brakes * Driveline traction control * Dual front impact airbag supplemental restraint system * Dual seat mounted side impact airbag supplemental restraint system * Safety Canopy System curtain 1st and 2nd row overhead airbag supplemental restraint system * Manual door locks * Manually adjustable front head restraints * 3 manually adjustable rear head restraints

COMPLY …… YES _____ NO _____

Dimensions
General Weights
GVWR 18000 lbs.

Fuel Tank type
Capacity 40 gal.

COMPLY …… YES _____ NO _____

Warranty
Basic
Distance 36000 miles Months 36 months
Powertrain
Distance 60000 miles Months 60 months
Corrosion Perforation
Distance Unlimited miles Months 60 months
Roadside Assistance
Distance 60000 miles Months 60 months
Diesel Engine
Distance 100000 miles Months 60 months

COMPLY …… YES _____ NO _____

Other Options
PAINT Monotone Paint Application
XL Value Package
Power Equipment Group
Deletes passenger side lock cylinder. Includes upgraded door-trim panel.
Includes:
- Accessory Delay
- Manual Telescoping Folding Trailer Tow Mirrors
Includes power/heated glass, heated convex spotter mirror and integrated clearance lamps/turn signals.
- MyKey
Includes owner controls feature.
- Perimeter Anti-Theft Alarm
- Power Front & Rear Side Windows
Includes 1-touch up and down power driver and passenger window.
- Power Locks
- Remote Keyless Entry
- SecuriLock Passive Anti-Theft System (PATS)

Low Deflection Package
Includes 2" spacer blocks. Recommended for rear-biased loading, such as wrecker/retriever applications.
Transmission Power Take-Off Provision
Includes transmission mounted live drive and stationary mode PTO.
Operator Commanded Regeneration
Includes active regeneration inhibit.
Dual Extra Heavy-Duty Alternators (Total 377-Amps)
Radio: AM/FM Stereo Single-CD/MP3
Includes auxiliary audio input jack and 6 speakers.

COMPLY …… YES _____ NO _____

Fleet Options
Fire/Rescue Prep Pkg w/EPA Special Emissions (LPO)
Includes 7000 lbs. max front springs/GAWR rating for configuration selected. Incomplete vehicle package - requires further manufacture and certification by a final stage manufacturer. Ford urges Fire/Rescue Vehicle manufacturers to follow the recommendations of the Ford Incomplete Vehicle Manual and the Ford Truck Body Builders Layout Book (and pertinent supplements). NOTE 1: Stationary Elevated Idle Control (SEIC) has been integrated into the engine control module. NOTE 2: Engine calibration significantly reduces the possibility of depower mode when in stationary PTO operation. NOTE 3: Operator commanded regen allowed down to 30% of DPF filter full, instead of 100%. NOTE 4: Must meet the definition of an Emergency Vehicle, an Ambulance or Fire Truck per 40 CFR 86.1803.01 in the Federal Register. NOTE 5: California Code of Regulations allows for the sale of federally certified emergency vehicles in California.
Includes:
- Dual Extra Heavy-Duty Alternators (Total 377-Amps)
- Operator Commanded Regeneration
Includes active regeneration inhibit.
Steering Wheel-Mounted Cruise Control

COMPLY …… YES _____ NO _____

Emissions
50 State Emissions System

COMPLY …… YES _____ NO _____

Interior Colors
04 Medium Earth Gray

COMPLY …… YES _____ NO _____

Primary Colors
Z1_01 Oxford White

COMPLY …… YES _____ NO _____

Performance.
Payload Weight 900 lbs
Curb Weight (as configured) 1,010 lbs
TOTAL 1,910 lbs
GVWR 19,500 lbs
GCW Totals
Adjusted GVW 1,910 lbs
TOTAL 1,910 lbs

GCWR 26,000 lbs

COMPLY …… YES _____ NO _____

Interior and Seating
Full cloth headliner, full vinyl/rubber floor covering, plastic/rubber gear shift knob, chrome interior accents. Center armrest, cupholder and storage.

Seating capacity of 4

COMPLY …… YES _____ NO _____

Driver Position
40-20-40 split-bench front seat with adjustable head restraints, center armrest with storage
4-way adjustable driver seat includes lumbar support
Vinyl faced front seats with vinyl back material

COMPLY …… YES _____ NO _____

Officer Position
4-way adjustable passenger seat
Vinyl faced front seats with vinyl back material

COMPLY …… YES _____ NO _____

Crew Seating Positions
There shall be two (2) Bostrom Tanker 400CT SCBA crew seats, one on each side of the cab.

Seats shall be Vinyl and Durawear combination providing a rugged, wear resistant, waterproof upholstery. Each SCBA seat shall be provided with a Load & Lock SCBA bottle bracket with safety strap.

The driver/officer 40-20-40 split-bench front seat center seating position is removed to allow the installation of the center console.

COMPLY …… YES _____ NO _____

CAB CONSOLE

A heavy duty angled console shall be installed in the cab between the driver and officer seats. The console shall be finished in black powder coat for durability and low reflection. The console shall be designed with a versatile mounting rail system that accommodates commercially available panels for installation of items such as radio equipment. The design shall allow for a total of sixteen (16) inches of mounting space. This option requires the center seating position to be removed from the cab.

The console shall contain the following items as standard:
- Siren control head in a 3" Equipment Mounting Plate
- Pump Shift in a 4" custom laminate panel
- Three (3) Blank 3" Filler Plates

The following items shall be installed on the console:

Two (2) cup holders in the forward flat section of the console.
One (1) Kussmaul 091-219 Dual Port USB charging port adjacent to the cup holders.
One (1) notebook holder install at the front of the console. This pocket shall have dimensions of 9" wide x 3" thick with an open top.

One (1) clipboard holder install at the officer's side of the console. This pocket shall have dimensions of 13-1/2" wide x 1-7/8" thick with an open top.

COMPLY …… YES _____ NO _____

BACK-UP CAMERA / GPS

There shall be supplied a Garmin NUVI 2798LMT combination back up camera and GPS. The seven (7) inch monitor screen shall be mounted onto the cab console utilizing a RAM mounting system with the ability to have 360° adjustment without the use of tools. The GPS functionality of the unit shall be provided with lifetime Map updates. The camera shall be mounted recessed in the rear bumper.

COMPLY …… YES _____ NO _____

WHEELS

The wheels shall be steel, factory finished in an argent color.

COMPLY …… YES _____ NO _____

STAINLESS WHEEL LINERS

The front and rear axles shall be equipped with stainless steel wheel liners.

COMPLY …… YES _____ NO _____

TIRE PRESSURE MONITORING DEVICE

Each tire installed on the apparatus shall be equipped with a tire pressure monitoring device. The device shall consist of a valve stem cap to with an LED tire alert to indicate tire pressure conditions. The LED will flash when the tire drops 8 psi below the factory setting.

COMPLY …… YES _____ NO _____

DRIVELINES

Universal joints and driveshafts shall be modified for midship pump installation using SPICER 1480 series or equal. The driveshaft slip joints shall be coated to reduce sliding friction and thrust under high torque loads. Shafts shall be balanced to prevent vibration.

COMPLY …… YES _____ NO _____

GRILLE GUARD

The front of the chassis shall have a bright finished center grille guard.

COMPLY …… YES _____ NO _____

CAB SIDE ENTRANCE BARS

Beneath the cab doors three (3) inch round stainless steel side [nerf] bars with polyethylene step pads shall be installed.

COMPLY …… YES _____ NO _____

ELECTRONIC SIREN

A Whelen electronic siren control, model 295SLSA1 full feature with 17 Scan-Lock siren tones including Radio Rebroadcast, Public Address, Manual, Wail, Yelp, Air Horn, Electronic Mechanical Siren tones and Piercer tones and hard wired microphone, shall be provided.

COMPLY …… YES _____ NO _____

SIREN SPEAKER

Behind the grille there shall be a Whelen model SA315 100 watt siren speaker.

COMPLY …… YES _____ NO _____

CAB PAINT

The cab on the vehicle shall be painted “Ford Vermillion Red” by the factory at Ford.

COMPLY …… YES _____ NO _____

BATTERY CHARGER

A PRO MARINER / ON BOARD SOLUTIONS, 1240, advanced electronic 4-step battery charger/power supply with a 40 amp output shall be installed, under the driver's seat.

Since shoreline power is not always stable the charger shall be equipped with Auto-Ranging AC Input to automatically accept global voltages of 90 VAC to 270 VAC at 45-440 Hz.

Field Selectable - Use with lead/acid or gel batteries (AGM factory option). Select length of absorption charge cycle based on size of batteries.

In the 4-step charging system the charger will provide the following sequence.

Step 1: Fast Charge - Charger will deliver its maximum amperage rating to the connected batteries for the fastest charge (current regulation mode) until battery voltage is raised to 14.6V (lead acid factory setting). At this time, the ProTech will shift to step 2.

Step 2: Absorption Charge - Maximizes charge and holds voltage (voltage regulation mode) at 14.6V (lead acid factory setting) for 1 to 4 hours (selectable based on battery size), while letting the batteries determine the amount of amps they can accept. This mode creates activity in the batteries, reducing sulfate buildup, and conditions the batteries for an extended life. After the programmed 1 to 4 hours have elapsed, the ProTech will shift to step 3.

Step 3: Float Mode - A precision 13.3V (lead acid factory setting) finishing voltage that maintains each battery (step-down voltage regulation mode), which is perfect for short or long storage periods and will never overcharge your batteries. ProTech will deliver its full rated output for house loads including: lighting, electronics and pumps.

Step 4: Recycle - If there are very large loads on the battery while the charger is on, the unit will recycle to the first step, ensuring that batteries stay fully charged.

One-Year Warranty - Includes lifetime repair guarantee.
Certified to - UL Marine 1236/SA

The charger shall be mounted on the ceiling of the L1 compartment.

COMPLY …… YES _____ NO _____

SHORELINE AUTO-EJECT

A KUSSMAUL Super Auto Eject, model 091-55-20-120, with a yellow weatherproof cover shall be provided.

The Super Auto Eject is to be completely sealed to prevent internal contamination of the working components.

The internal switch arrangement of the Super Auto Eject shall be designed to close and open the 120-volt AC circuit after the mating connector is inserted and before the connector is removed. This design shall prevent arcing at the connector contacts to provide long life.

The electrical connection shall be provided as a 120-volt AC - 20 amp type using a NEMA 5-20P connector.

The autoeject shall be mounted high on the front exterior wall of the L1 compartment.

COMPLY …… YES _____ NO _____

12VDC POWER CIRCUIT

Two (2) circuit protected 30 amp battery "hot" circuits, a circuit protected 30 amp battery switched circuit, and a ground circuit with the proper wire size to handle the current shall be provided. These circuits are provided for two-way radio and/or accessory wiring.

One will terminate at the front of the center console and one will terminate at the rear of the center console.

COMPLY …… YES _____ NO _____

RADIO ANTENNA MOUNT WIRING

One (1) NMO mount shall be roof mounted, on the officer's side of the light bar.

The unterminated coax is to be routed in the cab to the center console.

COMPLY …… YES _____ NO _____

PUMP COMPARTMENT

For durability the pump compartment shall be constructed entirely of brushed stainless steel.

COMPLY …… YES _____ NO _____

RUNNING BOARDS

The running board step surface shall be covered in Laser Grip stainless steel meeting the current revision of NFPA 1901 for step requirements.

Bolt on running boards and support structure shall be provided to provide field service of the running board without major repairs to the pump compartment in the event of an accident.

COMPLY …… YES _____ NO _____

PUMP HOUSE HEATER

A 53,500 BTU, automotive type hot water heater shall be provided and mounted in the fire pump compartment. The heater shall be connected to the truck engine coolant system and have shutoff valves in both the feeder and return lines. Heater shall include a 12 volt fan with a switch located at the pump operator's panel.

COMPLY …… YES _____ NO _____

PUMP SERVICE ACCESS

The intake panels on the sides of the pump module shall be fastened with quick release latches to provide access to the pump at the intake piping area.

The floor of the crosslays shall be removable for access to the top of the pump module.

COMPLY …… YES _____ NO _____

PUMP CONTROL PANEL

All pump controls and gauges shall be located at the left (street) side of the apparatus and properly identified. The layout of the pump control panel shall be ergonomically efficient and systematically organized.

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

COMPLY …… YES _____ NO _____

PUMP PANEL IDENTIFICATION TAGS

The identification tag for each valve shall be recessed in the face of the control handle. All discharges shall have color-coded metal identification tags, with each discharge having its own unique color scheme. Color-coding shall include the labeling of the outlet and the drain for each corresponding discharge.

COMPLY …… YES _____ NO _____

PUMP PANEL FINISH

All stainless panels used in the construction of the pump house shall have a brushed finish.

COMPLY …… YES _____ NO _____

CONTROLS AND GAUGES

The following shall be provided on the pump and gauge panels in a neat and orderly fashion. The gauge panel shall include the following:

COMPLY …… YES _____ NO _____

PRESSURE GOVERNOR, MONITORING, and MASTER PRESSURE DISPLAY

Fire Research InControl series TGA400-A00 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 knob shall be 2" in diameter with no mechanical stops, have a serrated grip, and a red idle push button in the center. It shall not extend more than 1-3/4" from the front of the control module. 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 night time 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 and a control knob located on the front of the control panel. There shall be a 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.

COMPLY …… YES _____ NO _____

PRESSURE GAUGES

Each line pressure gauge shall be mounted immediately above the control for the corresponding valve. The individual line *pres*sure gauges for the discharges shall be 2-1/2" in diameter with white dial face gauges with black lettering and markings. The gauges shall be a compound style gauge with a vacuum/pressure range of 0 - 400 psig.

The gauges shall be fluid filled with pulse and vibration dampening Interlube to lubricate the internal mechanisms to prevent lens condensation and to ensure proper operation to -40 degrees F. The cases shall be temperature compensated with an internal breathing diaphragm to permit fully filled cases and to allow a rigid lens with a distortion free viewing area. The gauge accuracy for the gauge shall be plus or minus 2% mid-scale, plus or minus 3% balance, per ANSI B40.1, Grade 1A.

To prevent internal freezing and to keep contaminants from entering the gauge, the stem and bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem. A bright metal bezel shall be supplied for resistance to corrosion and to protect the lens and case from damage.

All line pressure gauges shall be mounted adjacent to the corresponding discharge control tee handles.

COMPLY …… YES _____ NO _____

LED GUAGE LIGHTING

The 2-1/2" pressure gauges shall be equipped with LED back lighting.

COMPLY …… YES _____ NO _____

PUMP PANEL LIGHTING

The pump operator's panel shall be supplied with a LED light system. LED strip lights with a stainless steel hood shall be mounted across the top of the pump panel gauges and controls.

LED strip lights with a stainless steel hood shall be provided on each side of the pump module above the side panels.

All pump module lighting shall illuminate when the parking brake is engaged. There shall be a white/red color selector switch in the cab that controls the color of this lighting.

COMPLY …… YES _____ NO _____

WATER TANK INDICATOR

Fire Research TankVision model WLA300-A00 tank indicator kit shall be installed. The kit shall include an electronic indicator module, a pressure sensor, and a 10' sensor cable. The indicator shall show the volume of water in the tank on nine (9) easy to see super bright LEDs. A wide view lens over the LEDs shall provide for a viewing angle of 180 degrees. The indicator case shall be waterproof, manufactured of aluminum, and have a distinctive blue label.

The program features shall be accessed from the front of the indicator module. The program shall support self-diagnostics capabilities, self-calibration, and a data link to connect remote indicators. Low water warnings shall include flashing LEDs at 1/4 tank, down chasing LEDs when the tank is almost empty, and an output for an audio alarm.

The indicator shall receive an input signal from an electronic pressure sensor. The sensor shall be mounted from the outside of the water tank near the bottom. No probe shall place on the interior of the tank. Wiring shall be weather resistant and have automotive type plug-in connectors.

COMPLY …… YES _____ NO _____

PUMP MANUFACTURER AND MODEL

The pump shall be a Hale DSD model midship pump.

COMPLY …… YES _____ NO _____

PUMP CONSTRUCTION AND ASSEMBLY

The entire pump, both suction and discharge passages, shall be hydrostatically tested to a pressure of 600 PSI. The pump shall be fully tested at the pump manufacturer's factory to the performance specs as outlined by the latest NFPA Pamphlet No. 1901. Pump shall be free from objectionable pulsation and vibration.

The pump body and related parts shall be of fine grain alloy cast iron, with a minimum tensile strength of 30,000 PSI. All moving metal parts in contact with water shall be of high quality bronze or stainless steel. Pump body shall be vertically split on a single plane for easy removal of entire impeller assembly including wear rings and bearings without disturbing piping or the mounting of the pump in chassis. Pump shaft to be rigidly supported by three bearings for minimum deflection. The bearings shall be heavy-duty, deep groove ball bearings in the gearbox and they shall be splash lubricated.

Pump impeller shall be hard, fine grain bronze of the mixed flow design; accurately machined, hand ground, and individually balanced. The vanes of the impeller intake eyes shall be of sufficient size and design to provide ample reserve capacity utilizing minimum horsepower.

Removable, non-corrosive material clearance rings shall be provided.

The pump shaft shall be heat-treated, electric furnace, corrosion resistant stainless steel. Pump shaft must be sealed with double-lip oil seal to keep road dirt and water out of gearbox.

COMPLY …… YES _____ NO _____

PUMP TRANSMISSION

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

The transmission drive shafts shall be of heat-treated chrome nickel steel and at least 2-3/4 inches in diameter on both the input and output drive shafts. They shall withstand the full torque of the engine. All gears drive and pump, shall be of highest quality electric furnace chrome nickel steel. Bores shall be ground to size and teeth integrated, shaved, hardened and ground to give an extremely accurate gear for long life, smooth quiet running, and higher load carrying capability. An accurately cut spur design shall be provided to eliminate all possible end thrust.

The pump ratio shall be selected by the apparatus manufacturer to give maximum performance with the engine and transmission selected. If gearbox is equipped with a power shift, the shifting mechanism shall be a heat- treated, hard-anodized aluminum power cylinder, with stainless steel shaft. An in-cab control for rapid shift shall be provided that locks in road or pump.

Three green warning lights shall be provided to indicate to the operator when the pump has completed the shift from Road to Pump position. Two green lights to be located in the truck driving compartment and one green light on pump operator's panel adjacent to the throttle control. All lights to have appropriate identification/instruction plates.

COMPLY …… YES _____ NO _____

PUMP RATING AND TEST REQUIREMENTS

The pump shall be of a size and design to mount on the chassis rails of commercial and custom truck chassis, and have the capacity of 1500 gallons per minute (U.S. GPM), NFPA 1901 rated performance. The pump shall deliver the percentage of rated discharge at pressures indicated below:

100 percent of rated capacity at 150 pounds net pressure
70 percent of rated capacity at 200 pounds net pressure
50 percent of rated capacity at 250 pounds net pressure
100 percent of rated capacity at 165 pounds net pressure

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

COMPLY …… YES _____ NO _____

ALTITUDE REQUIREMENTS

The apparatus shall be designed to meet the specified rating at 0 to 2000' altitude.

COMPLY …… YES _____ NO _____

PRIMING PUMP

The priming pump shall be a positive displacement vane type, oil-less, electrically driven, and conform to standards outlined in NFPA 1901. One priming control shall both start the priming motor and open the priming valve.

COMPLY …… YES _____ NO _____

PNEUMATIC PUMP SHIFT

The pump shift shall be air operated and shall incorporate an air double action piston to shift from road to pump and back. A manual or electric operated pump shift mechanism is not acceptable. The pump shift switch shall be mounted in the cab and identified as "AIR PUMP SHIFT" and include instructions permanently inscribed on the pump shift switch plate. The in-cab operating valve uses a spring loaded locking collar to prevent it from accidentally being moved.

The pump shift control assembly shall incorporate an indicating light system, which will notify the operator when the shift has been completed to PUMP and when the chassis transmission is in correct pumping gear.

The switch that activates the lights must be mounted on the pump transmission and positioned so that the pump shift arm activates the switch only when the shift arm has completed its full travel into PUMP position. An additional indicator light shall be provided adjacent to the throttle control at the pump operator's panel to indicate a completion of the pump shift.

COMPLY …… YES _____ NO _____

PUMP SHIFT OVERRIDE

There shall be a manual override on the pump shift. The override control shall be activated from the lower left side of the pump panel.

COMPLY …… YES _____ NO _____

MECHANICAL SEAL

The fire pump shall be provided with a mechanical pump seal. One (1) only required on the suction, inboard, side of the pump. The mechanical seal shall be two inches in diameter and shall be spring loaded, maintenance free and self-adjusting. Mechanical seal construction shall be a carbon sealing ring, stainless steel coil spring, Viton rubber boot, and a tungsten carbide seat with Teflon backup seal.

COMPLY …… YES _____ NO _____

ANODE SYSTEM

To reduce the effect of galvanic action the pump shall be equipped with two alloy (2) anodes. One anode is to be installed on the inlet (suction) side of the system and one anode is to be installed on the pressure (outlet) side of the system.

The anode brass cap is to be drilled with a 1/8" diameter hole to provide an indicator when the anode alloy element is to be replaced.

COMPLY …… YES _____ NO _____

SUCTION PRESSURE RELIEF VALVE

Task Force Tips model #A1820 pressure relief valve shall be provided. The valve shall have an easy to read adjustment range from 90 to 300 PSI in 90, 125, 150, 200, 250, 300 PSI increments. For corrosion resistance the cast aluminum valve shall be hardcoat anodized with a powder coat interior and exterior finish. The valve shall be configured for either a Waterous or Hale pump, and have a 2" male NPT threaded discharge outlet. The unit shall be covered by a five-year warranty.

The discharge side of the intake relief valve shall be plumbed to the right side below the running boards, away from but, visible to the pump operator, and shall terminate with an unthreaded pipe. The adjustment control shall be located behind the street side pump panel.

COMPLY …… YES _____ NO _____

MASTER DRAIN

The apparatus shall be equipped with a Class 1 Manual Master Pump Drain for draining of the lower pump cavities, volute and selected water-carrying lines and accessories. The all brass and stainless steel construction allows for operation up to 600 psi.

COMPLY …… YES _____ NO _____

PUMP CERTIFICATION TEST

The pump shall undergo pump test with line and/or low voltage requirements of NFPA 1901 prior to delivery of the completed apparatus. The certificate shall be furnished with the apparatus on delivery.

COMPLY …… YES _____ NO _____

FIRE PUMP WARRANTY

Standard 5 year warranty (Parts and Labor for the first two years, parts only years 3 - 5) See Hale warranty for full details.

COMPLY …… YES _____ NO _____

ELECTRONIC PUMP MANUALS

Two (2) sets of electronic fire pump service and operation manuals shall be provided with the completed apparatus.

COMPLY …… YES _____ NO _____

LEFT SIDE STEAMER INLET

There shall be one (1) steamer inlet furnished on the left side pump panel. The suction inlet shall have 6" NST thread. The suction inlet shall have a removable strainer provided inside the external inlet.

COMPLY …… YES _____ NO _____

LARGE DIAMETER CAP

A six (6) inch chrome plated cap with long handles shall be supplied. The cap shall be capable of withstanding 500 PSI and be trimmed with the apparatus manufacturer's logo in the center of the cap.

COMPLY …… YES _____ NO _____

RIGHT SIDE STEAMER INLET

There shall be one (1) steamer inlet furnished on the right side pump panel. The suction inlet shall have 6" NST thread. The suction inlet shall have a removable strainer provided inside the external inlet.

COMPLY …… YES _____ NO _____

LARGE DIAMETER CAP

A six (6) inch chrome plated cap with long handles shall be supplied. The cap shall be capable of withstanding 500 PSI and be trimmed with the apparatus manufacturer's logo in the center of the cap.

COMPLY …… YES _____ NO _____

LEFT SIDE INTAKE

There shall be an intake located on the left (street) side of the pump and shall contain:

A 2-1/2" intake shall be provided. The inlet shall have a 2-1/2" quarter-turn swing-out valve. The inlet shall be provided with a 2-1/2" NST female swivel that extends through the pump panel.

The inlet valve shall have a swing type control handle located adjacent to the valve.

One (1) 2-1/2" chrome plated rocker lug plug with chain shall be supplied.

COMPLY …… YES _____ NO _____

LEFT SIDE DISCHARGE

A 2-1/2" discharge shall be provided. The discharge outlet shall have a 2-1/2" quarter-turn swing-out valve. The discharge shall be provided with chrome plated 30-degree discharge elbow with 2-1/2" NST male threads that extends through the pump panel.

COMPLY …… YES _____ NO _____

DISCHARGE CAP

One (1) chrome plated, Class 1, 2-1/2" rocker lug cap with lug vent and chain shall be furnished.

COMPLY …… YES _____ NO _____

RIGHT SIDE FRONT DISCHARGE #2

The forward discharge on the right (curb) side of the pump panel shall contain:

A 3" discharge shall be provided. The discharge outlet shall have a 3" quarter-turn swing-out valve. The discharge shall be provided with chrome plated 30-degree discharge elbow with 3" NST male threads that extends through the pump panel.

COMPLY …… YES _____ NO _____

ADAPTER

A 3" NSTF x 2-1/2" NSTM adapter with cap and chain will be provided.

COMPLY …… YES _____ NO _____

RIGHT SIDE DISCHARGE #3

A 4" discharge shall be provided. The discharge outlet shall have a 4" quarter-turn swing-out valve. The discharge shall be provided with chrome plated straight discharge with 4" NST male threads that extends through the pump panel.

Control of the outlet shall be accomplished using an electric controller. There shall be an LED indicator on the controller to indicate the valve position.

COMPLY …… YES _____ NO _____

STORZ ADAPTER

One (1) 4" NST Female swivel thread 30-degree down to 5" Storz hard coated aluminum adapter shall be provided. (ref. TFT AH1ST-NP)

One (1) 5" Storz cap and chain with a suction gasket shall be provided. (ref. TFT A01ST)

COMPLY …… YES _____ NO _____

MISCELLANEOUS EQUIPMENT

One (1) Task Force Tip model ABD3SP-NX New Force ball intake valve with 6” NSTF swivel thread and 4” Storz inlet will be provided including cap and chain.

COMPLY …… YES _____ NO _____

PUMP CROSSLAYS

There shall be two (2) hose storage crosslay areas mounted on top of the pump module. They shall be arranged in a double stack design with a divider in the center. Each hose storage area shall be provided with dimensions of 9" wide x 57" deep x 13" tall [4 cu. ft. each].

COMPLY …… YES _____ NO _____

DISCHARGE VALVES

There shall be one (1) discharge outlet in each hose storage compartment.

The discharge outlet shall have a 2" quarter-turn swing-out valve with a push pull type control handle adjacent to the valve. The discharge shall be provided with a swivel head with 1-1/2" NH male threads that extend through the hose compartment floor.

COMPLY …… YES _____ NO _____

CROSSLAY HOSE GUIDES

Brushed stainless steel hose guides shall be provided on the left and right side of each hose bed.

COMPLY …… YES _____ NO _____

CROSSLAY HOSEBED COVER

A vinyl coated nylon hosebed cover shall be provided over the crosslay hosebeds.

The vinyl crosslay cover shall be Midnight Black in color.

COMPLY …… YES _____ NO _____

ELKHART BALL VALVES

All discharge ball valves shall be manual control 1/4 turn Elkhart heavy duty swing out valve with stainless steel ball unless specified otherwise.

COMPLY …… YES _____ NO _____

TANK TO PUMP

The tank to pump piping shall be capable of delivering water to the pump at a rate of five hundred (500) gallons per minute. This flow shall be sustained while pumping to a minimum of 80% of the certified tank capacity with the apparatus on level ground.

The tank to pump line shall run from the pump to the front face of the water tank and down into the tank sump. A rubber coupling shall be included in this line to prevent damage from vibration or chassis flexing.

The tank to pump line shall be 3" I.D. piping with a 3" ball valve.

COMPLY …… YES _____ NO _____

TANK REFILL

A 2" tank refill line shall be provided using a 2" quarter-turn full flow ball valve controlled from the pump operator's panel with a manual locking handle. The tank refill shall be plumbed with high pressure flexible piping and high pressure flexible piping stainless steel couplings.

COMPLY …… YES _____ NO _____

PURCHASE INTENT

The apparatus being purchased is expected to have an 18 to 20 year service life. Based on this requirement, the department is extremely concerned that the apparatus remains structurally sound and the outward appearance remains in a “like new” condition, with minimal maintenance and upkeep, throughout the intended service life.

Aluminum apparatus bodies and differing construction designs will be reviewed and considered ONLY if the builder / manufacture provides in the respondent specifications adequate proof that procedures and materials employed in the design prevent corrosion over the intended service life. Burden of proof is on the bidder and final determination of acceptability will be solely determined by the department.
The entire body design shall be of a laser machined, bolted design to allow for ease of removal for repair or replacement, without cutting welds.

COMPLY …… YES _____ NO _____

APPARATUS BODY DESIGN AND CONSTRUCTION

The apparatus body shall be built of stainless steel and shall be designed exclusively for Fire Service use. The overall body width shall be 95 inches wide. All metal work shall be free of sharp edges, objects or corners. No exceptions are allowed to this requirement.

The body design shall be fully tested with proven engineering and test techniques such as finite element analysis, stress coating, and strain gauging. Engineering and test techniques shall have been performed with special attention given to fatigue life and structural integrity of compartments and body support system.

The apparatus body shall be designed with the use of parametric modeling engineering software to ensure proper design of panel cuts and alignment of holes in mating parts. The entire apparatus body shall be a precision laser machined, bolted construction, properly reinforced with integral flanges eliminating the need for additional structural shapes. Hose body fabrications shall be free of all internal projections which might injure personnel or fire hose.

COMPLY …… YES _____ NO _____

MODULAR BODY REQUIREMENTS

The body shall be completely modular in design allowing transfer of body components to a new chassis in the event of an accident or wear. Body components shall be removable from chassis without cutting or bending. The modular design shall also facilitate ease of repair or replacement of major or minor body parts. The mounting of the apparatus body shall be separate and distinct from the water tank mounting and the pump module mounting.

All body panels are to be laser machined on a CAM controlled laser to ensure accuracy (+/- .010"). This shall greatly enhance assembly and matching of repair parts. The body compartment floors, rear walls and roof areas shall be constructed of 12-gauge stainless steel. The vertical front and rear walls are designed with 14-gauge stainless steel. These front and rear walls are designed as a structural beam with the inclusion of the design.

Interior stainless steel panels shall be #4B finish to eliminate the need for high maintenance painted surfaces in the compartments. All exterior stainless steel panels shall have #4B finish.

The entire body shall be fabricated using precision holding fixtures to ensure accurate dimensions. Body front and rear vertical flanges shall be triple broken, providing a mounting area for rear hand rails. Major body components shall consist of right and left body sides, and rear facing compartments.

COMPLY …… YES _____ NO _____

COMPARTMENT ROOF CONSTRUCTION

Each compartment top shall have a bolt in 12-gauge stainless roof section for supporting roof loads of up to 500 pounds per square foot without permanent roof deformation. The stainless roof sections shall attach the compartment rear wall and compartment vertical sides through a fastened joint creating a full perimeter compartment attachment of the stainless roof section.

COMPLY …… YES _____ NO _____

COMPARTMENT INTERIOR FINISH

For better interior visibility, to reflect light better, ease of maintenance and prevent the masking of poor welds and questionable workmanship the interior of the body compartments shall remain uncoated.

COMPLY …… YES _____ NO _____

BEVELED REAR TAILBOARD

A rear tailboard 8" deep shall be provided at the rear from "Laser Grip" stainless steel. The tailboard shall provide recessed for the rear ICC marker lights. It shall be bolted to the rear support structure. The corners of the rear bumper shall be beveled back to reduce the rear bumper swing of the vehicle.

COMPLY …… YES _____ NO _____

CHASSIS FRAME EXTENSION

There shall be a rear three (3) inch x four (4) inch x 1/4 inch wall ASTM A-500 grade B rectangular tubing frame extension to provide frame support for the rear of the apparatus body.

Two vertical mounting plates are to be welded to the tubing to provide a drop frame connection to the truck chassis. This extension assembly is to be bolted to the truck chassis with eight (8) 1/2 grade 8 bolts with hardened flat washers to form an integral part of the truck frame assembly.

COMPLY …… YES _____ NO _____

RECEIVER HITCH

There shall be a Class IV receiver hitch assembly as an integral part of the chassis rear frame extension that is located at the rear of the apparatus below the rear step.

COMPLY …… YES _____ NO _____

EXTENSION PAINT FINISH

The rear frame extension assembly and hitch assembly is to be black powder coated prior to installation.

COMPLY …… YES _____ NO _____

COMPARTMENT DESIGN AND CONSTRUCTION

All compartments shall be manufactured from 12-gauge stainless steel with the vertical front and rear corner walls from 14-gauge, shall be of sweep out design and shall be bolted together. Stainless recessed round head bolts and stainless aircraft style "ESNA" nuts shall be applied with proper torque rating for each fastener. This type of construction shall greatly enhance the strength and ease of parts replacement in the event of damage and future modifications. Wherever possible, body bolts shall be hidden from plain view for appearance and ease of apparatus cleaning.

COMPLY …… YES _____ NO _____

COMPARTMENT VENTILATION

Each compartment shall be provided with a laser cut louver to provide adequate ventilation.

COMPLY …… YES _____ NO _____

VENT FILTRATION

There shall be filters provided for compartments L1, L3, R1, R3 and RR1. The protective louver covering the filer shall be removable to allow for filter changing.

The filter shall be 100% virgin nylon fiber in an open web design that is USDA approved. The filter shall be chemically treated with Dimethyl Benzyl Ammonium Saccharinate to aid in the reduction of bacteria and fungi.

COMPLY …… YES _____ NO _____

WATER TANK CAPACITY

The water tank shall be rectangular shaped, and shall have a capacity of 300 US gallons.

COMPLY …… YES _____ NO _____

TANK LID & FILL TOWER

The tank shall have a combination vent and fill tower. The fill tower shall be constructed of 1/2” thick Polyprene & Mac226 and shall be a minimum dimension of 8”x 8” outer perimeter. The tower shall be located in the center front the tank unless otherwise specified by the purchaser. The tower shall have a 1/4” thick removable Polyprene & Mac226; screen and a Polyprene & Mac226 hinged-type cover. Inside the fill tower, there shall be a combination vent overflow pipe. The vent overflow shall be a minimum of schedule 40 pipe with a minimum ID of 4” that is designed to run through the tank, and shall be piped behind the rear axle beneath the tank.

The tank cover shall be constructed of recessed 1/2” thick Polyprene & Mac226, stress relieved, UV stabilized material. A minimum of two lifting dowels shall be drilled and tapped to accommodate the lifting eyes.

COMPLY …… YES _____ NO _____

OVERFLOW AND VENT PIPE

The fill tower shall be fitted with an integral 4" ID, Schedule 40 PVC combination overflow/vent pipe running from the fill tower through the tank to a 4" coupling flush mounted into the bottom of the tank to allow water to overflow beneath the chassis.
The water tank manufacturer shall be either APR or UPF selected by the apparatus builder.

COMPLY …… YES _____ NO _____

BODY MODULE CAPACITIES AND HOSEBED HEIGHT

The total capacity of the body module exterior compartments shall be 139 cubic feet.

The total capacity of the body hosebed shall be approximately 40 cubic feet.

The hosebed shall be approximately 44" from the bumper.

The body shall have an overall length of 108".

COMPLY …… YES _____ NO _____

TANK DRAIN

A 2" tank drain shall be provided for the booster tank below the tank sump. The drain shall be provided with a 2" 1/4 turn PVC valve with a manual control on the valve.

COMPLY …… YES _____ NO _____

APPARATUS BODY HOSEBED

The hose bed shall be constructed in such a manner that will prevent damage to fire hose. The hosebed shall comply with the current NFPA requirements. The interior of the hosebed shall be free of projections such as nuts, sharp edges or brackets that may damage hose. The hosebed and walls shall be manufactured from stainless steel. No exceptions to this requirement are allowed.

An aluminum extrusion shall be installed over the rear opening of the hosebed to protect the body from wear. The hosebed bottom shall be fitted with removable slatted, ribbed 6" heavy-duty extruded aluminum floorboards.

COMPLY …… YES _____ NO _____

ADJUSTABLE HOSE BED DIVIDERS

An adjustable hosebed divider shall be provided. The divider shall be fabricated from .250" thick smooth aluminum plate, 5052-H32 alloy. The rear end of each divider shall have a 3" radius corner and shall be sanded and deburred to prevent damage to hose.

There shall be two hand hold openings provided. One (1) at the rear in a vertical position and one (1) approximately 24 inches in from the rear in a horizontal position.

COMPLY …… YES _____ NO _____

HOSEBED COVER

A black vinyl hosebed cover shall be provided and designed to cover the entire main hosebed area. The cover shall be installed with "stretch cord type" fasteners along each side of the hosebed. A weighted flap shall be incorporated into the rear edge of the cover.

The hosebed cover rear flap shall have a positive locking device to meet the requirements of NFPA.

COMPLY …… YES _____ NO _____

LEFT SIDE COMPARTMENT DIMENSIONS

Forward Of Wheel Well
There shall be one (1) rescue style, full height, full depth compartment ahead of the rear wheels. The compartment dimensions shall be 35-1/2" wide x 57" high x 22" deep with the door closed. The door opening shall be 26-1/2" wide x 49-1/2" tall.

COMPLY …… YES _____ NO _____

Above Wheel Well
There shall be one (1) high side full depth compartment centered over the rear wheels. The compartment dimensions shall be 44" wide x 40" high x 22" deep with the door closed. The door opening shall be 42" wide x 34-1/2" tall.

COMPLY …… YES _____ NO _____

Rear Of Wheel Well
There shall be one (1) rescue style, full height, full depth compartment behind the rear wheels. The compartment dimensions shall be 23-1/2" wide x 57" high x 22" deep with the door closed. The door opening shall be 19" wide x 49-1/2" tall.

COMPLY …… YES _____ NO _____

ROLLUP DOOR CONSTRUCTION - LEFT SIDE

All left side compartments shall be provided with Gortite roll up doors. The roll up doors shall be constructed of double sided aluminum extrusions connected with a ball and socket joint. The extrusions shall be 1-3/8" wide x 3/8" thick and shall be painted to match the job color. A flexible EDPM extrusion shall be provided between each slat to insure a weather tight seal. Aluminum extrusions shall be individually replaceable without disassembling the entire door by removing push out clips on each end.

Side channels for each door to ride in shall be provided with santoprene seals to prevent dirt and moisture from entering the exterior compartment. A single piece top drip rail shall be provided with a santoprene seal to prevent dirt and moisture from entering the compartment when the door is fully closed. The bottom of each door shall also be provided with a santoprene seal. All nonmetallic parts shall be glass filled nylon.

The left side door latches shall be non-locking stainless steel lift bars and shall be provided with a magnetic door ajar switch system.

COMPLY …… YES _____ NO _____

FENDER SIDE SKIRTS

There shall be stainless steel fender side skirts located in the area of the rear wheels. The design of the fender sides shall be a minimal length to provide maximum compartment space in the apparatus.

COMPLY …… YES _____ NO _____

FUEL FILL - SIDE BODY

The fuel fill shall be located in the rear fender area on the left side of the apparatus body. The spring loaded fuel fill door shall have "Diesel Fuel" laser cut in the face of the door.

COMPLY …… YES _____ NO _____

BODY FENDERS - POLISHED

The apparatus body fenders shall be made from 16 gauge polished stainless steel and shall be rolled, die stamped and fully removable. The stainless steel fenders and stainless fender liners shall be fastened with stainless bolts and ESNA nuts to the outer fender panel.

COMPLY …… YES _____ NO _____

REAR AXLE MUD FLAPS

Two (2) black, anti-sail, mud flaps shall be mounted behind the rear wheels.

COMPLY …… YES _____ NO _____

RIGHT SIDE COMPARTMENT DIMENSIONS

Forward Of Wheel Well
There shall be one (1) rescue style, full height, full depth compartment ahead of the rear wheels. The compartment dimensions shall be 35-1/2" wide x 57" high x 22" deep with the door closed. The door opening shall be 26-1/2" wide x 49-1/2" tall.

COMPLY …… YES _____ NO _____

Above Wheel Well
There shall be one (1) high side full depth compartment centered over the rear wheels. The compartment dimensions shall be 44" wide x 40" high x 22" deep with the door closed. The door opening shall be 42" wide x 34-1/2" tall.

COMPLY …… YES _____ NO _____

Rear Of Wheel Well
There shall be one (1) rescue style, full height, full depth compartment behind the rear wheels. The compartment dimensions shall be 23-1/2" wide x 57" high x 22" deep with the door closed. The door opening shall be 19" wide x 49-1/2" tall.

COMPLY …… YES _____ NO _____

ROLLUP DOOR CONSTRUCTION - RIGHT SIDE

All right side compartments shall be provided with Gortite roll up doors. The roll up doors shall be constructed of double sided aluminum extrusions connected with a ball and socket joint. The extrusions

shall be 1-3/8" wide x 3/8" thick and shall be painted to match the job color. A flexible EDPM extrusion shall be provided between each slat to insure a weather tight seal. Aluminum extrusions shall be individually replaceable without disassembling the entire door by removing push out clips on each end.

Side channels for each door to ride in shall be provided with santoprene seals to prevent dirt and moisture from entering the exterior compartment. A single piece top drip rail shall be provided with a santoprene seal to prevent dirt and moisture from entering the compartment when the door is fully closed. The bottom of each door shall also be provided with a santoprene seal. All nonmetallic parts shall be glass filled nylon.

The left side door latches shall be non-locking stainless steel lift bars and shall be provided with a magnetic door ajar switch system.

COMPLY …… YES _____ NO _____

REAR COMPARTMENT DIMENSIONS

There shall be one (1) full height compartment at the rear of the body. It shall have approximate dimensions of 48" wide x 33-1/2" high x 42" deep. The door opening shall be 45-1/2" x 24" tall.

COMPLY …… YES _____ NO _____

ROLLUP DOOR CONSTRUCTION - REAR

The rear compartment shall be provided with a Gortite roll up door that shall be constructed of double sided aluminum extrusions connected with a ball and socket joint. The extrusions shall be 1-3/8" wide x 3/8" thick with satin anodized finishing. A flexible EDPM extrusion shall be provided between each slat to insure a weather tight seal. Aluminum extrusions shall be individually replaceable without disassembling the entire door by removing push out clips on each end.

Side channels for the rear door to ride in shall be provided with santoprene seals to prevent dirt and moisture from entering the exterior compartment. A single piece top drip rail shall be provided with a santoprene seal to prevent dirt and moisture from entering the compartment when the door is fully closed. The bottom of the door shall also be provided with a santoprene seal. All nonmetallic parts shall be glass filled nylon.

The rear door latch shall be a non-locking stainless steel lift bar and shall be provided with a magnetic door ajar switch system.

COMPLY …… YES _____ NO _____

REAR BODY REFLECTIVE CHEVRON STRIPING

The rear-facing vertical surfaces of the rear taillight panels and the rear body inset area beside the full height rear door(s), visible from the rear of the apparatus, including the rear compartment door(s), shall be equipped with six (6) inch wide retroreflective striping in a chevron pattern sloping downward and away from the centerline of the vehicle at an angle of 45 degrees.

Each stripe in the chevron shall be a single color alternating between red (3M #-82) and yellow (3M # -81).

COMPLY …… YES _____ NO _____

STAINLESS STEEL APPARATUS BODY PAINTED

The following apparatus body components shall be painted job color.

The rear wheel fender panels

The front body corner panels

The rear body corner panels

The exterior surface of the hosebed side walls compartment

The exterior surface of the hosebed compartment front wall

The area between the doors on the side compartments

COMPLY …… YES _____ NO _____

COMPARTMENT TOP GRAB HANDLE AND WALKING SURFACE

There shall be a 24" long grab handle located at the rear of the apparatus. This grab handle shall be horizontally mounted running parallel to the chassis centerline at the rear of the compartment top.

The top of the left side compartments shall have three (3) strips of 3M non-skid tape applied parallel running the front to back length of the compartment.

COMPLY …… YES _____ NO _____

ROOF LADDER

One (1) 8' Duo-Safety model 775-A, aluminum channel rail roof ladder with folding roof hooks shall be provided with the apparatus.

COMPLY …… YES _____ NO _____

ATTIC LADDER

One (1) 8' Duo-Safety model 585-A aluminum folding attic ladder shall be provided with the apparatus.

COMPLY …… YES _____ NO _____

EXTENSION LADDER

One (1) 14' two-section Duo-Safety model 1000A solid beam, aluminum extension ladder shall be provided with the apparatus.

COMPLY …… YES _____ NO _____

APPARATUS COMPARTMENT LIGHTING

Two (2) LED, armor protected, strip lights shall be provided one (1) each side of the compartment at the door frame for each body compartment. Each body door shall have an automatic compartment light switch.

There shall be a white/red color selector switch in the cab that controls the color of this lighting.

COMPLY …… YES _____ NO _____

FOLDING STEPS

Three (3) folding steps shall be provided on the left rear of the apparatus body.

The folding step(s) shall include an integrated LED light beneath each step. This light shall illuminate when the apparatus ground lights are activated. The bottom of the step and step mounting shall include white reflective material to aide in locating the step when the vehicle ground lights are not activated.

COMPLY …… YES _____ NO _____

APPARATUS ICC MARKER LIGHTING AND REFLECTORS

Three (3) red LED clearance lights shall be supplied, mounted in the rear of the apparatus.

ICC lighting utilized and lighting positions shall be in conformance with FMVSS 108.

There shall be a diamond shaped amber reflector mounted on each front corner of the apparatus body and a diamond shaped red reflector mounted on each rear corner of the body.

COMPLY …… YES _____ NO _____

REAR STOP/TAIL/TURN/BACKUP LIGHTS

The rear of the apparatus shall be equipped with Whelen 600 Series lights. The top light in the assembly shall be a red LED stop/tail light, Whelen model 60BBTC. The middle light set shall be an amber LED lamp with a populated arrow shape, Whelen model 60A00TAR and the lower lights shall be clear Halogen backup lights, Whelen model 60J000CR.

A one-piece bright finished trim shall be mounted around the rear stop/tail/turn and backup lights on each side of the apparatus.

COMPLY …… YES _____ NO _____

BACK-UP ALARM

A solid state electronic backup alarm shall be installed on the rear of the apparatus and wired to the backup light circuit.

One (1) license plate mounting and LED light shall be provided. The light and bracket shall be located on the rear of the apparatus.

COMPLY …… YES _____ NO _____

ROOF MOUNTED LIGHTBAR

A Whelen Justice, 56" light bar system shall be supplied and permanently mounted on the lightbar mounting support on the front of the body. This light bar system shall be supplied with:

all clear lens covers
four (4) corner red LIN6 LED lightheads
two (2) JDCR red CON3 Super-LED lightheads in the outboard positions
two (2) JDCC white CON3 Super-LED lightheads in the second forward positions
two (2) JDCR red CON3 Super-LED lightheads in the third forward positions
two (2) rear facing JDCA amber CON3 Super-LED lightheads in the outboard positions

COMPLY …… YES _____ NO _____

COMBINATION FRONT WARNING AND GROUND LIGHT

There shall be two (2) Whelen M4 Series Model # M4V2R combination 180° warning/ground lights mounted on the front brush guard facing forward.

The warning light shall consist of two V-series Super-LEDs with clear TIR reflectors maximum illumination.

The ground light shall consist of three white Super-LEDs installed at 45° angle with a TIR reflector for supreme radiance.

COMPLY …… YES _____ NO _____

COMBINATION FRONT WARNING AND GROUND LIGHT

There shall be two (2) Whelen M4 Series Model # M4V2R combination 180° warning/ground lights mounted on the front brush guard facing to the side.

The warning light shall consist of two V-series Super-LEDs with clear TIR reflectors maximum illumination.

The ground light shall consist of three white Super-LEDs installed at 45° angle with a TIR reflector for supreme radiance.

COMPLY …… YES _____ NO _____

COMBINATION FRONT WARNING AND GROUND LIGHT

There shall be two (2) Whelen M4 Series Model # M4V2R combination 180° warning/ground lights mounted on each side of the body in the forward wheelwell area.

The warning light shall consist of two V-series Super-LEDs with clear TIR reflectors maximum illumination.

The ground light shall consist of three white Super-LEDs installed at 45° angle with a TIR reflector for supreme radiance.

COMPLY …… YES _____ NO _____

REAR UPPER LEVEL WARNING / PERIMETER LIGHTS

There shall be two (2) Whelen M4 Series Model # M4V2R combination 180° warning/perimeter lights mounted facing the rear, one (1) each side of the body in the upper position.

There shall be two (2) Whelen M4 Series Model # M4V2R combination 180° warning/perimeter lights mounted, one (1) mounted on the upper rear sides of the apparatus..

The warning light shall consist of two V-series Super-LEDs with clear TIR reflectors maximum illumination.

The perimeter light shall consist of three white Super-LEDs installed at 45° angle with a TIR reflector for supreme radiance. Perimeter lighting is switched with the ground lighting.

COMPLY …… YES _____ NO _____

REAR UPPER LEVEL WARNING / PERIMETER LIGHTS

There shall be two (2) Whelen M4 Series Model # M4V2R combination 180° warning/perimeter lights mounted facing the rear, one (1) each side of the body in the lower position.

The warning light shall consist of two V-series Super-LEDs with clear TIR reflectors maximum illumination.

The perimeter light shall consist of three white Super-LEDs installed at 45° angle with a TIR reflector for supreme radiance. Perimeter lighting is switched with the ground lighting.

COMPLY …… YES _____ NO _____

BODY LED WORKLIGHTS

Two (2) Whelen PFBP12 LED hosebed floodlights shall be provided. One (1) mounted at the front right corner and one (1) on the front left corner of the body. The lights shall be controlled from a switch on the lamp head.

COMPLY …… YES _____ NO _____

LEFT FRONT QUARTZ LIGHT

The following light shall be provided mounted on the left front corner of the body:

Fire Research Focus model FCA100-V15 lamphead shall be provided. The lamphead shall have ten (10) ultra-bright white LEDs. It shall operate at 12/24 volts DC, draw 13/6.5 amps, and generate 14,000 lumens. The lamphead shall direct 50 percent of the light onto the action area while providing 50 percent to illuminate the working area. The lamphead angle of elevation shall be adjustable at a pivot in the mounting arm and the position locked with a round knurled locking knob. The lamphead shall incorporate heat-dissipating fins and be no more than 5" deep by 3 3/8" high by 11 1/2" wide. The lamphead and mounting arm shall be powder coated white. The floodlight shall be for fire service.

One (1) 12-volt, switch(es) shall be located in the cab switch panel. The switch(es) shall control the 12-volt quartz lighting fixture(s) as selected.

One (1) 12-volt, water proof switch(es) shall be located on the pump operator's panel. The switch(es) shall control 12-volt quartz lighting fixture(s) as selected.

The light head shall be mounted on a side mount push up telescopic pole. The light pole shall be anodized aluminum and have a knurled twist lock mechanism to secure the extension pole in position. The extension pole shall rotate 360 degrees. The outer pole shall be a grooved aluminum extrusion and qualify as an NFPA compliant handrail. The pole mounting brackets shall have a 3 1/2" offset. Wiring shall extend from the pole bottom with a 4' retractile cord.

COMPLY …… YES _____ NO _____

RIGHT FRONT QUARTZ LIGHT

The following light shall be provided mounted on the right front corner of the body:

Fire Research Focus model FCA100-V15 lamphead shall be provided. The lamphead shall have ten (10) ultra-bright white LEDs. It shall operate at 12/24 volts DC, draw 13/6.5 amps, and generate 14,000 lumens. The lamphead shall direct 50 percent of the light onto the action area while providing 50 percent to illuminate the working area. The lamphead angle of elevation shall be adjustable at a pivot in the mounting arm and the position locked with a round knurled locking knob. The lamphead shall incorporate heat-dissipating fins and be no more than 5" deep by 3 3/8" high by 11 1/2" wide. The lamphead and mounting arm shall be powder coated white. The floodlight shall be for fire service.

One (1) 12-volt, switch(es) shall be located in the cab switch panel. The switch(es) shall control the 12-volt quartz lighting fixture(s) as selected.

One (1) 12-volt, water proof switch(es) shall be located on the pump operator's panel. The switch(es) shall control 12-volt quartz lighting fixture(s) as selected.

The light head shall be mounted on a side mount push up telescopic pole. The light pole shall be anodized aluminum and have a knurled twist lock mechanism to secure the extension pole in position. The extension pole shall rotate 360 degrees. The outer pole shall be a grooved aluminum extrusion and qualify as an NFPA compliant handrail. The pole mounting brackets shall have a 3 1/2" offset. Wiring shall extend from the pole bottom with a 4' retractile cord.

COMPLY …… YES _____ NO _____

ALUMINUM SHELVES - ADJUSTABLE

Six (6) adjustable aluminum shelves shall be provided with two (2) each installed in R1, R3 and L3 compartments. The shelves shall have a flange 1-1/2" deep with a minimum material thickness of .190". Each shelf shall be adjustable in height and held in place by four (4) extruded uprights.

COMPLY …… YES _____ NO _____

ALUMINUM SHELVES - ADJUSTABLE

Two (2) adjustable aluminum shelves shall be provided and installed in the R2 compartment. The shelves shall have a flange 1-1/2" deep with a minimum material thickness of .190". Each shelf shall be adjustable in height and held in place by four (4) extruded uprights.

COMPLY …… YES _____ NO _____

ALUMINUM SHELF - ADJUSTABLE

One (1) adjustable aluminum shelves shall be provided and installed in the RR1 compartment. The shelf shall have a flange 1-1/2" deep with a minimum material thickness of .190". The shelf shall be adjustable in height and held in place by four (4) extruded uprights.

COMPLY …… YES _____ NO _____

ALUMINUM TRAYS - PULL OUT

Four (4) heavy duty pullout trays shall be installed and shall be equipped with slides and a gas shock to hold the tray in both the in and out positions and shall be made from .190" aluminum with a maximum capacity of 250 pounds. One (1) each are to be installed on the floor of the L3, R1, R3 and RR1 compartments.

COMPLY …… YES _____ NO _____

ALUMINUM TOOL BOARDS

The rear wall of the L2 and the rear wall of the R2 compartments shall be covered with FoxTrax aluminum extrusion tool mounting board.

COMPLY …… YES _____ NO _____

FULL HEIGHT PULL OUT VERTICAL TOOL BOARD

One (1) full height vertical pull out tool board(s) shall be installed in an exterior body compartment.

Each board shall be equipped with Grant slides and a gas shock to hold the board in both the in and out positions.

The tool board shall be made from .25" aluminum and be fully adjustable across the width of the compartment.

COMPLY …… YES _____ NO _____

ALUMINUM TOOL MOUNTING EXTRUSION

Both sides of the top portion of the one (1) tool boards shall be covered with FoxTrax aluminum extrusion tool mounting.

COMPLY …… YES _____ NO _____

SWING-OUT VERTICAL TOOL BOARD

One (1) full height swing-out vertical tool board(s) with a150 pound capacity shall be furnished and installed in an exterior body compartment.

The tool board shall be constructed of .25" aluminum.

A single D-Ring latch shall be provided that can easily be operated with gloved hands.

COMPLY …… YES _____ NO _____

ALUMINUM TOOL MOUNTING EXTRUSION

Both sides of one (1) tool boards shall be covered with FoxTrax aluminum extrusion tool mounting.

COMPLY …… YES _____ NO _____

SCBA BRACKETS

Two (2) Zico SCBA mounting brackets with a positive holding strap shall be provided in apparatus body exterior compartments.

The SCBA brackets shall be installed on the lower portion of the full height pull out toolboard in the L1 compartment.

COMPLY …… YES _____ NO _____

PIKE POLE TUBES

Two (2) square tubes, with a notch for the pike hook, will be provided and mounted above the left side

compartments. The tubes will have a pull pin to secure the pike pole in the tube.

COMPLY …… YES _____ NO _____

HYDRAULIC TOOL MOUNTS

Three (3) Zephyr brand tool mounts will be provided for the departments Hurst 12V spreader, cutter and ram.

The tools will be mounted on the RR1 pull out tray.

COMPLY …… YES _____ NO _____

WATER TANK WARRANTY

The water tank is to be free from defects in material and workmanship for the normal service life of the apparatus in which the water tank is installed.

If a tank has a defect in material or workmanship covered by the warranty, the tank manufacturer shall repair at their cost, by authorized personnel or authorized third parties. The tank manufacturer shall make an effort to effectuate repair within 48 hours following initial notification of a covered defect. The tank manufacturer shall make a reasonable effort to repair tank at most convenient location to end user.

The tank manufacturer shall reimburse all reasonable costs associated with rendering the tank accessible for repair, including, but not limited to, removal and reassembly of the hose bed floor.

COMPLY …… YES _____ NO _____