

Newland VFD

BID SPECIFICATIONS

FOR

COMMERCIAL PUMPER

BUMPER TO BUMPER WARRANTY

Manufacturer shall warrant each new motorized fire apparatus built by manufacturer for a period of ONE YEAR from the date of delivery, except for chassis and other components noted herein.

Under this warranty the manufacturer shall agree to furnish any parts to replace those that have failed due to defective material or workmanship where there is no indication of abuse, neglect, unusual or other than normal service providing that such parts are, at the option of manufacturer , made available for inspection at request, returned to factory or other location designated by manufacturer with transportation prepaid within thirty days after the date of failure or within one year from the date of delivery of the apparatus to the original purchaser, whichever occurs first, and inspection indicates the failure was attributed to defective material or workmanship.

The warranty on the chassis and chassis supplied components, storage batteries, generators, electrical lamps and other devices subject to deterioration is limited to the warranty of the manufacturer thereof and adjustments for the same are to be made directly with the manufacturer by the customer.

This warranty will not apply to any fire apparatus that has been repaired or altered outside our factory in any way, which in our opinion might affect its stability or reliability.

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

This warranty is in lieu of all other warranties, expressed or implied, and all other obligations or liabilities on our part. We neither assume nor authorize any person to assume for us any liability in connection with the sales of our apparatus unless made in writing by manufacturer.

One (1)

Y__N__

STAINLESS STEEL BODY WARRANTY - TWENTY YEAR

Rosenbauer America, LLC warrants to the original purchaser only, that the all stainless steel body, fabricated by Rosenbauer America, LLC, under normal use and with reasonable maintenance, be structurally sound and will remain free from corrosion perforation for a period of TWENTY (20) years.

This warranty does not apply to the following items that are covered by a separate warranty: paint finish, hardware, moldings, and other accessories attached to this body. In addition, this warranty does not apply to any part or accessory manufactured by others and attached to this body.

ROSENBAUER AMERICA, LLC MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO THE STAINLESS STEEL BODY AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND HEREBY DISCLAIMED.

Rosenbauer America, LLC will replace without charge, repair or make a fair allowance for any defect in material or workmanship demonstrated to its satisfaction to have existed at the time of delivery or not due to misuse, negligence, or accident. If Rosenbauer America, LLC elects to repair this body, the extent of such repair shall be determined solely by Rosenbauer America, LLC, and shall be performed solely at the Rosenbauer America, LLC factory, or at an approved facility. The expense of any transportation to or from such repair facility shall be borne by the purchaser and is not an item covered under this warranty.

Rosenbauer America, LLC will not be liable for consequential damages and under no circumstances will its liability exceed the price for a defective body. The remedies set forth herein are exclusive and in substitution for all other remedies to which the purchaser would otherwise be entitled.

Rosenbauer America, LLC will be given a reasonable opportunity to investigate all claims. The purchaser must commence any action arising out of, based upon or relating to agreement or the breach hereof, within twelve months from the date the cause of the action occurred.

Note: Surety bond, if required, will cover standard one year warranty period only and will not cover any extended warranties allowed by seller or other component manufacturers.

One (1)

Y__N__

GALVANIZED STEEL SUBFRAME WARRANTY

The manufacturer shall provide a lifetime warranty for the galvanized steel subframe of the apparatus body. The manufacturer shall supply details of their warranty information with their bid submission.

One (1)

Y__N__

PAINT WARRANTY FIVE YEAR

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

The full apparatus body, manufactured and painted by Manufacturer shall be covered for the following paint failures as outlined on the guarantee certificate:

- Peeling or delaminating of the topcoat and/or other layers of paint.
- Cracking or checking.
- Loss of gloss caused by cracking, checking, or hazing.
- Any paint failure caused by defective PPG Fleet Finishes, which are covered by this guarantee.

All guarantee exclusions, limitations, and methods of claims are covered in the full certificate provided to the original purchaser.

Note: Surety bond, if required, will cover standard one year warranty period only and will not cover any extended warranties allowed by seller or other component manufacturers.

One (1)

Y__N__

FIRE PUMP WARRANTY

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

LIMITATIONS: HALE’S obligation is expressly conditioned on the Product being:

- Subjected to normal use and service.
- Properly installed and maintained in accordance with HALE’S Instruction Manual and Industry Standards as to recommended service and procedures.
- Not damaged due to abuse, misuse, negligence or accidental causes.
- Not altered, modified, serviced (non-routine) or repaired other than by an Authorized Service facility.
- Manufactured per design and specifications submitted by the original buyer.
- Used with an appropriate engine as determined by the engine manufacturers published data.
- Excluded are normal wear items identified as but not limited to packing, strainers, anodes, filters, light bulbs, intake screens, wear rings, mechanical seals, etc.

THE ABOVE EXPRESS LIMITED WARRANTY IS EXCLUSIVE. NO OTHER EXPRESS WARRANTIES ARE MADE. SPECIFICALLY EXCLUDED ARE ANY IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATIONS, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE; COURSE OF DEALING; USAGE OF TRADE; OR PATENT INFRINGEMENT FOR A PRODUCT MANUFACTURED TO ORIGINAL BUYER’S DESIGN AND SPECIFICATIONS.

EXCLUSIVE REMEDIES: If Buyer promptly notifies HALE upon discovery of any such defect (within the Warranty Period), the following terms shall apply:

- Any notice to HALE must be in writing, identifying the Product (or component) claimed defective and circumstances surrounding its failure.
- HALE reserves the right to physically inspect the Product and require Buyer to return same to HALE’S plant or Authorized service Facility.

- In such event, Buyer must notify HALE for a Return Goods Authorization number and Buyer must return the Product F.O.B. within (30) days thereof.
- If determined defective, HALE shall, at its option, repair or replace the Product, or refund the purchase price (less allowance for depreciation).
- HALE's reimbursement covers only the standard labor and Hale components required for the removal, repair, and/or re-installation of HALE supplied Product.
- HALE's reimbursement does not cover the standard labor or components for the removal and reinstallation of non-HALE supplied components.
- Absent proper notice within the Warranty Period, HALE shall have no further liability or obligation to Buyer there-fore.

THE REMEDIES PROVIDED ARE THE SOLE AND EXCLUSIVE REMEDIES AVAILABLE. IN NO EVENT SHALL HALE BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES INCLUDING, WITHOUT LIMITATION, LOSS OF LIFE; PERSONAL INUURY; DAMAGE TO REAL OR PERSONAL PROPERTY DUE TO WATER OR FIRE; TRADE OR OTHER COMMERICAL LOSSES ARISING, DIRECTLY OR INDIRECTLY OUT OF PRODUCT FAILURE.

One (1)

Y__N__

STAINLESS STEEL PLUMBING WARRANTY

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

One (1)

Y__N__

COMPLETE COMPACT DISC MANUAL

Manufacturer shall provide with the vehicle upon delivery, one (1) complete delivery manual. This manual shall be on a computer generated compact disc (CD), with reference guide for each section of the vehicle. Within each section shall be:

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

One (1)

Y__N__

IN PROCESS PHOTOS

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

One (1)

Y___N___

LOW VOLTAGE ELECTRICAL SYSTEM SPECIFICATIONS

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

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

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

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

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

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

schematic per requirements of applicable NFPA #1901 standards.

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

The electrical system shall include the following:

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

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

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

NFPA REQUIRED TESTING OF ELECTRICAL SYSTEM

The apparatus shall be electrically tested upon completion of the vehicle and prior

to delivery. The electrical testing, certifications, and test results shall be submitted with delivery documentation per requirements of the applicable NFPA standards. The following minimum testing shall be completed by the apparatus manufacturer:

1. Reserve capacity test:

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

2. Alternator performance test at idle:

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

3. Alternator performance test at full load:

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

4. Low voltage alarm test:

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

NFPA REQUIRED DOCUMENTATION

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

- a. Documentation of the electrical system performance tests required above.

b. A written load analysis, including:

1. The nameplate rating of the alternator.
2. The alternator rating under the conditions.
3. Each specified component load.
4. Individual intermittent loads.

One (1)

Y__N__

WEATHER PROOF ELECTRICAL JUNCTION BOX

The main electrical junction box shall be a **sealed weather proof box** and located away from water spray conditions. The main body junction panel shall house the automatic reset breakers and relays where required. The main body junction panel shall be located in the pump compartment.

One (1)

Y__N__

ELECTRICAL CONSOLE WITH EMERGENCY LIGHT SWITCH PANEL

An electrical console shall be constructed of .125" black thermoplastic coated smooth aluminum material and mounted in the cab of the truck chassis. The console will have a black bedlined finish on the exterior of the compartment. Console shall be designed and installed between the driver and passenger seats. The top face of the console shall be designed as the switch panel for all emergency light switches. The switch panel shall be bolted in place for easy access to the switch connections.

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

SWITCHES

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

One (1)

Y__N__

BATTERY CHARGER AND AIR COMPRESSOR

One (1) Kussmaul Pump Plus 1200 model #091-187-12-R-B1 battery charger and air compressor system shall be installed. The 120 volt compressor system shall be designed to maintain the air pressure in the chassis brake system whenever the pressure drops below a predetermined level.

The battery charger shall be supplied from the 120 volt shore power receptacle and be a fully automatic high output charging system. The unit shall be mounted in a clean dry area and will be accessible for service and/or maintenance.

One (1)

Y__N__

BATTERY CHARGER DISPLAY

One (1) Kussmaul 091-199-001 single battery bank voltage display shall be supplied with the charger.

One (1)

Y__N__

AUTO-EJECT

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

One (1)

Y__N__

SHORE POWER PLUG

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

One (1)

Y__N__

AIR HORNS

Two (2) 24.5" Stuttertone chrome plated air horns shall be recess mounted into the front bumper with one positioned on each side. An air protection valve shall be provided in the air horn piping that will not allow the chassis air brake system to drop below 90 PSI.

One (1)

Y__N__

AIR HORN LANYARD

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

One (1)

Y__N__

ENGINE COMPARTMENT LIGHT

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

One (1)

Y__N__

The control switch shall be mounted on the light head.

One (1)

Y__N__

PUMP ENCLOSURE LIGHTS

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

One (1)

Y__N__

The control switch shall be mounted on the light head.

One (1)

Y__N__

LIGHT MOUNTING LOCATION

The mounting location for the specified light shall be on the front edge of the chassis cab roof.

One (1)

Y__N__

BROW SCENE LIGHT

One (1) Whelen Pioneer Super LED model PFP1 single lamp brow light shall be provided. The light shall draw 6.5 amps and generate 5,000 lumens. The bulb shall be accessible through the front. The lamphead shall be approximately than 3" deep by 4-5/8" high by 8" wide. Lamphead and brackets shall be powder coated white.

One (1)

Y__N__

LIGHT SWITCH REMOTE LOCATION

A switch shall be installed from a remote location in the chassis cab. The weatherproof on-off toggle switch shall be used for the remote switching.

Two (2)

Y__N__

LIGHT MOUNTING LOCATION

The mounting location for the specified light shall be on the front of the apparatus body.

Two (2)

Y__N__

SCENE LIGHT

Two (2) Whelen Pioneer Super LED model PFP1 single lamp light assembly shall be provided. The light shall draw 6.5 amps and generate 5,000 lumens. The bulb shall be accessible through the front. The lamphead shall be approximately than 3" deep by 4-5/8" high by 8" wide. Lamphead and brackets shall be powder coated white.

A Fire Research 530 series side mount bottom raise telescopic light pole shall be provided. The light pole shall extend approximately 30" in height and be anodized aluminum. A knurled twist lock mechanism to secure the extension pole in position shall be included with the pole.

Two (2)

Y__N__

LIGHT SWITCH ON LAMPHEAD

A switch shall be installed on the quartz light lamphead. The weatherproof on-off toggle switch shall be mounted on the lower left side of the lamphead.

One (1)

Y__N__

BACK-UP ALARM

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

One (1)

Y__N__

BACKUP CAMERA SYSTEM

One (1) Safety Vision camera system SV-CLCD-70A-KIT with cables and mounting hardware shall be furnished utilizing one SV-620A-KIT color camera with audio which provides a wide field of view and picture quality. The 7” color monitor shall be a SV-CLCD-70A supporting up to two cameras and has a compact flat screen that takes minimal space with integrated speaker for camera audio. The monitor does not require a separate control box.

One (1)

Y__N__

HAND LIGHTS

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

One (1)

Y__N__

VEHICLE DATA RECORDER

Apparatus shall be equipped with a Class1 “Vehicle Data Recorder (VDR) that is connected to the power train CAN (Controller Area Network) bus consisting of transmission (TCM), engine control (ECM) and anti-lock brake (ABS) modules mounted on the apparatus. The VDR will function per NFPA 1901-2009 sections 4.11 (Vehicle Data Recorder) utilizing the power train s J1939 data.

The VDR data shall be downloadable by USB cable to a computer using either Microsoft™ or Apple™ Operating Systems using Class 1/ O.E.M. supplied reporting software.

NOTE: The VDR shall only be provided as long as the chassis options include provisions to access vehicle data information.

One (1)

Y__N__

SEAT BELT WARNING SYSTEM

Apparatus shall be equipped with a Class1 Seat Belt Warning System” (SBW) that is connected to the power train CAN (Controller Area Network) bus consisting of transmission (TCM), engine control (ECM) and anti-lock brake (ABS) modules mounted on the apparatus. The SBW will function per NFPA

1901-2009 14.1.3.10 (Seat Belt Warning) using the Class1 “Seat Belt Input Module” for seat occupied and belt status information.

The SBW system shall have the ability to use either normally open (NO) or normally closed (NC) switches (user selectable by “dip switches” at ground potential) for operation.

NOTE: The SBW system shall only be installed, as long as the chassis manufacturer provides the correct provisions for the installation of the SBW system by the body manufacturer.

One (1)

Y__N__

SEAT BELT WARNING DISPLAY

A small rocker style display shall be installed in the chassis cab for the seat belt warning system.

One (1)

Y__N__

MARKER LIGHTS

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

One (1)

Y__N__

LICENSE PLATE BRACKET

One (1) Cast Products license plate bracket, model LP0005-1-C shall be provided at the rear bumper. The bracket shall have a polished finish and LED light.

One (1)

Y__N__

TAIL LIGHTS

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

One (1)

Y__N__

TURN SIGNALS

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

One (1)

Y__N__

BACKUP LIGHTS

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

One (1)

Y__N__

FOUR LIGHT HOUSING

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

One (1)

Y__N__

CAB GROUND LIGHTS

Two (2) LED ground lights shall be installed on the chassis cab, one under each cab door.

One (1)

Y__N__

PUMP PANEL GROUND LIGHTS

Two (2) LED ground lights shall be installed under the pump panel running boards. One (1) light shall be located on the driver's side and one (1) light located on the officer's side of the apparatus.

One (1)

Y__N__

REAR STEP GROUND LIGHTS

Two (2) LED ground lights shall be installed under rear step of the apparatus.

One (1)

Y__N__

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

Two (2)

Y__N__

REAR TAILBOARD LIGHTS

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

One (1)

Y__N__

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

Five (5)

Y__N__

12VOLT FLOODLIGHT

Five (5) Whelen Pioneer Super LED model PFP1R single lamp recess mount light shall be provided. The light shall draw 6.5 amps and generate 5,000 lumens. The bulb shall be accessible through the front. The lamphead shall be approximately than 3" deep by 4-5/8" high by 8" wide. Lamphead and brackets shall be powder coated white.

Two (2)

Y__N__

SCENE LIGHT LOCATION

Two (2) scene light shall be located on the left side of the apparatus body.

Two (2)

Y__N__

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

Two (2)

SCENE LIGHT LOCATION

Y__N__

Two (2) scene light shall be located on the right side of the apparatus body.

Two (2)

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

Y__N__

One (1)

SCENE LIGHT LOCATION

Y__N__

One (1) scene light shall be located on the rear of the apparatus body.

One (1)

SCENE LIGHT SWITCHING

Y__N__

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

One (1)

SCENE LIGHT SWITCHING

Y__N__

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

One (1)

SCENE LIGHT SWITCHING

Y__N__

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

One (1)

SCENE LIGHT SWITCHING

Y__N__

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

One (1)

DOOR OPEN/HAZARD WARNING LIGHT

Y__N__

One (1) red flashing, warning light shall be provided and installed in the driver's compartment to indicate an open passenger or apparatus compartment door. The warning light shall also be attached to folding equipment racks and light towers as

specified. The light shall be a flashing rectangular incandescent marker light with a red lens and shall be properly marked and identified.

One (1)

Y__N__

FEDERAL MECHANICAL SIREN

One (1) Federal Signal Q2B mechanical siren shall be recess mounted into the left side of the front bumper. The "Q" siren shall feature a highly polished chrome body and grille. The siren's distinctive mechanical wail sound shall produce 123 db at 10'.The siren control switch(es) shall be installed in the cab.

One (1)

Y__N__

SIREN CONTROL

One (1) foot switch shall be provided on the driver's side of the cab floor to activate the Federal Signal Q2B siren.

One (1)

Y__N__

SIREN CONTROL

One (1) foot switch shall be provided on the officer's side of the cab floor to activate the Federal Signal Q2B siren.

One (1)

Y__N__

SIREN BRAKE

Two (2) push button siren brake switches for the Federal Signal Q2B siren shall be provided, one (1) on the driver's side dash and one (1) on the officer's side dash.

One (1)

Y__N__

LIGHTBAR

One (1) Whelen Ultra Freedom IV light bar shall be included with the apparatus cab. The light bar shall be a model F4N0VLED and shall be mounted on the roof of the cab, towards the front, above the windshield.

The light bar shall feature:

- A 60" light bar designed for high performance
- Four (4) red Linear Super LED corner modules
- Two (2) red 400 series Linear Super LED lights
- Two (2) white 400 series Linear Super LED lights with clear optic lenses
- Two (2) clear optic collimators
- Clear hard coated lenses to provide extended life/luster protection against UV & chemical stresses
- Designed in accordance with NFPA Zone A requirements

One (1)

Y__N__

LIGHTBAR ACTIVATION

The front upper light bar activation shall be wired into the master warning switch.

One (1)

Y__N__

UPPER REAR WARNING LIGHTS

One (1) pair of Whelen model M9 LED warning lights shall be installed, one each side on the upper rear of the apparatus body. The dimensions of the lights shall be 6-1/2" x 10-3/8".

One (1)

Y__N__

The driver side warning light shall be a Whelen Model M9R red Super-LED™ with color lens.

One (1)

Y__N__

The officer side warning light shall be a Whelen Model M9R red Super-LED™ with color lens.

Two (2)

Y__N__

Each light shall be mounted with a Whelen Model M9FC chrome flange.

One (1)

Y__N__

UPPER SIDE FRONT WARNING LIGHTS

One (1) pair of Whelen model M9 LED warning lights shall be installed, on the upper portion of the body side, towards the front. The dimensions of the lights shall be 6-1/2" x 10-3/8".

One (1)

Y__N__

The driver side warning light shall be a Whelen Model M9R red Super-LED™ with color lens.

One (1)

Y__N__

The officer side warning light shall be a Whelen Model M9R red Super-LED™ with color lens.

Two (2)

Y__N__

Each light shall be mounted with a Whelen Model M9FC chrome flange.

One (1)

Y__N__

UPPER SIDE REAR WARNING LIGHTS

One (1) pair of Whelen model M9 LED warning lights shall be installed, one each side on the upper portion of the body side, towards the rear of the body. The dimensions of the lights shall be 6-1/2" x 10-3/8".

One (1) The driver side warning light shall be a Whelen Model M9R red Super-LED™ with color lens. Y__N__

One (1) The officer side warning light shall be a Whelen Model M9R red Super-LED™ with color lens. Y__N__

Two (2) Each light shall be mounted with a Whelen Model M9FC chrome flange. Y__N__

One (1) **LOWER FRONT WARNING LIGHTS** Y__N__

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

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

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

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

One (1) **INTERSECTION WARNING LIGHTS** Y__N__

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

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

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

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

One (1)

Y__N__

LOWER MID-BODY WARNING LIGHTS

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

One (1)

Y__N__

The driver side warning light shall be a Whelen Model M2WR wide-angle red Super-LED™ with color lens.

One (1)

Y__N__

The officer side warning light shall be a Whelen Model M2WR wide-angle red Super-LED™ with color lens.

One (1)

Y__N__

LOWER REAR SIDE WARNING LIGHTS

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

One (1)

Y__N__

The driver side warning light shall be a Whelen Model M2WR wide-angle red Super-LED™ with color lens.

One (1)

Y__N__

The officer side warning light shall be a Whelen Model M2WR wide-angle red Super-LED™ with color lens.

One (1)

Y__N__

LOWER REAR WARNING LIGHTS

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

One (1)

Y__N__

The driver side warning light shall be a Whelen Model M6R red Super-LED™ with color lens.

One (1)

Y__N__

The officer side warning light shall be a Whelen Model M6R red Super-LED™ with color lens.

One (1)

Y__N__

FLUID DATA PLAQUE

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

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

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

One (1)

Y__N__

DATA & WARNING LABELS

HEIGHT LENGTH & WEIGHT

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

CAB SEATING POSITION LIMITS

The label shall also include the seating positions for firefighters. A weight allowance of 250 pounds for each shall be factored into the gross vehicle weight rating of the chassis.

One (1)

Y__N__

NO RIDE LABEL

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

One (1)

Y__N__

CAB SEATING POSITION LIMITS

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

One (1)

Y__N__

HELMET WARNING TAG

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

One (1)

Y__N__

REAR TOWING PROVISIONS

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

One (1)

Y__N__

The tow plates shall be painted black.

One (1)

Y__N__

BUMPER EXTENSION

The chassis frame shall be extended 21" with reinforced steel angle and structural channel by the body builder. The extension shall be designed to support the bumper and other equipment to be installed.

One (1)

Y__N__

FRONT BUMPER GRAVELSHIELD

A 21" front to rear filler panel constructed from NFPA compliant, slip resistant aluminum tread plate shall be provided on the front chassis frame extension. The extension shall be covered on the top and sides, up to the level of front bumper and shall be reinforced to support one (1) firefighter (approximately 250 pounds) and the equipment specified to be installed.

One (1)

Y__N__

FRONT BUMPER COMPARTMENT

One (1) recessed tool compartment constructed from smooth aluminum shall be installed in the left side of the front bumper extension. Water drain holes shall be drilled in the bottom.

One (1)

Y__N__

BUMPER COMPARTMENT DOOR

One (1) aluminum tread plate door for the front bumper compartment shall be supplied. The flat door shall have a stainless steel hinge at the rear and a latch to secure the compartment.

One (1)

Y__N__

FRONT BUMPER COMPARTMENT

One (1) recessed fire hose compartment constructed from smooth aluminum shall be installed in the center of the front bumper extension. Water drain holes shall be drilled in the bottom.

One (1)

Y__N__

BUMPER COMPARTMENT DOOR

One (1) aluminum tread plate door for the front bumper compartment shall be supplied. The flat door shall have a stainless steel hinge at the rear and a latch to secure the compartment.

One (1)

Y__N__

TOW HOOKS

Two (2) tow hooks shall be mounted to the bumper extension under the bumper towards the forward section of the extension. The tow hooks shall be steel and shall be painted black.

One (1)

Y__N__

HUB AND LUG NUT COVERS

The apparatus shall have chrome or stainless steel hub and lug nut covers on the front and single rear axles.

One (1)

Y__N__

TIRE PRESSURE INDICATOR

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

One (1)

Y__N__

REAR MUD FLAPS

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

One (1)

Y__N__

INSTA-CHAIN AUTOMATIC REAR AXLE TIRE CHAINS

INSTA-CHAIN 6-strand automatic tire chains shall be installed on the rear axle and controlled by an air actuator located in the cab.

One (1)

Y__N__

A switch installed on the cab dash shall allow the operator to "Engage" and "Disengage" the tire chains without stopping to enhance traction and braking while in forward or reverse motion. The switch shall be provided with a protective guard.

One (1)

Y__N__

CAB STEP ENCLOSURE

The left side of the Freightliner chassis shall be equipped with a modular step/fuel tank enclosure constructed from slip resistant aluminum tread plate to conform with applicable NFPA standards. The step/enclosure is to completely cover the fuel tank, and is to include a radius cut-out allowing access to the fuel tank fill. The entire step/enclosure is to be of a one piece design, bolted in place for ease of removal.

Heavy steel supports shall be provided to support the right and left side cab entrance steps. Supports shall be attached directly to the chassis frame rails, and shall provide adequate support to the steps to minimize flex and distortion.

One (1)

Y__N__

CAB STEP ENCLOSURE

The right side of the Freightliner chassis shall be equipped with a modular step enclosure constructed from slip resistant aluminum tread plate to conform with applicable NFPA standards. The entire step/enclosure is to be of a one piece design, bolted in place for ease of removal.

Heavy steel supports shall be provided to support the right and left side cab entrance steps. Supports shall be attached directly to the chassis frame rails, and shall provide adequate support to the steps to minimize flex and distortion.

One (1)

Y__N__

HALE DSD SINGLE STAGE PUMP

A Hale model DSD, single stage pump shall be designed to mount in a pump module and shall be split-drive shaft driven. The pump shall be driven by a driveline from the truck transmission. The engine shall provide sufficient horsepower and RPM to enable the pump to meet and exceed its rated performance.

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

PUMP BODY

The pump, the pump body and related parts shall be cast iron. All metal moving parts in contact with water shall be of high quality bronze or stainless steel.

IMPELLER

The pump shall have one impeller. The pump body shall have two opposed discharge outlet volute cutwaters to eliminate radial unbalance. Pump impeller shall be hard, fine grain bronze of the mixed flow design; accurately machined and individually balanced.

The vanes of the impeller intake eyes shall be of sufficient size and design to provide ample reserve capacity utilizing minimum horsepower. Impeller clearance rings shall be bronze, easily renewable without replacing impeller or pump volute body, and shall be of wrap-around double labyrinth design for maximum efficiency.

PUMP SHAFT

Pump shaft shall be rigidly supported by bearings for minimum deflection. The bearings shall be heavy-duty, deep groove ball bearings in the gearbox and they shall be splash lubricated.

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

PUMP TRANSMISSION

The pump transmission shall be of sufficient size to withstand 16,000 foot pounds of torque from the engine. The drive unit shall be designed of ample capacity for lubrication reserve and to maintain the proper operating temperature.

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

All gears both drive and pump, shall be of highest quality electric furnace chrome nickel steel. Bores shall be ground to size and teeth integrated and hardened, to give an extremely accurate gear for long life. An accurately cut spur design shall be provided to eliminate all possible end thrust.

PUMP MOUNTING

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

DRIVELINES

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

One (1)

Y__N__

1500 GPM FIRE PUMP SPECIFICATIONS

The centrifugal type fire pump shall be a Hale model DSD midship mounted with a rated capacity of 1500 GPM. The pump shall meet NFPA 1901 requirements.

The pump shall be certified to meet the following deliveries:

- 1500 GPM @ 150 PSI
- 1500 GPM @ 165 PSI
- 1050 GPM @ 200 PSI
- 750 GPM @ 250 PSI

One (1)

Y__N__

LEFT SIDE -- 6" UNGATED INTAKE

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

One (1)

Y__N__

One (1) 6" chrome plated cap shall be provided. The threads shall be NST and the cap shall be equipped long handles.

One (1)

Y__N__

RIGHT SIDE -- 6" UNGATED INTAKE

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

One (1)

Y__N__

One (1) 6" chrome plated cap shall be provided. The threads shall be NST and the cap shall be equipped long handles.

One (1)

Y__N__

FIRE PUMP MECHANICAL WATER SEAL

The Hale fire pump shall have a high quality, self-adjusting, maintenance free mechanical seal.

One (1)

Y__N__

ELECTRIC/PNEUMATIC PUMP SHIFT

The pump shift shall be an air operated and shall incorporate an air cylinder with an electric actuating switch to shift from road to pump and back. The power shift control valve shall be mounted in the cab. The fire pump-shift system shall be equipped with a means to prevent unintentional movement of the control device from its set position.

The system shall include a nameplate indicating the chassis transmission shift selector position to be used for pumping and located so that it can be easily read from the driver's position.

The system shall include applicable the NFPA interlocks, pump shift and OK TO PUMP indicator lights in the cab and pump panel. The fire pump system shall be equipped with an interlock system shall be provided to ensure that the pump drive system components are properly engaged in the pumping mode of operation so that the pumping system can be safely operated from the pump operator's position.

If applicable, the secondary braking device shall be automatically disengaged for pumping operations.

One (1)

Y__N__

PRIMER

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.

One (1)

Y__N__

PRIMER CONTROL

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

One (1)

Y__N__

PRESSURE GOVERNOR AND MONITORING DISPLAY

One (1) Fire Research PumpBoss model PBA400-A00 pressure governor and monitoring display kit shall be provided on the pump panel. The kit shall include a control module, pressure sensor, and cables. The control module case shall be waterproof and have dimensions not to exceed 6 3/4" high by 4 5/8" wide by 1 3/4" deep. Inputs for monitored information shall be from a J1939 databus or independent sensors. Outputs for engine control shall be on the J1939 databus or engine specific wiring.

The following continuous displays shall be provided:

- CHECK ENGINE and STOP ENGINE warning LEDs
- Engine RPM; shown with four daylight bright LED digits more than 1/2" high
- Engine OIL PRESSURE; shown on an LED bar graph display in 10 psi increments
- Engine TEMPERATURE; shown on an LED bar graph display in 10 degree increments
- BATTERY VOLTAGE; shown on an LED bar graph display in 0.5 volt increments
- PSI / RPM setting; shown on a dot matrix message display
- PSI and RPM mode LEDs
- THROTTLE READY LED.

A 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. The brightness of the displays shall be automatically adjusted for day or night viewing.

The program shall store the accumulated operating hours for the pump and engine, previous incident hours, and current incident hours in a non-volatile memory. Stored elapsed hours shall be displayed at the push of a button. It shall

monitor inputs and support audible and visual warning alarms for the following conditions:

- High Engine RPM
- Pump Overheat
- High Transmission Temperature
- Low Battery Voltage (Engine Off)
- Low Battery Voltage (Engine Running)
- High Battery Voltage
- Low Engine Oil Pressure
- High Engine Coolant Temperature

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 control knob that uses optical technology shall adjust pressure or RPM settings. It shall be 2" in diameter with no mechanical stops, a serrated grip, and have a red idle push button in the center.

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.

One (1)

Y__N__

PUMP ANODES

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

One (1)

Y__N__

PUMP PLUMBING SYSTEM

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

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

One (1)

Y__N__

FIRE PUMP MASTER DRAIN

The fire pump plumbing system and fire pump shall be piped to a single push-pull type master pump drain assembly.

ADDITIONAL LOW POINT DRAINS

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

One (1)

Y__N__

STAINLESS STEEL INTAKE MANIFOLD

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

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

One (1)

Y__N__

STAINLESS STEEL DISCHARGE MANIFOLD

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

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

One (1)

Y__N__

FIRE PUMP & PLUMBING SYSTEM PAINTING

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

One (1)

Y__N__

HOSE THREADS

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

One (1)

Y__N__

WATER TANK TO PUMP LINE

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

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

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

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

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

One (1) Y__N__

FIRE PUMP TO WATER TANK FILL LINE

One (1) 2" fire pump to water tank refill and pump bypass cooler line shall be provided. The valve shall be a full flow quarter turn ball valve with 2" piping and flex hose to tank. The valve control handle shall have a nameplate located near the valve control.

One (1) Y__N__
The valve shall be an Akron 8000 Series two-inch (2") valve with a stainless ball.

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

One (1) Y__N__

FIRE PUMP SPLIT SHAFT DRIVESHAFTS AND INSTALLATION

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

One (1) Y__N__

INTAKE RELIEF/DUMP VALVE

One (1) TFT A18 series, 2-1/2" intake relief/dump valve preset at 125 psi shall be

permanently installed on the suction side of the fire pump. The valve shall have an adjustment range of 75 psi to 250 psi, and shall be designed to automatically self-restore to a non-relieving position when excessive pressure is no longer present.

Discharge side of the intake relief valve shall be plumbed away from the pump operator.

One (1)

Y__N__

FIRE PUMP COOLING

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

One (1)

Y__N__

CHASSIS ENGINE HEAT EXCHANGER COOLING SYSTEM

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

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

One (1)

Y__N__

UNDERWRITERS LABORATORIES FIRE PUMP TEST

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

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

One (1)

Y__N__

FIRE PUMP TEST LABEL

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

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

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

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

One (1)

Y__N__

GATED 5" INTAKE -- FRONT RIGHT BUMPER

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

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

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

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

One (1)

Y__N__

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

One (1)

Y__N__

FRONT RIGHT SIDE INTAKE -- VERTICAL ABOVE BUMPER

The front suction 5" piping shall extend vertical, then straight-forward above the bumper level. The piping shall be Schedule 40 steel with Victaulic couplings installed.

One (1)

Y__N__

90 DEGREE SWIVEL 5" ELBOW

The front intake shall be equipped with a 5" chrome plated swivel adapter. The unit shall be equipped with 5" IPT female thread x 5" NST male thread.

One (1)

Y__N__

One (1) 5" chrome plated cap shall be provided. The threads shall be NST and the cap shall be equipped long handles.

One (1)

Y__N__

LEFT SIDE -- 2-1/2" GATED INTAKE

One (1) 2-1/2" gated suction intake shall be installed on left side pump panel to supply the fire pump from an external water supply. The control valve shall be a quarter turn ball valve and shall have 2-1/2" NST female thread of chrome plated brass.

The intake shall be equipped with a 3/4" drain and bleeder valve. A nameplate label and removable screen shall be installed.

One (1)

Y__N__

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

One (1)

Y__N__

One (1) 2-1/2" chrome plated plug shall be provided. The threads shall be NST and the plug shall be equipped rocker lugs and chain or cable securement.

One (1)

Y__N__

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

One (1)

Y__N__

The valve shall be equipped with one (1) manually operated, swing-type manual control located adjacent the intake. The valve shall be equipped with a color-coded name plate.

One (1)

Y__N__

2" DISCHARGE FRONT CENTER BUMPER

One (1) 2" discharge shall be installed at front center bumper area with brass swivel outlet with 1-1/2" NST male threads. The valve control shall be on pump panel and a nameplate label provided at valve control area.

The plumbing shall be flexible hose with abrasion resistant support mountings. Auxiliary low point drains shall be provided on the discharge line.

One (1) A Class 1 automatic type 3/4" bleeder valve shall be installed. Y__N__

One (1) The hose connection for the front discharge shall be swivel type located inside the front bumper hosewell. Y__N__

One (1) The specified valve shall be an Akron 8000 Series two-inch (2") valve with a stainless ball. Y__N__

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

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

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

One (1) **CROSSLAY COVER** Y__N__

The crosslay cover shall be supplied and installed by the Dealer.

One (1) **CROSSLAY HOSEBEDS** Y__N__

Crosslay hosebed(s) shall be mounted over the upper pump panel or gauge panel in the upper portion of the pump enclosure. The crosslay hosebed shall be approximately 12" from the top of the pump enclosure.

One (1) **TWO (2) 1-1/2" SPEEDLAY DISCHARGES** Y__N__

Two (2) 1-3/4" pre-connect hose speedlays shall be installed behind the chassis cab, controlled with quarter turn 2" diameter ball valves. The outlets shall be equipped 2" NPT female swivel x 1-1/2" male NST hose threads.

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

floor.

Each single stack hose bed shall provide a minimum capacity of 200 feet of 1-3/4" diameter double jacket hose with hose and nozzle provided by fire department.

Two (2)

Y__N__

A Class 1 automatic type 3/4" bleeder valve shall be installed.

Two (2)

Y__N__

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

Two (2)

Y__N__

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

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

Two (2)

Y__N__

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

One (1)

Y__N__

SPEEDLAY COVER

Black cargo webbing shall be provided at each speedlay hosebed. The webbing shall be permanently attached on the forward side and have velcro and a grab handle at the rear. A velcro retaining strap on both ends shall be provided. It shall be permanently attached on the cab side at the top of the crosslays with a footman's loop.

One (1)

Y__N__

SPEEDLAY HINGED COVER

The speedlay hosebed shall be equipped with a single aluminum diamond plate hinged cover. The cover shall have rubber bumpers, latching devices, and lift up handle on each end of the cover.

One (1)

Y__N__

SPEEDLAY HOSE BED TRIM

The pre-connect speedlay hosebed shall be equipped with anodized aluminum angles, on each end of the hosebed.

Two (2)

Y__N__

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

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

Two (2)

Y__N__

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

Two (2)

Y__N__

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

Two (2)

Y__N__

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

Two (2)

Y__N__

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

Two (2)

Y__N__

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

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

Two (2)

Y__N__

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

One (1)

Y__N__

RIGHT SIDE PUMP PANEL -- 3" DISCHARGE

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

One (1)

Y__N__

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

One (1)

Y__N__

One (1) chrome plated elbow with rocker lugs shall be provided with 3" NST swivel female x 3" NST male hose threads.

One (1)

Y__N__

One (1) 3" NST rocker lug chrome plated vented cap and cable or chain securement shall be provided.

One (1)

Y__N__

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

One (1)

Y__N__

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

One (1)

Y__N__

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

One (1)

Y__N__

LEFT SIDE FRONT OF HOSEBED -- 2-1/2" DISCHARGE

One (1) 2-1/2" discharge shall be installed to the left side front of hosebed area and controlled by a quarter turn ball valve on the pump panel. The discharge shall have 2-1/2" NPT x 2-1/2" NST male hose threads. An engraved nameplate label shall be provided adjacent the control handle.

One (1)

Y__N__

A Class 1 automatic type 3/4" bleeder valve shall be installed.

One (1)

Y__N__

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

One (1)

Y__N__

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

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

One (1)

Y__N__

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

One (1)

Y__N__

RIGHT SIDE FRONT OF HOSEBED -- 2-1/2" DISCHARGE

One (1) 2-1/2" discharge shall be to the right side front of hosebed area and controlled by a quarter turn ball valve on the pump panel. The discharge shall have 2-1/2" NPT x 2-1/2" NST male hose threads. An engraved nameplate label shall be provided adjacent the control handle.

One (1)

Y__N__

A Class 1 automatic type 3/4" bleeder valve shall be installed.

One (1)

Y__N__

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

One (1)

Y__N__

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

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

One (1)

Y__N__

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

One (1)

Y__N__

REAR RIGHT SIDE -- 2-1/2" DISCHARGE

One (1) 2-1/2" discharge shall be installed on the right side rear panel of the apparatus body and shall be controlled by a quarter turn ball valve on the pump panel. The discharge shall have 2-1/2" NPT x 2-1/2" NST male hose threads. The outlet shall be equipped with an engraved nameplate label shall be installed adjacent the valve control handle.

One (1)

Y__N__

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

One (1)

Y__N__

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

One (1)

Y__N__

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

One (1)

Y__N__

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

One (1)

Y__N__

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

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

One (1)

Y__N__

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

One (1)

Y__N__

3" MONITOR DISCHARGE

One (1) 3" discharge shall be piped to the area over the pump enclosure with 3" NPT male threads provided. The pipe shall be equipped with Victaulic couplings (if necessary) and shall be properly secured to prevent movement when a monitor or deck gun is attached. The quarter turn ball valve shall be controlled on pump panel.

A color coded nameplate label shall be provided adjacent the valve control handle.

One (1)

Y__N__

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

One (1)

Y__N__

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

One (1)

Y__N__

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

One (1)

Y__N__

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

One (1)

Y__N__

PORTABLE MONITOR

Task Force Tips Crossfire model # XFC-62 portable lightweight monitor package consisting of monitor top, Safe-Tak base, stacked tips, stream straightener, Master Stream 1250 series nozzle, and storage bracket, Extend-A-Gun and installation bracket set shall be supplied.

The package shall be configured as follows:

PORTABLE DECK GUN MONITOR TOP

Task Force Tips Crossfire, model # XFT-NJ portable monitor shall be provided. This top only portion with quick release swivel joint shall be designed for use on truck mounted risers and TFT Safe-Tak or Stow-A-Way 800 series portable bases. The monitor shall include safety devices that include a locking button which locks the quick release lever when monitor is pressurized, and a 1/4 turn rotational lever lock that secures the horizontal rotation and provides a visual indication that the monitor rotation is locked.

The monitor shall have a 3-1/4" waterway for delivery of up to 1250 GPM with low friction loss. Vertical elevation shall be controlled through use of a handwheel controlled stainless steel worm gear which allows full travel to the safety stop point of 35 degrees above horizontal with seven rotations of the wheel. When positioned on a truck mounted riser the monitor shall be able to be used below the 35 degree stop point through release of the spring loaded safety pin.

An automatic drain to remove remaining water and avoid freezing shall be included. Integral stainless steel stream straightener and pressure gauge shall be included. The monitor shall be configured with a Crossfire inlet and 2-1/2" male NH outlet.

MONITOR STORAGE BRACKET

Task Force Tips model # XF-B storage bracket and mounting screws shall be supplied. The bracket shall be constructed from stainless steel include a quick release retention strap and be designed for horizontal or vertical installation. The bracket is designed for storage of the Task Force Tips Crossfire SAFE-TAK and STOWAWAY 800 series portable monitor base with or without monitor top attached.

One (1)

Y__N__

MASTER STREAM NOZZLE

Task Force Tips Master Stream 1250, # M-R1250S-NJ automatic master stream nozzle shall be provided. The nozzle shall be designed for use on monitors, ladder pipes, deluge guns and aerial platforms. For corrosion resistance the nozzle shall be constructed for lightweight hardcoat anodized aluminum.

The nozzle shall have a flow capability of 150 to 1250 GPM at a constant pressure rating of 100 PSI. A UV resistant rubber bumper with integral teeth designed to produce a finger free fog pattern shall be included. A halo ring shall be included to assist with stream shape control. The nozzle shall be suitable for foam solution application and designed to accept the Task Force Tips FJ-LX-M low expansion air aspirating attachment. The nozzle shall be configured with a 2-1/2" female NH swivel rocker lug coupling.

One (1)

Y__N__

SAFE-TAK PORTABLE MONITOR BASE

Task Force Tips Safe-Tak 1250, model # XFH-2NJ portable monitor base shall be provided. The monitor shall include a Safe-Tak, spring loaded butterfly valve designed to rapidly reduce the water flow by 90 percent in the event that contact with the ground is lost. The device shall include an integral carrying handle, four folding stainless steel legs with replaceable tungsten carbide spikes and an anchoring strap (attached to a protective cap) designed to be stored inside the waterway. The butterfly valve shall have a reset handle located near the inlet to allow the water flow to be reestablished once the base is properly stabilized.

The base shall be constructed from hardcoat anodized aluminum and have a red powder coat interior and exterior finish. The inlet shall be configured with two (2) 2-1/2" female NH swivel rocker lug couplings with two-way clapper valve.

One (1)

Y__N__

STREAM STRAIGHTENER

Task Force Tips model # XF-SS5 stream straightener shall be supplied. The straightener shall be constructed from extruded aluminum with internal vanes designed to reduce turbulence and increase the reach of smooth bore water streams. The device shall be five (5) inches in length and have 2-1/2" female NH rigid inlet and 2-1/2" male NH rigid outlet.

One (1)

Y__N__

MASTER STREAM STACK TIP SET

Task Force Tips model # MST-4NJ smooth bore stacked tip set shall be provided. For corrosion resistance the tip set shall be constructed from hardcoat anodized aluminum alloy. The set shall consist of four (4) tips with the base tip having a 2-1/2" female NH swivel inlet and 2" outlet. The other tip sizes shall be 1-3/4", 1-1/2" and 1-3/8". Each tip shall be laser engraved with a flow/pressure chart, orifice size, thread size.

One (1)

Y__N__

MONITOR STORAGE BRACKET

Task Force Tips model # XF-B storage bracket and mounting screws shall be supplied. The bracket shall be constructed from stainless steel include a quick release retention strap and be designed for horizontal or vertical installation. The bracket is designed for storage of the Task Force Tips Crossfire SAFE-TAK and STOWAWAY 800 series portable monitor base with or without monitor top attached.

One (1)

Y__N__

TELESCOPING MONITOR PIPE

Task Force Tips model # XG12VL-XL manually telescoping waterway shall be installed. The waterway shall be capable of being lowered to deck level (or into a monitor well) for storage and transportation and shall be capable of being raised to an extended height of 12" by lifting a quick release latch located at the base of the extension tube. This latching device shall be capable of locking the waterway in either the raised or lowered position while maintaining the ability to horizontally rotate the monitor device 360 degrees.

A sensor shall be located on the waterway that signals a 12 volt indicator light installed in the cab to illuminate to indicate that the monitor is raised.

The aluminum riser shall have a 3" waterway; hardcoat anodized finish and be furnished with a 3" Victaulic inlet and a Task Force Tips Crossfire coupling outlet.

FOAM PRO FOAM SYSTEM

One (1) FoamPro part number S105-2001 electronic foam proportioning system shall be provided. The system shall be capable of using both Class A and most Class B foam concentrates. The foam proportioning operation shall be designed for direct measurement of water flows, and shall remain consistent within the specified flows and pressures. The system shall be capable of accurately delivering foam solution as required by applicable sections of the NFPA standards.

The system shall be equipped with a digital electronic control display suitable for installation on the pump panel. There shall be a microprocessor incorporated within the electronic controls that shall receive input from the system's flowmeter, while also monitoring the foam concentrate pump output. The microprocessor shall compare the values to ensure that the desired amount of foam concentrate is injected onto the discharge side of the fire pump.

Paddlewheel-type flowmeter(s) shall be installed in the discharges specified to be "foam capable". When the use of more than one (1) flowmeter is required, an electronic interface module will be provided to total these flows and send the flow total to the microprocessor in the computer control module.

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

- Provide push-button control of foam proportioning rates from 0.1% to 3%, in 0.1% increments
- Show current flow-per-minute of water
- Show total volume of water discharged during and after foam operations are completed
- Show total amount of foam concentrate consumed
- Simulate flow rates for manual operation
- Perform setup and diagnostic functions for the computer control microprocessor
- Flash a "low concentrate" warning when the foam concentrate tank (s) become low
- Flash a "no concentrate" warning and shut the foam concentrate pump off, preventing damage to the pump, should the foam tank(s) become empty

A 12 volt electric motor driven positive displacement foam concentrate pump shall be provided and installed in an accessible location. The pump capacity range shall be 0.1 to 2.6 GPM (9.5L/min) at 150 PSI with a maximum operating pressure up to 400 PSI (27.6 BAR). The system shall draw a maximum of 40 amps at 12 volts. An electronic driver for the pump motor shall be mounted to the base of the pump and shall receive signals from the computer control display, and regulate the 1/2 horsepower (.40 Kw) electric motor directly coupled to the concentrate pump in a variable speed duty cycle to ensure that the correct

proportion of concentrate, preset by the pump operator is injected into the water stream.

A full flow check valve shall be provided to prevent foam contamination of the fire pump and water tank or water contamination of the foam tank.

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

- Operator control and display
- Paddlewheel flowmeter(s)
- Pump and electric motor/motor driver
- Wiring harnesses
- Low level tank switch
- Foam injection check valve
- Main waterway check valve

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

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

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

CONTROL CONNECTION CABLE FOAM SYSTEM

The FoamPro 2001 Series foam system shall be provided with a twelve (12) foot control cable from the controller to the foam pump assembly.

PUMP PANEL CONTROL FOAM SYSTEM

The FoamPro 2001 Series foam system shall be provided with pump panel mounted control assembly.

INSTRUCTION AND RATING LABEL -- FOAM SYSTEM

A FoamPro part number 6032-0020 instruction and system rating label shall be provided. The label shall display information for a FoamPro 2001 Series foam system and shall meet applicable sections of the NFPA standards.

SCHEMATIC LABEL -- FOAM SYSTEM

A FoamPro foam system schematic label shall be installed on the pump panel near foam controls. The label shall be a diagram of the FoamPro 2001 foam system layout and shall meet applicable sections of the NFPA standards.

One (1)

Y__N__

FOAM PRO -- MANUAL DUAL TANK SELECTOR VALVE

The FoamPro foam system shall be equipped with a manual dual tank control system, providing dual tank switching via a manual control handle located on the driver's side pump panel. The dual tank valve shall also provide a clean water flush to the foam concentrate pump when selected between the foam tank changeover, to prevent concentrate mixing and possible jelling.

One (1)

Y__N__

INTEGRAL CLASS A FOAM TANK -- 12 GALLON

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

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

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

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

The foam concentrate tank outlet connection shall be designed and located to

prevent aeration of the foam concentrate and shall allow withdrawal of 80 percent of the foam concentrate tank storage capacity under all operating conditions with the vehicle level.

One (1)

Y__N__

FOAM TANK DRAIN -- UNDER TANK

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

One (1)

Y__N__

FOAM TANK GAUGE

The apparatus shall be equipped with one (1) Class1 "Intelli-Tank" foam tank level gauge and shall be installed on the pump panel. The tank level gauge shall indicate the liquid level on an easy to read LED display and show increments of 1/8 of a tank.

Each tank level gauge system shall include:

- A pressure transducer mounted on the outside of the tank in an easily accessible area. Sealed foam tanks will require zero pressure vacuum vents.
- Super bright LED 4-light display with a visual indication at nine accurate levels.

Weather resistant connectors to connect to the digital display, to the pressure transducer and to the apparatus power.

One (1)

Y__N__

INTEGRAL CLASS B FOAM TANK -- 12 GALLON

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

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

The foam tank fill tower shall be equipped with a pressure/vacuum vent that enables the tank to compensate for changes in pressure or vacuum when filling or withdrawing foam concentrate from the tank. The pressure/vacuum vent shall not allow atmospheric air to enter the foam tank except during operation or to

compensate for thermal fluctuations. The vent shall be protected to prevent foam concentrate from escaping or directly contacting the vent at any time. The vent shall be of sufficient size to prevent tank damage during filling or foam withdrawal.

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

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

One (1)

Y__N__

FOAM TANK DRAIN -- UNDER TANK

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

One (1)

Y__N__

FOAM TANK GAUGE

The apparatus shall be equipped with one (1) Class1 "Intelli-Tank" foam tank level gauge and shall be installed on the pump panel. The tank level gauge shall indicate the liquid level on an easy to read LED display and show increments of 1/8 of a tank.

Each tank level gauge system shall include:

- A pressure transducer mounted on the outside of the tank in an easily accessible area. Sealed foam tanks will require zero pressure vacuum vents.
- Super bright LED 4-light display with a visual indication at nine accurate levels.

Weather resistant connectors to connect to the digital display, to the pressure transducer and to the apparatus power.

One (1)

Y__N__

FOAM SYSTEM DESIGN AND PERFORMANCE REQUIREMENTS

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

system shall be in compliance with applicable NFPA standards as it relates to this specified system

Plumbing and Strainer

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

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

Flushing

A foam concentrate system flush line shall be provided as required by the foam system manufacturer. A means shall be provided in the flush line to prevent water backflow into the foam concentrate tank or water tank during the flushing operation.

Foam System Controls

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

Labels and Instructions

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

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

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

Foam System Testing

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

One (1)

Y__N__

TOP MOUNT PUMP ENCLOSURE

The top mount pump enclosure shall be removable and supported from the chassis frame rails. This enclosure will allow independent flexing of the pump enclosure from the body and allow for quick removal. The support structure shall be constructed of 304 stainless steel tubing and angle. All pump intake discharge controls are to be mounted above the fire pump at a top mounted operator's control panel to provide around-the-truck visibility.

Access to the top mounted control panel shall be provided from both sides of the truck with a large full width walkway ahead of the control panel. The walkway and running boards shall be bolted in place and shall be constructed of slip-resistant NFPA compliant surfaces. There shall be four (4) rubber shock mounted lights furnished in the lower forward facing panel to illuminate the walkway.

Access to the plumbing area shall be provided from both sides of the truck with a large full width walkway ahead of the control panel. The fire pump, valves and controls shall be accessible for service and maintenance as required by applicable sections of NFPA standards. In addition, a removable aluminum tread plate panel shall be provided on vertical surface on the front surface of the pump enclosure.

Access handrails shall be 1-1/4" in diameter extruded aluminum with chrome plated end brackets shall be provided and installed on each side, for easy access to the walkway.

Engine gauges and master pump gauges shall be mounted on the gauge and valve control panel. Both the upper gauge panel and lower valve control panel to be full width and completely removable for access to the pump compartment. The valve controls and individual pressure gauges to be located on the lower flat surface of the valve control panel.

All valves and control handles shall have removable escutcheons for easy valve service without removing the entire panel.

The following controls and equipment shall be provided on the pump panel or within the pump enclosure:

- Primer.
- Pump and plumbing area service lights.
- Pressure control device and throttle control.
- Fire pump and engine instruments.
- Pump intakes and discharge controls.
- Master intake and discharge gauges.

- Tank fill control.
- Tank suction control.
- Water tank level gauge.
- Pump panel lights.

Crosslay Installation

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

One (1)

Y__N__

ANGLED PUMP HOUSE

The top control pump house shall be angled on each side at the walkway entry point.

One (1)

Y__N__

FRONT ACCESS PUMP PANEL

A removable front access panel shall be installed on the front of the pump enclosure of the apparatus. The panel shall be constructed of aluminum tread plate and be fastened to the pump enclosure with push button or D-ring type latches.

One (1)

Y__N__

COMPARTMENT UNDER WALKWAY -- LEFT SIDE

A compartment shall be provided under the top mount pump panel walkway, built into the upper step area of the left side of the apparatus. The compartment shall be constructed using 5052 .125" thick, smooth aluminum. An auxiliary aluminum step with light shall be installed on the compartment door. An aluminum diamond plate lift-up door with a stainless steel hinge shall be supplied to enclose the compartment. A gas spring shall be installed to hold the door in the open position. The gas spring shall be installed in an over-center arrangement allowing the gas spring along with a socket & plunger latch to hold the door in the closed position. The door shall be wired to activate the "DO NOT MOVE APPARATUS" light in the cab when open.

One (1)

Y__N__

COMPARTMENT LIGHT

One (1) LED light fixture shall be installed in the upper area of the exterior compartment of the apparatus. The light shall have a clear lens.

One (1)

Y__N__

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

One (1)

Y__N__

COMPARTMENT UNDER WALKWAY -- RIGHT SIDE

A compartment shall be provided under the top mount pump panel walkway, built into the upper step area of the right side of the apparatus. The compartment shall be constructed using 5052 .125" thick, smooth aluminum. An auxiliary aluminum step with light shall be installed on the compartment door. An aluminum diamond plate lift-up door with a stainless steel hinge shall be supplied to enclose the compartment. A gas spring shall be installed to hold the lid in the open position. The gas spring shall be installed in an over-center arrangement allowing the gas spring along with a socket & plunger latch to hold the door in the closed position.

The door shall be wired to activate the "DO NOT MOVE APPARATUS" light in the cab when open.

One (1)

Y__N__

COMPARTMENT LIGHT

One (1) LED light fixture shall be installed in the upper area of the exterior compartment of the apparatus. The light shall have a clear lens.

One (1)

Y__N__

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

One (1)

Y__N__

LEFT SIDE RUNNING BOARD -- TOP MOUNT PANEL

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

The running board shall be constructed of aluminum tread plate, bolted in place with stainless steel fasteners. The step surfaces shall be in compliance with applicable sections of NFPA requirements.

One (1)

Y__N__

RIGHT SIDE RUNNING BOARD -- TOP MOUNT PANEL

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

The running board shall be constructed of aluminum tread plate, bolted in place with stainless steel fasteners. The step surfaces shall be in compliance with applicable sections of NFPA requirements.

One (1)

Y__N__

PUMP ENCLOSURE ACCESS DOOR -- LEFT SIDE UPPER

A pump panel access door shall be provided on the upper left side of the side mount pump enclosure. The access door shall be as high and as wide as possible. The door shall be constructed of 14 gauge #304 brushed stainless steel with push button type latches.

One (1)

Y__N__

PUMP ENCLOSURE ACCESS DOOR -- RIGHT SIDE UPPER

A pump panel access door shall be provided on the upper right side of the side mount pump enclosure. The door shall be constructed of 14 gauge #304 brushed stainless steel with push button type latches.

One (1)

Y__N__

PUMP PANEL -- TOP MOUNT

The top mount pump operator's panel shall be constructed of black thermoplastic coating aluminum material and be fastened to the pump enclosure with 1/4" stainless steel bolts.

The left and right side pump panels shall be constructed of 14 gauge #304 brushed stainless steel and be fastened to the pump enclosure with 1/4" stainless steel bolts.

One (1)

Y__N__

HINGED PUMP PANEL -- LEFT SIDE

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

One (1)

Y__N__

HINGED PUMP PANEL -- RIGHT SIDE

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

One (1)

Y__N__

LABELS

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

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

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

One (1)

Y__N__

COLOR CODED PUMP PANEL LABELING AND NAMEPLATES

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

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

One (1)

Y__N__

PUMP PANEL LIGHTS -- TOP MOUNT

Four (4) Tecniq E10-W0001-1 or equal LED lights with clear lenses shall be installed under an instrument panel light hood along the full width of the top mount pump panel. On each side, the pump enclosure shall have two (2) lights with light hood, controlled by the switch on pump panel.

One (1)

Y__N__

PUMP ENGAGED LIGHT

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

One (1)

Y__N__

MASTER DISCHARGE AND INTAKE GAUGES

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

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

One (1)

Y__N__

TEST TAPS

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

One (1)

Y__N__

WATER TANK GAUGE

The apparatus shall be equipped with one (1) Class1 “Intelli-Tank” water tank level gauge system. The tank level gauge shall indicate the liquid level on an easy to read LED display and show increments of 1/8 of a tank.

Each tank level gauge system shall include:

- A pressure transducer mounted on the outside of the tank in an easily accessible area.
- A super bright LED 4-light displays with a visual indication at nine accurate levels.
- Weather resistant connectors to connect to the digital display, to the pressure transducer and to the apparatus power.

The primary water tank level gauge shall be installed at the pump panel.

One (1)

Y__N__

WATER TANK LEVEL LIGHTS

Three (3) Whelen PS-TANK vertically mounted LED lights shall be installed one each side of the apparatus and one (1) on the rear to allow for monitoring the water tank level from a distance.

They shall be configured as follows:

- GREEN - Position 1 indicates FULL
- BLUE - Position 2 indicates 3/4
- AMBER - Position 3 indicates 1/2
- RED - Position 4 indicates 1/4

Each light shall remain illuminated until the water level drops below full 3/4, 1/2, or 1/4 levels. When the level drops below 1/4 the RED light will flash to indicate an empty tank. The Whelen PS-TANK water tank level lights shall be controlled with a Class 1 Intell-tank remote driver.

One (1)

Y__N__

AIR HORN PUSH-BUTTON

One (1) push button with a label shall be installed on the pump instrument panel to operate the air horns.

One (1)

Y__N__

WATER TANK - 1000 GALLON

The apparatus shall be equipped with a one-thousand (1000) gallon polypropylene water tank. The tank shall be equipped with a four-inch (4") overflow pipe (a six-inch (6") overflow pipe shall be provided if required by dump valve installation).

One (1)

Y__N__

WATER TANK

The apparatus shall be equipped with a rectangular tank.

One (1)

Y__N__

WATER TANK FILL TOWER

A fill tower measuring approximately 10” x 10” square shall be provided on the water tank up to and including 1500 gallons total capacity.

One (1)

Y__N__

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

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

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

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

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

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

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

The tank must be isolated from the cross members through the use of hard rubber strips with a minimum thickness and width dimension of 1/4” x 1” and a hardness of approximately 60 durometer. The rubber must be installed so it will not become dislodged during normal operation of the vehicle. Additionally, the tank

must be supported around the entire bottom outside perimeter and captured both in the front and rear as well as side to side to prevent tank from shifting during vehicle operation.

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

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

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

One (1)

Y__N__

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

One (1)

Y__N__

WATER TANK WARRANTY

The tank manufacturer warrants each tank to be free from manufacturing defects in material and workmanship for the service life of the vehicle (vehicle must be actively used in fire suppression). The tank must be installed in accordance with the manufacturer's installation manual. Every tank is thoroughly inspected and tested for leaks before leaving our facility. Should any problems develop with your booster/foam tank and will not meet performance criteria during the service life of the vehicle, notify the tank manufacturer in writing or call our TOLL FREE SERVICE HOT LINE. Provide the manufacturer with the serial number and a description of the problem. If the tank problem would render the truck out of

service, the tank manufacturer will dispatch a service technician WITHIN 48 HOURS (2 DAYS) to repair the tank. (This time period is for North America only)

We will repair, or at our option, replace the tank with a new tank. The tank manufacturer will cover customary and reasonable costs to remove and install the tank. This warranty will not cover tanks that have been improperly installed, misused or abused, and the serial number must not have, been altered, defaced or removed. The tank manufacturer will not cover any unauthorized third party repairs or alterations. Any of these actions may void the warranty.

THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION OF THE FACE HEREOF. THERE IS NO EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. ADDITIONALLY, THIS WARRANTY IS IN LIEU OF ALL OTHER OBLIGATIONS OR LIABILITIES ON THE PART OF THE TANK MANUFACTURER.

This warranty contains the entire warranty. It is the sole warranty and price agreements or representation, whether oral or written, are either merged herein or expressly cancelled. The tank manufacture neither assumes, nor authorizes any person supposing to act on its behalf, to change, nor assume for it, any warranty or liability concerning its product.

IN NO EVENT WILL THE TANK MANUFACTURER BE LIABLE FOR AN AMOUNT IN EXCESS OF THE PRESENT RETAIL, PURCHASE PRICE PLUS INSTALLATION AND REMOVAL COST OF THE BOOSTER TANK, FOR ANY LOSS OR DAMAGE, WHETHER DIRECT OR INDIRECT, INCIDENTAL, CONSEQUENTIAL, OR OTHERWISE ARISING OUT OF FAILURE OF ITS PRODUCT.

This warranty gives you specific legal rights, and you may have other rights, which vary from state to state. Some states do not allow exclusion or limitation of incidental of incidental or consequential damage, so the above limitation or exclusion may not apply to you. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

One (1)

Y__N__

DIRECT TANK FILL

One (1) 2-1/2" diameter direct tank fill inlet shall be provided, including a 2-1/2" female NH swivel, plug and screen.

The valve shall be located and controlled on the right side rear of body.

One (1)

Y__N__

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

One (1)

Y__N__

The valve shall be equipped with one (1) manually operated, swing-type manual control located adjacent the intake. The valve shall be equipped with a color-coded name plate.

One (1)

Y__N__

The direct tank fill inlet shall include a 2-1/2" female NH swivel, plug and screen.

One (1)

Y__N__

QUICK DUMP - REAR

One (1) Newton 10" quick dump valve shall be internally mounted and positioned behind a door. The location shall be at the center rear of the apparatus.

One (1)

Y__N__

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

One (1)

Y__N__

The Newton dump valve installed on the water tank shall be constructed of stainless steel.

One (1)

Y__N__

One (1) extendable stainless steel chute with approximate inside dimensions of 10" wide x 10" high shall be provided with the apparatus. The chute shall be located at the rear quick dump and be able to manually extend and retract with ease of operation.

One (1)

Y__N__

HOSEBED SINGLE AXLE

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

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

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

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

One (1)

Y__N__

HOSE BED STORAGE CAPACITY

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

Ten (10)

Y__N__

The hose bed shall be designed to have storage capacity for ten (10) 50-ft lengths of 2.5" Double Jacket fire hose.

Ten (10)

Y__N__

The hose bed shall be designed to have storage capacity for ten (10) 100-ft lengths of 5" LDH Single Jacket rubber fire.

Two (2)

Y__N__

ALUMINUM HOSEBED DIVIDER

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

One (1)

Y__N__

POWER OPERATED ALUMINUM HOSEBED COVER

The polished aluminum treadplate hosebed covers extending the full-length and width of the main hosebed shall be equipped with power operated actuators to open the covers. Hosebed covers shall include heavy-duty stops to support them when in the opened position.

One (1)

Y__N__

MAIN HOSEBED DIVIDER

One (1) stationary hosebed divider shall be provided in the main hosebed.

The hosebed divider shall be fabricated of 1/4" smooth aluminum sheet stock, pressed into a "T" shaped aluminum extrusion for added strength along the bottom and front edges of the divider.

Divider shall be bolted in place, front and rear, to allow for ease of removal or relocation.

One (1)

Y__N__

BODY CONSTRUCTION

One (1)

Y__N__

STAINLESS STEEL BODY WARRANTY - TWENTY YEAR

Rosenbauer America, LLC warrants to the original purchaser only, that the all stainless steel body, fabricated by Rosenbauer America, LLC, under normal use and with reasonable maintenance, be structurally sound and will remain free from corrosion perforation for a period of TWENTY (20) years.

This warranty does not apply to the following items that are covered by a separate warranty: paint finish, hardware, moldings, and other accessories attached to this body. In addition, this

warranty does not apply to any part or accessory manufactured by others and attached to this body.

ROSENBAUER AMERICA, LLC MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO THE STAINLESS STEEL BODY AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND HEREBY DISCLAIMED.

Rosenbauer America, LLC will replace without charge, repair or make a fair allowance for any defect in material or workmanship demonstrated to its satisfaction to have existed at the time of delivery or not due to misuse, negligence, or accident. If Rosenbauer America, LLC elects to repair this body, the extent of such repair shall be determined solely by Rosenbauer America, LLC, and shall be performed solely at the Rosenbauer America, LLC factory, or at an approved facility. The expense of any transportation to or from such repair facility shall be borne by the purchaser and is not an item covered under this warranty.

Rosenbauer America, LLC will not be liable for consequential damages and under no circumstances will its liability exceed the price for a defective body. The remedies set forth herein are exclusive and in substitution for all other remedies to which the purchaser would otherwise be entitled.

Rosenbauer America, LLC will be given a reasonable opportunity to investigate all claims. The purchaser must commence any action arising out of, based upon or relating to agreement or the breach hereof, within twelve months from the date the cause of the action occurred.

Note: Surety bond, if required, will cover standard one year warranty period only and will not cover any extended warranties allowed by seller or other component manufacturers.

One (1)

Y__N__

GALVANIZED STEEL SUBFRAME WARRANTY

The manufacturer shall provide a lifetime warranty for the galvanized steel subframe of the apparatus body. The manufacturer shall supply details of their warranty information with their bid submission.

One (1)

Y__N__

BODY CONFIGURATION

The formed stainless steel apparatus body shall be up to 160" long, reference the drawing for actual body length.

One (1)

Y__N__

SINGLE AXLE WHEEL AREA

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

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

One (1)

Y__N__

FENDERETTES

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

One (1)

Y__N__

BODY WIDTH

The overall width of the pumper body shall not exceed 102".

COMPARTMENT DEPTH

The left side compartments on the pumper body shall have the maximum available height and depth dimensions. These dimensions shall remain consistent for the full height and depth of the compartment.

The right side compartments on the pumper body shall have the following dimensions:

Lower portion depth of 26"
Upper portion depth of 13"

One (1)

Y__N__

HOSEBED WIDTH

The width of the pumper body hosebed shall be 48".

One (1)

Y__N__

COMPARTMENT HEIGHT

The left side body compartments shall be 72".

One (1)

Y__N__

COMPARTMENT HEIGHT

The right side body compartments shall be 72" high.

One (1)

Y__N__

HINGED COMPARTMENT FLUSH DOOR CONSTRUCTION

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

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

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

When horizontally hinged lift-up doors are specified, they shall be equipped with heavy-duty gas filled dampeners to hold the doors in the open position. All other hinged doors shall be equipped with spring loaded hold open devices specifically designed for use on vertically hinged doors. Door holders shall be bolted in position. The door ajar switches shall be fully enclosed within structural members and shall not extend into the clear door opening.

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

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

Six (6)

Y__N__

EXTERIOR DOOR HANDLES

All compartment doors shall be furnished with a large solid STAINLESS STEEL spring loaded Maltese Cross D-handle with slam type latches. D-handles shall have the large style "bent" D-ring for ease of grabbing the handle even when wearing mitts or gloves. Chrome plated standard steel D-handles are not acceptable.

Door handles shall be held in place with four stainless steel stud fasteners secured on the interior of the door skin to eliminate bolt heads on the exterior latch ring. To prevent possible interaction between dissimilar metals, the studs shall not break any painted surface. A non-moisture absorbing gasket shall be installed between the door latch and the door skin panel.

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

One (1)

Y__N__

LEFT FRONT COMPARTMENT

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

The compartment shall be equipped with the following:

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

One (1) Y__N__
ADJUSTABLE SHELVING TRACKS

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

One (1) Y__N__
COMPARTMENT LIGHTS

Two (2) vertically mounted LED strip lights shall be installed inside the compartment. The lights shall have a polycarbonate lens to eliminate breakage from impact and eliminate heat buildup and each light shall be approximately 30" in length.

One (1) Y__N__
The compartment light shall be mounted in the door jamb to illuminate the compartment interior.

One (1) Y__N__
The compartment light will be controlled by a magnetic "On-Off" switch located on each compartment door.

One (1) Y__N__
LEFT OVERWHEEL COMPARTMENT

There shall be one (1) compartment above the lower front compartment. The compartment shall be equipped with a single hinged lift up door.

The compartment shall be equipped with the following:

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

One (1) Y__N__
ADJUSTABLE SHELVING TRACKS

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

One (1) Y__N__
COMPARTMENT LIGHT

Two (2) vertically mounted LED strip lights shall be installed inside the compartment. The lights shall have a polycarbonate lens to eliminate breakage from impact and eliminate heat buildup and each light shall be approximately 12" in length.

One (1)

Y__N__

The compartment light shall be mounted in the door jamb to illuminate the compartment interior.

One (1)

Y__N__

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

One (1)

Y__N__

LEFT REAR COMPARTMENT

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

The compartment shall be equipped with the following:

One (1)

Y__N__

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

One (1)

Y__N__

ADJUSTABLE SHELVING TRACKS

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

One (1)

Y__N__

COMPARTMENT LIGHTS

Two (2) vertically mounted LED strip lights shall be installed inside the compartment. The lights shall have a polycarbonate lens to eliminate breakage from impact and eliminate heat buildup and each light shall be approximately 30" in length.

One (1)

Y__N__

The compartment light shall be mounted in the door jamb to illuminate the compartment interior.

One (1)

Y__N__

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

One (1)

Y__N__

RIGHT FRONT COMPARTMENT

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

The compartment shall be equipped with the following:

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

One (1) Y__N__
ADJUSTABLE SHELVING TRACKS

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

One (1) Y__N__
COMPARTMENT LIGHTS

Two (2) vertically mounted LED strip lights shall be installed inside the compartment. The lights shall have a polycarbonate lens to eliminate breakage from impact and eliminate heat buildup and each light shall be approximately 30" in length.

One (1) Y__N__
The compartment light shall be mounted in the door jamb to illuminate the compartment interior.

One (1) Y__N__
The compartment light will be controlled by a magnetic "On-Off" switch located on each compartment door.

One (1) Y__N__
RIGHT OVERWHEEL COMPARTMENT

There shall be one (1) compartment above the lower front compartment. The compartment shall be equipped with a single hinged lift up door.

The compartment shall be equipped with the following:

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

One (1) Y__N__
ADJUSTABLE SHELVING TRACKS

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

One (1) Y__N__

COMPARTMENT LIGHT

Two (2) vertically mounted LED strip lights shall be installed inside the compartment. The lights shall have a polycarbonate lens to eliminate breakage from impact and eliminate heat buildup and each light shall be approximately 12" in length.

One (1) Y__N__
The compartment light shall be mounted in the door jamb to illuminate the compartment interior.

One (1) Y__N__
The compartment light will be controlled by a magnetic "On-Off" switch located on each compartment door.

One (1) Y__N__

RIGHT REAR COMPARTMENT

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

The compartment shall be equipped with the following:

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

One (1) Y__N__
ADJUSTABLE SHELVING TRACKS

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

One (1) Y__N__

COMPARTMENT LIGHTS

Two (2) vertically mounted LED strip lights shall be installed inside the compartment. The lights shall have a polycarbonate lens to eliminate breakage from impact and eliminate heat buildup and each light shall be approximately 30" in length.

One (1) Y__N__
The compartment light shall be mounted in the door jamb to illuminate the compartment interior.

One (1) Y__N__
The compartment light will be controlled by a magnetic "On-Off" switch located on each compartment door.

One (1) Y__N__

REAR BODY CONFIGURATION

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

One (1)

Y__N__

REAR CENTER COMPARTMENT

There shall be one (1) full height compartment located at the rear of the apparatus. The compartment shall be equipped with a full height natural finish roll up door. The compartment shall be open to the rear side compartments, providing a transverse compartment at the rear of the truck.

The compartment shall be equipped with the following:

One (1)

Y__N__

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

One (1)

Y__N__

ADJUSTABLE SHELVING TRACKS

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

One (1)

Y__N__

COMPARTMENT LIGHT

Two (2) vertically mounted LED strip lights shall be installed inside the compartment. The lights shall have a polycarbonate lens to eliminate breakage from impact and eliminate heat buildup and each light shall be approximately 12" in length.

One (1)

Y__N__

The compartment light shall be mounted in the door jamb to illuminate the compartment interior.

One (1)

Y__N__

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

One (1)

Y__N__

REAR STEP - 12" BOLT-ON

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

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

One (1)

Y__N__

SLIDE OUT VERTICAL LADDER MOUNTINGS

The ladder shall slide into the right rear of the apparatus, through the right side of the body. The vertically mounted slide in assembly shall be an integral part of the body and accessible through a hinged door.

One (1)

Y__N__

The hinged door shall be constructed of smooth material, with chevron striping applied to match the rear of the apparatus body.

One (1)

Y__N__

INTERNAL FOLDING ATTIC LADDER MOUNTING

An internal mounting shall be provided for the specified folding attic ladder.

Two (2)

Y__N__

PIKE POLE MOUNTING BRACKET

Two (2) tube shall be provided for pike pole mounting. The tube shall have a 2" interior diameter and shall be mounted inside of the apparatus body.

One (1)

Y__N__

HARD SUCTION MOUNTING

One (1) hard suction hose compartment shall be provided at the top of the body compartments, behind the roll up door, on the left side. The design shall allow the hose to be individually removed from the rear of the apparatus. The hard suction hose compartment shall have a hinged door with push to latch door catches.

One (1)

Y__N__

The hinged door shall be constructed of smooth material, with chevron striping applied to match the rear of the apparatus body.

One (1)

Y__N__

HARD SUCTION MOUNTING

One (1) horizontally mounted hard suction hose storage shall be provided above the right side in ladder compartment.

One (1)

Y__N__

FRONT BODY PROTECTION PANELS

Aluminum tread plate overlays and panels shall be installed on the front of the body compartment from the lower edge to the top of the compartment doors.

One (1)

Y__N__

REAR BODY PROTECTION PANELS

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

One (1)

Y__N__

FOLDING STEPS LEFT SIDE REAR

Four (4) folding steps of die cast high-strength zinc/aluminum alloy, plated with a superior automotive grade chrome finish shall be provided. The greater than 42 sq. in. serrated non-skid step traction area also offers an oversized non-slip grasp hand-hold. A heavy duty stainless steel spring design firmly holds the step in the open or closed positions. A rubber stop prevents any transit noise and rattles in the closed position. Step lighting shall be from a LED light mounted above the step.

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

The steps shall be installed on the rear left side of the body.

One (1)

Y__N__

HANDRAIL REAR STEP

Two (2) extruded aluminum non-slip handrails, approximately 30" in length, shall be provided and vertically mounted on the rear of the apparatus, one (1) on each side of the body.

One (1)

Y__N__

HANDRAIL BELOW HOSEBED

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

One (1)

Y__N__

EXTRUDED ALUMINUM RUB RAILS

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

One (1)

Y__N__

NYLON SPACERS FOR RUB RAILS

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

One (1)

Y__N__

WHEEL WELL PROVISION LOCATION

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

of the rear wheels.

One (1)

Y__N__

One (1) wheel chock storage compartment for two (2) wheel chocks (not supplied) shall be provided and located in the rear wheel well of the apparatus body.

The storage compartment shall be constructed entirely of aluminum. The door assemblies shall be provided with a gasket between door and body side, bolted in-place and removable for repair or replacement. A brushed stainless steel door shall be provided.

One (1)

Y__N__

WHEEL WELL PROVISION LOCATION

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

One (1)

Y__N__

One (1) breathing air cylinder storage compartment for two (2) SCBA cylinders (not supplied) shall be provided and located in the rear wheel well of the apparatus body.

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

The compartment shall be provided with SCBA cylinder scuff protection. A brushed stainless steel door shall be provided.

Two (2)

Y__N__

Two (2) one-inch (1") wide loop of black webbing shall be installed in each SCBA compartment to prevent the bottle from sliding out of the compartment in case of door failure. The loop shall be mounted, centered in the compartment and shall hang within one-inch (1") of the compartment floor to allow the bottle to pass by the strap when the bottle is placed in the compartment. The strap shall loop over the valve.

One (1)

Y__N__

WHEEL WELL PROVISION LOCATION

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

One (1)

Y__N__

One (1) storage compartment for floor dry shall be provided and located in the rear wheel well of the apparatus body. The storage compartment shall be constructed of aluminum, mounted on slides, to allowing the compartment to pull out for filling. The door assembly shall be provided with a gasket between the

door and the body side, bolted in place and removable for repair or replacement. A brushed stainless steel door, with D-ring, shall be provided.

One (1)

Y__N__

WHEEL WELL PROVISION LOCATION

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

One (1)

Y__N__

One (1) breathing air cylinder storage compartment for two (2) SCBA cylinders (not supplied) shall be provided and located in the rear wheel well of the apparatus body.

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

The compartment shall be provided with SCBA cylinder scuff protection. A brushed stainless steel door shall be provided.

Two (2)

Y__N__

Two (2) one-inch (1") wide loop of black webbing shall be installed in each SCBA compartment to prevent the bottle from sliding out of the compartment in case of door failure. The loop shall be mounted, centered in the compartment and shall hang within one-inch (1") of the compartment floor to allow the bottle to pass by the strap when the bottle is placed in the compartment. The strap shall loop over the valve.

Two (2)

Y__N__

UPPER BODY SIDE COMPARTMENT

Two (2) upper body compartments shall be provided top of body with dimensions of approximately 90" and 12" to 20" deep.

The compartment shall have a lift-up door installed, constructed of 1/8" aluminum tread plate. The door shall have a stainless steel hinge and dual gas openers. The door opening shall be flanged upward 1" to prevent water from running into compartments when the door is closed. Two (2) heavy duty socket and plunger latches shall be installed to hold the door along with a heavy duty chrome grab handle to lift the door.

The compartment shall be located on the left side of the body.

One (1)

Y__N__

COMPARTMENT LIGHT

Two (2) horizontally mounted LED strip lights shall be installed inside the compartment. The lights shall have a polycarbonate lens to eliminate breakage

from impact and eliminate heat buildup and each light shall be approximately 12" in length.

One (1)

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

Y__N__

Two (2)

UPPER BODY SIDE COMPARTMENT

Two (2) upper body compartment shall be provided top of body with dimensions of approximately 90" and 12" to 20" deep.

Y__N__

The compartment shall have a lift-up door installed, constructed of 1/8" aluminum tread plate. The door shall have a stainless steel hinge and dual gas openers. The door opening shall be flanged upward 1" to prevent water from running into compartments when the door is closed. Two (2) heavy duty socket and plunger latches shall be installed to hold the door along with a heavy duty chrome grab handle to lift the door.

The compartment shall be located on the right side of the body.

One (1)

COMPARTMENT LIGHT

Two (2) horizontally mounted LED strip lights shall be installed inside the compartment. The lights shall have a polycarbonate lens to eliminate breakage from impact and eliminate heat build up and each light shall be approximately 12" in length.

Y__N__

One (1)

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

Y__N__

One (1)

PORTABLE ELECTRIC WINCH

One (1) 9,000 pound capacity portable winch, Model XD9000i P/N 37441, manufactured by the Warn Winch Company shall be installed. The 12-volt electric winch system shall utilize a portable mounting system with two carrying handles. Power is supplied to the winch through a 12 volt pigtail with a quick connect plug. The winch shall be attached to the body at the specified locations with a steel tube insert secured with a pin.

Y__N__

The winch shall have forward and reverse modes and shall be controlled by a push button device at the end of a removable 12 foot remote lead which connects to the winch through a weatherproof receptacle.

The winch shall be provided with a cable guide, 125 feet of 5/16" diameter galvanized aircraft cable and hook assembly.

One (1)

Y__N__

WINCH RECEIVER - FRONT

The front of the chassis shall be equipped with a receiver assembly for high or low angle rescue or winch applications. The receiver shall be a square steel tube, same size as that of a trailer hitch. The unit shall be attached to the chassis frame assembly.

One (1)

Y__N__

One (1) 12 volt Warn quick disconnect electrical receptacle, shall be installed in the body for the portable winch. The power cables shall be color coded "red" positive and "black" neutral and rated at 125% of winch power requirement (including line drop).

One (1)

Y__N__

WINCH RECEIVER - REAR

The rear of the apparatus body shall be equipped with a receiver assembly for high or low angle rescue or winch applications. The receiver shall be a square steel tube, same size as that of a trailer hitch. The unit shall be attached to the body sub-frame assembly.

One (1)

Y__N__

One (1) 12 volt Warn quick disconnect electrical receptacle, shall be installed in the body for the portable winch. The power cables shall be color coded "red" positive and "black" neutral and rated at 125% of winch power requirement (including line drop).

Two (2)

Y__N__

WINCH RECEIVERS - SIDE BODY

The body shall be equipped with one (1) receiver assembly for high or low angle rescue or winch applications. The receiver shall be a square steel tube, same size as that of a trailer hitch. The unit shall be attached to the body sub-frame assembly or chassis frame rails and shall be located behind the rear wheels.

Two (2)

Y__N__

Two (2) 12 volt Warn quick disconnect electrical receptacle, shall be installed in the body for the portable winch. The power cables shall be color coded "red" positive and "black" neutral and rated at 125% of winch power requirement (including line drop).

One (1)

Y__N__

BODY PAINT PROCESS

All bright metal fittings, if unavailable in stainless steel shall be heavily chrome plated. Iron fittings shall be copper plated prior to chrome plating. If applicable, any and all accessory times shall be removed from the body prior to cleaning and

painting. Any accessory items that are to be painted, shall be painted separately and installed after the body is painted and cured.

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

The body and all parts shall be thoroughly washed with a grease cutting solvent (PPG DX330) prior to any sanding. After the body has been sanded and the weld marks and minor imperfections are filled and sanded, the body shall be washed again with (PPG DX330) to remove any contaminants on the surface.

The first coating to be applied is a pre-treat self etching primer (PPG DX1787) (.5 to 1.0 dry film build) for maximum adhesion to the body material. The next two to four coats (depending on need) shall be an acrylic urethane primer surfacer (PPG K36). The film build shall be 4-6 mils when dry. The primer surfacer coat, after appropriate dry time, shall be sanded with 320-600 grit sandpaper to ensure maximum gloss of the paint. The last step is the application of at least three coats of PPG DelFleet polyurethane two-component color (single stage). The film build being 2-3 mils dry. The single stage polyurethane, when mixed with component (PPG F3270) catalyst shall provide a UV barrier to prevent fading and chalking.

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

One (1)

Y__N__

APPARATUS COLOR

Apparatus single color to be determined upon order.

One (1)

Y__N__

INTERIOR COMPARTMENT FINISH

The interior of the eight (8) compartments shall be unpainted and have a D/A orbital sander finish.

One (1)

Y__N__

TOUCH-UP PAINT

One (1) two (2) ounce bottle of touch-up paint shall be furnished with the completed truck at final delivery.

One (1)

Y__N__

UNDERCOATING

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

One (1)

Y__N__

LETTERING

The dealer shall supply the apparatus lettering.

One (1)

Y__N__

REFLECTIVE STRIPING

The dealer shall supply reflective striping for the apparatus in compliance to applicable NFPA standards.

One (1)

Y__N__

CHEVRON STRIPING

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

One (1)

Y__N__

ADDITIONAL EQUIPMENT

- One (1) trip to the Manufacturer facility for four (4) of the Department members.
- A \$7,500 shelving allowance shall be supplied in the bid price.

One (1)

Y__N__