

# **Grayslake Fire Protection District**

## **Specifications for Fire Apparatus**

### **INTRODUCTION**

Sealed bids for the furnishing of a rescue pumper will be received at the Grayslake Fire Protection District Headquarters Station at 160 Hawley Street, Grayslake, IL 60030 before May 1, 2017 at 10:00 am CST. Bid opening will be May 1, 2017 at 10:00am located at 160 Hawley Street, Grayslake, IL 60030. The Grayslake Fire Protection District (GFPD) reserves the right to reject any and all bids, also to accept the bid which they deem to be in their best interest and will not necessarily be bound to accept the low bid. All bids shall be evaluated on the basis of compliance with these specifications and apparatus performance. The GFPD reserves the right to reject any bids not in compliance with these specifications and the decision of the GFPD shall be conclusive and final.

### **INTENT OF SPECIFICATIONS**

It is the intent of these specifications to cover the furnishing and delivery to the purchaser of a complete rescue pumper fire apparatus equipped as hereinafter specified. With a view of obtaining the best results and the most acceptable apparatus for service in the fire department, these specifications will cover only the general requirements as to the type of construction and tests to which the apparatus must conform, together with certain details as to finish, equipment and appliances with which the successful bidder must conform. Minor details of construction and materials where not otherwise specified are left to the discretion of the contractor, who shall be solely responsible for the design and construction of all features. The National Fire Protection Association (NFPA) Pamphlet 1901 (latest edition) for "Motor Fire Apparatus", unless otherwise specified in this document, shall apply. NFPA 1901 is referred to throughout this specification. In areas where NFPA 1901 is not completely listed, it is to be understood that the NFPA 1901 guidelines shall be followed and considered minimum criterion. Bidders are expected to know the contents of 1901 and should read the specifications completely as some areas of 1901 have been modified to the special needs of the department.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_ (No exceptions)

Bids shall be considered from companies with an established reputation in the field of fire apparatus construction. The cab, chassis, body, pump house and other components shall all be assembled and installed by the bidder in the same location. It shall solely be bidder's responsibility for parts availability and undivided warranty responsibility. If the bidder chooses to bid a cab and chassis that is not of his manufacturer, both the chassis and the body builder shall provide performance and warranty bonds, no exception.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_ (No exceptions)

Apparatus must be built in the United States.

COMPLY Yes \_\_\_\_\_ NO \_\_\_\_\_ (No exceptions)

Each bidder shall furnish satisfactory evidence of his ability to construct the apparatus herein specified and shall state location of the factory where the apparatus shall be built. He shall also show that he is in a position to render prompt service and to furnish replacement parts for said apparatus.

Bidder shall state the name and address of the closest service center to the department \_\_\_\_\_  
\_\_\_\_\_

Each bid shall be accompanied by a set of Contractor's specifications, consisting of a detailed description of the apparatus and equipment proposed, to which the apparatus furnished under contract must conform. These specifications shall indicate methods of construction, gauge thickness of materials, size, type, model and make of all component parts and equipment.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The bidder shall provide a complete drawing of how the manufacturer intends to build the unit, showing front, back, sides and top, views. Wheel base, overall length, height, compartment sizes and components such as sirens, lights, reels, etc shall be shown as a minimum.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

### **QUALITY AND WORKMANSHIP**

The design of the apparatus must embody the latest approved automotive engineering practices. The workmanship must be of the highest quality in its respective field. Special consideration must be given to the following points:

*MAINTENANCE ACCESSIBILITY (fire pump-motor-electrical components-etc.)*

*EASE OF OPERATIONS (hose bed heights-pump panel layout-cab layout)*

*SYMMETRICAL PROPORTIONS (wheel base-overall height)*

### **THE FIRE DEPARTMENT SHALL BE THE SOLE JUDGE OF QUALITY.**

Construction must be rugged and ample safety factors must be provided to carry loads as specified and to meet on and off road requirements and speed conditions as set forth under performance tests and requirements.

Welding shall not be employed in the assembly process to hinder the removal of any component part for service or repair.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

### **PERFORMANCE TESTS AND REQUIREMENTS**

Road test shall be conducted with the full loaded apparatus per NFPA requirements.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

### **FAILURE TO MEET TESTS**

Failure to meet tests will be cause for rejection of the apparatus per NFPA 1901.

### **LIABILITY**

The bidder, if the bid is accepted shall defend any and all suits and assume all liability for the use of any patented process, device or article forming a part of the apparatus, per NFPA 1901.

WARRANTY

The warranty shall apply to each new piece of fire apparatus to be free from defects in material and workmanship under normal use for no less than three (3) years.  
Warranty shall not apply to normal maintenance and adjustments.  
Warranty information for other trade accessories shall be provided.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The following shall be additional minimum warranties:

<i>WATER TANK</i>	<i>LIFETIME</i>
<i>FRAME RAILS</i>	<i>LIFETIME</i>
<i>DIESEL ENGINE</i>	<i>FIVE YEARS</i>
<i>TRANSMISSION</i>	<i>FIVE YEARS</i>
<i>AXLES</i>	<i>THREE YEARS</i>
<i>PAINT &amp; CORROSION</i>	<i>TEN YEARS</i>
<i>PAINT FADING-UNDUE PEELING</i>	<i>TEN YEARS</i>

Bidder shall state if any pro-ratings apply for any of the warranties.

An official of the company, not a sales person shall sign below certifying that the company will provide the warranties stated. This will then become apart of the bidder's proposal. Necessary paperwork shall be submitted at the time of delivery.

OFFICIAL SIGNATURE \_\_\_\_\_

TITLE \_\_\_\_\_

DELIVERY

The apparatus to insure proper break in of all components while still under warranty, shall be delivered under it's own power by a delivery person provided by the manufacturer.

The cost of this delivery shall be the bidder's responsibility, including fuel, tolls,

lodging, meals, etc. A qualified engineer representing the contractor shall remain in the city a sufficient length of time to instruct the Fire Department personnel in the proper operation, care and maintenance of the equipment delivered.

The bidder, if the chassis is not of the bidder's design and manufacture shall be responsible for all transportation, storage and liability insurance on said vehicle or chassis.

COMPLY YES  NO

INFORMATION REQUIRED

The manufacturer must supply at the time of delivery, at least two complete sets of operation, maintenance, parts and electrical manuals covering the completed apparatus as delivered.

COMPLY YES  NO

The parts manuals shall show the unit as built with all part numbers organized in a neat and orderly fashion, to expedite parts identification and ordering.

COMPLY YES  NO

Costs to the purchaser for items other than standard shall be itemized and clearly shown.

COMPLY YES  NO

EXCEPTIONS TO SPECIFICATIONS

The following chassis, pump and body specifications shall be strictly adhered to. Exceptions will be allowed if they are equal to or superior to that specified, provided they are listed and fully explained on a separate page entitled "EXCEPTIONS TO SPECIFICATIONS". Exception list shall refer to specification page, number and paragraph. Proposals taking total exception to the specifications will not be accepted.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Any and all exceptions shall be noted on the specification provided by the fire department and this specification shall be RETURNED WITH THE BID. Each page shall be stamped with the dealer's logo, or the agent's signature.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

INSPECTION TRIPS

Two inspection trips shall be furnished by the bidder, one prior to paint and one when the unit is ready to be delivered. These trips shall include transportation, lodging, meals, etc, for three Fire Department personnel.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

BONDING REQUIREMENTS

10% Percent bid bond  
100% performance bond (if requested)

DISCOUNTS-PREPAYMENTS-PAYMENT TERMS

Any and all discounts, prepayment discounts and payment terms shall be explained completely in the bidder's proposal.

Total price for the apparatus shall be shown F.O.B. the headquarters fire station. Any discounts shall be listed in a separated area of the proposal, no exception.

1.GENERAL REQUIREMENTS

The custom fire apparatus chassis shall be new, heavy duty design and all standard components not specified shall be furnished.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The cab and body shall be constructed of heavy gauge aluminum or extruded

aluminum to include but not limited to, all sheet stock, the cab, the cab floor, body, operator's stand, cab doors and compartments doors.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The cab shall be a four door full tilt enclosed cab, with seating for four firefighters. Minimum usable ceiling height shall be a minimum of 58" measured from the cab floor to the inside head liner. The cab roof shall be raised a minimum of 10" to match the height of the body while providing protection to the deluge gun and other equipment.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The Cab and Chassis shall be designed and manufactured for heavy-duty service, with adequate strength and capacity for all components, for the intended load to be sustained and the type of service required. The chassis shall have a GVW rating to easily carry the anticipated load. The wheel base shall not exceed 228" with top mount pump panel.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Overall height of vehicle is not to exceed 132"

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The fire apparatus manufacturer shall provide a cab integrity certification. The certification shall state that the cab has been tested and certified by an independent third party test facility. The cab shall be subjected to a roof crush force of at least 22,500 lb. This value meets the ECE 29 criteria and is the equivalent to the front axle rating up to a maximum of 10 metric tons.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

## **2.AXLES**

The front axle and suspension shall have a proper rating to comfortably carry the intended load. The turning angle shall be as tight as possible. The bearings shall be

grease or oil lubricated.

MODEL/BRAND BID \_\_\_\_\_ CAPACITY \_\_\_\_\_

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The rear axle and suspension shall also have the proper rating to comfortably carry the intended load.

MODEL/BRAND BID \_\_\_\_\_ CAPACITY \_\_\_\_\_

THE INTENDED LOAD AS STATED ABOVE SHALL BE THE DEPARTMENT REQUIRED FIRE HOSE, EQUIPMENT, FULL WATER TANK, AND PERSONNEL ON BOARD.

The differential shall have a ratio to allow a top speed of not less than 65 M.P.H. at full R.P.M. Ratio provided \_\_\_\_\_

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

A VOGEL Lubrication system shall be provided to lubricate as many points as possible. A drum pump and proper grease shall be provided.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

### **3.BRAKES**

The brake system shall match the intended load to be carried.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

All wheel ANTI-LOCK brakes shall be provided by the axle manufacturer.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The brake system shall meet or exceed current FMVSS-121 requirements. Bidder shall explain the braking system completely in the proposal. Minimum components



or accessories shall be as follows:

*16CFM AIR COMPRESSOR OR LARGER  
THREE AIR RESERVOIRS, MINIMUM 4200 CUBIC IN.  
TWO AIR PRESSURE GAUGES W/LIGHT AND BUZZER  
HEAVY DUTY DURABLE BRAKE LINES  
AIR DRYER W/SPIN OFF CANISTER  
AIR INLET  
SPRING BRAKE SYSTEM W/ INDICATOR LIGHT ON DASH  
FRONT BRAKE LOCK UP CONTROL*

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

#### **4.CAB**

The cab shall be specifically designed for the fire service without modification. The cab shall be the bidder's first line full tilt model cab. Cab shall be engine forward tilting type, with all doors on the side of the cab.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The cab must be have a caged type design with built in roll over protection and be well braced and reinforced to afford maximum protection for passengers. In no case shall rivets, huck bolts or other fasteners take the place of welding especially in the crumple zones and roll over zones.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The cab shall provide frontal airbag protection to the driver and front seat passenger at minimum.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

A hydraulic cab tilt lift system shall be provided, consisting of an electric powered hydraulic pump, dual lift cylinders with safety and remote cab lift controls. The hydraulic pump shall have a manual override for use in the event of an electrical failure. The cab lift controls shall be located at the passenger side front of the cab.

A cab lift system shall have a position sensor located at the front bumper intake. The sensor will act as a switch and only allow the cab to be tilted if the front intake is rotated forward. If the front intake is not rotated forward, the cab will not tilt.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Cab side compartments shall be provided behind the driver's and officer's seat. The compartment shall be accessible from the exterior and interior of the apparatus. The width of the compartment shall be a minimum of 18" wide. The compartment will be used to store PPE and EMS equipment. A horizontal shelf shall divide the compartment with EMS equipment on top and PPE on the bottom. The exterior access will be lap hinged door but interior access can be gained from a roll up door. The manufacturer shall provide the fire department with options on a locking mechanism for the EMS equipment / medications.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

A heavy cross member shall be made part of the frame at the front of the vehicle to which the bumper shall be attached. If the bumper is to be extended it shall be made in a similar fashion and easily removable for repair.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The windshield shall be tinted safety type, two piece curved to allow for maximum vision. Bidder shall state the square in. of visual area. \_\_\_\_\_

Other glass shall be as follows:

Safety glass windows that completely roll down on all doors

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

A minimum of two variable speed electric windshield wipers with intermittent control and wet arm wipers shall be provided. The washer fluid reservoir shall be two quart minimum stored properly for re-filling.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The cab dash shall be linex coated, slanted forward. All instruments shall be mounted in removable panels in the front of the steering column directly visible to the driver. The steering wheel shall be a minimum of 18" in diameter. The wheel shall be tilt and telescoping type with heavy duty self-canceling turn signals.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Use of any type of molded plastic panels for dash board, door panels, or any other high use area, shall not be acceptable due to the rugged service the unit will see and the high cost to replace these panels after they are damaged.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Cab doors shall be constructed of matching material and shall have windows that manually roll down. The cab doors shall be full-height style doors. All inner door panels shall have brushed stainless steel panels.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The main instrument panel shall include the following gauges and indicators:

- AMMETER
- VOLTMETER
- TACHOMETER
- ENGINE HOUR METER
- OIL PRESSURE
- WATER TEMPERATURE
- TRANSMISSION TEMPERATURE
- FUEL
- TWO AIR PRESSURE GAUGES
- JAKE BRAKE CONTROL (THREE POSITION)
- KUSSMAUL AUTO CHARGE 1000 GRAPH

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Warning lights and indicators:

- SPRING BRAKE ON

*HIGH BEAM  
LOW OIL PRESSURE  
HIGH WATER TEMPERATURE  
AIR RESTRICTION  
LOW AIR PRESSURE  
TURN SIGNALS  
COMPARTMENT OPEN (WIRED THRU PARKING BRAKE)  
CHECK ENGINE  
STOP ENGINE  
DECK GUN NOT STOWED*

Indicators shall be easily read from driver's position.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Audible alarm shall be provided for the following:

*LOW SYSTEM VOLTAGE  
LOW OIL PRESSURE  
LOW AIR PRESSURE  
HIGH COOLANT TEMPERATURE  
COMPARTMENT OPEN (WIRED THUR PARKING BRAKE)*

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The entire cab floor shall be aluminum, covered with an acoustical mat with heavy duty wear surface.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Two (2) tow eyes shall be provided under the front bumper and under the rear tail boards. The tow eyes shall be designed and positioned to allow up to a 6000 pound straight horizontal pull in line with the center of the vehicle. Tow eyes shall be painted black.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The driver's seat shall be an air ride (Non-SCBA) full back seat in the color black by 911 Battalion Series.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The front seat passenger seat shall be a “Battalion Officer Seat” air ride SCBA seat in the color black with EZ-LOC center pull release by 911 Battalion Series. The seat shall provide a soft panel lumbar cushion to improve comfort.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Two (2) rear passenger SCBA seats shall be provided in the rear of the cab facing forward in the color black with EZ-LOC center pull release by 911 Battalion Series. The seat shall provide a soft panel lumbar cushion to improve comfort.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Ziamatic EZ-LOC air pack type holders shall be provided in all SCBA seats.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Seat belts shall be provided to meet current NFPA standards and shall be the color Red.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

A four (4) gang 110 Volt double duplex receptacle (4 outlets) shall be provided in the passenger side rear compartment.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Three (3) additional two (2) gang 110 Volt receptacles shall be provided in the cab per fire department instructions / locations. Two (2) Kussmaul dual USB 110 Volt 3.1 amp charging ports shall be installed at dashboard locations specified by the fire department for a total of four (4) USB charging ports. Two (2) 12Volt cigarette lighter charging receptacles shall be installed in the cab at locations specified by the fire department.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

A minimum 50,000 BTU heater and defroster shall be provided in the cab front.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

A minimum 32,000 BTU heater shall be provided for the rear section of the cab.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

An air conditioning system shall be provided with a minimum of 65,000 BTU rating. Bidder shall describe the system completely in the proposal.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

A map book compartment shall be provided on top of the engine enclosure “dog house”, with a minimum of six (6) slots to hold large map books and pre-plan books adequately with securing straps / devices.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

A rubber covered hand rail shall be provided on the cab dash in addition to standard to aid in entry and exit.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Batteries shall be provided recessed in the rear steps of the cab, one each side with flip up covers to allow for proper maintenance without tilting the cab.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Four (4) 900 CCA (Group 31) batteries shall be provided, two each side of the apparatus.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Four (4) rectangular 12 Volt JW Speaker model 8800 LED headlights shall be provided in front quad style aluminum housings on each side of the cab grill.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Two Red/Clear dome lights shall be provided in the cab front and rear section, with independent switches. Two additional Red/Clear lights shall be provided in the rear of the cab in front of the storage compartment. The red portion of these lights shall operate with automatic door switches.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

An LED dome light shall be provided centered in the forward section of the cab.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

A flexible LED map light shall be provided on the officer's side dash area.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

LED step well lights shall be provided for each door with automatic switches.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Corrosion resistant LED ground lights shall be provided, mounted per NFPA requirements.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Two (2) large 16" X 8" Velvac West Coast powered mirrors shall be installed at driver's side and passenger side doors. The mirror shall also include a convex blind spot mirror below the powered mirror.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Front crossover convex mirror attached to officers side front brow of cab.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Polished aluminum front fenders shall be provided with full removable aluminum wheel liners and mud flaps. Plastic liners shall not be acceptable.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The front bumper shall be heavy gauge stainless steel, minimum 10" wide, heavily reinforced with heavy channels and angles. The bumper shall be designed to be easily removable with 3/16" Aluminum tread plate skirt.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The chrome bumper shall be extended a maximum of 24" with one 3/16" aluminum center hose well with drain at the bottom. The center hose well shall carry 50' of 5" rubber hose, a hydrant wrench and a quarter turn hydrant valve. An aluminum treadplate cover shall be provided to cover the hose well with a section of the door notched out on the left side to allow the 5" hose to be pre-connected to the front intake. The door shall have a latch device to secure the door and appropriate support once the door is open. The face of the chrome bumper shall have safety chevron striping as described in section 29.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

### **5.COOLING SYSTEM**

A tube and fin type COPPER radiator with removable upper and lower tanks shall be provided. The top tank shall have a de-aeration device built in. Drain(s) shall be located at the lowest points. Radiator frontal area shall be large enough to comfortably cool the engine specified under full load, pumping or driving. A heavy-duty fiberglass fan-driven by a serpentine belt, shall be provided to draw cool air through the radiator. The cooling system shall follow NFPA guidelines and be approved by the engine manufacturer as built, to be certain the engine is properly cooled. Bidder shall describe the system fully.

Plastic radiator tanks shall not be acceptable.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_



Silicone heater and radiator hoses shall be provided with constant torque type clamps to reduce the possibility of leaks.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

An anode type spin on coolant conditioner cartridge shall be provided per engine manufacturer's instructions.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

**6. DRIVE LINES**

Drive lines and universal joints shall be heavy duty matching the engine and transmission torque values. The shafts shall be properly balanced to allow a vibration free drive line. Splined slip joints shall be provided where necessary.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

**7. ELECTRICAL EQUIPMENT**

A minimum 300 AMP alternator with built-in regulator shall be provided. The bidder shall provide brackets to proper secure and isolate the alternator from undue vibrations. Bidder shall provide information on the alternator bid.

MODEL/BRAND BID \_\_\_\_\_ AMPS \_\_\_\_\_

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

A load management system with low voltage alarm shall be provided to automatically shed electrical load when the electrical system reaches minimum voltage, per NFPA requirements.

MODEL/BRAND BID \_\_\_\_\_

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

A 30Amp Kussmaul receptacle and a Kussmaul Autocharge battery charging

system shall be provided. A bar graph display indicating the state of the charge shall be included. A red plug receptacle shall be installed next to the driver's side door.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The starting system shall be a single system utilizing heavy duty batteries, dual solenoids and "00" cables at a minimum. A heavy duty battery switch shall be provided and it shall be easily accessible to the driver. Separate ignition switch and one starter button shall be located on cab dashboard.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

All wiring shall be circuit breaker protected, numbered, function and color coded. Wiring connectors shall be weather tight, with heat shrink type connectors for trouble free service. All terminal ends shall be coated to prevent corrosion. All possible solenoids, relays, terminal blocks and circuit breakers shall be in an easily accessible water tight location.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Exterior cab lighting shall meet or exceed Federal Department of Transportation, FMVSS, and NFPA requirements in effect at the time of proposal.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

### **8.ENGINE / TRANSMISSION**

The apparatus shall be powered by a Diesel Engine with specifics below. All engines must meet current FEDERAL EMISSION standards.

*Cummins ISL9 with 450 horsepower.*

Customary standard equipment shall be provided along with the items listed below:

*EXHAUST BRAKE / JACOBS BRAKE (HIGH-MEDIUM-LOW CONTROLS)  
THROTTLE SWITCH IN CAB*

*ELECTRIC FUEL PRIMER  
FUEL CHECK VALVE  
FUEL PRO FILTERING SYSTEM  
LUBE OIL COOLER  
OIL FILTERS (SPIN-ON TYPE)*

The transmission shall be a heavy duty automatic transmission matching the engine torque requirements. The shifter shall be an Allison digital shifter that is properly illuminated and located to the right of the driver. Lock up features shall be provided for pumping operations.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Bidders may be asked to provide a SCANN report on the engine/transmission proposed matching the finished apparatus proposed. If required the SCANN reports shall come directly from the Engine/Transmission manufacturer. No in house SCANN reports shall be accepted.

ALL ENGINE/TRANSMISSION INSTALLATIONS SHALL BE CERTIFIED BY THE MANUFACTURER FOR AN "AS BUILT" APPARATUS, NO EXCEPTION.

A letter shall be provided, with the bid, on the manufacturer's letterhead, certifying the motor is an approved installation, no exception.

An EPQ statement, as installed shall be provided, upon delivery, no exception.

### **9.FRAME**

The chassis frame shall be built of heat treated steel, and shall be sturdy enough to comfortably carry the fully loaded apparatus. The strength of the frame shall keep twisting to a minimum under normal, operating conditions.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Bidder shall supply Section Modulus and Resisting Bending Moment information.

RBM'S \_\_\_\_\_ S/M \_\_\_\_\_

The frame shall have a lifetime warranty against cracking.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Will the frame have an inner liner provided?

YES \_\_\_\_\_ NO \_\_\_\_\_

### **10. FUEL SYSTEM**

A stainless steel sixty (60) gallon fuel tank shall be provided mounted to the rear of the chassis. The tank shall be constructed of heavy gauge stainless steel with stainless steel straps. Aluminum or steel tanks shall not be acceptable. The tank shall be provided with a swash partition and it shall be properly vented.

A minimum 2" diameter fill inlet shall be located on the driver's side of body with fuel cap covered with a Stainless steel hinged door marked "Diesel fuel only".

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Fuel sending unit shall be accessible thru removable panel in rear compartment. In no case shall the tank have to be removed to change the sending unit.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

A fuel filtering system shall be provided.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

MFG \_\_\_\_\_

A four (4) gallon minimum Diesel Exhaust Fluid (DEF) tank shall be provided and mounted in the driver's side body rearward of the rear axle. A 0.5" drain plug shall be provided in a low point of the tank for drainage. A fill inlet shall be provided and marked "Diesel Exhaust Fluid Only". The fill inlet shall be located adjacent to the engine fuel inlet behind a common hinged, spring loaded door on the driver's side of the vehicle. The DEF tank shall meet the engine manufacturer's requirement for 10% expansion space and utilize integrated heaters to thaw the

tank in the event of freezing.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

**11. STEERING**

A heavy duty power steering system shall be provided w/assist cylinder.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_  
MFG \_\_\_\_\_

**12. TIRES AND WHEELS**

Front tires shall have highway tread design with a carrying capacity to comfortably carry the fully loaded apparatus.

COMPLY Yes \_\_\_\_\_ NO \_\_\_\_\_

Rear tires shall be all season type with a carrying capacity to comfortably carry the fully loaded apparatus.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Bidder shall state sizes, brands and carrying capacities.

Front \_\_\_\_\_

Rear \_\_\_\_\_

Wheels shall be aluminum Alcoa Dura Bright wheels for front and rear.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

**13. FIRE PUMP & CLASS “A” FOAM SYSTEM**

The fire pump shall be a Class “A” Waterous 1500 GPM single stage centrifugal type, carefully designed in accordance with modern practice. The pump shall

deliver the percentage or rated discharge at pressures indicated below.

*100% of rated capacity @ 165 PSI net pump pressure*

*70% of rated capacity @ 200 PSI net pump pressure*

*50% of rated capacity @ 250 PSI net pump pressure*

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The fire pump when dry shall be capable of taking suction and discharging water with a lift of 10 feet in not more than 45 seconds through 20 feet of suction hose of the appropriate size.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

A Class "A" Foam system shall be provided with a built in cell 20 gallon poly foam tank. A foam proportioning system shall be provided that is an on demand, automatic proportioning, single point, direct injection system suitable for all Class "A" foam concentrates. The system shall automatically proportion foam solution at rates 0.1 percent to 3.0 percent regardless of water pressure or flow. The foam cell shall have a screen in the fill dome and a breather in the lid. The foam tank drain shall be provided and integrated into the foam system. A foam level gauge shall be included with the foam system located at the pump operator's panel with an identification tag. The foam level gauge shall have five (5) colored LED lights indicating the following: Blue for full, Green for 75%, Yellow for 50%, Orange for 25% and Red for empty. The foam system shall be enabled to both speed lays.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The pump casing shall be close grained gray Iron, bronze fitted and horizontally split in two sections for easy removal of the entire impeller assembly, including wear rings, without disturbing setting of the pump in the chassis or pump piping.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

#### **14.PUMP TRANSMISSION**

Housing shall be high tensile strength gray Iron, or cast Aluminum, three piece,

horizontally split. The power transfer to the pump shall be through a heavy duty drive chain or heavy duty Helicut gears.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Drive shafts shall match pump requirements, hardened and ground alloy steel. All shafts shall be ball bearing supported. The pump shift engagement shall be air with manual override on pump panel.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Pump shift indicator lights shall comply with current NFPA requirements.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

### **15.PRESSURE CONTROL**

A Class 1 pressure governor system shall be provided. The system shall have a brass intake relief valve built into the system.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

### **16.PRIMING DEVICE/AUXILIARY COOLING / HEATING SYSTEM**

The priming pump shall be electrically driven positive displacement, rotary vane type with single action, and one hand control on pump panel. The primer shall be oil-less.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

An auxiliary pump heater shall be provided. The pump heater shall be activated by a switch located at the pump operator's panel with an identification tag.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

An auxiliary cooling system shall be provided to permit the use of water from the discharge side of the fire pump, for cooling water circulating thru the engine

cooling system. The heat exchanger shall be of brass construction and shall be a separate unit installed in the engine compartment with valve control on the pump panel.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

### **17. OPERATOR'S CONTROL PANEL**

All pump controls and gauges shall be located on a TOP MOUNTED free standing pump module, independent from the hose body, directly behind the cab. Module shall be fabricated of heavy steel tubing, minimum 52" wide, reinforced to allow heavy storage or mounted devices to be properly supported and protected.

The walkway shall be a minimum of 24" wide with grip strut inserts for maximum slip resistance. Two compartments (one each side) shall be provided under the walkway.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The pump panels on both sides shall be illuminated by a minimum of three (3) water resistant LED lights. The center pump panel LED light will illuminate when the pump is placed in gear.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The individual line pressure gauges for the discharges shall be interlube filled and manufactured by Class 1 Incorporated. All line pressure gauges shall be 2-1/2" minimum diameter with white faces and black lettering with a pressure range of 30-0-400#. Each discharge gauge shall have a color coded identification label at each gauge.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The pump vacuum and pressure master gauges shall be liquid filled and manufactured by Class 1 Incorporated. The gauges shall be a minimum of 4-1/2" in diameter and shall have a white face with black lettering with a pressure range of 30-0-600#. Each master gauge shall have an identification tag at the pump operator's panel.



COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

A throttle over ride switch shall be provided at the pump operator's panel that will enable the throttle to increase RPM in the event there is a problem with the pressure governor or interlock.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The pump operator's panel and side panels shall be brushed stainless steel and shall be easily removable for pump maintenance or valve repair with quick release fasteners.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

An LED water tank level gauge shall be provided at the pump operator's panel with identification label. The gauge shall be color coded starting with Blue for full, Green for 75%, Yellow for 50% , Orange for 25% and Red for empty.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Controls and gauges shall be provided at the pump panel, as a minimum:

*ALL DISCHARGE CONTROLS  
INDIVIDUAL PRESSURE GAUGES FOR ALL DISCHARGES  
ENGINE THROTTLE CONTROLS  
PUMP PRESSURE CONTROL  
PRIMER CONTROL  
TANK FILL AND RE-CIRCULATING LINE (1-1/2")  
TANK TO PUMP CONTROL (3")  
MANUAL PUMP SHIFT CONTROL (side panel)  
ENGINE STATUS GAUGES (per NFPA)  
WATER TANK LEVEL GAUGE  
AIR HORN BUTTON  
MASTER PUMP DRAIN (side panel)  
AUXILLARY PUMP HEATER  
FOAM TANK LEVELGAUGE*

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Dual 1-3/4" speed lay pre-connects shall be provided. The 1-3/4" speed lays shall have 2" piping. The speed lays shall be dual stack type with a capacity of 200 feet of double jacket fire hose each in a triple layer load finish. Speed lay height shall be no more than 68" off the ground for ease of deployment. The speed lay opening on the sides of the pump enclosure must be a minimum of 10" wide by 16" high. The front side of the pump enclosure shall have openings available for loading hose for each speed lay. Positive restraint covering shall be supplied on both sides of speed lays.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

### **18.PUMP PIPING**

All suction and discharge lines of shall be welded heavy duty stainless steel pipe. All braided hose connections shall have stainless steel end fittings. Sweat soldered copper tubing shall not be acceptable. Where vibration or chassis flexing may damage or loosen piping, the pipe shall be equipped with Victaulic or heavy duty rubber couplings. All discharge lines shall be NST, except for the large discharge. The discharges shall be equipped with ¼ turn drain valves that extend below chassis frame. All water carrying gauge lines shall be flexible polypropylene tubing to prevent breakage from vibration.

Required elbows, caps and plugs shall be provided per NFPA requirements. All fittings shall be Chrome plated brass, no exception.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The valves attached to the pump shall be provided by the pump manufacturer the remaining suction and discharge valves shall be AKRON or ELKHART.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

### **19.INLETS**

A Task Force Tips Model #AB1ST-NX manifold inlet 6" NH to 5" Storz shall be provided on the 6" intake on the driver's side and passenger side of the apparatus

of the pump housing. The manifold shall include a 5" Storz cap.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

A 6" NST front suction with 5" stainless steel piping shall be provided, terminating on the passenger side of the front bumper with 5" swivel. A 6" NST long handled front intake cap shall be provided.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The minimum ground clearance for the front suction piping, including piping drains shall be 14". Bidder shall state minimum clearance:

\_\_\_\_\_ "

One recessed 2-1/2" gated inlet, with female swivel shall be provided, one each side of vehicle, with chrome plated plug.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

## **20.DISCHARGE OUTLETS**

Discharges shall be provided as follows:

- (2) 1-3/4" speed lay pre-connect discharges on pump panel with 2" piping
- (2) 2-1/2" driver's side of vehicle
- (1) 2-1/2" passenger side of vehicle
- (1) 2-1/2" at the front of hose bed for 250 feet of 2 1/2" hose pre-connect
- (1) 4" large diameter discharge with 4" Akron valve on passenger side of the vehicle
- (1) 3" deluge discharge with 3" Akron valve.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

All outlets shall be pump panel controlled and shall be lockable in any position.

All 2-1/2" discharge outlets shall have a chrome plated brass 2-1/2" NST 45 degree elbow and cap. The 4" large diameter discharge shall be furnished with one (1) 4" NST to 5" storz elbow adaptor with a 5" storz cap. The 4" valve will be manually activated by a right hand wheel at the pump operator's panel.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

A 3" pre-piped deck gun shall be provided over the fire pump properly secured, with bolted ASA 3" flange. Deck gun shall be telescoping and articulating Akron Brass Apollo Hi-Riser model 3431. The deck gun shall be stowed below the height of the cab and hose bed but operate without obstructions above the cab and hose bed when deployed. The deck gun shall be activated by a right hand wheel at the pump operator's panel.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

### **21. WATER TANK**

The water tank shall be a 750 gallon Poly type tank properly baffled per NFPA requirements, with a lifetime, non pro-rated warranty.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The bidders shall describe in detail the water tank proposed along with mounting procedures, anti-swirl device, vents, fill domes, over-flow piping and warranty information.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

An LED ten inch (10") water tank level gauge shall be provided on the passenger's side and driver's side of the pump housing. The gauge shall be color coded starting with Blue for full, Green for 75%, Yellow for 50% , Orange for 25% and Red for empty. The gauge shall be positioned high enough so that it can be viewed from further away from the apparatus.

### **22.WATER TANK PIPING**

The water tank shall be connected to the intake side of the pump through a minimum 3" full flow valve. A check valve shall be provided in this line to prevent back-filling. A rubber coupling shall be provided in this line to allow the unit to flex without doing damage to piping or the water tank.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

A 1-1/2" combination tank re-fill line and cooling bypass line shall be provided controlled from the pump panel.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

**23.HOSE BODY**

The hose body shall be fabricated from heavy gauge aluminum, to include all sheet stock. Bidders shall describe their construction features completely, including thickness of material. Body shall be a completely welded fixture.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The hose bed shall be able to carry approximately 850 feet of 5" LDH fire hose and 850 feet of 2-1/2" double jacket fire hose.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The hose bed shall have LED lighting installed and which will adequately illuminate the entire hose bed when activated at the cup switch near the tailboard.

Two hose bed dividers shall be provided.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

A 3/16" Aluminum treadplate hose bed cover shall be provided over the top hose bed surface. The hose bed cover shall have a minimum of 2 doors with grab handles for opening the hose bed with gas cylinders supporting the doors. The cover will adequately support firefighters to walk on top of the hose bed when the doors are closed. The underside of the hose bed cover shall be finished with a smooth surface to reduce the chance of hose couplings hanging up on the support members.

A twenty-two (22) ounce black vinyl hose bed cover shall be provided at the rear tailboard hose bed access from the aluminum hose bed cover to the bottom of the hose bed. The top of the vinyl cover shall have a curtain rod hook attachment with

a minimum of 3 hooks. The vinyl cover shall be provided with bungy hold downs and weighted rear flap to protect the fire hose. The vinyl cover will have the vehicle number sewn in red 10" numerals on to the black vinyl cover.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Hatch compartments with maximum depth and width will be provided above the driver's side and passenger side compartments with lift up, top opening hatch doors. The hatch compartments shall extend the full length of the side body compartments. Two (2) lift up bright aluminum doors shall be provided on each side shall be provided on top of the compartment with (2) two chrome grab handles and assist gas cylinders. The compartments shall be water resistant and have a drain inside the compartments to allow water to drain from the compartment to the outside apparatus adequately.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

An eighteen inch (18") wide walkway shall be provided at the rear of the hose bed from hatch compartment to hatch compartment. This walkway shall assist firefighters in obtaining access to the hose bed cover and access to the hose bed or hatch compartments. The walkway shall be illuminated with an LED light at each end of the walkway.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

#### **24.RUNNING BOARDS, REAR STEP AND FENDERS**

Running boards and rear step shall be fabricated of 3/16" NFPA compliant aluminum diamond plate. The running boards shall be approximately 12" deep with 3/16" hose troughs shall be provided on the running boards for 50 feet of 2 1/2" flat loaded hose on the driver's side running board and 100 feet of 1 3/4" flat loaded hose with a nozzle on the passenger side running board. A mesh cover with fasteners shall be provided to keep hose / equipment in the hose trough during travel.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Running boards and rear step shall be spaced away from body and easily removable for repair or replacement. Welded in place steps, rear steps and running boards shall not be acceptable.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Running boards and other walkway areas shall be well lit with LED lighting, shall be activated by the parking brake circuit.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

### **25.HANDRAILS AND STEPS**

Heavy duty folding steps shall be provided in areas, per NFPA requirements. In addition three steps shall be provided on the forward face of the compartment body to allow personnel to climb to the top of the apparatus from the running board.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Handrails shall be polished stainless steel tubing, knurled finish with chrome end stanchions as follows:

- (1) 18" min. at the rear of each cab door*
- (1) 12" min at the pump panel housing on driver's side and passenger side*
- (1) horizontal full width below the hose bed*
- (1) 24" minimum on the passenger side rear next to hose bed*

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

A heavy duty step ladder shall be provided from the rear tailboard to the bottom of the hose bed walkway on the driver's side of the tailboard. The ladder will be permanently attached to the apparatus at tip and heel. Grab handle(s) shall be provided to aid in climbing at the tip of the ladder.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

## **26-ELECTRICAL EQUIPMENT-EMERGENCY WARNING DEVICES**

All electrical equipment shall be installed to conform to modern automotive practices. Wiring shall be protected by automatic reset circuit breakers, installed in weatherproof locations. In addition all of the electrical systems and load managing shall comply with current NFPA requirements at the time of manufacture.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

A compliant electronic back up alarm shall be provided.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

All emergency lighting shall be designed to comply with NFPA "CALLING FOR RIGHT OF WAY" and "BLOCKING RIGHT OF WAY" requirements.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

The master switch panel shall be labeled for each function, properly illuminated and shall be laid out to comply with NFPA requirements and shall also contain the following additional functions:

REAR SCENE and GROUND/PERIMETER LIGHTS

### **AUDIBLE WARNING DEVICES**

1-FEDERAL Q2B electromechanical siren mounted on extended front bumper with a foot switch activator on the driver's seat and one push button activator switch within arm's reach for the officer's seat. Siren brake shall be located in a position equally between the driver and officer.

2-24"GROVER air horns shall be provided in front bumper with one dual pull chain lanyard within reach of the officer and driver.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

### **OPTICAL WARNING DEVICES**



UPPER LEVEL

1- CODE-3 RMX 80” light bar, with dual level LED modules.

Lightbar also to contain 2 opticom strobes that are deactivated when parking brake is activated.

2-Short matching light bars, just behind the main light bar, facing sideways.

1-Pair CODE-3 LED rear rotators, 1-amber, 1- red.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

LOWER LEVEL

12-CODE-3 LED warning lights shall be provided. Two on front inboard of the turn signals in headlight style bezels, one on front bumper each side, one on cab side sheet each side, one on rear fender sheet each side, and two on the lower rear body sheet and two upper rear. All lights shall have chrome flanges.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

ADDITIONAL

A CODE-3 LED traffic advisor light stick shall be provided at the rear of the apparatus, recessed above the rear compartment and below the hose bed. The controls for the rear traffic advisor shall be located inside the cab adjacent to the driver’s seat.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

NON EMERGENCY LIGHTING

12 Volt LED Flood lighting shall be installed in semi recessed housing(s) Whelen model PBA203. One (1) Whelen Pioneer model PFP2 flood light will be located in the rear upper corners of the hatch compartment in a protective housing of the driver’s side and passenger’s side. The painted part of the light assembly is to be painted red.

12 Volt LED flood lighting shall be installed on the front visor centered. One (1)

Whelen Pioneer model PFP2 flood light shall be provided. The housing of this light assembly is to be painted black.

12 Volt LED flood lighting shall be installed on a through the body on a short extension pole in the forward corner of the pump deck box. The Whelen Pioneer model PFP2 flood light shall be provided. The extension pole shall be a maximum of 30". The housing and grab handles shall be black. One light shall be positioned on the driver's side of the pump and one light on the passenger's side of the pump.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Two (2) Unity 6" Decklight LED spot lights model # U-8547 shall be provided on the rear of the apparatus next to the rear upper warning lights one on the passenger side and one on the driver's side. The light shall be activated with the switch on the light unit.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

CODE-3 LED Arrow type turn signals out board of the front LED warning lights, in the headlight enclosures.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

CODE-3 LED arrow type turn signals, separate brake light and back up lights shall be provided on the rear face of the apparatus. These lights shall also be equipped with flanges.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Additional turn signal light shall be provided on the cab side sheet.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

All other clearance lights, running lights, additional lights for length of vehicle, not mentioned shall be high quality LED corrosion resistant lights and they shall comply with NFPA, federal and local regulations if any, no exception.

All swing-out doors shall have an LED light on the door that illuminates and flashes when the door is open. All compartment lights shall be provided in each compartment and shall be LED rope lighting bright enough to illuminate the entire compartment when the doors are opened.

Doors shall be wired into the “DO NOT MOVE APPARATUS” warning system required by NFPA.

COMPLY YES  NO

Two (2) LED pump compartment work lights shall be provided.

COMPLY YES  NO

### **27.EQUIPMENT PROVIDED**

All NFPA required equipment shall be deleted except where noted. Any other loose equipment needs will be bid separately.

Ladders shall be in full compliance with NFPA requirements. Ladders shall be DUO SAFETY brand, mounted in the ladder enclosure of the body and properly labeled.

COMPLY YES  NO

One (1) 28 foot two section, one (1) 14 foot roof, and one (1) 10 foot folding ladder shall be provided. The ladders will be stored inside the body of the apparatus. Through the tank ladder enclosure is preferred to maintain full depth compartments on the apparatus. If that is not available, the ladder enclosure must be on the passenger side of the apparatus to change passenger side upper-half compartments to half-depth.

COMPLY YES  NO

Three (3) Pike Poles shall be provided as a New York Roof Hook for a 6 foot, 8 foot and 10 foot. The pike poles shall be stored within the ladder enclosure.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Two (2) 10 foot lengths of flexible 6" hard suction hose shall be provided and stored with the ladder enclosure.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

One (1) Akron Brass Apollo Hi-Riser model 3431 deluge gun with 5" storz ground base included shall be provided.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

One (1) pair of Ziamatic AC-44 non-folding wheel chocks shall be provided.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

## **28.FINISH PAINT AND PREPARATION**

To insure proper quality and finish of the completed unit, the following items at a minimum must be mounted while the vehicle is being assembled. Prior to prime and paint and only after proper fit, check for operation and tolerances, these must be removed and then prepared and painted as described in finish.

Items to be removed for paint:

*CAB DOORS  
ALL HINGES  
ALL COMPARTMENT DOORS  
ALUMINUM DIAMOND PLATE  
ALUMINUM AT ALL WALKWAY AREAS  
GRAB HANDLES AND RAILS  
DRIP MOLDINGS  
LADDER BRACKETS  
WINDOWS  
CAB TRIM*

Any other items that need to be removed to ensure complete finish paint coverage.

To insure proper paint and finish on the completed unit, exceptions to these requirements are not acceptable.

All paint manufacturer's instructions and procedures shall be closely followed, NO EXCEPTION.

A paint manufacturer's representative shall be on site regularly to ensure the procedures are closely followed and to help correct any problems encountered in the finish process.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

All exposed metal surfaces not polished or plated shall be thoroughly cleaned and prepared. The parts to be finished shall be washed under pressure by a phosphatizing system. All surfaces to be painted shall be rubbed down before finish coats are applied. After all seams have been caulked, a finish coat of the highest quality Polyurethane paint shall be applied to match existing fire department apparatus.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Frame shall be completely finish painted before ANY items are attached, including air tanks, spring hangers, frame liners, engine-pump mounts, fuel tanks etc. NO EXCEPTION.

Bidder shall state brand and type of primer and finish provided. Mix and match brands are not acceptable.

PAINT SYSTEM \_\_\_\_\_

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Cab shall be painted Black over Red. Paint # \_\_\_\_\_

Cab interior shall be finish painted spatter black.

Body shall be painted red. Paint # \_\_\_\_\_

*Frame shall be finish painted black.*

*Pump shall be finish painted job color.*

*Compartments interiors shall have gray spatter paint applied.*

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Bidder shall describe the paint system proposed and clearly state all warranties provided, NO EXCEPTION.

A 6" white reflective tape stripe shall be provided to comply with NFPA requirements.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Lettering shall be provided per fire department instructions. The striping shall be provided with an 8" white reflective stripe with a 1" black reflective stripe on the top and bottom of the white stripe (10" wide total). This striping shall continue horizontally at head light level from the face of the cab to the rear. The rear of the vehicle shall be angle chevron striped in accordance of NFPA with yellow and red reflective tape. The face of the front bumper shall also be chevron striped with yellow and red reflective tape.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Additional corrosion protection for dissimilar metals shall be provided by "ECK" corrosion protection material applied per the manufacturer's recommendations.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

**29. BODY COMPARTMENTS**

The maximum amount of compartment space is desired. Compartments ahead of the rear wheels shall be a minimum of 40" wide and to the rear of the rear wheels, the compartments shall be a minimum of 48" wide. The rear of the body shall be

squared off to maximize compartment space and shall be ventilated properly. Each bidder shall provide exact drawings of the body style they propose with the bid.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Body shall be designed to protect installed electrical equipment such as tail lights, running lights, compartment light switches, and other electrical equipment.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Body compartments shall be fabricated from heavy gauge aluminum, all welded construction.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

All full depth compartments shall be a minimum of 24" deep.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Rear compartment shall be full height and as deep as possible.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Rear compartment door shall be a hinged lap door of smooth aluminum. If the ladder enclosure is positioned through the water tank, a roll up door shall be sufficient.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Side compartment doors shall be hinged lap doors.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

All compartments shall be the "sweep out type" with the floor higher than the compartment flange. All compartments shall have an extruded aluminum rub rail on the bottom edge of the compartment.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Aluminum, bolted on, tread plate walk way over fender side compartments shall be provided, formed out to provide drip protection. The diamond plate shall be an overlay only and shall not be the ceiling of the compartments.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Wheel wells shall have full width circular aluminum liners, mud flaps, and polished aluminum fenders. Plastic inner liners shall not be acceptable.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Four SCBA bottle compartments with latched aluminum doors shall be provided in wheel wells.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Ten (10) full-depth adjustable shelves shall be provided. The shelves shall be pan formed 3/16" smooth aluminum painted with gray spatter paint. If a ladder enclosure will be into the passenger side compartments, four (4) half depth adjustable shelves will be needed and six (6) will be full depth. Shelving channels shall be provided in all compartments. The apparatus manufacturer shall provide the fire department with options for adjustable shelving.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Two (2) slide-out trays of pan formed 3/16" smooth aluminum painted with gray spatter paint shall be provided in the driver's side front compartment, supportive of hose appliances and fittings, with pan built exactly like the shelving, providing the largest storage area possible.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Two (2) slide-out trays of pan formed 3/16" smooth aluminum painted with gray spatter paint shall be provided in the driver's side rear compartment, supportive of rescue tools and equipment, with pan built exactly like the shelving, providing the



largest storage area possible.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

One (1) 500lb roll-out tray of pan formed 3/16" smooth aluminum painted with gray spatter paint shall be provided in both side rear compartments and the rear compartment, three (3) total. The trays shall have a pan built exactly like the shelving, attached to the mechanism, providing the largest storage area possible.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

A PAK TRAK dual-sided swing out tool board with a PAK TRAK stationary mounted board behind the swing out board shall be provided in the compartment above the passenger side rear wheel.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

An aluminum four (4) cube horizontal fire extinguisher rack shall be provided in passenger side front body compartment. Each cube shall be large enough to accommodate a 20 lb. fire extinguishers and wand / nozzle.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

Provide Dri-deck rubber tile type flooring in all compartments and on all shelving and rollouts.

COMPLY YES \_\_\_\_\_ NO \_\_\_\_\_

END SPECIFICATIONS