REQUEST FOR PROPOSAL

You are invited to submit a proposal for the design, fabrication, test and delivery of a Fire Department wet-side tanker in accordance with the following instructions and requirements. The tanker will have a 3000 gallon water tank, a 1000 gpm pump, stainless compartments and be in compliance with the current edition of NFPA 1901.

BIDDER INSTRUCTIONS

Proposals shall be addressed to:

Town of Somers
Town Clerk
PO box 308
600 Main St.
Somers, CT 06071.

The words "Fire Apparatus Proposal", the date, and the bid opening time must be stated on the face of the bid envelope. **It is the bidder's responsibility to see that their proposals arrive on time**. Late proposals, telegram, facsimile or telephones bids shall not be considered.

Proposals are due at the Town Clerks office no later than 4:00pm on September 13, 2012.

Proposal will be opened in the Selectman's office conference room at 4:15pm on September 13, 2012. Changes will not be accepted after the proposals are opened.

Each proposal shall include original and 2 paper copies of the bid price and 3 paper copies of a detailed Contractors Specification and drawings describing the apparatus and equipment the bidder proposes to furnish. In addition, electronic copies in the form of a CD or a flash drive are encouraged but not required.

The bid price shall not include any local, state or federal taxes.

Proposals shall include the proposed time of delivery after receipt of order.

Proposals shall be good for 60 days.

Questions may be addressed to Dan Madden, by phone to 860-690-8408 or by email to maddd001@att.net. All answers will be posted to the Town of Somers website, Somersct.gov. The last day for questions is September 6, 2012. **It is the bidder's responsibility to check the website for answers to questions.**

The Somers Fire Department reserves the right to reject any and all bids, or to accept any bid, which would be in the best interest of the Somers Fire Department, whether or not that bid was the lowest monetary bid, and further reserves the right to waive any informalities, omissions, excess verbiage, or technical defects in the bidding or changes in the specifications which would result in better service to the Fire Department at its option.

BID COMPLIANCE INSTRUCTIONS

In addition to the Contractor' Specification, each bidder must provide a copy of this RFP marked to indicate his compliance with the RFP by marking "YES" or "NO" in the statement for each individual paragraph of the RFP. Indicating "YES" to a paragraph shall mean full compliance; indicating "NO" shall mean an exception is being taken. Any deviation from the specification, no matter how small, must be so annotated. All exceptions must be fully explained on a separate page, titled "Exceptions", giving reference to the page and paragraph where the exception is being taken.

As all manufacturers present their specifications in a different order, each manufacturer shall mark this copy of the RFP with the page number where a topic is addressed in the Contractors Specification for ease of bid comparison and to clearly locate all proposed items. The bidders name shall be marked on the front of the RFP copy.

Failure to comply with this requirement shall result in the bid proposal being rejected.

The Somers Fire Department shall be the sole arbiter as to what exceptions may be allowed or disallowed. In the event a bidder fails to make any indication of compliance for any or all provisions it will be assumed that the bidder is taking total exception to the specification and the bid shall be disallowed.

Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

1. PROPOSAL GROUND RULES

INTENT OF RFP

It is the intent of this Request for Proposal (RFP) to cover the furnishing and delivery to the purchaser a complete apparatus equipped as hereinafter specified. This apparatus will be a mobile water source that can provide water at a fire scene by gravity dump to a portable tank, pump feed to a portable tank, pump feed to a nurse tanker or can function as a nurse tanker. It will be used within the Town of Somers, a rural/suburban community which includes State forest. The terrain includes flat lands and steep hills with many residences having long narrow steep driveways. This piece will also be responding to neighboring communities for mutual aide to assist at emergency scenes. Typically the travel will be on paved roads, however, there are unpaved roads in some residential areas and in the State forest. With a view of obtaining the best results and the most acceptable apparatus for service in the Somers Fire Department, this RFP covers desired features and the general requirements as to the type of construction and tests to which the apparatus must conform, together with certain details as to finish, equipment and appliances with which the successful bidder must conform. It is not the intent of this RFP to force a manufacturer to use another's design, material selection or construction technique. Standard features that all apparatus must have may not be defined here-in, however, they are expected to be included in the Contractor's Specification. Also, different manufacturers provide features not specified that may make their offering better suited for the Somers Fire Department. It is expected that these will be included in the Contractor's Specification. 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 features. The apparatus shall conform to the requirements of the current (at the time of bid) National Fire Protection Association Pamphlet #1901 for Motor Fire Apparatus and all applicable federal, state, ICC and DOT regulations, standards and

laws relating to commercial vehicles as well as to fire apparatus. The bidder shall identify any areas where the proposed apparatus does not comply with the current version of NFPA 1901 and shall provide recommendations for how to bring the apparatus into compliance.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

Bids shall only be considered from manufacturers which have an established reputation in the field of fire apparatus construction and have been in business for a minimum of fifteen (15) years.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

Each bid shall be accompanied by a set of "Contractor's Specifications" consisting of a detailed description of the apparatus, including proposed materials and construction techniques, and equipment proposed and to which the apparatus furnished under contract must conform The Contractor's specifications shall indicate size, type, model and make of all component parts and equipment.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

A general layout drawing depicting the apparatus layout and appearance shall be provided with the bid. The drawing shall consist of left side, right side, frontal and rear elevation views and shall provide compartment dimensions. The drawing shall have a general layout view of the pump operators panel scaled the same as the elevation views. The drawing shall be a depiction of the actual apparatus proposed and not of a generic similar product. Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

STATEMENT OF EXCEPTIONS TO NFPA 1901

If, at the time of delivery, the apparatus manufacturer is not in compliance, a statement of exceptions must be provided as follows:
The specific standard affected.
A statement describing why the manufacturer is not in compliance.
A description of the remedy, and who the responsible party is.
The document must be signed by an officer of the company, and an authorized agent of the purchaser. **NO EXCEPTIONS**
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

QUALITY AND WORKMANSHIP

The design of the apparatus must embody the latest approved automotive engineering practices.
The workmanship must be the highest quality in its respective field. Special consideration shall be given to the following points: Accessibility to various areas requiring periodic maintenance, ease of operation (including both pumping and driving) and symmetrical proportions.
Construction must be rugged and ample safety factors must be provided to carry loads as specified and to meet both on and off road requirements and speed as set forth under "Performance Test and Requirements."
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

PERFORMANCE TESTS AND REQUIREMENTS

In addition to tests defined in various sections of this specification, a road test shall be conducted at

the time of delivery, prior to acceptance with the apparatus fully loaded and a continuous run of ten (10) miles or more shall be made under all driving conditions, during which time the apparatus shall show no loss of power or overheating. The transmission drive shaft or shafts, and rear axles shall run quietly and free from abnormal vibration or noise throughout the operating range of the apparatus. The successful bidder shall furnish a weight certification showing weight on the front and rear axle, and the total weight of the completed apparatus at the time of delivery.
The apparatus shall meet the Road Test requirements of NFPA 1901 Section 4.17.
The apparatus shall meet the Pumping Test requirements of NFPA 1901 Section 16.13.2.
The apparatus shall be tested and approved by an independent qualified testing agency in accordance with their standard practices for pumping engines.
The contractor shall furnish copies of the Pump Manufacturer's Certification of Hydrostatic Test, the Engine Manufacturer's current Certified Brake Horsepower Curve and the Manufacturer's Record of Construction Details.

Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

FAILURE TO MEET TESTS

In the event the apparatus fails to meet the test requirements of this RFP on the first trial, a second trial may be made at the option of the bidder within thirty (30) days of the date of the first trials. Such trials shall be final and conclusive and failure to comply with these requirements shall be cause for rejection. Permission to keep and/or store the apparatus in any building owned or occupied by the purchaser shall not constitute acceptance of same.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

EXCEPTIONS TO REQUIREMENTS

The following requirements shall be strictly adhered to. Exceptions shall be considered if they are deemed equal to or superior to the stated requirement, provided they are fully explained on a separate page entitled "EXCEPTIONS." Exceptions shall be listed by page and paragraph. Failure to denote exceptions in the above manner shall result in immediate rejection of the proposal. In addition a general statement taking "TOTAL EXCEPTION" to the requirements shall result in immediate rejection of bid.

Brand names or model numbers have been specified for some items in the RFP. These have been carefully selected because of their reliability and availability for replacement locally. In order to be most responsive, items named, or an item "equal to" the particular item specified by brand name or model, should be contained in the bid proposal. It is the bidder's responsibility to prove to the Somers Fire Department that an item bid as "equal to" a particular specified item, is truly of equal quality, design, and function. The Somers Fire Department maintains the right to make a final decision as to the acceptability of an item bid as "equal to" a particular specified item.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

GENERAL CONSTRUCTION

The apparatus shall be designed and the equipment mounted with due consideration to distribution of load between the front and rear axles so that all specified equipment, purchaser supplied equipment (see appendix A Hose and Equipment list), including filled water tank, a full

complement of personnel and fire hose shall be carried without injury to the apparatus. Weight balance and distribution shall be in accordance with the recommendations of the International Association of Fire Chiefs and National Fire Association (or American Insurance Association). Certified Laboratories certificate shall be submitted by the manufacturer. Weight of apparatus shall meet all federal axle load laws.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

DELIVERY REQUIREMENTS

The apparatus shall be completely equipped as per this RFP upon arrival and on completion of the required tests shall be ready for immediate service in the fire department of the purchaser. Any and all alterations required at the scene of delivery to comply with these specifications must be done at the contractor's expense. A qualified delivery engineer will deliver the apparatus and remain with the fire department for at least one day to demonstrate the apparatus, make any adjustments found necessary, and to provide initial instruction to the department regarding the operation care and maintenance of the apparatus and supplied equipment.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

PURCHASER RIGHTS

The Purchaser reserves the right to accept or reject any bid. The purchaser also reserves the right to award in their best interest and reserves the right to waive any formalities.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

U.S.A. MANUFACTURER

The entire apparatus shall be assembled within the borders of the Continental United States to insure more readily available parts (without added costs and delays caused by tariffs and customs) and service, as well as protecting the purchaser should legal action ever be required. Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

FAMA COMPLIANCE

Manufacturer must be a current member of the Fire Apparatus Manufacturer's Association.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

APPROVAL DRAWING

After the award of bid and pre-construction conference, a detailed layout drawing depicting the apparatus layout and appearance including any changes agreed upon shall be provided for customer review and signature. The drawing will become part of the contract documents. The drawing shall consist of left side, right side, frontal and rear elevation views and shall have a general layout view of the pump operators panel scaled the same as the elevation views.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

WIRING SCHEMATIC DIAGRAM
An overall wiring schematic drawing as well as individual wiring schematics for each electrical system shall be included with the delivery.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

PRE-CONSTRUCTION CONFERENCE

After award of the contract, and prior to construction of the apparatus, a pre-construction conference shall be held at the Somers Fire Department headquarters or at the facility of the manufacturer or at the office of the dealer. If the bidder wishes to have the pre-construction conference at their facility, or at the office of the dealer a provision shall be provided in the bid price for all travel, food and lodging to accommodate seven (7) Fire Department personnel.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

INSPECTION TRIPS

Two inspection trips to the manufacturer's facility prior to delivery of the completed apparatus shall be provided. One trip shall be after fabrication and prior to painting and the second one shall be after assembly and testing is completed. Accommodations for three (3) Fire Department personnel to include all transportation, food and lodging for each trip shall be included in the bid price.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

The Somers Fire Department maintains the right to inspect the apparatus, within normal business hours, at any other point during construction. Expenses incurred during non-specified inspection visits shall be the responsibility of the Somers Fire Department.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

During inspection visits, the Somers Fire Department reserves the right to conduct actual performance tests to evaluate completed portions of the unit. Testing shall be accomplished with the assistance and resources of the contractor.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

PROPOSAL GUARANTEE

A certified check or bid bond in the sum of ten percent (10%) of the total bid price shall be submitted with the "Bid Proposal" at the time of the bid. The full amount of the bid surety shall be returned to the unsuccessful bidders following the award of the contract to the successful bidder.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

PERFORMANCE BOND

Within twenty (20) days of notification to the successful bidder by the purchaser, prior to any work commencing on the proposed apparatus, the successful bidder shall, at their own expense, obtain and submit to the purchasing entity a performance bond in the amount of 100% equal to the total contract price.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____
Additionally, each bidder must disclose the price/amount it pays for bonding, per $1,000. This is to demonstrate the economic stability and credit worthiness of the bidder. NO EXCEPTIONS.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

LIABILITY

The bidder, if his/her bid is accepted, shall defend any and all suits and assume liability for the use of any patented process, device or article forming a part of the apparatus or any appliance furnished

under the contract to the extent allowable under the law.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

SIMILAR EQUIPMENT

This bidder shall supply a list of similar apparatus delivered within the last 5 years, including a contact name. Part of the bid assessment will be a review of the similar apparatus for workmanship, ease of operation and functionality.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

WARRANTEE SERVICE

The bidder is to provide the name and locations where warrantee service is to be provided. Locations less than 50 miles from Somers are preferred.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

PRINCIPAL APPARATUS DIMENSIONS & G.V.W.R.

The bidder shall include the principal dimensions, front G.A.W.R., rear G.A.W.R., and total G.V.W.R. of the proposed apparatus. Additionally, the bidder shall provide a weight distribution of the fully loaded, completed vehicle; this shall include a filled water tank, specified hose load, miscellaneous equipment allowance in accordance with NFPA-1901 requirements, and an equivalent personnel load of 250 lbs. per seating position.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

BIDDER TO SUPPLY AND FILL- IN PROPOSED DIMENSIONS:

OVERALL LENGTH: _____"
OVERALL WIDTH: _____"
OVERALL HEIGHT: _____"
WHEELBASE: _____"

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

MINIMUM FRONT G.A.W.R.: TBD lbs.
MINIMUM REAR G.A.W.R.: TBD lbs.
MINIMUM TOTAL G.V.W.R.: TBD lbs.

Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

ROLLOVER STABILITY

The apparatus shall meet the criteria defined in 4.13.1 for rollover stability as defined in the 2009 NFPA Standard for Automotive Fire Apparatus. The apparatus center of gravity shall be no higher than 80 percent of the rear axle width
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

DELIVERY DATA REQUIREMENTS

At delivery, one copy of the Fire Apparatus Documentation defined in Section 4.20.1 of NFPA 1901 shall be provided.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

The contractor shall supply at time of delivery, two (2) copies of a complete Operation and Service manual as defined in Section 4.20.2 of NFPA 1901 covering the complete apparatus as delivered and accepted. This may be in printed or electronic (CD or flash drive) format. At least one electronic copy would be desirable.

The manual shall contain the following:

Descriptions, specifications, and ratings of chassis, and pump
Wiring diagrams.
Lubrication charts.
Operating instructions for the chassis, any major components such as a pump and any auxiliary systems.
Instructions regarding the frequency and procedures recommended for maintenance.
Parts replacement information.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

AMP DRAW REPORT

The bidder shall provide with their bid proposal and at the time of delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system.

A written load analysis, which shall include the following:

The rating of the alternator.
The minimum continuous load of each component that is specified per: Applicable NFPA-1901.
Additional loads that, when added to the minimum continuous load, determine the total connected load.
Each individual intermittent load.

All of the above listed items shall be provided by the bidder per the applicable NFPA-1901
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____
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WARRANTEE

Each bidder shall include a copy of their warranty with the bid proposal. Per Connecticut law, warrantees are required to be for a minimum of 2 years. **NO EXCEPTION** Specific warrantee requirements are contained in subsequent sections of this RFP.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

2.0 CAB, CHASSIS, ENGINE AND TRANSMISSION

CHASSIS

The chassis shall be designed and manufactured for heavy duty service with adequate strength and capacity of all components for the intended load to be sustained and the type of service required. The overall length of the apparatus from the front of the front bumper to the rear of the rearmost body

projection (step or body panel) cannot exceed 30'
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

The cab and chassis will be a Kenworth model T440 with a Cummins ISL 9 engine. The following descriptions are based on the Kenworth item description database. In some cases the information shown is the introductory line. The Kenworth database expands the details based on the introductory line.

MODEL

- **T440: w/Cummins ISL9 Engine.**
- **Chassis operation** will include stationary application used in Canada or Alaska. Stationary operation is defined as running the engine under load while stationary at a substantial fraction of engine gross horsepower (60% or greater) for an extended period of time (longer than 5 - 10 minutes).
- **CARB Idle Emissions Reduction Feature.**
- **CARB Exempt Application Emergency Vehicle Only.**
- **Non-sleeper-with rear axle capacity lessthan59K**
- **Fire truck service. Vehicles used in fighting fires.**
- **Fire Truck Pumper**
- **U.S. Domestic Registry**

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ENGINE AND EQUIPMENT

- **ISL9 400EV 2010 400@2100 380@2200 1250@1400**
  - Emergency Vehicle. Includes turbo exhaust brake, no code is used.
  - Diagnostic Plug for data link, Oil Cooler, Aluminum Flywheel Housing.
  - N09020 P02 Yes Cruise Control Auto Resume
  - N09040 P04 No Auto Engine Brake in Cruise
  - N09060 P06 Yes Gear Down Protection
  - N09100 P11 No Engine Protection Shtdwn
  - N09120 P14 65 Max Vehicle Speed in Top Gea
  - N09140 P19 65 Max Cruise Control Speed
  - N09160 P26 1400 ..Max PTO Speed
  - N09180 P10 No Idle Shtdwn
  - N09200 P32 8 Idle Shtdwn Time
  - N09220 P33 No Idle Shtdwn Override
- **Prospector version 29.0**
- **Air compressor: Cummins18.7-CFM, Cummins, PACCAR**
- **Engine mount Powercore air cleaner.**
- **Fan Hub: Horton 2:Speed for ISL9 or ISL-G**
- **Cooling module: 1300square inches On-off fan**
  hub, nylon fan blade, translucent top tank, aluminum core, air-to-air heat exchanger/after cooler, high performance fan ring shroud, silicone coolant hoses *w/* constant torque clamps, long life antifreeze. Drain valve is not available w/Allison transmissions.
- **RH under-cab DPF/SCR w/RH SOC vertical tail pipe**
  For use *w/* daycabs, extended daycabs, or modular sleepers
- **Tailpipe: 5 in. single 36in. 45 degree curved**
- **Davco Fuel Pro382 Fuel filter Return fuel heated**

- **Immersion block heater120V 1000W w/plug under**
- **Retarder Jacobs for PX-8/ISL w/2-way switch.**
- **Alternator: Leece Neville 270amp long brush**
- **Batteries: 3 Optima 31 A Threaded post (900) 2700 CCA**
- **Starter: PACCAR12volt electrical system.** W/centralized power distribution incorporating plug-in style relays. Circuit protection for serviceability, 12-volt light system w/circuit protection circuits number & color coded.
- **Multi-function engine connector for body builder** interface for Cummins
- **Connection between PTO switch & engine**
- **Body builder harness to end-of-frame for customer-installed throttle control.**

TRANSMISSION AND CLUTCH

- **Transmission: Allison World 4000EVS6-speed** w/o retarder, w/PTO provision. 4th generation. Emergency Vehicle only Includes shift control, transmission oil temperature gauge, oil level sensor & heat exchanger. Transynd transmission fluid is standard on all Allison 1000, 2000, 3000 & 4000 series transmissions
- **Driveline: 3 medium-duty 2 center bearing**
- **Torque converter included with Allison Transmission**
- **Auto neutral for Allison – single input**
- **Pushbutton control center console mounted class 8**
- **Chassis will be fitted w/LH transmission PTO.**
- **Severe service rear transmission support spring(s).**

FRONT AXLE AND EQUIPMENT

- **Dana Spicer D2000 Front Axle rated 20Kstandard track.**
- **Front Brake: 22,000 lbs. Bendix ES S-cam 16-1/2x6 in .**
- **Front Brake Drum: 22,000 lbs. 16-1/2x6 in. Cast.**
- **Front Iron hub pilot 20,000 lbs. 10 Bolt**
- **Front low maintenance hub package 14,601 to 22K Dana Spicer**.
- **Hubcap: front vented**
- **Front Auto Slack Adjuster.**
- **Front Springs Taperleaf 20K w/ shock absorbers**
- **Dual power steering gears: 20K TRW TAS65.**.
- **Power Steering Cooler: Radiator mounted air to oil**

REAR AXLE AND EQUIPMENT

- **Dual Dana Spicer D46-170H rear axle rated at 46K. Tandem rear axles.**
- **Rear Axle Ratio - 6.14.**
- **Dual rear brakes 16-1/2x7 in to 46K** Bendix ES-extended service S-cam.
- **Dual Rear Brake Drums: Cast**
- **Dual Rear Hubs: Aluminum hub pilot 46K**
- **Dual rear low maintenance hub package Dana Spicer**.
- **Dual Rear axle automatic slack adjusters.**
- **Spring' Brake: 3030 high-output dual**
- **Bendix 4S/4M anti-lock brake system**
- **Wheel Differential Lock for Dana Spicer axles**

- **Rear suspension Tandem Hendrixson -RT463 46K**
- **Three hole gussets for forward suspension**

TIRES AND WHEELS

- **Front tires: Bridgestone M860 315/80R22.5 20PR.**
- **Rear tires: Bridgestone M711 11R22.5 14 PR.**
- **Rear Tire Quantity: 8**
- **Front wheel: Alcoa aluminum 89464 22.5x9 aluminum; hub pilot mount.**
- **Rear wheel: Alcoa 88367 22.5x8.25 aluminum with**
- **Single front axle: 2 Polished wheels. Polished outboard surface of aluminum wheels**
- **Dual rear axle: 4 Polished wheels. Polished outboard surface of outer dual or single aluminum wheels**
- **Rear Wheel/Rim Quantity: 8**

FRAME AND EQUIPMENT

- **Frame Rails: 10-314x 3-1/2 x 3/8in. Steel 337in.**
- **Full Steel Insert: for 10-5/8 in or 10-3/4 in**
- **Bumper: Tapered chrome steel channel Requires a bumper setting code.**
- **Front bumper lighted guide poles,stainless or chrome**
- **Removable Front Tow Hooks: 2**
- **Front mudflaps**
- **In-Cab steel battery box: Under rider seat or in**
- **In-Cab battery box location: Under rider seat.**
- **T470, C500, T660, T800 non-polished DPF/SCR cover**
- **Heavy-duty rear cab supports: W/steel**
- **Rear mudflap arms: Betts B-25 standard duty**
- **Rear mudflap shield: White plastic antisail w/**
- **Square end-of-frame w/o crossmember; non-towing**
- **Shortest end-of-frame cutoff w/specified configuration**

FUEL TANKS & EQUIPMENT

- **Fuel Tank: 75 US gallon 24.5 in. aluminum under**
- **DEF tank clear BOC (CBOC), require LH under cag fuel tank**
- **Polish only one aluminum tank**
- **Mechanical anti-roll channel for one tank**
- **Polished stainless steel straps for one tank**
- **DEF capacity ratio – vocational application**
- **Location: 75 gal fuel tank LH under cab**

CAB AND EQUIPMENT

- **Cab: Curved glass conventional, with extended day cab including rear corner glass**
- **Cab door bearing blocks top and bottom**
- **Hood: sloped Aerodynamic T440 Hood**
- **Cab heater: W/integral defrosters & A/C 45000 btu cab heater**
- **Steering wheel: 18 in. 4-spoke**

- **Adjustable telescoping tilt steering column**
- **Four position ignition switch, keyless**
- **Flip valve: On dash w/indica,tor light & piping**
- **Gauge: Fuel filter restriction gauge**
- **KW Driver Information Center**
- **Instrument package: includes speedometer,**
- **Large flat panel on dash for customer installed controls**
- **Warning light: Transmission. Includes buzzer**
- **Cab Interior: Summit. T440/T470 only**
- **Interior color: Jet black w/Dark Slate Gray**
- **Driver seat: Kenworth Air Cushion Plus HB vinyl**
- **Rider seat Kenworth Plus battery box HB vinyl**
- **NFPA Compliance Kit: Includes seat occupancy sensors. Seat belt switches, VDR & seat sensor harness, reflective labels and a second copy of operators manual**
- **Seat color: Jet Black**
- **Driver/Rider seat belts: Red, replace standard Driver & rider NFPA compliant**
- **Black dash: replacing trim color dash**
- **Under dash center console: Includes one cupholder &2 12v outlets**
- **Non-self cancelling turn signal: W/ column-mounted**
- **Electric LH & RH door locks**
- **Cab access contoured grabhandles, LH & RH**
- **Grabhandle LH inside door frame above dash**
- **Grabhandle RH inside door frame above dash**
- **Daylite door, includes RH peeper window**
- **Single air horn under cab**
- **Single convex mirror 8-1/2 in x 4-7/16 in**
- **Dual convex heated mirror 8 in w/offset**
- **Mirror: Dual Moto heated mirrors 7 in by 16 in**
- **Mirror bracket 8-1/2 ft load width**
- **Rear cab stationary window17 in x 36 in**
- **Electric powered LH & RH door window lifts**
- **Two Piece roped-in windshield w/ curved glass**
- **Exterior stainless steel sunvisor**

Lights and Instruments

- **Headlamps: Halogen Projection Low Beam, Halogen**
- **Marker Lights: Five Rectangular, lED**
- **Turn Signal Lights: Mounted on fender**
- **Switch and wiring for Customer-installed Floodlight w/o electrical pass-through -1st set Wire coiled BOC/BOS**
- **Switch and wiring for Customer-installed Floodlight w/o electrical pass-through -2nd**
- **set Wire coiled BOC/BOS**
- **Switch and wiring for Customer-installed Floodlight w/o electrical pass-through -3rd**
- **set Wire coiled BOC/BOS**
- **Halogen spotlight: LH&RH mounted**
- **Combination Stop, Tail, Turn & Backup lights RH & LH**
- **Marker lights: Interrupter switch**

- **Electric Backup Alarm: Meets SAE J994 & OSHA requirements**
- **Circuit Breakers: Replacing fuses Does not apply to any 5-amp fuse box positions**

Air Equipment

- **Air Dryer: Bendix AD-IS Extended Purge heated**
- **Moisture ejection valve w/ pull cable drain**
- **Nylon air tubing in frame & cab excluding hoses subject to excessive heat or flexing**
- **Locate air dryer inside RH rail BOC**
- **Non-std air tank location \: narrate area to remain clear**

Extended Warranty

- **Standard Warranty**
- **2010 EPA medium duty surcharge**

Paint

- **Paint color number**
  Cab color to match body, paint codes to be given at prebuild conference.
  N97200 FRAME N0001EA BLACK
- **Imron solid 1 color non-sleeper Spec A**
- **Base coat/clear coat**

Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

ANTENNA INSTALLATION

4 Antenna mounting base(s) and coaxial cable to be to center dash/console area, excess cable to be available for installer. Antenna locations to be determined later.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____
There shall be a ground plane plate/sheet to be installed under roof to provide ground plane for low band radio, details to be discussed at prebuild conference

AIR HORNS

Two (2) Grover 2040 Stuttertone rectangular, chrome plated, air horns shall be recess mounted, one (1) each side behind the perforated grille of the bumper. The air horns shall be controlled by a toggle switch wired through the horn button. A foot switch for the air horns shall also be provided on the officer's side.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

BATTERY, ELECTRIC EQUIPMENT AND AIR CHARGING BY SHORE LINE

A Kussmaul Auto Charge battery system charger rated for at least 20 amps shall be provided.. A remote single bar graph display shall be provided to indicate the state of charge of the battery system. Bidder to supply selected model number and features.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

A Kussmaul super electric auto-eject with weatherproof cover and power interrupt shall be provided. Location to be established at the pre-construction conference
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

An 120 volt Auto Pump air compressor shall also be provided to maintain air within the air brake system. A heated automatic drain valve shall be provided.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

At least two duplex 120 volt outlets connected to the shore line disconnect shall be provided for charging of portable lights, batteries and other equipment. Location of the receptacles shall be agreed to at the pre-construction conference.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

BATTERY JUMPER TERMINAL

There shall be one set (two studs) of battery jumper terminals located by the battery box outside the cab at an easily accessible location. The terminals shall have plastic color-coded covers. Each terminal
shall be tagged to indicate positive/negative.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

ELECTRONIC STABILITY CONTROL SYSTEM

If an Electronic Stability Control (ESC) system is provided to satisfy the vehicle stability requirements of NFPA 1901 section 4.13, It shall meet the requirements of 4.13.1.2.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

ENGINE FAST IDLE

A fast idle for the electronic controlled engine shall be provided.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

DIRECT GROUNDING STRAPS

Direct grounding straps shall be mounted to the following areas; frame to cab, frame to body and frame to pump enclosure.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

All exposed electrical connections shall be coated with a corrosion protection compound Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

EMI/RFI PROTECTION

The apparatus shall incorporate the latest designs in the electrical system with state of the art components to insure that radiated and conducted electromagnetic interference (EMI) and radio frequency interference (RFI) emissions are suppressed at the source.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

The apparatus proposed shall have the ability to operate in the environment typically found in fire ground operations with no adverse effects from EMI/RFI.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

EMI/RFI susceptibility is controlled by utilizing components that are fully protected and wiring that utilizes shielding and loop back grounds where required. The apparatus shall be bonded through wire braided ground straps. Relays and solenoids that are suspect to generating spurious electromagnetic radiation are diode protected to prevent transient voltage spikes. Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

In order to fully prevent the radio frequency interference the purchaser may be requested to provide a listing of the type, power output, and frequencies of all radio and bio medical equipment that is proposed to be used on the apparatus.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

12 VOLT ELECTRICAL SYSTEM TESTING

The apparatus low voltage electrical system shall be tested and certified by the manufacturer. The certification shall be provided with the apparatus. All tests shall be performed with air temperature between 0°F and 100°F.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

The following three (3) tests shall be performed in order. Before each test, the batteries shall be fully charged.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

TEST #1-RESERVE CAPACITY TEST

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

TEST #2-ALTERNATOR PERFORMANCE TEST AT IDLE

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

TEST #3-ALTERNATOR PERFORMANCE TEST AT FULL LOAD

The total continuous electrical load shall be activated with the engine running up to the engine manufacturers governed speed. The test duration shall be a minimum of 2 hours. Activation of the load management system shall be permitted during this test. However, an alarm sounded due to excessive battery discharge, as detected by the system, or a system voltage of less than 11.7 volts DC for a 12 volt system, for more than 120 seconds, shall be considered a test failure.

LOW VOLTAGE ALARM TEST

Following completion of the preceding tests, the engine shall be shut off. The total continuous electrical load shall be activated and shall continue to be applied until the excessive battery discharge alarm is activated.

The battery voltage shall be measured at the battery terminals. With the load still applied, a reading of less than 11.7 volts shall be considered a test failure. The battery system shall then be able to restart the engine.

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

Documentation of the electrical system performance test
A written load analysis of the following;
Nameplate rating of the alternator
Alternator rating at idle while meeting the minimum continuous electrical load
Each component load comprising the minimum continuous electrical load.
Additional loads that, when added to the minimum continuous load, determine the total connected load.
Each individual intermittent load
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

LOAD MANAGEMENT SYSTEM

A load management system shall be provided if the expected electrical load can exceed the capability of the alternator when the engine is at idle. Bidder to provide determination if a load management system is required and provide details of the system if it is needed.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

The load management, if provided, shall have a digital display to indicate system voltage in normal operation mode and also indicate the output configuration during programming mode.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

The load management, if provided, shall also be protected against reverse polarity and shorted outputs, and be enclosed in a metal enclosure to enhance EMI/RFI protection.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

CHASSIS DIAGNOSTICS SYSTEM

Diagnostic ports shall be accessible while standing on the ground and located inside the driver's side door left of the steering column. The diagnostic panel shall allow diagnostic tools such as computers to connect to various vehicle systems for improved troubleshooting providing a lower cost of ownership.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

PUMP SHIFT MODULE

A pump shift module with indicating lights shall be located within easy reach of the driver. A gear lockup shall be provided to hold the transmission in direct drive for pump operation.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

VEHICLE DATA RECORDER

An NFPA 1901 compliant vehicle data recorder shall be provided. Bidder to provide list of data recorded, sample rates and durations for verification of compliance.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

Software shall be provided to allow the fire department to collect the data as needed.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

LIGHTING CAB EXTERIOR

Exterior lighting and reflectors shall meet or exceed Federal Motor Vehicle Safety Standards and National Fire Protection Association requirements in effect at this time.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

HELMET STORAGE

The helmets storage provisions shall be defined and provided by the bidder. A placard will be provided for each riding position warning that injury may occur if helmets are worn while seated.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

SEAT BELT WARNING SYSTEM

An Akron / Weldon, or equivalent seat belt warning system shall be provided, and shall monitor each seating position. Each seat shall be supplied with a sensor that,(Using Kenworth NFPA compliance kit) in conjunction with the display module located on the dash, shall determine when the seat belt was fastened and if the seat is occupied. An icon shall represent that the seat is properly occupied. An audible and visual alarm shall be activated if the seat is occupied and/or the belt is not fastened in the proper sequence.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

SEAT BELTS AND BUCKLES

All seating positions shall use an orange or red high visibility lap and shoulder belt with and electric buckle for seat belt monitoring. The seat belt shall have as a feature, the Ready Reach manufactured by IMMI. The Ready Reach design shall extend the seat belt for better presentation to the occupant of the seat(Use Kenworth option if available). The seat belt must conform to all applicable FMVSS requirement for lap and shoulder belts at the time of installation
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

TIRE PRESSURE MONITOR

Tire pressure sensors shall be provided for each wheel.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

TRANSMISSION FLUID

The transmission shall come filled with Castrol Transynd" Synthetic Transmission Fluid or approved equal meeting the Allison TES-295 specification. **NO EXCEPTION.**
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception **#** ____

MISCELLANEOUS CHASSIS LABELS

Fluid capacity plate affixed below driver's seat.
Chassis filters part number plate affixed below driver's seat.
Maximum rated tire speed plaque near driver.
Tire pressure label near each wheel location and/or in cab below driver's seat.
Cab occupancy capacity label affixed next to transmission shifter.
Do not wear helmet while riding plaque for each seating position.
NFPA compliant seat belt and standing warning plates provided.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

BETWEEN SEAT CONSOLE

There will be a console provide between the seats to hold radios, manuals and miscellaneous items. The configuration will be agreed to at the preconstruction meeting.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

3.0 PUMP, PUMP PANEL, TANK AND PLUMBING

FIRE PUMP

The pump shall be a single stage PTO driven, 1000 gallon per minute, centrifugal type and shall comply with all applicable requirements of the latest standards for automotive fire apparatus of the National Fire Protection Association. A Waterous pump is preferred. The bidder shall provide details of any options proposed.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

PUMP SHIFT

The pump shift valve/switch shall be mounted in the cab and identified as PUMP SHIFT, and include shift instructions permanently inscribed on the pump shift switch plate. The in cab control valve shall include a detent lock to prevent accidental shifting.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

PUMP SHIFT INDICATORS LIGHT

The pump shift assembly shall incorporate an indicating light system which shall warn the operator if the shift to PUMP has not been completed and indicate when it has been completed. 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.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

PRIMING SYSTEM

The priming pump shall be a Trident Emergency Products compressed air powered, high efficiency, multi-stage, venturi based AirPrime System. All wetted metallic parts of the priming system are to be of brass and stainless steel construction. A single panel mounted control will activate the priming pump and open the priming valve to the pump. The priming system shall have a five year warranty.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

PUMP CERTIFICATION

The pump, when dry, shall be capable of taking suction and discharging water in compliance with NFPA #1901 chapter 14. The pump shall be tested by National Testing and shall deliver the percentages of rated capacities at pressures indicated below:
100% of rated capacity @ 150 PSI net pump pressure.
70% of rated capacity @ 200 PSI net pump pressure.
50% of rated capacity @ 250 PSI net pump pressure.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

THREAD TERMINATION

National Standard Thread shall terminate the inlets and outlets of the apparatus.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

FIRE RESEARCH "IN-CONTROL" PRESSURE GOVERNOR

The apparatus shall be equipped with a Fire Research In Control series TGA400 pressure governor with control knob and monitoring display kit shall be installed. The kit shall include a control module, intake pressure sensor, discharge pressure sensor, and cables. The control module case shall be waterproof and have dimensions not to exceed 5 1/2" high by 10 1/2" wide by 2" deep. 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.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

INTAKE RELIEF

There shall be an Elkhart intake relief valve installed on the intake side of the pump. The surplus water shall be discharged away from the pump operator and terminate with Male NST hose thread. System shall be field adjustable.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

VALVES

All valves shall be Waterous valves or traditional style Elkhart apparatus valve series 800/2800/2900. These valves shall be actuated using manual handles, a Rack & Sector, or manual rotary handle. Any discharge larger than 2 ½" shall be a rotary hand wheel control. No air operated valves will be accepted, electrically actuated will be considered.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

PUMP CONNECTIONS

All suction and discharge lines (except pump manifolds) 1" and larger shall be heavy-duty stainless steel pipe. Where vibration or chassis flexing may damage or loosen piping or where a coupling is necessary for servicing, a flexible connection shall be furnished. All lines shall be drained by a master drain valve or a separate drain provided at the connection. All individual drain lines for discharges

shall be extended with a rubber hose or nylon tubing in order to drain below the chassis frame. All water carrying gauge lines shall utilize nylon tubing.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

6" PUMP SIDE INLET

A 6" diameter suction port with 6" NST male threads shall be provided on the driver's side. The inlet shall come complete with removable strainer and long handle chrome-plated cap.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

TANK FILL

A 2" tank fill line shall be provided between the pump and tank, using a quarter turn full flow ball valve controlled from the pump operator's panel.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

2.5" LEFT SIDE INLET

One 2.5" gated inlet valve shall be provided on the left side pump panel. The valve shall be supplied with chrome plate female swivel, plug, chain, and removable strainer.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

The valve shall attach directly to the suction side of the pump.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

TANK TO PUMP

The booster tank shall be connected to the intake side of the pump with a 1/4 turn 3" full flow valve with check valve, with the valve control located at the operator's panel. The 3" tank to pump line shall run from a bottom sump into the 3" valve. To prevent damage due to chassis flexing or vibration, a short 3" flexible rubber hose coupling shall be used to connect the tank to the intake valve.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

OUTLETS

The discharge valves shall be an inline constructed of brass and be of the quarter turn type of fixed pivot design to allow for ease of operation at all pressures. The valves shall be controlled from the operator's panel. Each valve shall be supplied with 2-1/2" National Standard Threads and come with chrome plated female caps and chains as defined below. 2-1/2" or larger discharge outlet shall be supplied with a drain valve located at the outlet. All 2-1/2" and larger discharges shall be supplied with a 30 degree angle down elbow. Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

2-1/2" LEFT SIDE DISCHARGES

Two (2) 2-1/2" gated discharges shall be located on the left side in the area of the pump. The valves shall be of the quarter turn ball type of fixed pivot design to allow for ease of operation at all pressures. The caps for these valves shall be comprised of a 2-1/2'" female to 1-½" male reducer and a 1-½" cap.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

4.00" RIGHT SIDE DISCHARGE

There shall be a 4.00" discharge outlet with a 3.0" Waterous valve installed on the right side of the apparatus, terminating with male a 4.00" National Standard hose thread. This discharge outlet shall be actuated with a hand wheel control or electric actuator controlled at the pump operator's control panel. Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

An indicator shall be provided to show when the valve is in the closed position.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

VALVE CONTROLS

The pump controls and gauges shall be located at the left side of the apparatus and properly marked. The control panel shall be laid out in a user-friendly manner. Bidder to provide a pump panel layout drawing as part of the Approval drawing package.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

COLOR CODING

Each discharge valve control, outlet, and corresponding line gauge shall be color-coded. The proposed color-coding shall be provided by the bidder.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

PUMP PANEL LIGHTS

Shielded, white, LED lighting shall be provided on both the drivers and passenger pump areas. The lighting shall be sufficient to illuminate all controls, switches, essential instructions and gauges and fittings. One LED on the pump operator's panel shall come on whenever the pump is put in gear. The remaining LEDs shall be controlled by a switch on the operators pump panel.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

PUMP GUAGES AND CONTROLS

The following gauges and controls shall be provided at the pump
Two (2) certified laboratory test gauge outlets.
Pump primer control.
Master drain control and additional drains as needed.
Tank-fill and pump cooler valve controls.
Tank to pump valve control.
Pump capacity rating plate.
All discharge controls.
Fire Research In Control TGA 400 pressure control and monitoring display
Gauges on all 1-1/2" and larger discharge lines.
Panel light switch
Additional left, right and rear scene light switch's
Remote air horn button

Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

2.5" PRESSURE GAUGES

Liquid filled individual line pressure gauges shall be provided. The gauges shall be 2.5" in diameter with white faces and black lettering. The gauges shall have a pressure range of 0-400 psi.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

WATER TANK GAUGE

An electronic water level gauge shall be provided on the operator's panel that registers water level by means of colored LED lights. The lights shall be durable, ultra-bright LED design viewable through 180 degrees. The light shall flash when the level drops below the given level indicator to provide an eighth of a tank indication. To further alert the pump operator, the lights shall flash sequentially when the water tank is empty. The level measurement shall be based on the sensing of head pressure of the fluid in the tank. The display shall be capable of being calibrated in the field. A similar water level gauge shall be provided on the rear of the truck in the area of the fill valve.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

WATER LEVEL GAUGE, BODY SIDES

There shall be two (2) additional water level indicators, Whelen, Model: PSTANK, LED module, installed one each side of upper forward body side. This light module shall include four (4) colored levels, and function similar to the water level indicator located at the operators panel:
• First green module indicates a full water level.
• Second blue module indicates a water level above 3/4 full.
• Third amber module indicates a water level above 1/2 full.
• Last red module indicates a water level above 1/4 full and empty.

Above 1/4 this light shall be steady burning.

At empty this light shall be flashing.

To prevent distraction to drivers, this tank level gauge shall be wired to display only when the park brake is engaged.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

4.0 BODY, COMPARTMENTS, HOSE BEDS

BODY SUBFRAME

A stainless steel subframe/undercarriage shall be provided for the body compartments. Bidder to provide details of the design and construction.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

APPARATUS BODY

The sides of the water tank will be the upper body of the apparatus. The apparatus body and compartments below the tank shall be constructed of stainless steel. The bidder is to provide details

of the design, materials and construction.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

Each compartment shall be properly vented with louvers and shall be a sweep out design (no bottom lip). Compartment depth dimensions shall be provide with the doors closed.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

COMPARTMENTATION LEFT SIDE

L1 This compartment will be a double door compartment which contains the pump and all related valves.
L 2 - There shall be a full depth double door compartment ahead of the rear axle.
L 3 – If possible, there shall be a full depth compartment behind the rear axle.
Bidder to provide material type and thicknesses, construction methods and size for each compartment.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

COMPARTMENTATION RIGHT SIDE

R 1 - There shall be a full depth double door compartment ahead of the rear axle.
R 2 - There shall be a full depth double door compartment ahead of the rear axle.
R 3 – If possible ,there shall be a full depth compartment behind the rear axle.
Bidder to provide material type and thicknesses, construction methods and size for each compartment.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

REAR FENDERS

A rear wheel fender shall be provided on each side to protect the tank and compartments.s . Bidder provide definition and materials.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

SCBA BOTTLE STORAGE

Storage for 2 SCBA bottles in wheel well area to be provided. Bidder to provide construction and details
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

COMPARTMENT DOORS

The doors shall be stainless steel. Doors shall be side hinged and have a heavy duty latches and a mechanism for holding them in the open position. Bidder to provide construction details. Doors shall be capable of having tools, adapters and accessories mounted on inside
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

A door open indicator light shall be provided in the cab.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

HORIZONTAL CROSSLAYS FOR 1 ¾" HOSE

A crosslay hose bed will be provided in two (2) sections. Bidder to provide approach for providing this feature, including provisions for hose retention to be in compliance with NFPA 1901.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

The pre-connected hose storage area will have a minimum total capacity of 3.5 cubic feet as required by NFPA -1901 to accommodate a minimum of 200 feet of 1-3/4" fire hose in each of the two (2) crosslays.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

Each crosslay will be plumbed with 2" piping and equipped with a 2" valve and a 1-1/2" NST bronze hose swivel. Each crosslay hose bed floor will be slotted to allow the swivel to extend up through, allowing the pre-connected hose to be pulled off either side of the apparatus without kinking the hose at the coupling connection.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

An individual control and gauge will be provided at the operator's panel for each pre-connected hose storage area.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

HOSE BED

The hose bed shall be provided with aluminum slatted flooring rounded at the edges to prevent hose damage from sharp edges. Each hose bed floor section shall be removable for easy access to the water tank. There shall be a full length adjustable hose bed divider. A hand hold shall be provided at the end of the divider. Specifics are to be agreed at the pre-construction meeting. The hose bed shall be sized to accommodate at least 600' of 5" supply line, and 300' of 3" hose. Bidder to provide hose bed specifics including the provisions for hose retention cover in order to be in compliance with NFPA 1901.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

BODY HANDRAILS

Handrails shall be provide in accordance with NFPA 1901. Bidder to provide design features and locations
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

STEPS AND WALKING SURFACES

There will be an NFPA compliant ladder mounted on the rear to facilitate access to the hose bed.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

Any remaining walking surface shall be covered by aluminum diamond plate.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

WETSIDE BOOSTER TANK

The tank shall be a United Plastic Fabricating (UPF) Polytank 3 with a capacity of 3000 U.S. gallons. The water tank shall be tested and certified as to capacity on a calibrated and certified tilting scale. The tank shall be delivered with a Certificate of Capacity indicating the empty weight, the full weight and the tank capacity based on the weight difference. Calculated estimates of capacity shall not be permitted for certification purposes.

The outside walls of the tank will be the apparatus body walls and shall be painted red in color. Specific color is to be approved at the pre-construction meeting. Mounting pads will attached to the tank as necessary for attaching lights, steps and other equipment. The tank will be located as close to the frame as possible to keep the CG as low as possible.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

The tank shall be constructed of polypropylene sheet of varying thickness depending on application ranging from ½" to 1" as required.
This material shall be a non-corrosive stress relieved UV stabilized copolymer thermo-plastic. The booster tank shall incorporate the UPF recommended features for mounting the tank. All joints and seams shall be welded and/or formed and tested for maximum strength and integrity. The top of the booster tank to be fitted with removable lifting system designed with a 3 to 1 safety factor to facilitate easy removability. The transverse swash partitions shall be manufactured of 3/8" polypropylene and extend from approximately 4" off the floor to just under the cover. The longitudinal swash partitions shall be constructed of 3/8" polypropylene and extend from the floor of the tank through the cover to allow for positive welding and maximum integrity. All partitions shall be equipped with vent and air holes to permit movement of air and water between compartments. The partitions shall be designed to provide maximum water flow. All swash partitions shall interlock with one another and shall be welded to each other as well as to the walls of the tank.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

The tank shall have a combination vent and manual fill tower. The fill tower shall be constructed of 1/2" polypropylene and shall be a minimum dimension of 12 x 12 outer perimeter. The tower shall be located in the left front corner of the tank. The tower shall have 1/4" thick removable polypropylene screen and a polypropylene hinged-type cover. The tank cover shall be constructed of 1 /2" thick polypropylene to incorporate a multi-piece locking design to allow for individual removal and inspection if necessary. Covers shall be fused to tank walls and longitudes for maximum structural integrity. Each cover shall have hold downs made from 2" minimum polypropylene dowels spaced at a maximum of 40" apart.

Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

The sump shall be constructed of 1 /2" polypropylene and be located in the left front quarter of the tank. The sump shall have a minimum of 3" national pipe threaded outlet on the bottom for a drain plug. This shall be used as a combination clean-out and drain. All tanks shall have an anti-swirl plate located approximately 2" above the sump. Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

All tank fill couplings shall be backed with flow deflectors to break up the stream of water entering the tank.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

The tank shall rest on the body cross members in conjunction with such additional cross members, spaced at a distance that would not allow for more than 400 square inches of unsupported area under the tank floor.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

The tank shall include the necessary features to interface with the dump valve(s).
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

DIRECT TANK FILL- FIREMAN'S FRIEND TANK FILL VALVE, 3" NST

The apparatus will be furnished with one (1) Fireman's Friend Engineering brand internally mounted check-type fill valve. The location of this valve will be at the rear panel of the apparatus. The fill valve will be capable of flowing at a rate in excess of 1,000 gallons per minute. The fill valve will be of a self deflecting design, requiring no additional diffusion device. The fill valve will be constructed of stainless steel, with a spring actuated piston-type sealing mechanism to minimize seal wear and provide positive sealing of valve after shutting off at feed source. The external attachment fittings will be constructed of corrosion resistant aluminum. The fill valve seal will be of a self-cleaning design, utilizing EPDM rubber. The valve mounting plate will be positioned on outside of, and attached directly to tank wall (TTMA 6-bolt attachment pattern). The fill valve will be furnished with a 30 degree elbow terminating in a 3" NST female threaded swivel. In service, this elbow will interface with either a Y with 2 ½" female swivel outlets or a 5" Stortz connection of a combination of the two. These in turn will be connected to water supply hoses of the corresponding size. This information in provided to assure the tank wall is properly designed.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

STAINLESS STEEL DUMP WITH ELECTRIC ACTUATOR

This apparatus must be capable of gravity dumping the water to either the left or right side or the rear. This can be accomplished by having a single dump valve connected to a dump tube that can be manually swiveled to the left or right or rear or by having 3 dump valves one each to the left, right and rear.

The dump valve will be electronically actuated with control switches located on the left and right side rear body panel. The switches will be installed in an illuminated housing. A control switch will also be provided inside the cab and the location of the switch will be determined at the pre-construction review. The dump valve installation will be designed to discharge at a rate of 1800 GPM. Bidder to provide selected approach and all design and operation details.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

PORT-A-TANK STORAGE

The 3500 gallon port-a-tank will be externally stowed on the right side of the tank above the compartments. A bracket will be provided to hold the tank.There shall be a device to lower the tank to the lowest possible height for easy removal and easily placed back in stored position.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

SUCTION HOSE STORAGE
Brackets will be provided on the left side of the water tank to provide storage for the two (2) 12' x 6" diameter suction hoses and two (2) pike poles.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

5.0 WARNING LIGHTS, SCENE LIGHTS and ELECTRICAL SYSTEM

12 VOLT BODY ELECTRICAL SYSTEM

All electrical lines in the body shall be protected by automatic circuit breakers, conveniently located to permit ease of service. Flashers, heavy solenoids and other major electrical controls shall be located in a central area near the circuit breakers.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

All lines shall be color and function coded every 3", easy to identify, oversized for the intended loads and installed in accordance with a detailed diagram. A complete wiring diagram shall be supplied with the apparatus.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

Wiring shall be carefully protected from weather elements and snagging. Heavy duty loom shall be used for the entire length. Grommets shall be utilized where wiring passes through panels.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

In order to minimize the risk of heat damage, wires run in the engine compartment area shall be carefully installed and suitably protected by the installation of heat resistant shielded loom.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

All electrical equipment shall be installed to conform to the latest federal standards as outlined in NFPA 1901.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

BODY ELECTRICAL JUNCTION COMPARTMENT

A weather resistant electric junction compartment shall be provided in the left or right side lower front compartment. This compartment shall be recessed through the inside rear wall of the compartment to provide an easily accessible enclosure to house all of the body wiring junction points, terminal strips, solenoids, etc. The design of this compartment shall not decrease the storage capacity area of the compartment in which it is located. A removable panel shall be provided for access to this compartment.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

BODY ELECTRIC SYSTEM

All body electrical wiring in the chassis will be XLP cross link-insulated type. Wiring is to be color-coded and include function codes every three (3) inches. Wiring harnesses will be routed in protective, heat resistant loom, securely and neatly installed. Two power distribution centers will be provided in central locations for greater accessibility. The power distribution centers contain automatic thermal self-resetting breakers, power control relays, flashers, diode modules, daytime driving light module, and engine and transmission data links. All breakers and relays are utilized in circuits which amp loads are substantially lower than the respective component rating thus ensuring long component life. Power distribution centers will be composed of a system of interlocking plastic modules for ease in custom construction. The power distribution centers are function oriented. The first is to control major truck function and the second controls overhead switching and interior operations. Each module is single function coded and

labeled to aid in troubleshooting. The centers also have accessory breakers and relays for future installations. All harnesses and power distribution centers will be electrically tested prior to installation to ensure the highest system reliability.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

All external harness interfaces will be of a triple seal type connection to ensure a proper connection. The cab/chassis and the chassis/body connection points will be mounted in accessible locations. Complete chassis wiring schematics will be supplied with the apparatus.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

The wiring harness contained on the chassis shall be designed to utilize wires of stranded copper or copper alloy of a gauge rated to carry 125% of maximum current for which the circuit is protected without exceeding 10% voltage drop across the circuit. The wiring shall be uniquely identified by color code or circuit function code, labeled at a minimum of every three (3) inches. The identification of the wiring shall be referenced on a wiring diagram. All wires conform to SAEJ1127 (Battery Cable), SAEJ1128 (Low Tension Primary Cable), SAEJ1560 (Low Tension Thin Wall Primary Cable).
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

All harnesses shall be covered with moisture resistant loom with a minimum rating of 300 Degrees Fahrenheit and a flammability rating of VW-1 as defined in UL62. The covering of jacketed cable has a minimum rating of 289 degree Fahrenheit.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

All harnesses are securely installed in areas protected against heat, liquid contaminants and damage. The harness connections and terminations use a method that provides a positive mechanical and electrical connection and are in accordance to the device manufacturer's instructions. No connections within the harness utilize wire nut, insulation displacement, or insulation piercing.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

All circuits conform to SAE1292. All circuits are provided with low voltage over current protective devices. These devices are readily accessible and protected against heat in excess of component rating, mechanical damage, and water spray. Star washers are not used for ground connections.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

BACK-UP ALARM

An automatic self-adjusting electronic back-up alarm producing 87-112 dB shall be installed at the rear between the frame rails. It shall operate whenever the transmission's reverse gear is selected.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

COMPARTMENT LIGHTING

Each compartment shall be equipped with sufficient **LED** light strips to illuminate the entire compartment. Bidder to describe location and type.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

LICENSE PLATE BRACKET

A properly lighted license plate bracket shall be provided at the rear of the apparatus.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

MONITOR

A 7" color LCD monitor shall be provided. The monitor shall be sealed, weatherproof and dustproof. Exact mounting location to be determined at preconstruction meeting.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

CAMERA,REAR

A rugged color camera with microphone shall be provided. The camera shall have a 130 degree viewing angle, LED low light assist. It will be mounted on the rear of the truck under a protective shield. Camera to be activated in reverse and at driver's request.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

TAIL/STOP/TURN/BACKUP LIGHTS

The rear lights are to be Whelen M6 series super LED style. The brake/tail lights to be red and meet or exceed SAE requirements. The turn signal shall be populated in an arrow pattern, amber in color. The backup lights shall also be LED. One additional warning light of TBD color (to be selected at prebuild meeting) will be provided.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

LED ICC/MARKER LIGHTS

LED type ICC/marker lights shall be provided to meet D.O.T. requirements.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

STEP LIGHTS

There shall be LED light to illuminate the hose bed access ladder and the tailboard.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

GROUND LIGHTING

The apparatus shall be equipped with lighting capable of illumination to meet NFPA requirements. Lighting shall be provided at areas under the driver and officer riding area exits and shall be automatically activated when the exit doors are opened. The ground lights shall be LED. Lighting required in other areas such as work areas, steps and walkways shall be activated when the parking brake is applied, provided the ICC lights are on. The ground lighting shall also be capable of being turned on by a switch located in the cab.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

SCENE LIGHTS – BODY SIDE MOUNTED

Four (4) Whelen M9 LZC LED 12 volt scene lights shall be installed, Two (2) on each side of to body one at the front of the body and one at the rear. Each side shall be individually controlled by switches on the cab dash/console and on pump panel.

Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

REAR SCENE LIGHTS

Two Whelen M9 LZC LED 12 volt scene light shall be provided. They are to be mounted rear facing on the rear of the apparatus below the upper warning lights. They are to be controlled by a single switch in the cab and on pump panel.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

OPTICAL WARNING SYSTEM

The optical warning system shall be capable of two separate signaling modes during emergency operations. One mode shall signal to drivers and pedestrians that the apparatus is responding to an emergency and is calling for the right-of-way and the other mode shall signal that the apparatus is stopped and is blocking the right-of-way. Switching shall be provided that senses the position of the parking brake.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

A master optical warning device switch shall be provided to energize all of the optical warning devices provided. Individual switches shall be provided for each of the four zones. All lights shall operate at not less than the minimum flash rate per minute as specified by NFPA.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

UPPER LEVEL WARNING DEVICES

The upper level is divided into zones A, B, C and D and the approved lighting package to be provided shall be an NFPA approved Whalen NFPA Super LED Freedom system for each zone. Bidder to provide make and model and location of light fixtures. Colors will be specified at the preconstruction meeting.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

LOWER LEVEL WARNING DEVICES

The lower level is divided into zones A, B, C and D and the approved lighting package to be provided shall be as follows using Whelan M6 super series lighting:
Zone A (front) shall have a stainless steel warning light housing each side with two (2) Whelen Super LED red lights mounted in the front of each housing. The inboard pair of lights is in addition to the minimum NFPA warning system and shall be wired through a load-shedding device.
Zone B (right side) shall have two (2) Whelen Super LED red lights mounted one on the side of the headlight housing and one on the body side at rear of apparatus.
Zone C (rear) shall have two (2) Whelen Super LED, red lights mounted one each side of the rear of the apparatus.
Zone D (left side) shall have two (2) Whelen Super LED red lights mounted one on the side of the headlight housing and one on the body side at rear of apparatus.

Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

ADDITIONAL REAR LED WARNING LIGHTS

There shall be one additional pair of Whelen M6 series Super LED warning lights mounted

on the rear of the apparatus. The exact location and the color of the lights is to be determined by the at the preconstruction conference.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

SIREN

One (1) Power Call electronic siren shall be installed at the cab. Bidder provide suggested mounting location. The horn button in the steering wheel, a switch on right hand side of cab floor and the control on the siren head shall actuate the siren. A selector switch shall be provided on the instrument panel for control of horn or siren by steering wheel button. Contractor's spec page #(s)_____
Bidder complies: YES __ NO__ Exception # ____

FEDERAL Q2B SIREN

There shall be a Federal Q2B-NN siren. Bidder provide suggested mounting location which will be finally selected at the preconstruction meeting.. The siren shall be securely mounted and activated by means of a solenoid and shall include a brake accessible by either the driver or officer.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

A siren foot switch shall be provided for both the driver and officer, one on each side of the cab floor
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

SIREN SPEAKER

One weatherproof siren speaker shall be provided, mounted behind the bumper. Bidder provide make and model.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

6.0 LOOSE EQUIPMENT

SUCTION HOSE AND STRAINER

Two (2) 12ft. lengths of 6" lightweight (KOCHEK) fire department hard suction hose with lightweight long handle couplings and pin lug male couplings shall be provided. Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

A KOCHECK six-inch F.SW.NST low level strainer with jet siphon, model LL60. Shall be provided
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

WHEEL CHOCKS

Two (2) Ziamatic #SAC-44 folding wheel chocks with SQCH-44H holders shall be provided. The wheel chocks shall be located in an area close to the rear axles easily accessible from the driver's side of the apparatus.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

PORT- A- TANK

One (1) Fold-A-Tank, 3500 gallon capacity, yellow 22oz hypalon, aluminum frame shall be provided.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____
.

MISCELLANEOUS EQUIPMENT FURNISHED

1 pt. touch-up paint
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

$2500 allowance for mounting equipment and miscellaneous equipment to be defined.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

7.0 OTHER REQUIREMENTS

CORROSION REDUCTION POLICY

The manufacturer shall have in place a formal corrosion reduction program and assembly procedures designed for reducing and eliminating the possibility of corrosion. It is understood that fire apparatus will operate in harsh environments. At the time of the bid the apparatus manufacturer shall show proof of a corrosion policy. Failure to submit this information could be grounds for rejection. If a formal policy is not in place explain in your bid how your firm will take the necessary steps for corrosion reduction. There will be no exception to this requirement.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

Frame Rails

The bidder shall define corrosion protection provisions.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

Electro Plating

Steel and Iron brackets such as the pump module bracket shall be Zinc plated to protect against corrosion. Plating shall be in accordance with ASTM B663. The apparatus manufacturer shall list all components with plating .
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

Fasteners, dissimilar material and painted surface protection

The bidder shall define the corrosion protection steps taken for each type of fastener and different material interface. Corrosion is a major concern so the more details provided the better the corrosion protection provisions can be understood. Results of testing confirming the validity of the corrosion protection approaches should be supplied as part of the bid package. Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

Electrical Grounding

Grounding straps shall be installed consisting of a minimum 2-gauge strap bolted to the chassis frame. Bidder to define ground strap locations and installation techniques.

Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

PAINTING

The truck shall be painted red. The exact paint code shall be provided by the Fire Department. The frame rails and body subframe shall be painted glossy black.
The bidder shall provide details on the steps to be taken during and after the paint process to assure excellent paint adhesion and subsequent protection during post paint reassembly. Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

LETTERING

Up to 65 3 inch high gold leaf letters will be provided.

Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

An allowance for four (4) graphics similar to what is on current Somers Fire Department apparatus shall be provided.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

STRIPING

A 6" black Scotchlite stripe shall be provided across the front of the cab and along each side of the apparatus. There shall be a ¾" reflective gold stripe above and below the 6" stripe. Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

STRIPING. CHEVRON STYLE. REAR BODY. OUTBOARD

The apparatus shall have 6" red and yellow reflective Diamond Grade Chevron style striping affixed to the outboard right and left portion of the rear body. The striping will be set in a manner to have the effect of an inverted "V" shape. The stripe will travel low to high from the outside to the inside.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

WARRANTIES

The following minimum warranties shall be supplied:
The apparatus shall be warranted to be free from mechanical defects in workmanship for a period of two (2) years or 30,000 miles, whichever comes first. The apparatus shall be covered for parts and labor costs associated with repairs for a period two (2) years or 30,000 miles, whichever comes first.
Life-time warranty on the frame.
Ten (10) year warranty on paint.
Ten (10) body structural warranty
Ten (10) year cab structural warranty
Manufacturers Warranties for all major components.
Five year Warrantee for the Engine, Transmission and Drive line.

Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

DELIVERY

The custom built fire apparatus shall be driven from the manufacturing facility to the community by a factory trained delivery engineer who shall thoroughly demonstrate the complete apparatus operation and maintenance to the fire department designated personnel.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

MANUFACTURING & LOCATIONS

The company shall maintain parts and service for a minimum period of twenty (20) years on each apparatus model manufactured.
Contractor's spec page #(s)_____ Bidder complies: YES __ NO__ Exception # ____

8.0 PRICED OPTIONS

Please provide a price for the following options:

None defined at this time

APPENDIX A - EQUIPMENT LIST

The following table includes the currently anticipated equipment to be carried on the Tanker, who is responsible for providing the equipment and the most likely location for it to be carried. It is expected that over the life of the apparatus additional equipment will be added. For vehicle GVW allow at least 50 pounds extra per compartment. The 7.7.3 refers to a section of NFPA 1901. The numbers in the column from 1-21 refer to items defined in Section 7.7.3. The other numbers in this column refer to Sections within NFPA 1901.

Equipment list

7.7.5.1 REQ.	QTY	DESCRIPTION	LOCATION	CONTRACTOR SUPPLIED	PURCHASER SUPPLIED
	1	1 1/2” Double Female	L1 DOOR		X
	1	1 1/2” Double Male	L1 DOOR		X
7.6.1.3	1	10’ 6” NST supply line	L1 FLOOR		X
	2	12 X 14 Salvage covers	L2		X
7.6.1	2	12' X 6" DIA Suction hose	SUCTION HOSE COMPARTMENT	X	
	1	600' 5" hose with Stortz fittings	HOSE BED		X
	1	2 ½” Female to 1 ½ Male Reducer	L1 DOOR		X
	1	2 ½” male to 1 ½” female	L1 DOOR		X
11	1	2 1/2” Double Female	L1 DOOR		X
12	1	2 1/2” Double Male	L1 DOOR		X
4	1	20lb ABC extinguisher	R2 FLOOR		X
7.7.3.5	1	5” Stortz to 2 ½ NST male	L1 DOOR		X
7.7.3.5	1	5”Stortz to 2 ½” NST female	L1 DOOR		X
	1	25’ 5” Stortz Jumper	L2 FLOOR		X
	1	25’ 5” Stortz supply line	L2 FLOOR		X
7.7.2.2	2	250' 1 3/4" Hose & 95GPM nozzle	CROSSLAY		X
	1	3” female NST to Stortz	L1 DOOR		X
	1	300' 3" Hose	HOSE BED		X
	1	4' Pry bar	R1		X
	1	4” female NST to 5” female NST	L1 DOOR		X
	1	4” female NST to 5” Stortz	L1 DOOR		X
	1	4” male NST to 21/2” female NST	L1 DOOR		X
	1	5” Stortz to 2 ½ Male Reducer	L1 DOOR		X
	1	5 Gallon can of speedy dry	R1 FLOOR		X
	1	5” female NST elbow w/cap	L2		X
	1	5” female NST to Stortz	L1 DOOR		X
2	1	6' pike pole	SUCTION HOSE COMPARTMENT		X
	1	6” Female thread to 2 1/2” male	L1 DOOR		X
	1	8' Pike Pole	SUCTION HOSE COMPARTMENT		X
17	1	AED	CAB REAR WALL		X

			MOUNT		
16	1	Box of Flares	L2		X
	1	Box of safety triangles	L2		X
13	2	Chock blocks	UNDER LEFT SIDE	X	
	1	DOT HAZMAT guide book	CAB FRONT		X
1	1	Flathead axe	REAR TANK WALL		X
	1	Garage Door Remote Control	CAB FRONT		X
	1	Gated "Y"	L2 FLOOR		X
	1	Growers Direct Wrench	R1 RIGHT DOOR		X
	1	Honda generator with light	R1 FLOOR		X
10	1	Hyd. Wrench (mounted)	L1 DOOR		X
	1	Hydrant Bag (Single 2 ½" gate valve, 2 LDH Spanners, 1 spanner wrench, 1 mallet)	L2		X
	1	Intake Valve	PUMP LEFT INTAKE		X
9	1	LDH Spanners	L1 DOOR		X
6	1	MSA Air pack	R1		X
6	1	MSA Air pack	R1		X
	1	NIOSH Pocket Guide	CAB FRONT		X
	1	Pick head axe	REAR TANK WALL		X
	2	Portable radio	CAB FRONT		X
	1	Preplan notebook	CAB FRONT		X
5	1	Pressure water extinguisher	R2 FLOOR		X
	1	Registration & Insurance card	CAB FRONT		X
7.7.3.3	1	Rubber Mallet	L1 DOOR		X
	1	Set irons	CAB REAR		X
3	2	Small Streamlight w/charger	CAB FRONT		X
	1	Somers Street guide book	CAB FRONT		X
9	1	Spanners (mounted)	PUMP PANEL RIGHT		X
9	1	Spanners (mounted)	L1 DOOR		X
7	2	Spare SCBA Bottles	L & R BOTTLE STORAGE		X
	1	Tool box	R1		X
15	5	Traffic cones	HOSE BED AREA		X
14	2	Traffic Vests	EACH SEAT IN CAB		X
8	1	First aid kit.	CAB		X
	1	Elkhart clappered siameses with drain valve, model 4A, 5" Storz x (2) 2-1/2" F.SW.NST	R2		X

7.6.1.1	1	Kochek 6" F.SW.NST low level strainer with jet siphon, model LL60	R2		X