Notice to Bidders

City of Columbus, Indiana

Notice is hereby given that the City of Columbus, Bartholomew County, Indiana will receive sealed bid packages for **Columbus Fire Department Custom Quint**, at:

City of Columbus Clerk-Treasurer's Office City Hall 123 Washington Street Columbus, Indiana 47201

Sealed bids must be received on or before **April 29, 2014, 10:00 a.m. local time**, with the envelope marked as "Bid on Fire Equipment - Quint". The sealed bids will be publicly opened on and read aloud at that time during the meeting of the Board of Public Works and Safety in the Council Chambers of City Hall. **No late bids will be accepted.**

Attached are the detailed specifications for the apparatus, as well as bid submission requirements. A mandatory pre-bid meeting will be conducted on **Monday April 7**, **2014 at 9:00 a.m.** in Columbus City Hall to assist in bid development. **Bid documents will not be accepted from bidders who do not attend the mandatory pre-bid meeting**.

It is the intent of the City of Columbus that these specifications address the furnishing and delivery to the City the apparatus equipped as hereinafter specified. These specifications describe the requirements of the apparatus with certain details pertaining to finish and equipment. The apparatus must comply with the requirements of National Fire Protection Association (NFPA) 1901, Standard for Automotive Fire Apparatus, unless otherwise specified. Each bid shall be accompanied by a set of contractor's specifications containing a detailed description of the apparatus and equipment proposed including size, type, model, and make of all component parts and equipment. Minor details of construction and materials where not otherwise specified are left to the discretion of the bidder, who shall be solely responsible for the design and construction of all features. A contract shall be awarded to the lowest responsible, responsive, and qualified bidder.

Although not required, the City of Columbus invites bidders to include alternate bids that satisfy the minimum requirements of the specifications provided herein but with a delivery date of no later than thirty (30) days after entering into a contract. Minimum requirements are designated within the attached specifications as having "No Exceptions".

The City of Columbus reserves the right to waive informalities and reserves the right to reject and/or cancel any and all bids, solicitations, and/or offers in whole or in part as specified in the solicitations when it is not in the best interests of the governmental body as determined by the purchasing agency in accordance with IC 5-22-18-2. No bidder may withdraw any bid or proposal within a period of thirty (30) days following the date set for receiving bids or proposals.

All bids shall be properly and completely executed on the proposal forms provided with the specifications including the non-collusion affidavit and Form 96 – *Contractor's Bid for Public Work*, as required by the State Board of Accounts. Form 96 is available on the State of Indiana Government website at www.in.gov (enter "Form 96" in the search bar). All bids must also be accompanied by the standard form of contract used.

A bid bond or certified check in an amount of ten percent (10%) of the amount bid, and made payable to the City of Columbus, Indiana, must be submitted as guaranty that the terms of the bid will be carried out. All bonds must be secured from a bonding company as listed in the current edition of the U.S. Treasury Department, Circular 570, and authorized to transact business in the State of Indiana. The Board of Public Works and Safety reserves the right to reject any and all bids.

All contractors, subcontractors, and bidders for contracts with the City of Columbus shall be required to submit a written Comprehensive Compliance Form (CCF) regarding requirements as to Affirmative Action, Disqualification of Contracts dealing with the government of Iran, a Drug Free Workplace, OSHA and IOSHA Regulation, and Employment Eligibility Verification. A CCF encompassing all of the provisions stated above will be supplied by the City and be required to be submitted with any bid. If awarded the contract, said provisions in the CCF will be incorporated into the final contract. Failure to submit the CCF will constitute a material defect in the bid. In addition a breach of a covenant in the CCF may be considered a material breach of any final contract.

For special accommodations needed by physically challenged individuals planning to attend the pre-bid meeting or the bid opening, please call 812-376-2570 or TDD 812-375-2720 at least forty-eight (48) hours prior to the meeting.

City of Columbus Board of Public Works and Safety

CITY OF COLUMBUS, INDIANA COLUMBUS FIRE DEPARTMENT

Specifications for Custom Quint

City of Columbus, Indiana

123 Washington Street Columbus, Indiana 47201 (812) 376-2500

INTENT OF SPECIFICATIONS FOR CUSTOM QUINT

It is the intent of these specifications to clearly describe the furnishing and delivery to the City of Columbus (the City) the complete apparatus as specified. The primary objective of these specifications is to obtain the most acceptable apparatus for service in the City. These specifications cover specific requirements as to the type of construction and tests the apparatus must conform, together with certain details as to finish, material preferences, equipment, and appliances with which the successful bidder must conform.

The design of the equipment must embody the latest approved design practices. The workmanship must be of the highest quality in its respective field. Special consideration shall be given to service access to areas needing periodic maintenance, ease of operation, and symmetrical proportions. Construction must be heavy duty and ample safety factors must be provided to carry loads as specified. The construction method employed will be in such a manner as to allow ready removal of any component for service or repair.

The apparatus shall conform to the National Fire Protection Association (NFPA) standards, in its most recent edition, unless otherwise specified in this document. The apparatus shall further conform to all Federal Motor Vehicle Safety standards.

Each bidder shall furnish satisfactory evidence of their ability to design, engineer, and construct the apparatus specified and shall state the location of the factory producing the equipment. They shall also substantiate they are in a position to render prompt and proper service and to furnish replacement parts for the equipment.

Each bid must be accompanied by a set of detailed contractor's specifications consisting of a detailed description of the apparatus and equipment proposed. All bid proposal specifications must be in the same sequence as the advertised specification for ease of comparison. These specifications shall include size, location, type, and model of all component parts being furnished. Any bidder who fails to submit detailed construction specifications may be considered non-responsive and shall render their proposal ineligible for award at the discretion of the City.

Bids will be addressed and submitted in accordance with the instructions set forth by the *Notice to Bidders*. The words "Bid on Fire Equipment – Quint" shall be stated on the front of the bid envelope.

It shall be the responsibility of the bidder to assure that their proposal arrives at the location and time indicated. Late proposals, telegrams, facsimiles, or telephone bids will not be considered.

All bidders are required to detail the payment terms for apparatus on the bidder's proposal page. Any required prepayments or progress payments must be explained in detail.

AWARD OF CONTRACT

All bid proposals shall remain open for no less than sixty (60) days and all bid securities submitted with such proposals will be held by the City until all proposals submitted have been reviewed and award of the contract has been made and executed. All bid securities submitted with proposals will then be returned to unsuccessful bidders. Award of the contract shall be subject to the availability and approval of sufficient funds and appropriations as required by Indiana law.

The bidder to whom the award is made shall, within fifteen (15) calendar days after the acceptance of the successful bid, execute a contract with the City for the complete delivery of all materials, equipment, and/or work specified therein and shall provide a Performance Bond for the faithful performance of such contract, with sureties whose financial standing is satisfactory to the City. The Performance Bond may be waived by the City if no payments are due until after delivery of the equipment. A fail to appear charge of \$100.00 per day shall be provided for in the contract to ensure the timely delivery of the apparatus. Bidders shall provide a draft copy of the Bidder's proposed contract with the proposal package.

DELIVERY

Delivery of the apparatus shall be within the time set forth in the successful bid. Minor exceptions may be allowed in the sole discretion of the City. A fail to appear charge of \$100.00 per day shall be deducted from the purchase price for each day the equipment is delayed after the delivery date.

Delivery of the equipment to the City shall remain the Bidder's responsibility. The equipment shall remain the property of the supplier, and any risk of loss shall remain with the supplier, until delivery and acceptance of the apparatus and equipment by the City. A qualified and responsible representative of the contractor shall deliver the apparatus to the City of Columbus and remain available to the City for a sufficient time (minimum of three (3) days) to instruct City personnel on the operation, care, and maintenance of the apparatus delivered and to mount small equipment items that may be ordered with the apparatus.

Before final acceptance of the apparatus, it will be tested in the presence of authorized representatives of the City. Housing of the apparatus will not constitute acceptance until testing is successfully complete to the satisfaction of the City.

EXCEPTIONS

The attached apparatus specifications are considered minimum design and construction standards against which the apparatus will be compared and inspected. It is the intent to receive proposals on equipment/apparatus meeting no less than the stated specifications and standards stated in their entirety; however, equipment meeting the same or similar quality and design standards may be considered at the sole option of the City. Any proposals being submitted, without full compliance with the attached specifications shall so state on the bid proposal page, followed by a detailed "Letter of Exceptions" listing the areas of non-compliance. The reference must include page number, paragraph, and the exact nature of the exception. Failure to follow this format, provided for the convenience of the City, may render the vendor's proposal non-responsive and ineligible for award of contract as determined at the sole discretion of the City.

The City may add the statement "No Exception" to a component or design feature in these specifications. In the interest of fleet conformity or specific performance requirements, the City will not permit exceptions taken to these item(s). The City reserves the right to reject any or all bid proposals and purchase the apparatus/equipment it deems most suitable to its needs. The City does not, in any way, obligate itself to accept the lowest or any bid. Any bidder taking total exception to the complete specification or a major element may result in immediate rejection of the proposal at the sole discretion of the City.

PROPOSAL PRICE

Each bidder's proposal must include all items required in the specifications unless a specific exception is taken. Any bidder who option prices an item included in these specifications that

does not specifically require option pricing may have their proposal rejected without further cause at the sole discretion of the City.

CERTIFICATE OF INSURANCE

Each bidder shall furnish, with their proposal any and all applicable Certificates of Product Liability Insurance which may be taken into consideration by the City in awarding the bid, including but not limited to amounts of insurance provided. This certificate shall be from the prime builder only.

The Certificate must be made out to the City and must be original.

BID BOND

A bid security in the form of a Bid Bond or certified check made payable to the City of Columbus in the amount of ten percent (10%) of the total bid shall be required. This shall serve as a guarantee which may be forfeited and retained by the City if a successful bidder's proposal is accepted by the City and the bidder shall fail to execute and return to the City the required contract and bonds within ten (10) days after delivery. If a Bid Bond is provided, it shall be issued by a bonding company licensed to bond in the State of Indiana. The Bid security shall be retained until successful delivery of the apparatus. The successful bidder shall also be required to submit a Performance Bond for an amount equal to the full purchase of the apparatus, unless no payment is due until after final delivery and acceptance of the apparatus.

FINANCIAL STATEMENT

It is the intention of the City to contract for construction of this equipment with a manufacturer who is financially sound. In order for us to evaluate the financial stability of each manufacturer, a current Financial Statement and Annual Report shall be provided with the proposal. Failure to submit these documents with the proposal may render the bid unresponsive and ineligible for contract award at the sole discretion of City.

REFERENCE LIST

Each bid shall be accompanied by a list of at least twenty-five (25) similarly constructed pieces of equipment presently in service. Each reference must be equipment built of the same construction style as listed in these specifications. The list shall include customer's name, address, date placed in service, and a current contact with telephone number.

SERVICE REQUIREMENTS

Each bidder shall supply, with their proposal, detailed information on the bidder's ability to perform routine and emergency service on the equipment after delivery. Detailed information shall be provided on service facilities, personnel, service vehicles, and the type and nature of repair work the bidder is able to provide. Bidder shall state the number of miles from the City's facility to the nearest fully staffed repair facility operated by the bidder. Repair facilities must be located within a 100-mile radius of the City of Columbus. If repair facilities are not located within the specified 100-mile radius, bidders must guarantee that any and all collection and delivery associated with service activities will be at the expense of the service provider. It is the intent of the City to assure that parts and service are readily available for the equipment specified. Service capabilities will be one of the criteria for award of this contract.

WARRANTY

Each bidder shall provide all applicable warranty information in the bidder's proposal. Warranties provided for in the attached specifications, along with any additional warranties including in the following specifications, are a minimum requirement and should be considered to be separate from any other warranties that may be extended on items or components that are warranted by their respective manufacturers. Bidder's proposals should also include other major component warranties as either specified in latter sections of these specifications, or included as standard with the specified components. These major components are to include, but not be limited to, the paint finish, engine, transmission, axes, etc. A sample copy of the warranty statements for each applicable warranty should be provided in the bidder's proposal. Available warranties for the equipment may be considered by the City in its discretion in the award of the bid.

ADDITIONAL TERMS

The terms and conditions set forth in the attached *Notice to Bidders* are hereby incorporated into these specifications as if set forth in full.

Columbus Fire Department 2014 Quint Specifications

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Chassis

Brake System

The vehicle shall be equipped with air operated brakes and an anti-locking brake system (ABS) meeting the current Federal Motor Vehicle Safety Standard and test requirements of NFPA

Cramp Angle

The chassis shall have a cramp angle of no less than 45 degrees.

NO EXCEPTIONS

Frame

The frame shall be designed to industry standards using C Channel frame design with cross members. To prevent corrosion from road chemicals the frame shall be powder coated or painted.

Front Axle

The front axle shall be manufactured by Meritor with a capacity adequate for the apparatus.

Front Axle Seals

The front axle seals shall be supplied on the axle from the manufacturer. The spindles shall be equipped with transparent cover for oil level inspection.

Front Axle Brakes

The front brakes shall be 17" Disk Brake design; air operated heavy duty brakes for increased stopping power and brake life in severe braking applications

Front Axle Suspension

The front suspension shall be a pin and shackle design. All front spring pins shall be ground heat treated steel with grease fittings for lubrication. Hydraulic shock absorbers are to be installed for a smoother ride. The GVW of the front axle shall comfortably exceed the actual front axle weight.

Front Bumper

The front bumper shall be a one-piece bumper made from polished stainless steel. It shall be mounted directly to the front frame extensions for maximum strength and shall incorporate two (2) stiffening ribs.

Front Tires

The front tires shall be of highway tread design, tubeless radial Goodyear brand tires. These tires shall be mounted on the aluminum wheels / rims. The tire capacity shall be matched to the front axle weight / GVW capacity. A tire pressure monitoring system shall be installed.

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Front Wheels

The wheels / rims shall be of aluminum construction that can be highly polished. They shall be installed on the front axle.

Laser Alignment

The chassis shall have a laser alignment performed at the factory before delivery.

Steering

The power steering system shall be utilized. The engine shall be equipped with a gear driven pump.

Rear Axle

The rear axle shall have a capacity adequate for the apparatus.

Rear Axle Brakes

The rear brakes shall be of Drum Brake design and air operated for increased stopping power and brake life in severe braking applications

Rear Axle Suspension

The rear springs shall have a weight capacity to comfortable exceed the vehicle's rear axle actual weight. Hydraulic shock absorbers are to be installed for a smoother ride.

Rear Differential

The axle shall be serviceable and the initial lube shall be synthetic of a weight meeting the manufacturer's specifications.

Rear Tires

The rear tires shall be Goodyear brand of all season tread design tubeless radial. These tires shall be mounted on the aluminum wheels / rims. The inner dual wheel shall be aluminum with Teflon spacers between the inner and outer wheel. The tire capacity shall be matched to the rear axle weight / GVW capacity. A tire pressure monitoring system shall be installed.

Rear Wheels

The wheels / rims shall be of aluminum construction that can be highly polished. They shall be installed on the rear axle.

Stability Enhancement

The apparatus shall be equipped with a G4 4S4M Electronic Stability Control (ESC) system that combines the functions of Roll Stability Control (RSC) with the added capability of yaw - or rotational – sensing.

RSC focuses on the vehicle's center of gravity and the lateral acceleration limit or rollover threshold. When critical lateral acceleration thresholds are exceeded, RSC intervenes to regulate the vehicle's deceleration functions. The added feature of ESC is to automatically

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intervene to reduce the risk of the vehicle rotating while in a curve or taking evasive action, prevents drift out through selective braking, and controlling and reducing vehicle speed when lateral acceleration limits are about to be exceeded.

Intervention by the system occurs in three forms - engine, retarder and brake control. The ESC system uses several sensors to monitor the vehicle. These include a steering wheel angle sensor, lateral accelerometer, and yaw position sensor. ESC constantly monitors driving conditions and intervenes if critical lateral acceleration is detected or if the vehicle begins to spin due to low friction surfaces. The system provides control of engine and retarder torque as well as automatically controlling individual wheels to counteract both over steer and under steer.

To further improve vehicle drive characteristics, the unit shall be fitted with Automatic Traction Control (ATC). This system shall control drive wheel slip during acceleration from a resting point. An extra solenoid valve shall be added to the ABS system. The system shall control the engine and brakes to improve acceleration slip resistance. The system shall have a dash mounted light that shall come on when ATC is controlling drive wheel slip.

3 year/300,000 miles parts and labor warranties for ESC, RSC, and ATC shall be provided as standard by Meritor Automotive.

NO EXCEPTIONS

Top Speed

NFPA 1901 shall be followed regarding top vehicle speed.

Warranty - Chassis

The frame and cross members shall carry a lifetime warranty to the original purchaser.

Wheel Base

The wheelbase shall not exceed 220" measured from the center of the front hub to the center of the rear hub.

NO EXCEPTIONS

Cab

Cab Dash

The center and officer side dash shall be constructed from smooth aluminum or stainless plate painted or coated to match the cab interior. A designated Laptop locat5ion on the dash for the Officer shall be supplied and a laptop mounting device capable of securely holding a laptop from the vibration and movement anticipated within the cab. In addition the mounting device should be able to slide to the Officer so the he or she can use the laptop while the vehicle is in motion.

The lower kick panels below the dash to be constructed from aluminum or stainless steel plate. The panels shall be removable to allow for servicing components that may be located behind the panels. Plastic, fabric, or vinyl coverings will not be accepted.

NO EXCEPTIONS

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Cab Design (known as a Custom Cab)

The cab shall be constructed from Aluminum or Stainless Steel, capable of seating up to four (4) firefighters and be of a one-piece tilting, contoured front, fully enclosed design. The crew cab shall have four (4) side doors and be cab over engine forward style. The cab shall have an "Open Space" design, free of interior walls or obstructions. Occupant safety is a primary concern and engineering measures shall be incorporated to ensure safety of the occupants verified by testing. Commercial or Engine forward designs will not be accepted.

NO EXCEPTIONS

Cab Dimensions

The cab shall have the following overall dimensional requirements:

Overall Width 96" minimum

Roof Profile - The rear portion of the cab roof shall be raised. The front of roof shall be sloped from the vertical. Windows shall be provided on front, side, and rear. There should be at least 5`7" (57") standing room excluding the ladder tunnel.

NO EXCEPTIONS

Cab Doors

There shall be reflective signs on each cab door in compliance with all NFPA requirements. Four (4) side-opening cab doors shall be provided. Doors shall be constructed of aluminum. The front doors shall open no less than 70 degrees, and the rear doors shall open no less than 75 degrees.

The doors shall be securely fastened to the doorframes with hinges, for long life and corrosion resistance. Mounting hardware shall be treated with corrosion-resistant material prior to installation. For effective sealing, an extruded rubber gasket shall be provided around the entire perimeter of all doors.

Stainless steel paddle-style door latches shall be provided on the interiors of the doors. The latches shall be designed and installed to protect against accidental or inadvertent opening as required by NFPA 1901.

All windows shall have automotive safety tint. Full roll-down windows shall be provided for the front cab doors. Rear doors shall have roll down or sliding windows.

Cab Door Safety

Reflective Material Striping Material and a LED warning light surface mounted and activated when the door is opened shall be supplied on the rear interior cab doors. The LED light similar to a Whelen ION Wide Angle . The reflective material shall meet NFPA 1901.

Cab Handrails

Cab Door Handrails shall be mounded to the cab on the latch side of each door. The handrails shall be designed to allow for a positive grip with a gloved hand. The top of the handrail shall not

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exceed 6'. The handrail shall be designed so that it can also serve to hang turnout gear.





Cab Instruments and Controls

The following is a list of minimum driver operated or monitored gauges and switches:

Speedometer with odometer

Electronic tachometer

Engine Hour Meter

Engine coolant temperature gauge

Engine oil pressure gauge

Transmission fluid temperature gauge

Two air pressure gauges

Voltmeter

Fuel level gauge

Diesel exhaust fluid (DEF) tank level gauge

Master battery switch/ignition switch

Starter switch/engine stop switch

Heater and defroster controls with illumination

Marker light/headlight control switch with dimmer switch on steering column

Self-canceling turn signal control with indicators

Windshield wiper switch with intermittent control and washer control

Master warning light switch

Air filter restriction indicator

Pump shift control with green "pump in gear" and "o.k. to pump" indicator lights

Parking brake controls with red indicator light on dash

Automatic transmission shift console

Electric horn button at center of steering wheel

Cab ajar warning light

Message center

Controls and switches shall be identified as to their function by backlit wording adjacent to each switch, or indirect panel lighting adjacent to the controls. Visual and audible warning lights and buzzers shall be on critical gauges.

Cold Weather Cab Insulation

Cold Weather Cab Insulation shall be installed in the rear wall and the cab ceiling to provide a better sound and cold-heat barrier. The material shall be compliant with FMVSS-302.

Auxiliary Cab Steps

A step below the cab door shall be provided. The step surface shall comply with NFPA and be provided with an aggressive skid-resistant surface. Four Steps shall be provided and shall be located at the driver's front door, officer's front door, driver's rear door, and the officer's rear door. Steps under front cab doors shall not interfere with approach angle.

NO EXCEPTIONS

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Cab Tilt System

The cab shall tilt for servicing. Tilting shall be done by an electrically operated hydraulic system with a manual hand pump back-up system. Cab tilt interlock shall prevent the cab from tilting unless the parking brake is activated. There shall be a cab back-up locking system to ensure accidental lowering of the cab cannot occur.

Cab Crashworthiness Requirement

The apparatus cab shall meet and/or exceed relevant NFPA 1901 load and impact tests required for compliance certification with the following:

Side Impact Dynamic Pre-Load per SAE J2422 (Section 5).

Testing shall meet and/or exceed defined test using 13,000 ft-lbs of force as a requirement. The cab shall be subject to a side impact representing the force seen in a roll-over. The cab shall exhibit minimal to no intrusion into the cab's occupant survival space, doors shall remain closed and cab shall remain attached to frame.

Quasi-static Roof Strength (proof loads) per SAE J2422 (Section 6) / ECE R29, Annex 3, paragraph 5.

Testing shall meet and/or exceed defined test using 22,046 lbs of mass as a requirement. Testing shall be completed using platen(s) distributed uniformly over all bearing members of the cab roof structure. The cab shall exhibit minimal to no intrusion into the cab's occupant survival space and doors shall remain closed.

Frontal Impact per SAE J2420.

Testing shall meet and/or exceed defined test using 32,549 ft-lbs of force as a requirement. The cab shall be subject to a frontal impact as defined by the standard. The cab shall exhibit minimal to no intrusion into the cab's occupant survival space, doors shall remain closed and cab shall remain attached to frame.

The cab shall meet all requirements to the above cab crash worthiness. Documentation shall be provided with the bid.

NO EXCEPTIONS.

Compartment Open "Ajar" Light

A Red Flashing LED Light shall be installed in the cab to alert the driver and Officer of an "open" door. The light circuit shall be wired so that the light circuit is deactivated when the parking brakes of the apparatus are applied. A label shall be applied adjacent to the light 'DOOR OPEN'.

Engine Cover

The engine cover shall be constructed from aluminum or stainless steel plate and coated with a durable material such as "Rhino Lining or Line-X". It shall blend in smoothly with the interior dash and flooring of the cab. The engine cover shall have an engine service access door. Sound and thermal Insulation shall be provided to reduce the transmission noise and heat from the engine. Plastic, fabric, or vinyl coverings will NOT be accepted.

Floor Covering

All cab floors shall be covered with a black rubber floor mat that provides an aggressive slipresistant surface in accordance with current NFPA 1901.

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Grab Handles

A black rubber grip handle shall be provided on the interior of each front door below the door window to ensure proper hand holds while entering and exiting the cab. An additional black rubber grip handle shall be provided on the left and right side windshield "A" post for additional handholds.

HVAC

An overhead air-conditioner / heater system shall be supplied. The unit shall be mounted in the cab interior. The unit shall provide an adequate number of discharges for AC and heat air delivery. Discharges shall provide airflow to the following locations at a minimum; floor of officer and driver, dash of driver and officer, rear occupant area, and to the front windshield providing defogging and defrosting capabilities as necessary.

NO EXCEPTIONS

A three-speed blower switch shall control air speed.

Performance Data: (Unit only, no ducting or louvers)

AC BTU: >50,000 Heat BTU: >60,000

CFM: >1100

Interior Door Locks

Door locks are not required although if door locks are provided they shall all be keyed alike. The doors shall be equipped with appropriate safety interlocks to prevent accidental locking of the doors when they are closed.

Interior Ceiling and Trim

The cab front interior ceiling shall have a vinyl headliner to cover all wiring and tubing used for lights and antenna leads.

Interior Lighting

A LED dome light assembly with one (1) white lens and one (1) red lens shall be installed. The white light activates with appropriate cab door and light assembly mounted push-button switch, the red light activates with light assembly mounted push-button switch only. There shall be two (2) mounted in the front of the cab, one (1) in the driver and one (1) in the officer ceiling. There shall be three (3) mounted in the rear of the cab, one (1) in the center of the cab, one (1) in the driver side and one (1) in the officer side ceiling.

Officer Map Light

The Officer shall have an adjustable / directional overhead map light.

Mirrors

Bus type mirrors will be used with the mount on the "A" post. Mirrors shall be heated and remote controlled by the driver while seated in the driver's seat.

NO EXCEPTIONS







Concave mirror will be on the bottom.

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Multiplex Electrical System

The apparatus shall incorporate a Weldon V-MUX multiplex 12 volt electrical system. The electrical system installed by the apparatus manufacturer shall conform to current SAE standards, the latest FMVSS standards, and the requirements of the applicable NFPA 1901 standards.

The electrical system shall be pre-wired for optional computer modem accessibility to allow service personnel to easily plug in a modem to allow remote diagnostics.

The over-current 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.

Any electrical junction or terminal boxes shall be weather-resistant and located away from water spray conditions.

The V-MUX multiplex electrical system shall include a text display. The display shall have the following features:

Rugged vacuum fluorescent technology

Two twenty character lines

Programmed to show door ajar status and diagnostic information

The display shall be located center of dash.

NO EXCEPTIONS

NFPA Required Testing of Electrical System

The apparatus shall be electrical 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 NFPA 1901. The minimum testing shall be completed by the apparatus manufacturer:

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:
 - a. The nameplate rating of the alternator.
 - b. The alternator rating under the conditions.
 - c. Each specified component load.
 - d. Individual intermittent loads.

Paint - Exterior

The Cab and body shall be painted to meet the paint manufacturer's standards and guidelines. A 10 year paint warranty shall be provided by the apparatus builder. The apparatus shall be painted with a shade to be determined at the pre-construction meeting.

NO EXCEPTIONS

BIDDER COMPLIES

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BID

Power Circuit 12vdc

A 30 amp battery charger with four (4)"hot" circuits shall be provided. Each circuit shall be protected with a 30 amp direct to battery circuit (Always Hot), and a ground circuit with the proper wire size to handle the current shall be provided. These circuits are provided for two-way radio and/or accessory wiring. The radio / accessory power circuit shall terminate in the center of the cab on top of the engine doghouse. Additional wiring for flashlight and radio chargers shall terminate at each (4 total) riding position.

Rear Cab Wall

The Rear Cab Wall shall be constructed from smooth aluminum or stainless steel plate coated to match the cab interior. The panel shall be used to mount tools and accessories and materials used should reflect the intended use. The panels shall be removable to allow for servicing components that may be located behind the panels. Plastic, fabric, or vinyl coverings will not be accepted.

Seating

Front Seating

Drivers Position - The Bostrom seat shall have an air ride suspension, high back with locking fore and aft adjustments. A 3 point seat belt harness shall be supplied for the seat.

Officers Position - The Bostrom seat shall be capable of stowing a MSA 45 minute SCBA within the back of the seat. A Bostrom SCBA Secure-All locking bracket which is NFPA 1901 complainant shall be installed. A 3 point seat belt harness shall be supplied for the seat. The SCBA release shall be located between the legs and recessed into the seat.



NO EXCEPTIONS

Rear Seating

Two (2) Rear facing SCBA seats shall be installed over the wheel wells. The Bostrom seat shall be capable of stowing a MSA 45 minute SCBA within the back of the seat. A Bostrom SCBA Secure-All locking bracket which is NFPA 1901 complainant shall be installed. A 3 point seat belt harness shall be supplied for the seat. The SCBA release shall be located between the legs and recessed into the seat.



NO EXCEPTIONS

Ice Rescue Storage Cabinet

A single storage compartment with a roll up ROM door With LED Strip Lighting and an adjustable shelf shall be installed in the center and the rear of the cab. Cab dimensions shall be 36"x36"x18". This cabinet will be used for the storage of Ice Rescue Equipment.

NO EXCEPTIONS

BIDDER COMPLIES

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Rugged Duty Interior

The interior of the cab shall be designed for rugged or severe duty for long life and durability. This means the interior shall be aluminum or stainless steel materials uncoated or coated with a poly type coating. The interior covered surfaces shall be door panels, engine cover, rear wall, and dash.

NO EXCEPTIONS

Steering Wheel and Column

The vehicle shall use a multi-position tilt and telescopic padded steering column with an integral high beam / turn signal control switch and center horn button. The column shall have self canceling design for the turn signal switch. A 4-way warning "Hazard" light switch shall be mounted on the column or switched on the dash.

Sun Visors

Two (2) bus style sun visors shall be supplied, one on each side of the windshield.

Windshield Wipers

Multi speed with intermittent control electric wipers shall be installed. These wipers blades shall provide adequate windshield coverage and have wet arm electric pump washers. A 64 oz. minimum windshield washer reservoir shall be furnished.

Wiring

All harnessing, wiring and connectors shall be manufactured to the following standards/quidelines.

NO EXCEPTIONS.

- NFPA 1901-Standard for Automotive Fire Apparatus
- SAE J1127 and J1127
- IPC/WHMA-A-620 Requirements and Acceptance for Cable and Wire Harness Assemblies. (Class 3 High Performance Electronic Products)

All wiring shall be copper or copper alloys of a gauge rated to carry 125% of the maximum current for which the circuit is protected. Insulated wire and cable 8 gauge and smaller shall be SXL, GXL, or TXL per SAE J1128. Conductors 6 gauge and larger shall be SXL or SGT per SAE J1127.

All wiring shall be colored coded and imprinted with the circuits function. The imprinted characters shall repeat at a distance not greater than 3".

A coil of wire shall be provided behind electrical appliances to allow them to be pulled away from mounting area for inspection and service work.

Radio antenna shall be installed by the manufacturer on the cab and the coax shall terminate with extra coax in the center of the dash reachable by the driver and officer.

Vehicle Data Recorder / Seat Belt Warning System

Apparatus shall be equipped with a Vehicle Data Recorder / Seat Belt Warning System that will function per NFPA 1901. The VDR data shall be downloadable by USB cable to a computer using an operating system using supplied reporting software.

BIDDER COMPLIES

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BID

Video Recorder

A video recording system shall be installed to record the operation of the apparatus. The camera shall be mounted to the windshield in a position so as not to obstruct the driver's visibility. The intended use shall be to record vehicle operation, and the initial view upon arriving at the emergency scene. The system shall continuously record for a period of approximately 24 hours and then write over video recorded not downloaded. The Video recorder shall be downloadable by USB cable to a computer using an operating system using supplied software.

Wiring Connectors

All connectors shall be Deutsch series unless a different series of connector is needed to mate to a supplier's component. All connectors will be environmentally sealed.

NO EXCEPTIONS.

The connectors and terminals shall be assembled per the connector/terminal manufacturer's specification. Heat shrink style shall be utilized unless used within the confines of the cab. No butt connectors will be accepted

NO EXCEPTIONS.

Wiring Protection

The overall covering of the conductors shall be loom or braid. Wiring loom shall be flame retardant black nylon.

Power Train

Air Dryer

A chassis Air Dryer (Webco brand) to remove moisture from the system shall be installed.

Air Inlet

A 1/4" brass quick-release inlet with a male connector shall be provided. The inlet will allow a shoreline to be connected to the vehicle with an Auto-eject type fitting.

Air Lines

Air Line shall be color coded and protected from damage utilizing brass fittings.

Air System

An air brake system meeting the requirements of the FMVSS-121 shall be provided. The system shall consist of three (3) reservoirs with an air capacity exceeding 5000 cubic inches. The air system shall consist of the following components:

2 air pressure gauges and a warning light and buzzer shall be installed on the driver's instrument panel. A spring actuated parking brake built into the rear axle brakes with a manual control and warning light the in cab. These shall automatically apply in case of air system failure. A mechanical means of releasing the brake shall be provided in the event of total loss of air pressure.

The brake system shall be equipped with a Bendix-Westinghouse SR-1 valve to provide automatic braking in the event there is low air pressure in the rear axle air supply reservoir.

BIDDER COMPLIES

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BID

Manual quick drains with a pull cable reachable without going under the body shall be provided.

Alternator

A Leece-Neville Alternator rated at no less than 300 amps shall be installed meeting NFPA standards.

Auxiliary Engine Cooler

An engine cooler used to lower engine water temperature during prolonged pumping operations and controlled at the pump operator's panel shall be provided.

Batteries

A Battery system consisting of multiple batteries mounted to the chassis. Remote positive and negative jumper studs shall be located in an easy to access location on the chassis. Batteries shall have a warranty of twelve (12) months that shall commence upon the date of delivery of the apparatus.

Battery Charger

An on-board, 40 amp or greater, battery charger to maintain the batteries shall be installed. The unit shall connect to the power source through a super auto-eject which will open the circuit before physically disconnecting from the power source. The "Auto-Eject" shall be located on the "A" post/front corner of the cab in front of the hinge of the driver's door between 32" and 60" off the floor.

Coolant

The coolant system shall contain a coolant and water mixture. A coolant recovery system shall be installed on the chassis.

Coolant Hoses

The entire chassis cooling system shall silicon hoses. All clamps to be stainless steel worm drive type clamps. All hoses shall be routed, secured, and loomed to prevent damage from abrasion.

Cummins After-treatment System

The chassis shall be equipped with a Cummins exhaust after treatment system in compliance with EPA 2010.

DEF Tank

A diesel exhaust fluid (DEF) tank with a five (5) gallon capacity shall be provided. A sender shall be provided in the DEF tank connected to a level gauge on the cab dash. The tank shall be located under the cab with a fill spout not located with the diesel fill to avoid confusion with the diesel fill, easy access, and service.

NO EXCEPTIONS

Engine

Cummins Diesel Engine "L" series with 450hp torque 1250 lb-ft @ 1400 shall be used. **NO EXCEPTIONS**

BIDDER COMPLIES

Page NO on BID

Fast Idle System

A fast idle system shall be provided and controlled by the cab-mounted switch. The system shall increase engine idle speed to a preset RPM for increased alternator output.

Fuel Tank

A fuel tank of no less than 50 gallons shall be provided. A fuel water separator shall be installed with a visual and audible alarm in the event water in the fuel is detected. The fuel tank sending unit is to be mounted to the fuel tank so that easy replacement is possible without removing body panels. The fuel fill shall be located behind the rear tire on the officer's side.

Fuel/Water Separator

The Cummins engine shall be equipped with an integrated fuel / water separator with a self venting bottom drain valve.

Heater Line Shut Off Valves

The heater circuit shall have manually operated quarter turn shut off valves installed on both the supply and return lines to allow a complete shut off of coolant flow to the cab heaters in hot seasons of the year.

Jacobs Engine Brake

The apparatus shall utilize a Jacobs Engine Brake to assist with braking. An Hi/Lo/Off switch with selection of braking options shall be at the control of the driver.

NO EXCEPTIONS

Radiator

The radiator shall have no less than 1400 total square inches of cooling surface. A sight glass for inspection shall be provided for quick fluid assessment. Silicone hoses shall be used. A transmission cooler shall be used to ensure adequate cooling of the transmission. The cooling system must be approved by Cummins.

Transmission

Allison 5 speed Transmission (Emergency Vehicle Service) EVS3000 shall be provided with a push button lighted shift module. The shift module shall have means to enter a diagnostic mode and display diagnostic data including oil life monitor, filter life monitor, transmission health monitor and fluid level. Transmission Temperature gauge with warning light and buzzer shall be installed on the dash. Synthetic transmission fluid shall be used.

The transmission shall be equipped with a lock-up control circuit that shall automatically shift the transmission into 4th gear lock-up when the pump is shifted into gear.

Gear ratios shall be chosen to support low end torque for faster acceleration due to mainly in town driving.

Transmission Cooler

The cooling system shall include a liquid-to-liquid transmission cooler capable of cooling the heat generated from the transmission. When a transmission retarder is selected, the cooler shall have an increased capacity to handle the additional heat load.

BIDDER COMPLIES

Page NO on BID

Pump

Air Horn Activation

An Air Horn Activation button shall be located on the pump panel.

Discharges

One (1) Booster Hose Reel, Two (2) 1 ½ pre-connect Speedlays, One 1 ½" front bumper discharge

NO EXCEPTIONS,

Two (2) 2 ½" discharges on the driver's side pump panel, One (1) 2 ½" discharge on the officer's side pump panel, One (1) 3" LDH discharge on the officer's side pump panel,

NO EXCEPTIONS

One 2 ½" pre-connect located as a Speedlays with a reloading tray

NO EXCEPTIONS

The booster reel with 200' of 1" booster hose capacity and supplied with 200' of 1" booster hose shall be located above the pump module.

NO EXCEPTIONS

The 1 ½" Speedlay preconnects shall be located in the pump module with reloading trays



NO EXCEPTIONS

Discharge Valves

All 1 $\frac{1}{2}$ " discharge valves shall be manually operated $\frac{1}{4}$ turn valves and operated from the pump panel. All 2 $\frac{1}{2}$ " discharge valves shall be manually operated $\frac{1}{4}$ turn and operated from the pump panel. The 3" discharge valve shall be $\frac{1}{4}$ turn slow closing and operated from the pump panel. All discharges shall be provided with caps except the 3" discharge. The 3" side discharge shall have a 5" stortz adapter with a 2 $\frac{1}{2}$ " male threaded cap.

Foam

A Foam Pro 2001 Foam Concentrate injection system shall be installed and it shall be capable of pumping class A foam. The system shall be designed to provide foam to all the 1 ½' discharges and the 1" booster hose reel discharge. Foam control shall be mounted on the pump panel.



NO EXCEPTIONS

Foam Supply or Refill

A foam supply or refill system shall be installed to refill the foam tank from the ground or supply foam to the system when the onboard foam tank capacity has been exhausted.

BIDDER COMPLIES

Page NO on BID

Foam Tank

A water tank integrated poly foam tank with class A foam capacity of no less than 10 Gallons. A foam drain valve shall be located in the bottom of the tank with a hose extending below the lowest point of the apparatus.

Foam Tank Level Lights

Foam Tank level LED lights shall be installed on the pump panel.

The lights shall activate when the pump is engaged.

NO EXCEPTIONS

Intake Valves

An Internal (Also known as a Master Intake Valve) Six (6") intake valve shall be on each side of the pump panel. These valves shall be electrically (12 Volt) operated from the pump panel and shall have a manual override in the event of electrical system failure. A ¾" air bleeder for each intake shall be provided. A ¼" drain shall also be provided for each intake. All intakes shall be provided with a 5" Stortz adapter with 30 degree turn down and cap with 2 ½" female threads







with plug.

A two and a half (2 ½") manually operated ¼" turn intake valve shall be installed on each side of the apparatus with a cap and push/lever drain provided.

NO EXCEPTIONS

Speedlays

All speedlays and hose beds shall have covers and/or restraining straps to prevent unintentional deployment of the hose.

Trays shall be provided for easier reloading. Roller guides shall be provided to ensure smooth deployment of the speedlays.

Priming Pump

The priming pump shall be 12 volt oil-less positive displacement pump.

Pump Compartment Work Lights

Two (2) pump Module work lights will be located in the pump module on each side of the module to illuminate the interior of the pump module.

Pump Discharge Drains

Lever drain valves shall be used to relieve pressure from discharges.

Pump Gauges and Controls

All discharges and intakes shall be controlled from the pump operator's panel. Each discharge shall have a corresponding gauge except the "tank to pump" and "tank fill" vales. All intakes shall be mated to the Master Intake gauge to monitor the pressure of vacuum.

Gauges shall be fluid filled to dampen vibration and pulsing.

BIDDER COMPLIES

Page NO on BID

Pump Hour Meter

A pump hour meter shall be located on the pump panel.

Pump Manufacturer

The full body pump shall be manufactured by Darley. The pump body and related parts shall be constructed of cast iron. The pump body intakes and discharges are to be a single piece with the pump. The pump shall have a capacity at draft of 1500 GPM, NFPA 1901 rated performance and have a mechanical seal.

NO EXCEPTIONS

Pump Module Handrails

A handrail shall be located on each side of the pump module to allow access to the pump walkway.

Pump Panel

A side mount pump panel shall be used. A pull out stepping surface shall be provided to get the pump operator off of the ground during aerial operations. The stepping surface shall have an aggressive surface to prevent slips and falls.

NO EXCEPTIONS

Pump Panel DEF Monitoring

Diesel Exhaust Fluid (DEF) tank level gauge shall be installed on the pump panel so the operator can monitor the DEF tank level. A visual and audible alarm shall activate when 1 gallon of DEF fluid remains.

Pump Panel Identification Tags

Color coded identifications tags shall be located directly adjacent to each pump operator controlled valve on the pump panel.

Pump Panel Lighting

The pump operator's panel shall be lit with LED lighting. All pump panel lights shall illuminate when the parking brake is activated. A shield shall be provided to prevent glare.

Pump Pressure Governor

<u>Fire Research Corporation "PUMP BOSS" shall be used as the pressure governor, engine throttle and engine monitoring (coolant temperature, transmission temperature, voltage, and oil and temperature, transmission temperature, transmission temperature, voltage, and oil and temperature transmission temperature.</u>

pressure) while pumping. situation presents itself.

An audible warning alert shall activate when an undesirable

NO EXCEPTIONS

Pump Service Access Panels

Access panels shall be removable without the use of tools. An access door shall be located on each side of the pump module and the door shall be large enough to allow an average sized man access to provide maintenance on the pump, valves, and other components.

BIDDER COMPLIES

Page NO on BID

Pump Warranty

A 5 year or greater pump warranty (parts and labor) shall be provided.

Pump Water Temperature

Pump water Temperature shall be monitored with a gauge mounted on the pump panel and the operator will be alerted to an emergency condition with an audible and visual warning.

Tank Level Lights

<u>Tank level LED lights shall be installed on the pump panel.</u> Additional tank level lights shall be installed on each side of the cab as high as possible for easy recognition of water levels. The

lights shall activate when the pump is engaged.

NO EXCEPTIONS

Tank Fill

The tank refill valve shall be a 1 ½" line with a quarter turn valve operated from the pump panel.

Tank to Pump

The tank to pump shall be capable of flowing no less than the NFPA specifications of 500 gpm and the control shall be located on the pump panel.

Water Tank

The Poly water tank shall be no less than 500 gallon capacity and no more than 750 gallon capacity. The tank shall be baffled and contain anti-swirl features. A sump with a drain plug shall be provided. A tank fill tower with a lid and a combination vent pressure relief device and inside the tower there shall be plumbing to drain overflow water behind the rear axle.

NO EXCEPTIONS

Body

Compartments

Lower half of all side compartments shall be approximately 24" deep and the upper half of the compartments shall be no less than 12" deep. 24" top and bottom compartment depth will be acceptable.

NO EXCEPTIONS

All doors (except the Pump Module Compartments) shall be ROM Roll-up doors and painted to match the body color.

All doors with have a switch to activate the compartment lighting when the door is opened and the compartment lighting shall consist of strip lighting inside the tracks of each door. All compartments shall be lighted.

NO EXCEPTIONS

Four (4) pull out trays with a 500lb capacity shall be provided on the floor of each lower compartment with an integrated latch to prevent unintentional deployment.

NO EXCEPTIONS

BIDDER COMPLIES

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Left / Drivers side

Three (3) compartments total with one (1) in front of the rear tire (L1), one (1) over the rear tire (L2), and one (1) behind the rear tire (L3). All compartments shall be full height.

Right / Officers side

Three (3) compartments total with one (1) in front of the rear tire (R1), and one (1) behind the rear tire (R2).

R1 and L1

Compartment width shall be no less than 24 inches.

EMS Compartment R1

12 volt and 120 volt electrical power shall be provided to this compartment to charge batteries and maintain an acceptable temperature for medications. This Compartment shall be insulated and heated to maintain a temperature of no less than 65 degrees Fahrenheit when the outside temperature is 0 degrees Fahrenheit.

NO EXCEPTIONS

DOT Apparatus Lights

The apparatus shall have all DOT required lights. All lights shall be LED where applicable. The LEDs shall include but not be limited to: Turn signals, cab marker lights, body marker lights, brake lights, and backup lights. Headlights are not required to be LED.

Equipment - NFPA Required

Pumper equipment as required by NFPA shall be provided and is to include but not be limited to:

- One 35' Three Section Extension Ladder
- One 24' Two Section Extension Ladder
- One 16' Roof Ladder w/ Hooks
- One 14' Roof Ladder w/ Hooks
- One 10' Attic Ladder
- One Little Giant Ladder Model 22
- Two 10' Pike Pole Mounted w/ Ladders
- Two 8' Pike Pole Mounted w/ Ladders
- Three 6' Pike Pole Mounted w/ Ladders
- Two 4' Drywall Hook w/ "D" handle w/ Mounting Bracket
- One 6' Trash Hook w/ "D" Handle
- One 6lb Pick Head Axe
- One 6lb Flat Head Axe
- One 30" Halligan Tool
- One Iron Strap for Matting the Flat Head Axe and Halligan Tool
- One TNT 30" 6.5lb Denver Tool
- One Set of Folding Zico Wheel Chocks w/ Mounting Bracket
- One Elkhart 1" Nozzle (SM3FG)
- Five Elkhart 1 ½" Nozzle (3-STSM-30FGATLP)
- Four Elkhart 2 ½" Nozzle (STDSM-30FGATLP)
- Two Elkhart Foam Expansion Short Tube Model 247S
- One 80 B:C Dry Chemical Fire Extinguisher w/ Mounting Bracket
- One 25lb CO2 Fire Extinguisher w/ Mounting Bracket
- One 2 ½ Gallon H2O Pressurized Fire Extinguisher w/ Can Strap and Mounting
- Two Combination Hydrant Wrench w/ 2 Spanner Wrenches w/ Mounting Bracket
- Two LHD Spanner Wrenches w/ Mounting Bracket
- Two 2 Spanner Wrenches w/ Mounting Bracket
- One Tempest 21" PPV Electric Fan

BIDDER COMPLIES

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- One Rubber Mallet w/ PAC Mounting Bracket
- Four Canvas Salvage Covers Minimum 12' x 14'
- Ten 28" Fluorescent Orange Traffic Cones W/ Two Reflective Stripes
- One Aluminum Scoop Shovel w/ PAC Mounting Bracket
- One 24" Heavy Duty Push Broom w/ PAC Mounting Bracket
- One 30" Bolt Cutters w/ PAC Mounting Bracket
- One Hebert Hose Clamp for up to 6" hose w/ Mounting Bracket
- One Leather Hose Jacket for 2 1/2" Hose
- Five PAC Tool Jumbo Lock Mounting Brackets
- One Elkhart Tri-Lock Nozzle Holders Model 653 for 2 ½" Nozzles
- Two Stihl 12" gasoline powered rotary Saws w/ warthog, metal, and concrete blades
- Two Stihl Rescue Chain Saws for rescue with a 16" Bar
- Two 110 Volt Electric Powered PPV Fan GFI Compatible >10,000 cfm

This equipment list shall be provided by the bidder without exception. Substitutions will be consideration upon written request.

NO EXCEPTIONS

Fender Skirts

Stainless Steel Fender Skirts shall be provided in the area of the Front and rear wheels to dress out the tires.

Front Tow Eyes

A set of Front tow eyes shall be mounted to allow towing (Not Lifting). The tow eyes shall be secured to the frame by welding or bolting but shall be secure enough so they do not separate from the frame during towing.

Hose Bed

5" hose capacity shall be no less than 800' and stored in a hose bed covered with aluminum tread plate on the right (Officer) side of the apparatus open to the rear. Hose troughs or chutes to deploy the 5" hose shall not be allowed. 2 ½" hose capacity shall be no less than 300'. If pre-connected 2 1/2" hose shall NOT be considered in the 300' requirement. A hose bed divider shall be provided.

NO EXCEPTIONS

Ladders

The ladders carried shall include a 35' extension Ladder, 24' extension ladder, 14' roof ladder (on Aerial), 16' roof ladder, Model 17 Little Giant ladder, and a 10' folding attic ladder. The ladders that are carried in the body shall be fully enclosed to prevent road dust from contaminating the ladders. The 14' roof ladder shall be carried mounted on the aerial base section.

NO EXCEPTIONS

Mud Flaps

There shall be mud flaps on the front and rear tires to protect the body from damage.

BIDDER COMPLIES

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Rear Tow Eyes

A set of Rear tow eyes shall be mounted below the body to allow towing (Not Lifting). The tow eyes shall be secured to the frame by welding or bolting but shall be secure enough so they do not separate from the frame during towing. The tow eyes shall be protected from corrosion by paint.

Reflective Striping

All body reflective striping per NFPA 1901 and previous Columbus Fire Department graphics.

Running Boards and Tail Board

All Pump Panel walkway, running boards and tail board shall be constructed of Aluminum or Stainless Steel and shall comply with NFPA concerning slippage. The stepping surface shall have an aggressive surface to prevent slips and falls.

NO EXCEPTIONS

Hose Troughs

Two (2) Hose troughs (one each side) shall be supplied and shall be located in the running boards on each side of the pump house. The hose troughs shall sit in the running board and not securely fastened. This will allow for easy removal for cleaning and in the event it is struck from the bottom it will rise up in the running board and not be damaged.

SCBA Bottle and Fire Extinguisher Storage

The body well area shall be used to store extra SCBA bottles and Fire Extinguishers. No less than 4 SCBA bottles shall be stored. Considerations for a Dry Chemical, CO2, and Pressurized water extinguisher storage shall be made.

Underbody Lighting

Underbody lighting shall be LED and shall comply with NFPA 1901 requirements.

Wheel Chocks

A set (pair) of Zico folding wheel chocks with brackets shall be provided

Lighting

Generator

Onan 10kw Hydraulic Generator shall be provided. Two (2) cord reels with 200' of wire rated for 20 amps, electric rewind, and two (2) multi-connector boxes (3-20 amp twist-lock and 1-120 volt

residential type receptacles).

A monitoring display shall be located on the pump panel so the pump operator can monitor

voltage and amperage output of the generator.

BIDDER COMPLIES

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BID

Scene Lights

Two (2) 20,000 Lumen 12 volt LED scene lights mounted high on the cab between the front and rear door with one light on each side.

Two (2) 20,000 Lumen 120 volt LED scene lights mounted high on the body over rear tire with one light on each side.

One (1) 20,000 Lumen 12 volt LED scene brow light mounted in the center front of the cab above the windshield.

One (1) 20,000 Lumen 12 volt LED scene light mounted high and at the rear of the body.

One (1) 10,000 Lumen 120 volt LED scene light mounted at the tip of the aerial ladder.

Two (2) 20,000 Lumen 120 volt LED scene lights mounted to poles that will extend above the level of the top rail of the ladder with one on each side of the apparatus.

Two (2) 20,000 lumen 120 volt LED tripod Lights Akron brand with mounting brackets. All 12 volt lights shall be switched above the driver and officer for immediate scene usage. Four (4) - 120 volt, 20 amp twist lock receptacles shall be located on the body at the purchaser's preference.

Emergency Warning Systems

Air Horns and Switch

Air Horns shall be switched to the ignition switch so is prevented accidental operation when the ignition is off. Dual Air Horns shall be provided and mounted in the front bumper.

A heavy duty pushbutton switch shall be installed on the instrument panel on the officer's side of the engine cover to operate the Air Horn. The Drivers horn ring shall also activate the air horn.

NO EXCEPTIONS

Electronic Siren and Speakers

A 200 watt siren shall be provided and controls mounted within reach of the Driver and the Officer. The speakers shall be matched to the siren for maximum output. The speaker(s) shall be mounted and recessed in the bumper.

NO EXCEPTIONS

Federal Q2B Siren and Switch

A Federal Q2B shall be mounted and recessed in the bumper. A heavy duty metal clamshell foot switch shall be installed on the floor of the driver and officer's side to operate the Q2B. Two siren brake switches shall be located on the dash with one for the Officer and one for the Driver.

NO EXCEPTIONS

Alternating Headlights

The headlights shall have an alternating headlight feature. When the high beam is activated or the parking brake is activated the flashing headlights shall be deactivated.

NO EXCEPTIONS

BIDDER COMPLIES

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Warning Lights

All warning shall be of LED design for long life and low maintenance.

NO EXCEPTIONS

Zone A Upper

Two (2) Whelen FNMINI Ultra Freedom Super-LED 24" light bars mounted straight one (1) each side of the ladder. Two (2) Whelen FNMINI Ultra Freedom Super-LED 24" light bars mounted perpendicular on the roof of the cab, one (1) each side of the ladder.



Zone A Lower

Two (2) M6D M6 Series Linear Super-LED, red

Zone B Upper

Met with Zone A Upper Lighting

Zone B Lower

Two (2) M6D M6 Series Linear Super-LED, red, most forward and rearward locations.

Two (2) M6K M6 Series Linear Super-LED, red, above each tire on body.

Zone C Upper



Two (2) B6MMRRP Super-LED Beacons, lower Super LED flasher, Red

Zone C Lower

Two (2) M6K M6 Series Linear Super-LED, red

Zone D Upper

Met with Zone C Upper Lighting

Zone D Lower

Two (2) M6D M6 Series Linear Super-LED, red, most forward and rearward locations.

Two (2) M6K M6 Series Linear Super-LED, red, above each tire on body.

Directional Arrow

One (1) Amber LED directional arrow shall be installed as high as possible and centered in the rear surface of the body.

NO EXCEPTIONS

Warning Switching

All warning lights shall be located on one (1) master emergency lights switch. Individual warning lights maybe switched but they shall be activated one location, the master warning switch. The alternating headlights shall be activated by the master warning switch. The directional arrow shall also be activated by the master emergency switch activating it in the flash mode. The master warning shall also energize the audible warning devices. A sequential switching system shall be employed to ensure that a sudden draw on the electrical system does not occur. All white warning lights shall be deactivated when the parking brake is activated per NFPA.

NO EXCEPTIONS

BIDDER COMPLIES

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Aerial Ladder

Specifications

The ladder shall be constructed from Steel or Aluminum and have a tip load no less than 750lbs rating at all elevations and extensions. Ladder length (operational height) shall be no less than 75'. Ladder controls shall be located on the turntable on the left side of the apparatus and on the pump panel. Ladder controls shall consist of three (3) levers (Elevation, Extension/Retraction, and Rotation.

NO EXCEPTIONS

Rungs

The ladder rungs shall be illuminated with Blue LED climbing strip lights. The stepping surface of the ladder rungs shall have a non-slip surface permanently affixed to the rungs. Abrasive tape or any other adhesive materials shall NOT be accepted.

NO EXCEPTIONS

Master Stream

An elevated master stream shall be provided with an Elkhart nozzle capable of flowing no less than 1000 gpm. The waterway shall be pre-piped and engineered to ensure a flow of 1000gpm at a engine pump pressure not more than 200psi. The range of operation of the nozzle shall be no less than a horizontal 180 degree sweep (Right to left) and vertical 135 degree sweep (up and down). Nozzle control shall be at the ladder tip and at the ladder controls (Pedestal and Pump Panel).

NO EXCEPTIONS

Electrical Power to Ladder Tip

A 120 volt 20,000 Lumen LED scene shall be provided and switched from the tip and the ground controls (Pedestal or Pump Panel).

Ladder Controls (Ramping / Soft Touch)

The ladder controls may be Hydraulic or Electric over Hydraulic but the ladder shall operate smoothly and activation or release of the rotation control at full rpm and full extension will not result in whipping of the ladder. This must be internally controlled and not operator dependent to prevent whipping of the ladder. This feature may be known as Ramping or Soft Touch.

NO EXCEPTIONS

Fold Down Steps

Fold down standing plates on the top fly for a nozzle operator shall be provided.

NO EXCEPTIONS

Trolley Operations (Water Tower vs Rescue Mode)

The master stream shall have a trolley with a positive locking mechanism to allow the nozzle to be locked in the top-fly position (Water Tower) or on the mid-fly position (Rescue).

NO EXCEPTIONS

BIDDER COMPLIES

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Outriggers / Stabilizers

Outriggers shall be configured to support the ladder and the weight capacities / rating. The outrigger design shall be of such that "Pinning" of the outriggers is not required.

NO EXCEPTIONS

Turntable Access

An access ladder from the ground to the turntable shall be provided and the ladder stepping surfaces shall be illuminated.

NO EXCEPTIONS

Ladder Mounted Equipment

A stokes rescue basket, pike pole, roof ladder, and axe shall be mounted on the aerial ladder. A lifting eye for technical rescue operations shall have a rated capacity of no less than 500lbs. Signage on each side of the Ladder mounted to the base section shall read "Columbus Fire &

Rescue" COLUMBUS FIRE & RESCUE in no less than 6" reflective lettering.

NO EXCEPTIONS

Warranty

The aerial manufacturer shall provide a minimum 20 year warranty. The Aerial Device structural integrity warranty on the aerial device begins on the date of delivery to the purchaser.

NO EXCEPTIONS

Additional Equipment

Thermal Imaging Camera

A Scott Thermal Imaging Camera Model 320 (part. no. 200744-01 Eagle Imager 320 TIC, DEG F TEMP Readout no transmitter) and Scott Thermal Imaging Camera Truck Charger Model 320 TSC (part no. 9200235-01 El320 TCS 12 volt dc) shall be provided and installed in a location at the purchaser's preference.

NO EXCEPTIONS

Personal Flashlight

Four (4) Streamlight Survivor LED Rechargeable Flashlights and fast charge DC chargers installed in a location at the purchaser's preference.

NO EXCEPTIONS

E-Spot® FireBox® Vehicle Mount System

Four (4) MULTI C4® LED LANTERN :: VEHICLE MOUNT SYSTEM with chargers and installed in a location at the purchasers preference.

NO EXCEPTIONS

Portable Radio Charger

Four (4) Motorola 800 MHz Radio DC chargers for the Motorola APX6000 800 MHz Radio installed in a location at the purchaser's preference.

NO EXCEPTIONS

BIDDER COMPLIES

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Hose

1500' of 5" LDH hose, Firequip Hydroflow, Yellow in color with Stortz couplings in 100' lengths shall be provided.

2000' of 2 ½" double jacketed hose, Niedner RXL-800, White in color, with 2 1/2" NST threaded couplings shall be provided.

1000' of 1 3/4" double jacketed hose, Niedner RXL-800, (500' Yellow and 500' Red) color, 50' sections, with 1 1/2" NST threaded couplings shall be provided.

NO EXCEPTIONS

Headsets

Four (4) David Clark noise canceling headsets with connections mounted from the ceiling at each interior seat with a hook installed in ceiling to hang each headset.

NO EXCEPTIONS

General

Bidders shall state in their bids the total vehicle weight when fully loaded.

NFPA Compliance

The apparatus shall be compliant with NFPA 1901, 2009 edition.

NO EXCEPTIONS

Manuals

Two (2) complete manuals with "AS BUILT DRAWNINGS" shall be provided.

Training

Training for all firefighting shift personnel shall be provided by the manufacture. The 3 shifts will require 3 separate days of training including but not limited to vehicle orientation, pump orientation, pumping and flowing water, generator operation, external scene lighting, ladder operations with limitations and capacities, and apparatus operations.

Training for the Fire Department Mechanic will be provided to ensure full understanding and shall include but not limited to regular periodic maintenance schedules and requirements, any proprietary systems installed, pump maintenance, generator maintenance, multiplex operational and diagnostic software, and any other system or procedure necessary for efficient operation of the apparatus.

Warranties - Parts and Labor - NO EXCEPTIONS

Bumper to Bumper – Three (3) year and all work and labor provided by the bidder.

Cummins Engine - No Less Than - 5 years

Transmission – No Less Than - 5 years

Water Tank - No Less Than - Lifetime

Frame and Cross members - No Less Than - Lifetime

Cab Structure - No Less Than - 10 years

Body Structure - No Less Than - 10 years

Paint - No Less Than - 10 years not pro-rated

Pump - No Less Than - 5 years or more

Stainless Steel Plumbing - No Less Than - 10 years

Aerial Structural Integrity - No Less than - 20 years

Stability Enhancement – 3 year/300,000 miles parts and labor warranties for ESC, RSC, and

ATC shall be provided as standard by Meritor Automotive.

BIDDER COMPLIES

Page NO on BID

Inspection Trips - NO EXCEPTIONS

A Pre-Construction conference for four (4) City of Columbus Fire Department personnel at the facility(ies) for each major apparatus component (Cab, Body, Chassis, Aerial Device, and Pump Module) will be included in the cost of the apparatus. Transportation, lodging, and meals will be the responsibility of the bidder.

A Mid-Construction Conference for four (4) City of Columbus Fire Department personnel at the facility(ies) will be included in the cost of the apparatus. The timing of this trip will be decided at a later date but this conference will serve to ensure compliance with the City of Columbus requirements. Transportation, lodging, and meals will be the responsibility of the bidder.

A Final Inspection Conference for four (4) City of Columbus Fire Department personnel at the factory will be included in the cost of the apparatus. Transportation, lodging, and meals will be the responsibility of the bidder.

Proposal Sequence - NO EXCEPTIONS

In order for The Columbus Fire Department to fairly compare and evaluate all proposals shall be submitted in the same sequence order as this bid specification.

NO EXCEPTIONS