

# City of Burlington Fire Department

## Request for Proposal

The City of Burlington, Vermont, Fire Department is soliciting proposals to furnish a new and unused custom **pumper truck**.

Proposals should be submitted to:

Burlington Fire Department  
Attn: Chief Engineer Michael O'Neil  
136 South Winooski Avenue  
Burlington, VT. 05401

Proposals should be submitted according to the following specifications and requirements no later than **4:00PM Friday August 6, 2010**.

Selected vendor will need to comply with the City of Burlington's contract requirements.

Complete specifications and requirements for the pumper are attached.

Questions concerning these specifications may be directed to:

Deputy Chief Bruce Bourgeois  
136 South Winooski Avenue  
Burlington, VT 05401  
802 316 1284

---

Any unauthorized contact between any prospective proposer and any official or employee of Burlington on or after the date the RFP is issued, or at any time during this procurement process may, at the unilateral determination of the City, be grounds for disqualification of the proposer's proposal.

**The City of Burlington, Vermont reserves the right to consider proposals for 150 days after receipt thereof, and further reserves the right to reject any or all proposals; waive any defects, informalities and minor irregularities; to accept exceptions to these specifications; and make such awards or act otherwise as it alone may deem in its best interest.**

---

# TABLE OF CONTENTS

Request For Proposal.....	i
TABLE OF CONTENTS .....	ii
Intent Of Specifications .....	1
Bid Bond.....	1
Proposal Price.....	2
Certificate Of Insurance .....	2
Single Source Manufacturer .....	2
Delivery .....	2
Exceptions .....	2
Financial Statement .....	3
ISO Compliance .....	3
Reference List.....	4
Service Requirements.....	4
NFPA Compliance.....	4
BUMPERS .....	4
Bumper .....	4
Bumper Extension .....	4
Bumper Gravel Shield .....	4
BUMPER TRAYS.....	5
Bumper Tray - Center.....	5
Lid, Bumper Hose Tray .....	5
FRAME ASSEMBLY .....	5
Frame Rail Construction.....	5
Rear Underbody Support Frame.....	6
AXLE OPTIONS.....	6
Front Axle.....	6
Shock Absorbers Front .....	7
Front Axle Oil Seals .....	7
Rear Axle.....	7
Automatic Traction Control .....	7
SUSPENSIONS.....	8
Rear Suspension .....	8
WHEEL OPTIONS .....	8
Front Wheel Trim Package.....	8
Rear Wheel Trim Package Single Axle.....	8
Front Wheels .....	8
Rear Wheels.....	8
TIRE OPTIONS .....	9
Front Tires .....	9
Rear Tires .....	9
Tire Pressure Monitor.....	9
BRAKE SYSTEMS.....	9
Front Brakes .....	9
Rear Brakes .....	9
Brake System.....	10
Park Brake Release.....	11
AIR SYSTEM OPTIONS.....	11
Air Dryer .....	11

Air Inlet .....	11
Air Lines .....	11
Air Horns .....	11
ENGINES & TRANSMISSIONS .....	12
Engine/Transmission Package .....	12
Engine .....	12
Transmission .....	12
Transmission Selector .....	13
Transmission Fluid .....	14
Vehicle Speed .....	14
SECONDARY BRAKING .....	14
Jacobs Engine Brake .....	14
EXHAUST OPTIONS .....	14
Exhaust End Modification .....	14
COOLING PACKAGE .....	14
Engine Cooling Package .....	15
FUEL SYSTEMS .....	15
Fuel System .....	15
Fuel Line .....	16
ALTERNATOR .....	16
400 AMP Alternator .....	16
BATTERIES .....	17
Battery System .....	17
CHASSIS OPTIONS .....	17
Engine Fan Clutch .....	17
Drivelines .....	18
Front Tow Eyes .....	18
Rear Tow Eyes .....	18
CAB MODEL .....	18
Short Cab .....	18
Cab Exterior .....	19
Cab Mounts And Cab Tilt System .....	20
Cab Interior .....	20
Cab Doors .....	22
Cab Instruments And Controls .....	23
Fast Idle System .....	23
Electrical System .....	23
Cab Crashworthiness Requirement .....	24
ISO Compliance .....	25
CAB ROOF TYPE .....	25
Cab Roof .....	25
CAB DOOR OPTIONS .....	26
Cab Front Door Windows .....	26
Cab Door Rear Windows .....	26
Cab Door Locks .....	26
Cab Door Locks .....	26
Cab Door Front Windows .....	26
Cab Door Panels .....	26
Cab Door Exterior Latches .....	26
Cab Door Handle Scuff Plates .....	26
Cab Step Area Lighting .....	26

Cab Door Reflective Material .....	27
MIRRORS .....	27
Cab Mirrors .....	27
Cab Mirrors .....	27
Mirrors, Heated.....	27
MISC EXTERIOR CAB OPTIONS .....	27
Cab Canopy Window .....	27
Front Mud Flaps .....	27
Handrails.....	27
Rear Cab Wall Construction.....	28
HVAC.....	28
Air Conditioning.....	28
Air Conditioning Condensor(S) .....	29
SEATS.....	29
Seat, Driver.....	29
Seat, Officer.....	29
Seat, Rear Facing.....	30
Seat, Rear Facing.....	30
Seat Cover Material.....	30
Seat Fabric Color.....	31
Seating Capacity Tag.....	31
Bostrom Secureall Locking System .....	31
MEDICAL CABINETS .....	31
Medical Cabinet.....	31
Medical Storage Cabinet Finish .....	32
MISC INTERIOR CAB OPTIONS.....	32
Cab Interior Color.....	32
Sunvisors .....	32
Air Horn Lanyard .....	32
Cab Dash - Severe Duty .....	32
Heat, Supplemental.....	32
Engine Cover - Severe Duty.....	33
CAB ELECTRICAL OPTIONS.....	33
Cab Dome Lights.....	33
Radio.....	33
Switch Horn Button Two Position .....	33
Battery Charger Receptacle.....	33
English Dominant Gauge Cluster.....	34
Headlights.....	34
Cab Turn Signals .....	34
Battery Charger .....	34
Antenna Bases .....	34
Battery Charger Location .....	35
BODY COMPT LEFT SIDE.....	35
Driver Side Assembly.....	35
Driver Side Compartments.....	35
BODY COMPT RIGHT SIDE.....	36
Officer Side Assembly .....	36
Officer Side Compartments.....	36
BODY COMPT REAR .....	37
Rear Body Platework.....	37

Rear Body Compartment.....	37
Rear Body Compartment.....	37
Tailboard.....	37
Tailboard Step.....	37
Rear Access Handrails.....	38
DOORS.....	38
Roll Up Compartment Door.....	38
Drip Pan.....	38
SHELVES.....	39
Permanent Shelves.....	39
Adjustable Shelf.....	39
Adjustable Tracks.....	39
TRAYS / TOOLBOARDS.....	39
Floor Mounted Roll-Out Tray.....	39
Adjustable Roll-Out Tray.....	40
COVERS.....	40
Hosebed Cover.....	40
Crosslay Cover.....	40
Hose Storage Area Cover.....	40
PUMP MODULE.....	41
Pump Module Width.....	41
Pump Module.....	41
Crosslay Double Preconnect Storage.....	41
Dunage Pan.....	41
Pump Module Running Boards.....	41
PUMP PANELS.....	42
Side Mount Pump Panels.....	42
Hinged Gauge Panel.....	42
Pump Access Door.....	42
MISC PUMP PANEL OPTIONS.....	42
Pump Panel Tags.....	42
PUMP MODULE OPTIONS.....	42
Pump Compartment Heaters.....	42
Pump Module Crosslay Divider Notch.....	42
Module Logos.....	42
Air Horn Switch.....	43
WATER TANK.....	43
780 Gallon Water Tank.....	43
TANK PLUMBING.....	44
Tank Fill 2 Akron Valve.....	44
Tank To Pump 3 Akron Valve.....	44
LADDER STORAGE / RACKS.....	44
Ladders.....	44
Bracket Horizontal Ladder.....	45
Hosebed Officer Side Tunnel Storage.....	45
Ladder Brand.....	45
HANDRAILS / STEPS.....	45
Hosebed Folding Steps.....	45
Slide-Out Platforms.....	45
Folding Steps.....	46
MISC BODY OPTIONS.....	46

Rear Mud Flaps .....	46
Body Mainframe.....	46
Body Mounting System.....	46
Water Tank Mounting System.....	47
Hosebed Side Assembly.....	47
Hosebed Capacity.....	47
Hosebed.....	47
Hosebed Dividers.....	47
Hosebed Divider Hand Hold.....	48
Divider Support.....	48
Storage Pan.....	48
Overall Height Restriction.....	48
Overall Length Restriction.....	48
Fuel Fill.....	48
Body Wheel Well.....	48
Rubrail.....	48
SCBA BOTTLE STORAGE.....	49
SCBA Storage.....	49
PUMPS.....	49
Pump System.....	49
Discharge Manifold.....	50
Priming System.....	50
Pump Shift.....	50
System.....	50
Auxiliary Engine Cooler.....	51
Pump Rating.....	51
PUMP CERTIFICATION.....	51
Pump Certification.....	51
PUMP OPTIONS.....	52
Pump Cooler.....	52
Steamers Flush+1.....	52
Pump Seal Packing Waterous.....	52
Master Drain.....	52
INTAKES.....	53
Left Intake 2.5 Akron Valve.....	53
Right Intake 2.5 Akron Valve.....	53
INTAKE OPTIONS.....	54
Intake Relief Valve.....	54
DISCHARGES AND PRECONNECTS.....	54
Front Jumpline 1.5 Akron Valve.....	54
Swivel FJL Brass In Tray.....	55
1.5 Crosslays Akron Valves [Qty: 2].....	55
Left Panel 2.5 Discharge Akron Valve.....	55
Right Panel 2.5 Discharges Akron Valves.....	56
Left Rear 2.5 Discharge Akron Valves.....	56
Discharge 3 Right Panel Akron Handwheel.....	56
Deck Gun 3 Akron Handwheel.....	57
DISCHARGE OPTIONS.....	58
Bleeder Drain Valves.....	58
Control Push Pull T Handle.....	58
PRESSURE GOVERNORS.....	58

Pressure Governor .....	58
GAUGES .....	59
Tank Level Gauges .....	59
Engine Gauge Package .....	59
Master Gauges [Qty: 2] .....	59
Compound Pressure Gauges .....	60
ELECTRICAL SYSTEMS .....	60
Multiplex Electrical System .....	60
Vehicle Data Recorder .....	63
Data Recorder .....	63
Occupant Detection System .....	63
LIGHT BARS .....	64
Light Bar .....	64
WARNING LIGHT PACKAGES .....	64
Lower Level Warning .....	64
Upper Rear Warning Lights .....	64
Hazard (Door Ajar) Light .....	65
Preemption Emitter .....	65
SIRENS .....	65
Electronic Siren .....	65
Electronic Siren Control Location .....	65
Mechanical Siren .....	65
SPEAKERS .....	65
Speaker .....	65
DOT LIGHTING .....	66
License Plate Light .....	66
LED Marker Lights .....	66
Tail Lights .....	66
LIGHTS - COMPARTMENT, STEP & GROUND .....	67
Medical Cabinet Lighting .....	67
Compartment Light Package .....	67
Ground Lights .....	67
LIGHTS - DECK AND SCENE .....	68
Hosebed Lights .....	68
Crosslay Light .....	68
Scene Lights .....	68
Deck/Scene Light Wired To Back-Up .....	68
LIGHTS - NON-WARNING .....	68
Engine Compartment Light .....	68
Pump Compartment Light .....	68
Pump Panel Light Package .....	69
Map Light .....	69
Handheld Spotlight .....	69
CONTROLS / SWITCHES .....	69
Foot Switch .....	69
Officer Q2B Rocker Switch .....	69
CAMERAS / INTERCOM .....	69
Backup Camera .....	69
MISC ELECTRICAL .....	69
Alternating Headlights .....	69
Back-Up Alarm .....	70

GENERATOR.....	70
Hydraulic Generator.....	70
GENERATOR TEST.....	71
3rd Party Generator Testing.....	71
BREAKER BOXES.....	71
Breaker Panel.....	71
LIGHTS - QUARTZ.....	71
Quartz Lights.....	71
ELECTRIC CORD REELS.....	72
Electric Cord Reel.....	72
Cord Reel Rewind Switch.....	72
Cord Reel Rollers.....	72
GROUND LADDERS.....	72
Folding Ladder.....	72
Roof Ladder.....	72
Extension 2 Section Ladder.....	72
MISC LOOSE EQUIPMENT.....	72
DOT Required Drive Away Kit.....	72
EXTERIOR PAINT.....	73
Paint Custom Cab.....	73
Paint Body.....	73
INTERIOR PAINT.....	74
Cab Interior Color.....	74
LETTERING.....	74
Sign Gold Lettering.....	74
Lettering Shade And Outline.....	74
STRIPING.....	75
Trim Stripe.....	75
Scotchlite Stripe.....	75
Rear Body Scotchlite Striping.....	75
WARRANTY / STANDARD & EXTENDED.....	75
Standard 1 Year Warranty.....	75
Lifetime Frame Warranty.....	75
10 Year 100000 Mile Structural Warranty.....	76
10 Year Stainless Steel Plumbing Warranty.....	76
10 Year Paint And Corrosion Warranty.....	76
SUPPORT, DELIVERY, INSPECTIONS AND MANUALS.....	76
Approval Drawings.....	76
Electronic Manuals.....	77
DEALER ADDED EQUIPMENT.....	78
Dealer.....	78
Electrical.....	78
Graphics.....	78

	BIDDER COMPLIES	
Specification for:	YES	NO
<p data-bbox="159 205 516 247"><b>Intent of Specifications</b></p> <p data-bbox="159 283 1323 504">It is the intent of these specifications to clearly describe the furnishing and delivery to the Purchaser, a complete apparatus equipped as specified. The primary objective of these specifications is to obtain the most acceptable apparatus for service in the Fire Department. 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.</p> <p data-bbox="159 520 1393 741">The design of the apparatus must embody the latest approved automotive 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.</p> <p data-bbox="159 758 1393 898">The apparatus shall conform to the National Fire Protection Association Standard for Automotive Fire Apparatus, number 1901, in its most recent edition, unless otherwise specified in this document. Only the specified firefighting support equipment listed in these specifications shall be provided.</p> <p data-bbox="159 915 1268 989">The apparatus shall further conform to all Federal Motor Vehicle Safety Standards. No exception.</p> <p data-bbox="159 1005 1386 1146">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 apparatus. They shall also substantiate they are in a position to render prompt and proper service and to furnish replacement parts for the apparatus.</p> <p data-bbox="159 1163 1341 1236">Each bid must be accompanied by a set of detailed contractor's specifications consisting of a detailed description of the apparatus and equipment proposed.</p> <p data-bbox="159 1253 1382 1507">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. Detailed information shall be provided on the materials used to construct all facets of the apparatus body. Any bidder who fails to submit detailed construction specifications, or who photo copies and submits these specifications as their own construction details will be considered non-responsive and shall render their proposal ineligible for award. No exception.</p> <p data-bbox="159 1524 1378 1598">Bids will be addressed and submitted in accordance with the instructions provided on the cover sheet.</p> <p data-bbox="159 1614 1386 1724">It shall be the responsibility of the bidder to assure that their proposal arrives at the location and time indicated. Late proposals, telegrams, facsimile, or telephone bids will not be considered. No exception.</p> <p data-bbox="159 1761 310 1803"><b>Bid Bond</b></p> <p data-bbox="159 1841 1393 1948">A bid security in the form of a Bid Bond, cashier's check, or certified check made payable to the Purchaser 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 Purchaser in lieu of its other legal</p>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p>remedies if a successful bidder's proposal is accepted by the Purchaser and the bidder shall fail to execute and return to the Purchaser 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 this State.</p> <p><b>Proposal Price</b></p> <p>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 will have their proposal rejected without further cause.</p> <p>All proposals are to be priced with payment due upon delivery and acceptance in Burlington, VT. No progress or pre-payments are to be required as part of the proposal pricing.</p> <p><b>Certificate of Insurance</b></p> <p>Each bidder shall furnish, with their proposal, a Certificate of Product Liability Insurance for a minimum of ten (10) million dollars. Failure to provide this documentation shall render the proposal non-responsive and the bid shall be rejected. This certificate shall be from the prime builder only. Certificates submitted from various sub-contractors in order to total the ten million dollar minimum will not be acceptable as meeting the requirements of this section.</p> <p>If one of the major portions of the apparatus (i.e. chassis, aerial, or body) is not designed, fabricated, and assembled by the prime builder, a separate Certificate of Liability Insurance for a minimum of ten (10) million dollars must be provided by each additional contractor.</p> <p>The Certificate must be made out to the Purchaser and must be original. Submission of a non-original Certificate, or a Certificate provided that is not made out to the Purchaser will not meet the requirements of this section.</p> <p><b>Single Source Manufacturer</b></p> <p>In order to protect the Purchaser from divided warranty responsibility between chassis, aerial, and body manufacturers, proposals will only be considered from apparatus builders who design, fabricate, and assemble the complete apparatus at their own facilities. This shall include the cab shell, chassis assembly, and complete body structure. Private labeling of another manufacturer's chassis, pump or body will not meet the requirements of this section.</p> <p><b>Delivery</b></p> <p>The bidder shall state the time required for delivery of the completed unit on the proposal page. The completed unit shall be delivered to the purchaser with full instructions provided to Fire Department personnel on operation, care and maintenance of apparatus at the purchaser's location.</p> <p><b>Exceptions</b></p>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p>Specification for:</p> <p>The following apparatus specifications are considered minimum design and construction standards against which the apparatus will be inspected. It is the intent to receive proposals on equipment/apparatus meeting the attached detailed specifications in their entirety. Any proposals being submitted, without "Full Compliance" with these 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.</p> <p>Failure to follow this format, provided for the convenience of the Purchaser, will render the vendor's proposal non-responsive and ineligible for award of contract.</p> <p>The Purchaser 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 Purchaser will not permit exceptions taken to these item(s). The Purchaser reserves the right to reject any or all bid proposals and purchase the equipment it deems most suitable to its needs. The Purchaser 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 will result in immediate rejection of the proposal.</p> <p><b>Financial Statement</b></p> <p>It is the intention of the Purchaser to contract for construction of this apparatus with a manufacturer who is financially sound. In order for us to evaluate the financial stability of each manufacturer, a current Dunn and Bradstreet and/or Annual Report shall be provided with the proposal. Failure to submit these documents with the proposal will render the bid unresponsive and ineligible for contract award.</p> <p><b>ISO Compliance</b></p> <p>The manufacturer shall operate a Quality Management System meeting the requirements of ISO 9001:2000.</p> <p>The International Organization for Standardization (ISO) is a recognized world leader in establishing and maintaining stringent manufacturing standards and values. The manufacturer's certificate of compliance affirms that these principles form the basis for a quality system that unwaveringly controls design, manufacture, installation, and service.</p> <p>The manufacturer's quality systems shall consist of, but not be limited to, all written quality procedures (aka QOP) and other procedures referenced within the pages of the manufacturer's Quality Manual, as well as all Work Instructions, Workmanship Standards, and Calibration Administration that directly or indirectly impacts products or processes. In addition, all apparatus assembly processes shall be documented for traceability and reference. The manufacturer shall also engage the services of a certified third party for testing purposes where required.</p> <p>If the manufacturer operates more than one manufacturing facility each facility must be ISO certified.</p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>By virtue of its ISO compliance the manufacturer shall provide an apparatus that is built to exacting standards, meets the customer's expectations, and satisfies the customer's requirements.</p> <p>A copy of the manufacturer's certificate of ISO compliance for each manufacturing facility shall be provided with the bid.</p> <p><b>Reference List</b></p> <p>Each bid shall be accompanied by a list of at least twenty-five (25) similarly constructed apparatus presently in service. Each reference must be apparatus built of the same construction style as these specifications call for. This list shall include customers' names, addresses, and the date the apparatus was placed in service.</p> <p><b>Service Requirements</b></p> <p>Each bidder shall supply, with their proposal, detailed information on the bidder's ability to perform routine and emergency service on the apparatus 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 Purchaser's facility to the nearest fully staffed repair facility operated by the bidder. It is the intent of the Purchaser to assure that parts and service are readily available for the equipment specified. Service capabilities will be one of the highly rated criteria for award of this proposal.</p> <p><b>NFPA Compliance</b></p> <p>The supplied components of the apparatus shall be compliant with NFPA 1901, 2009 edition.</p> <p><b>BUMPERS</b></p> <p><b>Bumper</b></p> <p>The vehicle shall be equipped with a one-piece 10" high bumper, made from 10-gauge (0.135" nominal) polished stainless steel for corrosion resistance, strength, and long-lasting appearance. It shall be mounted directly to the front frame extensions for maximum strength. The bumper shall incorporate two (2)-stiffening ribs.</p> <p><b>Bumper Extension</b></p> <p>The bumper extension shall be approximately 20" from the face of the cab as required.</p> <p><b>Bumper Gravel Shield</b></p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>The extended front bumper gravel shield shall be made of 1/8" (.125") aluminum treadplate material.</p> <p><b>BUMPER TRAYS</b></p> <p><b>Bumper Tray - Center</b></p> <p>A hose tray constructed of 1/8" aluminum shall be recessed into the front bumper extension. The tray shall be located in the center of the bumper and be approximately 14" deep (13" to the top of the slats). One inch thick aluminum slats shall be included in the bottom of the hose tray to aid in the dissipation of water from the tray.</p> <p><b>Lid, Bumper Hose Tray</b></p> <p>The center bumper tray shall have a diamond plate lid. The lid shall be hinged and shall be secured in the closed position by a D-Ring latch and held open with a pneumatic shock.</p> <p><b>FRAME ASSEMBLY</b></p> <p><b>Frame Rail Construction</b></p> <p>The frame shall consist of two (2) C-channel frame rails with heavy-duty crossmembers. Each frame rail shall have the following minimum specifications in order to minimize frame deflection under load and thereby improve vehicle ride and extend the life of the frame:</p> <p>Dimensions: 10-1/4" x 3-1/2" x 3/8"</p> <p>Material: 110,000-psi minimum yield strength, high strength, low alloy steel</p> <p>Section Modulus: 16.61 cu. in.</p> <p>Resisting Bending Moment (RBM): 1,827,045-in. lbs.</p> <p>If larger rails are provided, the maximum height of each frame rail shall not exceed the 10-1/4" dimension by more than 1/2" in order to ensure the lowest possible body height for ease of access as well as the lowest possible vehicle center of gravity for maximum stability.</p> <p>There shall be a minimum of six (6) crossmembers joining the two (2) frame rails in order to make the frame rigid and hold the rails/liners in alignment. The crossmembers shall be a combination of a formed steel C-channel design along with heavy duty steel fabricated designs as required for the exact chassis configuration. The crossmembers shall be attached to the frame rails with not less than four (4) bolts at each end arranged in a bolt pattern to adequately distribute the crossmember load into the rail/liner and minimize stress concentrations.</p>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p>Specification for:</p> <p>All frame fasteners shall be high-strength, Grade 8, flanged-head threaded bolts and nuts for frame strength, durability, and ease of repair. The nuts shall be Stover locknuts to help prevent loosening. The frame fasteners shall be tightened to the proper torque at the time of assembly.</p> <p>The frame rails and frame liners shall be finished with black paint. The frame crossmembers and frame-mounted components (suspensions, axles, air tanks, battery boxes, fuel tank, etc.) shall be painted black.</p> <p>The apparatus manufacturer shall supply a full lifetime frame warranty including crossmembers against defects in materials or workmanship. Warranties that provide a lifetime warranty for only the frame rails, but not the crossmembers, are not acceptable. <b>NO EXCEPTIONS.</b></p> <p>The custom chassis frame shall have a wheel alignment in order to achieve maximum vehicle road performance and to promote long tire life. The alignment shall conform to the manufacturer's internal specifications. All wheel lug nuts and axle U-bolt retainer nuts shall be tightened to the proper torque at the time of alignment. The wheel alignment documentation shall be made available at delivery upon request.</p> <p><b>Rear Underbody Support Frame</b></p> <p>The body shall be supported at the rear by a steel frame extension bolted to the chassis frame rails. The frame rails and frame extension shall be isolated from the aluminum body extrusions by 5/16" x 2" fiber reinforced rubber.</p> <p>The frame extension shall be built with (2) 2.5" sq. x .25 wall thickness x. full width cross rails welded to (2) 2.5" sq. x .25 wall thickness side rails. The frame extension assembly will be welded to steel weldments, which are secured to the chassis frame with grade 8 5/8" bolts.</p> <p>The frame extension shall not interfere with N.F.P.A. minimum requirements for angle of departure.</p> <p><b>AXLE OPTIONS</b></p> <p><b>Front Axle</b></p> <p>The vehicle shall utilize an ArvinMeritor FL-943, 5" drop beam front axle with a rated capacity of 18,700#. It shall have "easy steer" knuckle pin bushings and 68.83" kingpin centers. The axle shall be of I-beam construction and utilize grease lubricated wheel bearings. The vehicle shall have a nominal cramp angle of 45 degrees, plus two degrees to minus three degrees including front suction applications.</p> <p>The front axle hubs shall be made from ductile iron and shall be designed for use with 10-hole hub-piloted wheels in order to improve wheel centering and extend tire life.</p> <p>Front springs shall be parabolic tapered, minimum 4" wide x 54" long (flat), minimum 3 leaf, progressive rate with bronze bushings and a capacity of 20,000# at the ground.</p>		

	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p>Tapered leaf springs provide a 20% ride improvement over standard straight spring systems. Supporting documentation/data shall be provided upon request.</p> <p>The vehicle shall be equipped with a Sheppard model M-110 integral power steering gear, used in conjunction with a power assist cylinder. The steering assembly shall be rated to statically steer a maximum front axle load of 18,700#. Relief stops shall be provided to reduce system pressure upon full wheel cut. The system shall operate mechanically should the hydraulic system fail.</p> <p>A 2-year/unlimited miles parts and 2-year labor axle warranty shall be provided as standard by ArvinMeritor Automotive.</p> <p>In order to achieve maximum vehicle road performance and to promote long tire life, there shall be a wheel alignment. The alignment shall conform to the manufacturer's internal specifications. All wheel lug nuts and axle U-bolt retainer nuts shall be tightened to the proper torque at the time of alignment. The wheel alignment documentation shall be made available at delivery.</p> <p><b>Shock Absorbers Front</b></p> <p>Koni Model 90 shock absorbers provided for the front axle. The shocks shall be three way adjustable.</p> <p>The shocks shall be covered by the manufacturer's standard warranty.</p> <p><b>Front Axle Oil Seals</b></p> <p>The front axle shall have Stemco oil seals with sight glass to check the lubricant level of the axle spindles.</p> <p><b>Rear Axle</b></p> <p>The vehicle shall be equipped with an ArvinMeritor RS-24-160 single rear axle with single-reduction hypoid gearing and a manufacturer's rated capacity of 24,000 lbs. The axle shall be equipped with oil-lubricated wheel bearings with ArvinMeritor oil seals. The rear axle hubs shall be made from ductile iron and shall be designed for use with 10 hole hub-piloted wheels to improve wheel centering and extend tire life.</p> <p>A 2-year/unlimited miles parts and 2-year labor rear axle warranty shall be provided as standard by ArvinMeritor Automotive.</p> <p><b>Automatic Traction Control</b></p> <p>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</p>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p>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.</p> <p>A 3 year/300,000 miles parts and labor Automatic Traction Control (ATC) warranty shall be provided as standard by Meritor Automotive.</p> <p><b>SUSPENSIONS</b></p> <p><b>Rear Suspension</b></p> <p>The rear suspension shall be a pair of linear-rate leaf springs with auxiliary "helper" leaf springs and bronze bushings. The variable-rate springs with auxiliary springs ensure that the vehicle rides and handles smoothly under both loaded and unloaded conditions. The suspension shall be rated for the maximum axle capacity.</p> <p><b>WHEEL OPTIONS</b></p> <p><b>Front Wheel Trim Package</b></p> <p>The front wheels shall have stainless steel lug nut covers (chrome-plated steel lug nut covers not acceptable). The front axles shall be covered with American made Real Wheels brand mirror finish, 304L grade, non-corrosive stainless steel universal baby moons. All stainless steel baby moons shall carry a lifetime warranty plus a 2 year rebuffering policy. There shall be two (2) baby moons and twenty (20) lug nut covers.</p> <p><b>Rear Wheel Trim Package Single Axle</b></p> <p>The rear wheels shall have stainless steel lug nut covers (chrome-plated steel lug nut covers not acceptable), or American made chrome-plated plastic lug nut covers. The rear axle shall be covered with American made Real Wheels brand mirror finish, 304L grade, non-corrosive stainless steel, spring clip band mount high hats, DOT user friendly. All stainless steel high hats shall carry a lifetime warranty plus a 2 year rebuffering policy. There shall be two (2) high hats and twenty (20) lug nut covers.</p> <p><b>Front Wheels</b></p> <p>The vehicle shall have two (2) Accuride polished (on outer wheel surfaces only) aluminum disc wheels. They shall be forged from one piece corrosion-resistant aluminum alloy and sized appropriately for the tires.</p> <p><b>Rear Wheels</b></p> <p>The vehicle shall have four (4) Accuride polished (on outer wheel surfaces only) aluminum disc wheels. They shall be forged from one-piece corrosion-resistant aluminum alloy and sized appropriately for the tires.</p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p><b>TIRE OPTIONS</b></p> <p><b>Front Tires</b></p> <p>The front tires shall be two (2) Michelin 385/65R 22.5 tubeless type 18 PR radial tires with XFE highway tread.</p> <p>The tires with wheels shall have the following weight capacity and speed rating:</p> <p>18,740 lbs. @ 65 MPH.</p> <p>The wheels and tires shall conform to the Tire and Rim Association requirements.</p> <p><b>Rear Tires</b></p> <p>The rear tires shall be Michelin 11R 22.5 tubeless type radial tires with XDN2 mud and snow tread.</p> <p>The tires with wheels shall have the following weight capacity:</p> <p>24,000 lbs. (dual) @ 75 MPH.</p> <p>The wheels and tires shall conform to the Tire and Rim Association requirements.</p> <p><b>Tire Pressure Monitor</b></p> <p>The apparatus shall be provided with tire pressure indicating valve stem caps. The indicators shall be installed on each tire and be a heavy duty design manufactured specifically for trucks. When tire is properly inflated, the indicator inside the cap shall be green, and when the tire is underinflated by 10%, the indicator inside the cap shall be red.</p> <p><b>BRAKE SYSTEMS</b></p> <p><b>Front Brakes</b></p> <p>The front axle shall be equipped with Meritor DiscPlus EX225H 17 inch disc brakes.</p> <p>The brakes shall be covered by the manufacturer`s standard warranty which is three years, unlimited mileage and parts only.</p> <p><b>Rear Brakes</b></p> <p>The rear axle shall be equipped with Meritor DiscPlus EX225H 17 inch disc brakes with a maximum rated capacity of 27,000lbs.</p>		

Specification for:	BIDDER COMPLIES									
	YES	NO								
<p>The brakes shall be covered by the manufacturer`s standard warranty which is three years, unlimited mileage and parts only.</p> <p><b>Brake System</b></p> <p>The vehicle shall be equipped with air-operated brakes and an anti-lock braking system (ABS). The brake system shall meet or exceed the design and performance requirements of the current Federal Motor Vehicle Safety Standard (FMVSS)-121, and the test requirements of the current NFPA 1901 Standard.</p> <p>A dual-treadle brake valve shall correctly proportion the braking power between the front and rear systems. The air system shall be provided with a rapid pressure build-up feature, designed to meet current NFPA 1901 requirements, to allow the vehicle to begin its emergency response as quickly as possible.</p> <p>A pressure-protection valve shall be installed to prevent use of the air horns or other air-operated devices should the air system pressure drop below 85 psi. This feature is designed to prevent inadvertent actuation of the emergency/parking brakes while the vehicle is in motion.</p> <p>Two (2) air pressure needle gauges, one (1) each for front and rear air pressure, with a warning light and buzzer shall be installed at the driver`s instrument panel.</p> <p>The braking system shall be provided with a minimum of three (3) air tank reservoirs for a total air system capacity of 5,214 cu. in. One (1) reservoir shall serve as the wet tank and a minimum of one (1) tank shall be supplied for each of the front and rear axles. The total system shall carry a sufficient volume of air to comply with FMVSS-121.</p> <p>Tank Capacities in Cubic Inches:</p> <table border="1"> <thead> <tr> <th>Wet</th> <th>Front</th> <th>Rear</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>1,738</td> <td>1,738</td> <td>1,738</td> <td>5,214</td> </tr> </tbody> </table> <p>Spring-actuated emergency/parking brakes shall be installed on the rear axle.</p> <p>A Bendix-Westinghouse SR-1 valve, in conjunction with a double check valve system, shall provide automatic emergency brake application when the air brake system pressure falls below 40 psi in order to safely bring the vehicle to a stop in case of an accidental loss of braking system air pressure.</p> <p>A four-channel Wabco ABS shall be provided to improve vehicle stability and control by reducing wheel lock-up during braking. This braking system shall be fitted to both front and rear axles. All electrical connections shall be environmentally-sealed for protection against water, weather, and vibration.</p> <p>The system shall constantly monitor wheel behavior during braking. Sensors on each wheel transmit wheel speed data to an electronic processor, which shall detect approaching wheel</p>	Wet	Front	Rear	Total	1,738	1,738	1,738	5,214		
Wet	Front	Rear	Total							
1,738	1,738	1,738	5,214							

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>lock-up and instantly modulate (or pump) the brake pressure up to five (5) times per second to prevent wheel lock-up. Each wheel shall be individually controlled. To improve field performance, the system shall be equipped with a dual-circuit design configured in a diagonal pattern. Should a malfunction occur in one circuit, that circuit shall revert to normal braking action. A warning light at the driver's instrument panel shall signal a malfunction.</p> <p>The system shall also be configured to work in conjunction with all auxiliary engine, exhaust, or driveline brakes to prevent wheel lock-up.</p> <p>To improve maintenance troubleshooting, provisions in the system for an optional diagnostic tester shall be provided. The system shall test itself each time the vehicle is started, and a dash-mounted light shall go out once the vehicle is moving above 4 MPH.</p> <p>A 3 year/300,000 mile parts and labor Anti-Locking Braking System (ABS) warranty shall be provided as standard by Meritor Automotive.</p> <p><b>Park Brake Release</b></p> <p>One (1) Bendix-Westinghouse PP-5 parking brake control valve shall be supplied on the lower dash panel within easy reach of the driver.</p> <p><b>AIR SYSTEM OPTIONS</b></p> <p><b>Air Dryer</b></p> <p>The chassis air system shall be equipped with a Meritor/Wabco system saver 1200 air dryer located under the cab. The air dryer shall utilize a single spin-on desiccant cartridge.</p> <p><b>Air Inlet</b></p> <p>A 1/4" brass quick-release air inlet with a male connection. The inlet shall allow a shoreline air hose to be connected to the vehicle, discharging air directly into the wet tank. It shall be located driver door jamb.</p> <p><b>Air Lines</b></p> <p>Air-lines shall be constructed of color-coded nylon tubing routed in a manner to protect from damage. Brass fittings shall be provided.</p> <p><b>Air Horns</b></p> <p>Dual air horns shall be provided, connected to the chassis air system. The horns shall be mounted through the front bumper. The front bumper shall have two (2) holes punched to accommodate the horns. A pressure protection valve shall be installed to prevent the air brake system from being depleted of air pressure.</p>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p data-bbox="159 100 381 136">Specification for:</p> <h2 data-bbox="159 212 834 258">ENGINES &amp; TRANSMISSIONS</h2> <h3 data-bbox="159 302 623 338">Engine/Transmission Package</h3> <h4 data-bbox="159 380 259 415">Engine</h4> <p data-bbox="159 453 1170 489">The vehicle shall utilize a Cummins ISM electronic engine as described below:</p> <ul data-bbox="159 527 1299 1144" style="list-style-type: none"> <li>• ISM 450hp turbocharged</li> <li>• Charge Air Cooled (CAC) 4-cycle diesel</li> <li>• Six (6) Cylinder</li> <li>• Cummins Celect fuel system</li> <li>• Fuel cooler (when equipped with a fire pump)</li> <li>• 661 cu.in. displacement</li> <li>• 450 gross BHP at 2100 RPM and a peak torque of 1550 lb.ft. at 1200 RPM</li> <li>• Bore and stroke shall be 4.92 x 5.79</li> <li>• Compression ratio shall be 17:1</li> <li>• Engine lubrication system shall have a minimum capacity, to include filter, of 43 quarts</li> <li>• Coolant filter with corrosion inhibiting additive</li> <li>• Delco-Remy 39 MD-HD 12 volt starter</li> <li>• Interacta System</li> <li>• 18.7 cubic foot per minute air compressor</li> <li>• Exhaust gas recirculation (<b>does not require particulate filter</b>)</li> <li>• Ember separator compliant with 2009 NFPA 1901 requirements</li> <li>• The engine shall be compliant with 2007 EPA Emission standards</li> </ul> <p data-bbox="159 1184 1390 1436">The engine air intake shall draw air through the front cab grill. The intake opening shall be located on the officer (right) side behind front cab face with a plenum that directs air to the air filter. The air cleaner shall be a 11” diameter dry type that is easily accessed for service. Air cleaner intake piping shall be made from aluminized steel tubing with flexible rubber hoses. Air cleaner intake piping clamps shall be heavy-duty, constant-torque, T-bolt clamps to ensure proper sealing under all temperatures in order to keep dust and other contaminants out of the engine intake air stream and protect the engine.</p> <p data-bbox="159 1476 1380 1656">The engine exhaust piping shall be a minimum of 4” diameter welded aluminized steel tubing. The muffler shall be mounted horizontally under the right-hand frame rail in back of the cab in order to minimize heat transmission to the cab and its occupants. The exhaust shall be directed away from the vehicle on the right side ahead of the rear wheels in order to keep exhaust fumes as far away as possible from the cab and pump operator position.</p> <p data-bbox="159 1696 1330 1732">A 5-year/100,000 miles parts and labor warranty will be provided as standard by Cummins.</p> <p data-bbox="159 1772 1354 1877">A copy of the Engine Installation Review stating the engine installation meets Cummins recommendations shall be provided. The engine installation shall not require the operation of any type of ”power-down” feature to meet engine installation tests.</p> <h4 data-bbox="159 1917 347 1953">Transmission</h4>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>The vehicle shall utilize an Allison EVS4000P, electronic, 5-speed automatic transmission.</p> <p>A push button shift module Allison model #29538373 shall be located right side of the steering column, within easy reach of the driver. The shift position indicator shall be indirectly lit for after dark operation. The shift module shall have a "Do Not Shift" light and a "Service" indicator light. The shift module shall have means to enter a diagnostic mode and display diagnostic data. A transmission temperature gauge with warning light and buzzer shall be installed on the cab instrument panel.</p> <p>The transmission shall have a gross input torque rating of 1675 lb. ft. and a gross input power rating of 580 HP.</p> <p>The gear ratios shall be as follows:</p> <p>1 - 3.51</p> <p>2 - 1.91</p> <p>3 - 1.43</p> <p>4 - 1.00</p> <p>5 - .74</p> <p>R - 4.80</p> <p>The transmission shall be equipped with a fluid level sensor (FLS) system, providing direct feedback of transmission oil level information to the operator.</p> <p>The transmission shall have a lubricant capacity of 51 quarts.</p> <p>A transmission oil cooler shall be provided in the lower tank of the radiator.</p> <p>The transmission shall contain two engine driven PTO openings located at the 1 and 8 o'clock positions. The automatic transmission shall be equipped with a power lock-up device. The transmission lock-up shall prevent down shifting of transmission when engine speed is decreased during pump operations, thereby maintaining a constant gear ratio. Transmission lock-up shall be automatically activated when placing pump in gear. Transmission lock-up shall be automatically deactivated when disengaging pump for normal road operation.</p> <p>A 5-year/unlimited miles parts and labor warranty shall be provided as standard by Allison Transmission.</p> <p><b>Transmission Selector</b></p> <p>A push button shift module Allison model #29538373 shall be located right side of the steering column, within easy reach of the driver. The shift position indicator shall be indirectly lit for</p>		

	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p>after dark operation. The shift module shall have a "Do Not Shift" light and a "Service" indicator light. 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. A transmission temperature gauge with warning light and buzzer shall be installed on the cab instrument panel.</p> <p><b>Transmission Fluid</b></p> <p>The transmission fluid shall be Trans Synd synthetic.</p> <p><b>Vehicle Speed</b></p> <p>The maximum speed shall be electronically limited to 68 MPH as required by NFPA 1901.</p> <p>Note: Maximum speed may be set at 65 MPH due to tire rating.</p> <p><b>SECONDARY BRAKING</b></p> <p><b>Jacobs Engine Brake</b></p> <p>One (1) Jacobs engine brake shall be installed to assist in slowing and controlling the vehicle as required by NFPA 1901 for vehicles with gross vehicle weight ratings (GVWR) of 36,000 lbs. or greater. An on-off control switch and a high-medium-low selector switch shall be mounted in the cab.</p> <p>When activated, the Jacobs engine brake shall cut off the flow of fuel to the cylinders and alter the timing of the exhaust valves. This shall transform the engine into a high-pressure air compressor, driven by the wheels, and the horsepower absorbed by the engine in this mode shall slow the vehicle. The selector switch allows the driver to select the amount of retarding power.</p> <p>When the on-off switch is in the "on" position, the engine brake shall be automatically applied whenever the accelerator is in the idle position and the automatic transmission is in the lock-up mode. If the accelerator is depressed or if the on-off switch is placed in the "off" position, the engine brake shall immediately release and allow the engine to return to its normal function.</p> <p><b>EXHAUST OPTIONS</b></p> <p><b>Exhaust End Modification</b></p> <p>The end of the exhaust tail pipe shall be modified to accommodate a Plymovent in-house exhaust extraction system. The tailpipe will be at 90 degrees and straight out below side of body. A stop ring shall be provided on the tailpipe to properly position the plymovent nozzle.</p> <p><b>COOLING PACKAGE</b></p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p><b>Engine Cooling Package</b></p> <p>The cooling system shall have a tube-and-fin radiator with a minimum of 1,362 square inches of frontal area to ensure adequate cooling under all operating conditions. The radiator shall have five (5) rows of brass tubes with sixteen (16) copper fins per inch, and bolted steel top and bottom tanks for durability and ease of repair. There shall be a drain valve in the bottom tank to allow the radiator to be serviced.</p> <p>There shall be a coolant overflow recovery system provided.</p> <p>All radiator and heater hoses shall be silicone. Pressure compensating band clamps shall be used to eliminate hose pinching on all hoses 3/4" diameter and larger.</p> <p>The cooling system shall be filled with a 50/50 mixture of water and antifreeze/coolant conditioner to provide freezing protection to minus 40 (- 40) degrees F for operation in severe winter temperatures.</p> <p>The system shall include a charge air cooler with a minimum of 883 square inches of frontal area to ensure adequate cooling of the turbocharged air for proper engine operation and maximum performance. The charge air cooler core shall be 2.62" deep with seven (7) fins per inch.</p> <p>Charge air cooler hoses shall be made from high-temperature wire-reinforced silicone to withstand the extremely high temperatures and pressures of the turbocharged air. The hoses shall incorporate a flexible hump section to allow motion and misalignment of the engine relative to the charge air cooler. Charge air cooler hose clamps shall be heavy-duty, constant-torque, T-bolt clamps to ensure proper sealing under all temperatures in order to keep dust and other contaminants out of the engine intake air stream and protect the engine.</p> <p>The fan shall be 30" in diameter with eleven (11) blades for maximum airflow and dynamic balance. It shall be made of nylon for strength and corrosion resistance. A fan shroud attached to the radiator shall be provided to prevent recirculation of engine compartment air around the fan in order to maximize the cooling airflow through the radiator.</p> <p><b>FUEL SYSTEMS</b></p> <p><b>Fuel System</b></p> <p>One (1) 50 gallon fuel tank shall be provided. The tank shall be of an all-welded, aluminized-steel construction with anti-surge baffles and shall conform to all applicable Federal Highway Administration (FHWA) 393.65 and 393.67 standards. The tank shall be mounted below the frame rails at the rear of the chassis for maximum protection. The tank shall be secured with two (2) wrap-around T-bolt type stainless steel straps. Each strap shall be fitted with protective rubber insulation and shall be secured with grade 8 hardware. This design allows for tank removal from below the chassis.</p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>The fuel tank shall be equipped with a 2” diameter filler neck. The filler neck shall extend to the rear of the vehicle behind the rear tires and away from the heat of the exhaust system as required by NFPA 1901 Standard for Automotive Fire Apparatus. The open end of the filler neck shall be equipped with a twist-off filler cap with a retaining chain.</p> <p>The tank shall be plumbed with top-draw and top-return fuel lines in order to protect the lines from road debris. Bottom-draw and/or bottom-return fuel lines are not acceptable. A vent shall be provided at the top of the tank. The vent shall be connected to the filler neck to prevent splash-back during fueling operations. A .50” NPT drain plug shall be provided at the bottom of the tank.</p> <p>The tank shall have a minimum useable capacity of 50 gallons of fuel with a sufficient additional volume to allow for thermal expansion of the fuel without overflowing the vent.</p> <p>A mechanical fuel pump shall be provided and sized by the engine manufacturer as part of the engine.</p> <p><b>Fuel Line</b></p> <p>All fuel lines shall be rubber.</p> <p><b>ALTERNATOR</b></p> <p><b>400 AMP Alternator</b></p> <p>There shall be a 400 amp Niehoff alternator installed as specified.</p> <p>The alternator shall be a 385 amp, per NFPA 1901 rating (400 amp per SAE J56), Niehoff model C712-1 brushless type with internal rectifier. The unit shall have an adjustable remote mounted solid state voltage regulator.</p> <p>The alternator also has the following features:</p> <p><b>High Output:</b></p> <p>Output range at typical 625 rpm engine idle meets or exceeds recommended minimum continuous load requirement identified in NFPA 1901.</p> <p><b>Long Life Bearings:</b></p> <p>Bearings have high temperature grease and are heat stabilized for extended service life in hot engine compartments.</p> <p><b>Electromagnetic Interference (EMI) Suppression:</b></p> <p>Meets SAE J1113 specifications. Will not cause interference with the vehicle’s properly designed and grounded communication equipment.</p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p><b>Rectifier Diodes Mounted In Front Housing:</b></p> <p>Improves reliability because entire front housing serves as rectifier heatsink.</p> <p><b>BATTERIES</b></p> <p><b>Battery System</b></p> <p>The manufacturer shall supply four (4) heavy-duty Group 31 12-volt maintenance-free batteries. Each battery shall be installed and positioned so as to allow easy replacement of any single battery. Each battery shall be equipped with carrying handles to facilitate ease of removal and replacement. The batteries shall be installed in the dunnage pan located above the pump module. The batteries shall have a minimum combined rating of 4,000 (4 x 1000) cold cranking amps (CCA) @ 0 degrees Fahrenheit and 820 (4 x 205) minutes of reserve capacity for extended operation. The batteries shall have 3/8-16 threaded stud terminals to ensure tight cable connections. The battery stud terminals shall each be treated with concentrated industrial soft-seal after cable installation to promote corrosion prevention. The positive and negative battery stud terminals and the respective cables shall be clearly marked to ensure quick and mistake-proof identification.</p> <p>Batteries shall be placed on non-corrosive rubber matting and secured with hold-down brackets to prevent movement, vibration, and road shock. The hold-down bracket J-hooks shall be cut to fit and shall have all sharp edges removed. The batteries shall be placed in plastic trays to provide preliminary containment should there be leakage of hazardous battery fluids. There shall be two (2) plastic trays, each containing (2) batteries. Each battery tray shall be equipped with a rubber vent hose to facilitate drainage. The rubber vent hose shall be routed to drain below the frame. The batteries shall be positioned in well-ventilated areas.</p> <p>One (1) positive and one (1) negative jumper stud shall be provided below the front driver side of body/pump module.</p> <p>Batteries shall have a warranty of twelve (12) months that shall commence upon the date of delivery of the apparatus.</p> <p><b>CHASSIS OPTIONS</b></p> <p><b>Engine Fan Clutch</b></p> <p>The engine shall be equipped with a thermostatically controlled engine cooling fan. The fan shall be belt driven and utilize a clutch to engage when engine reaches a specified temperature and / or the water pump is engaged (if equipped).</p> <p>When disengaged, the fan clutch shall allow for improved performance from optional floor heaters, reduced cab interior noise, increased acceleration and improved fuel economy.</p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>The fan shall be equipped with a fail safe engagement so that if the clutch fails the fan shall engage to prevent engine overheating.</p> <p><b>Drivelines</b></p> <p>Drivelines shall have a heavy-duty metal tube and shall be equipped with Spicer 1810 series universal joints to allow full-transmitted torque to the axle(s). Drive shafts shall be axially straight, concentric with axis and dynamically balanced.</p> <p><b>Front Tow Eyes</b></p> <p>Two (2) 3/4" thick heavy duty steel tow eyes shall be securely attached to the chassis frame rails at the front of the apparatus. They shall be mounted down below the bumper / cab.</p> <p><b>Rear Tow Eyes</b></p> <p>Two (2) heavy-duty tow eyes made of 3/4" (0.75") thick steel having 2.5" diameter holes shall be mounted below the body at the rear of the vehicle to allow towing (not lifting) of the apparatus without damage. The tow eyes will be welded to the lower end of a 5" steel channel that is bolted at the end of the chassis frame rails. The tow eyes shall be painted chassis black.</p> <p><b>CAB MODEL</b></p> <p><b>Short Cab</b></p> <p>The vehicle shall be distinguished by an all-welded aluminum and fully enclosed tilt cab. The cab shall be designed exclusively for fire/rescue service and shall be pre-engineered to ensure long life. It shall incorporate an integral welded substructure of high-strength aluminum alloy extrusions that creates an occupant compartment that is essentially a protective perimeter. The end result is a distinctive structure that is aesthetically appealing, functionally durable, and characterized by increased personnel safety.</p> <p>The cab shall be constructed from 3/16" (0.188") 3003 H14 aluminum alloy plate roof, floor, and outer skins welded to a high-strength 6063-T6 aluminum alloy extruded subframe. Wall supports and roof bows are 6061 T6 aluminum alloy. This combination of a high-strength, welded aluminum inner structure surrounded on all sides by load-bearing, welded aluminum outer skins provides a cab that is strong, lightweight, corrosion-resistant, and durable.</p> <p>The inner structure shall be designed to create an interlocking internal "roll-cage" effect by welding two (2) 3" x 3" x 0.188" wall-thickness 6063-T5 aluminum upright extrusions between the 3" x 3" x 0.375" wall-thickness 6061-T6 roof crossbeam and the 2.25" x 3" x 0.375" wall-thickness 6063-T6 subframe structure in the front. An additional two (2) aluminum upright extrusions within the back-of-cab structure shall be welded between the rear roof perimeter extrusion and the subframe structure in the rear to complete the interlocking framework. The four (4) upright extrusions -- two (2) in the front and two (2) in the rear -- shall be designed to effectively transmit roof loads downward into the subframe structure to help protect the</p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>occupant compartment from crushing in a serious accident. All joints shall be electrically seam welded internally using aluminum alloy welding wire.</p> <p>The subframe structure shall be constructed from high-strength 6061-T6 aluminum extrusions welded together to provide a structural base for the cab. It shall include a side-to-side C-channel extrusion across the front, with 3/4" x 2-3/4" (.75" x 2.75") full-width crossmember tubes spaced at critical points between the front and rear of the cab.</p> <p>The cab floor shall be constructed from 3/16" (0.188") 3003 H14 smooth aluminum plate welded to the subframe structure to give the cab additional strength and to help protect the occupants from penetration by road debris and under-ride collision impacts.</p> <p>The cab roof shall be constructed from 3/16" (0.188") 3003 H14 aluminum treadplate supported by a grid of fore-aft and side-to-side aluminum extrusions to help protect the occupants from penetration by falling debris and downward-projecting objects. Molded fiberglass or other molded fiber-reinforced plastic roof materials are not acceptable.</p> <p>The cab roof perimeter shall be constructed from 4" x 6-5/8" (4" x 6.625") 6063-T5 aluminum extrusions with integral drip rails. Cast aluminum corner joints shall be welded to the aluminum roof perimeter extrusions to ensure structural integrity. The roof perimeter shall be continuously welded to the cab roof plate to ensure a leak-free roof structure.</p> <p>The cab rear skin shall be constructed from 3/16" (0.188") 3003 H14 aluminum plate. Structural extrusions shall be used to reinforce the rear wall.</p> <p>The left-hand and right-hand cab side skins shall be constructed from 3/16" (0.188") 3003 H14 smooth aluminum plate. The skins shall be welded to structural aluminum extrusions at the top, bottom, and sides for additional reinforcement.</p> <p>The cab front skins shall be constructed from 3/16" (0.188") 3003 H14 smooth aluminum plate. The upper portion shall form the windshield mask, and the lower portion shall form the cab front. Each front corner shall have a full 9" outer radius for strength and appearance. The left-hand and right-hand sides of the windshield mask shall be welded to the left-hand and right-hand front door frames, and the upper edge of the windshield mask shall be welded to the cab roof perimeter extrusion for reinforcement. The cab front shall be welded to the subframe C-channel extrusion below the line of the headlights to provide protection against frontal impact.</p> <p><b>Cab Exterior</b></p> <p>The exterior of the cab shall be 94" wide x 116.5" long to allow sufficient room in the occupant compartment for four to six personnel. The cab roof shall be approximately 101" above the ground. The back-of-cab to the center of the front axle shall be 44.5".</p> <p>Front axle fenderette trim shall be brushed aluminum for appearance and corrosion resistance. Bolt-in front wheel well liners shall be constructed of 3/16" (0.188") composite material to provide a maintenance-free, damage-resistant surface that helps protect the underside of the cab structure and components from stones and road debris.</p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>A large stainless steel cooling air intake grille with an open area of no less than 81% shall be at the front of the cab.</p> <p>The cab windshield shall be of a two-piece replaceable design for lowered cost of repair. The windshield shall be made from 1/4" (0.25") thick curved, laminated safety glass with a 75% light transmittance automotive tint. A combined minimum viewing area of 2,700-sq. in. shall be provided. Forward visibility to the ground for the average (50<sup>th</sup> percentile) male sitting in the driver's seat shall be no more than 11 feet 7 inches from the front of the cab to ensure good visibility in congested areas.</p> <p><b>Cab Mounts and Cab Tilt System</b></p> <p>The cab shall be independently mounted from the body and chassis to isolate the cab structure from stresses caused by chassis twisting and body movements. Mounting points shall consist of two (2) forward-pivoting points, one (1) on each side; two (2) intermediate rubber load-bearing cushions located midway along the length of the cab, one on each side; and two (2) combination rubber shock mounts and cab latches located at the rear of the cab, one (1) on each side.</p> <p>An electric-over-hydraulic cab tilt system shall be provided to provide easy access to the engine. It shall consist of two (2) large-diameter, telescoping, hydraulic lift cylinders, one (1) on each side of the cab, with a frame-mounted electric-over-hydraulic pump for cylinder actuation.</p> <p>Safety flow fuses (velocity fuses) shall be provided in the hydraulic lift cylinders to prevent the raised cab from suddenly dropping in case of a burst hydraulic hose or other hydraulic failure. The safety flow fuses shall operate when the cab is in any position, not just the fully raised position.</p> <p>The hydraulic pump shall have a manual override system as a backup in the event of an electrical failure. Lift controls shall be located in a compartment to the rear of the cab on the right side of the apparatus. A parking brake interlock shall be provided as a safety feature to prevent the cab from being tilted unless the parking break is set.</p> <p>The entire cab shall be tilted through a 42-45 degree arc to allow for easy maintenance of the engine, transmission and engine components. A positive-engagement safety latch shall be provided to lock the cab in the full tilt position to provide additional safety for personnel working under the raised cab.</p> <p>In the lowered position, the cab shall be locked down by two (2) automatic, spring-loaded cab latches at the rear of the cab. A "cab ajar" indicator light shall be provided on the instrument panel to warn the driver when the cab is not completely locked into the lowered position.</p> <p><b>Cab Interior</b></p> <p>The interior of the cab shall be of the open design with an ergonomically-designed driver area that provides ready access to all controls as well as a clear view of critical instrumentation.</p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>The engine cover between the driver and the officer shall be a low-rise contoured design to provide sufficient seating and elbow room for the driver and the officer. The engine cover shall blend in smoothly with the interior dash and flooring of the cab. An all-aluminum subframe shall be provided for the engine cover for strength. The overall height of the engine enclosure shall not exceed 23" from the floor at each side and 27" in the center section. The engine cover shall not exceed 41" in width at its widest point.</p> <p>The rear portion of the engine cover shall be provided with a lift-up section to provide easy access for checking transmission fluid, power steering fluid, and engine oil without raising the cab. The engine cover insulation shall consist of 3/4" dual density fiberglass composite panels with foil backing manufactured to specifically fit the engine cover without modification to eliminate "sagging" as found with foam insulation. The insulation shall meet or exceed DOT standard MVSS 302-1 and V-0 (UI subject 94 Test).</p> <p>All cab floors shall be covered with a black rubber floor mat that provides an aggressive slip-resistant surface in accordance with current NFPA 1901.</p> <p>A minimum of 57.25" of floor-to-ceiling height shall be provided in the front seating area of the cab and a minimum of 55.25" floor-to-ceiling height shall be provided in the rear seating area. A minimum of 36" of seated headroom at the "H" point shall be provided over each fenderwell.</p> <p>The floor area in front of the front seat pedestals shall be no less than 20.5" side to side by 25.0" front to rear for the driver and no less than 20.5" side to side by 26.0" front to rear for the officer to provide adequate legroom.</p> <p>Battery jumper studs shall be provided to allow jump-starting of the apparatus without having to tilt the cab.</p> <p>All exposed interior metal surfaces shall be pretreated using a corrosion prevention system.</p> <p>The interior of the cab shall be insulated to ensure the sound (dbA) level for the cab interior is within the limits stated in the current edition of NFPA 1901. The insulation shall consist of 2 oz. wadding and 1/4" (0.25") foam padding. The padding board shall be backed with 1/4" (0.25") thick reflective insulation. The backing shall be spun-woven polyester. Interior cab padding shall consist of a rear cab headliner, a rear wall panel, and side panels between the front and rear cab doors.</p> <p>The overhead console and heater cover shall be covered with thermoformed, non-metallic, non-fiber trim pieces to provide excellent scuff and abrasion resistance, as well as chemical stain resistance. The thermoformed material shall comply with Federal Motor Vehicle Safety Standard (FMVSS) 302 for flammability of interior materials.</p> <p>The vehicle shall use a seven-position tilt and telescopic steering column to accommodate various size operators. An 18" padded steering wheel with a center horn button shall be provided.</p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>A full-width overhead console shall be mounted to the cab ceiling for placement of siren and radio heads, and for warning light switches. The console shall be made from a thermoformed, non-metallic material and shall have easily removable mounting plates.</p> <p>Storage areas, with hinged access doors, shall be provided below the driver and officer seats. The driver side compartment shall be approximately 20" x 12" x 3.5" high and the officer side compartment shall be approximately 20.25" x 22.75" x 11" high (20" x 12" x 3.5" w/ air ride).</p> <p>The front cab steps shall be a minimum of 8" deep x 24" wide. The first step shall be no more than 24.0" above the ground with standard tires in the unloaded condition per NFPA 1901 standards. The rear cab steps shall be a minimum 12" deep x 21" wide. The first step shall be no more than 24.0" above the ground with standard tires in the unloaded condition per NFPA 1901 standards. The rear steps shall incorporate intermediate steps for easy access to the cab. The steps are to be located inside the doorsill, where they are protected against mud, snow, ice, and weather. The step surfaces shall be aluminum diamond plate with a multi-directional, aggressive gripping surface incorporated into the aluminum diamond plate in accordance with current NFPA 1901.</p> <p>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 post for additional handholds.</p> <p><b>Cab Doors</b></p> <p>There shall be reflective signs on each cab door in compliance with all NFPA requirements.</p> <p>Four (4) side-opening cab doors shall be provided. Doors shall be constructed of a 3/16" (0.188") aluminum plate outer material with an aluminum extruded inner framework to provide a structure that is as strong as the side skins.</p> <p>Front cab door openings shall be approximately 36" wide x 71.5" high, and the rear cab door openings shall be approximately 33.75" wide x 73" high. The front doors shall open approximately 75 degrees, and the rear doors shall open approximately 80 degrees.</p> <p>The doors shall be securely fastened to the doorframes with full-length, stainless steel piano hinges, with 3/8" (0.375") diameter pins for proper door alignment, 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.</p> <p>Stainless steel 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.</p> <p>The front door windows shall provide a minimum viewing area of 530 sq. in. each. The rear door windows shall provide a minimum viewing area of 500 sq. in. each. All windows shall</p>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p>have 75% light transmittance automotive safety tint. Full roll-down windows shall be provided for the front cab doors with POWER worm gear drive cable operation for positive operation and long life. Scissors or gear-and-sector drives are not acceptable.</p> <p><b>Cab Instruments and Controls</b></p> <p>Two (2) pantograph-style windshield wipers with two (2) separate electric motors shall be provided for positive operation. Air-operated windshield wipers are not acceptable because of their tendency to accumulate moisture, which can lead to corrosion or to freezing in cold weather. The wipers shall be a wet-arm type with a one (1) gallon washer fluid reservoir, an intermittent-wipe function, and an integral wash circuit. Wiper arm length shall be approximately 28", and the blade length approximately 20". Each arm shall have a 70 degree sweep for full coverage of the windshield.</p> <p>An overhead mounted heater and defroster with a minimum capacity of 60,000 Btu/hr and all necessary controls shall be mounted in the cab. The airflow system shall consist of two (2) levels, defrost and cab, and shall have fresh air and defogging capabilities.</p> <p>Cab controls shall be located on the cab instrument panel in the dashboard on the driver's side where they are clearly visible and easily reachable. Emergency warning light switches shall be installed in removable panels for ease of service. The following gauges and/or controls shall be provided:</p> <ul style="list-style-type: none"> <li>• Master battery switch/ignition switch (rocker with integral indicator)</li> <li>• Starter switch/engine stop switch (rocker)</li> <li>• Heater and defroster controls with illumination</li> <li>• Marker light/headlight control switch with dimmer switch</li> <li>• Self-canceling turn signal control with indicators</li> <li>• Windshield wiper switch with intermittent control and washer control</li> <li>• Master warning light switch</li> <li>• Transmission oil temperature gauge</li> <li>• Air filter restriction indicator</li> <li>• Pump shift control with green "pump in gear" and "o.k. to pump" indicator lights • Parking brake controls with red indicator light on dash</li> <li>• Automatic transmission shift console</li> <li>• Electric horn button at center of steering wheel</li> <li>• Cab ajar warning light on the message center enunciator</li> </ul> <p>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.</p> <p><b>Fast Idle System</b></p> <p>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.</p> <p><b>Electrical System</b></p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>The cab and chassis system shall have a centrally located electrical distribution area. All electrical components shall be located such that standard operations shall not interfere with or disrupt vehicle operation. An automatic thermal-reset master circuit breaker compatible with the alternator size shall be provided. Automatic-reset circuit breakers shall be used for directional lights, cab heater, battery power, ignition, and other circuits. An access cover shall be provided for maintenance access to the electrical distribution area.</p> <p>A 6 place, constantly hot, and 6 place ignition switched fuse panel and ground for customer-installed radios and chargers shall be provided at the electrical distribution area. Radio suppression shall be sufficient to allow radio equipment operation without interference.</p> <p>All wiring shall be mounted in the chassis frame and protected from impact, abrasion, water, ice, and heat sources. The wiring shall be color-coded and functionally-labeled every 3” on the outer surface of the insulation for ease of identification and maintenance. The wiring harness shall conform to SAE 1127 with GXL temperature properties. Any wiring connections exposed to the outside environment shall be weather-resistant. All harnesses shall be covered in a loom that is rated at 280 degrees F to protect the wiring against heat and abrasion.</p> <p>A Vehicle Data Computer (VDC) shall be supplied within the electrical system to process and distribute engine and transmission Electronic Control Module (ECM) information to chassis system gauges, the message center, and related pump panel gauges. Communication between the VDC and chassis system gauges shall be through a 4 wire multiplexed communication system to ensure accurate engine and transmission data is provided at the cab dash and pump. The VDC shall be protected against corrosion, excessive heat, vibration, and physical damage.</p> <p>Two (2) dual rectangular sealed beam halogen headlights shall be installed on the front of the cab, one (1) on each side, mounted in a polished chrome-plated bezel. The low beam headlights shall activate with the release of the parking brake to provide daytime running lights (DRL) for additional vehicle conspicuity and safety. The headlight switch shall automatically override the DRL for normal low beam/high beam operation.</p> <p><b>Cab Crashworthiness Requirement</b></p> <p>The apparatus cab shall meet and/or exceed relevant NFPA 1901 load and impact tests required for compliance certification with the following:</p> <p><b><u>Side Impact Dynamic Pre-Load per SAE J2422 (Section 5).</u></b></p> <p>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.</p> <p>Cab testing shall be completed using 13,776 ft-lbs of force <b>exceeding</b> testing requirements.</p> <p><b><u>Quasi-static Roof Strength (proof loads) per SAE J2422 (Section 6) / ECE R29, Annex 3, paragraph 5.</u></b></p>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p>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.</p> <p>Cab testing shall be completed using 23,561 lbs of mass <b>exceeding</b> testing requirements. The cab shall exhibit minimal to no intrusion into the cab’s occupant survival space and doors shall remain closed.</p> <p>Additional cab testing shall be conducted using 117,336 lbs of mass <b>exceeding</b> testing requirements by <b>over five (5) times</b>. The cab shall exhibit minimal to no intrusion into the cab’s occupant survival space and the doors shall remain closed.</p> <p><b><u>Frontal Impact per SAE J2420.</u></b></p> <p>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.</p> <p>Cab testing shall be completed using 34,844 ft-lbs of force <b>exceeding</b> testing requirements.</p> <p>Additional cab testing shall be conducted using 65,891 ft-lbs of force <b>exceeding</b> testing requirements by <b>over two (2) times</b>.</p> <p>The cab shall meet all requirements to the above cab crash worthiness; <b>NO EXCEPTIONS</b>.</p> <p>A copy of a certificate or letter verifying compliance to the above performance by an independent, licensed, professional engineer shall be provided upon request.</p> <p>For any or all of the above tests, the cab manufacturer shall provide either photographs or video footage of the procedure upon request.</p> <p><b>ISO Compliance</b></p> <p>The manufacturer shall ensure that the construction of the apparatus cab shall be in conformance with the established ISO-compliant quality system. All written quality procedures and other procedures referenced within the pages of the manufacturers Quality Manual, as well as all Work Instructions, Workmanship Standards, and Calibration Administration that directly or indirectly impacts this process shall be strictly adhered to. By virtue of its ISO compliance the manufacturer shall provide an apparatus cab that is built to exacting standards, meets the customers expectations, and satisfies the customers requirements.</p> <p><b>CAB ROOF TYPE</b></p> <p><b>Cab Roof</b></p> <p>The cab shall have a flat roof (non-vista).</p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p><b>CAB DOOR OPTIONS</b></p> <p><b>Cab Front Door Windows</b></p> <p>Driver and officer door windows shall have the support pillar located toward the front of the window. There shall be a vent that can be opened and closed within the window itself, located towards the front.</p> <p><b>Cab Door Rear Windows</b></p> <p>The rear cab door window(s) shall be manual fore/aft slider type.</p> <p><b>Cab Door Locks</b></p> <p>Each cab door shall have a manually operated door lock actuated from the interior of each respective door. Exterior of each cab door shall be provided with a barrel style keyed lock below the cab door handle.</p> <p><b>Cab Door Locks</b></p> <p>The cab shall have 1250 keyed door locks provided on exterior doors to secure the apparatus.</p> <p><b>Cab Door Front Windows</b></p> <p>The front door cab windows shall be electrically controlled. Each window shall have a switch on the door to control operation. The driver door shall have a switch panel to control each door window individually.</p> <p><b>Cab Door Panels</b></p> <p>The inner door panels shall be made from 14 gauge brushed finish stainless steel for increased durability. The cab door panels shall incorporate an easily removable panel for access to the latching mechanism for maintenance or service.</p> <p><b>Cab Door Exterior Latches</b></p> <p>All cab doors shall have "L" style exterior door latches.</p> <p><b>Cab Door Handle Scuff Plates</b></p> <p>A stainless steel scuff plate shall be installed at all cab door "L" handles for added paint protection.</p> <p><b>Cab Step Area Lighting</b></p>		

	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p>There shall be four (4) clear incandescent lights provided to illuminate the cab step well area. Each light shall be located on each cab door in the inboard position. Each light shall be activated by the cab door ajar circuit.</p> <p><b>Cab Door Reflective Material</b></p> <p>Reflective Yellow/Red material striping shall be supplied on each of the lower cab doors. The stripes shall run from the lower outer corner to the top upper corner of the panel, forming an "A" shape when viewed from the rear. The reflective material shall meet NFPA 1901 requirements.</p> <p><b>MIRRORS</b></p> <p><b>Cab Mirrors</b></p> <p>Mirror Stainless Steel 8" Convex, bell type mounting, (2) piece adjustable telescoping arm head #983, arm #3983. Mirror shall be mounted horizontally above the officers position.</p> <p><b>Cab Mirrors</b></p> <p>Two (2) Ramco model 6001FFR remote controlled aluminum mirrors shall be installed. The mirrors shall incorporate a full face main section with a convex mirror with housing, model CAS750, mounted to the top. The adjustment of main sections shall be through dash mounted switches. Location: mounted on front corners of cab</p> <p><b>Mirrors, Heated</b></p> <p>The cab mirrors shall be heated.</p> <p><b>MISC EXTERIOR CAB OPTIONS</b></p> <p><b>Cab Canopy Window</b></p> <p>There shall be a fixed window provided between the front and rear doors on the officers side of the cab.</p> <p>Window dimensions shall be as follows:</p> <ul style="list-style-type: none"> <li>• 44" C/A cab (short cab): 16"W x 24.5"H</li> </ul> <p><b>Front Mud Flaps</b></p> <p>Black linear low density polyethylene mudflaps shall be installed on the rear of the cab front wheelwells. The design of the mudflap shall have corrugated ridges to distribute water evenly.</p> <p><b>Handrails</b></p>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p>Cab door assist handrails shall consist of two(2) 1.25” diameter x 18” long 6063-T5 anodized aluminum tubes mounted directly behind each cab door opening. The handrails shall be machine extruded with integral ribbed surfaces to assure a good grip for personnel safety. Handrails shall be installed between chrome end stanchions and shall be positioned at least 2” from the mounting surface to allow a positive grip with a gloved hand.</p> <p><b>Rear Cab Wall Construction</b></p> <p>The rear cab wall shall be constructed with the use of 3/16" aluminum diamond plate interlocking in aluminum extrusions.</p> <p><b>HVAC</b></p> <p><b>Air Conditioning</b></p> <p>An overhead air-conditioner / heater system with a single roof mounted condenser shall be supplied.</p> <p>The unit shall be mounted to the cab interior headliner in a mid cab position, away from all seating positions. The unit shall provide ten (10) comfort discharge louvers, four (4) to the back area of the cab and six (6) to the front. These louvers will be used for AC and heat air delivery. Two (2) additional large front louvers shall be damper controlled to provide defogging and defrosting capabilities to the front windshield as necessary.</p> <p>The unit shall consist of a high output evaporator coil and heater core with one (1) high output dual blower for front air delivery, and two (2) high performance single wheel blowers for rear air delivery.</p> <p>A serviceable filter shall be installed on the A/C evaporator. The filter shall consist of a steel perimeter frame with a foam filter.</p> <p>The control panel shall actuate the air-distribution system with air cylinders, which are to be separated from the brake system by an 85-90 psi pressure protection valve. A three-speed blower switch shall control air speed.</p> <p>The condenser shall be roof mounted and have a minimum capacity of 65,000 BTU’s and have dual fans with a built in receiver drier.</p> <p>Performance Data: (Unit only, no ducting or louvers)</p> <p>AC BTU: 55,000</p> <p>Heat BTU: 65,000</p> <p>CFM : 1300 @ 13.8V (All blowers)</p>		

	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p>The compressor shall be a ten-cylinder swash plate type Seltec model TM-31HD with a capacity of 19.1 cu.in. per revolution.</p> <p>The system shall be capable of cooling the interior of the cab from 100 degrees ambient to 75 degrees or less with 50% relative humidity in 30 minutes or less.</p> <p><b>Air Conditioning Condenser(s)</b></p> <p>The air conditioning condenser(s) mounted on the roof of the cab shall be painted job color.</p> <p><b>SEATS</b></p> <p>All seats shall be Bostrom brand.</p> <p><b>Seat, Driver</b></p> <p>One (1) H. O. Bostrom 400 Series Sierra Air- 100RX4 suspension seats with high back styling shall be supplied for the driver position.</p> <p>Features shall include:</p> <ul style="list-style-type: none"> <li>• Air-100 suspension assembly with weight, height and ride adjustment.</li> <li>• Built in lumbar support.</li> <li>• 4” vertical suspension motion.</li> <li>• 5” fore and aft adjustment.</li> </ul> <p>All seat positions shall have a bright red retractable 3-point lap and shoulder harness, providing additional safety and security for personnel. Extensions shall be provided with the seat belts so the male end can be easily grasped and the female end easily located while sitting in a normal position.</p> <p><b>Seat, Officer</b></p> <p>One (1) Bostrom 400 Series tanker 450 SCBA air suspension seat shall be supplied for the officers position.</p> <p>Features shall include:</p> <ul style="list-style-type: none"> <li>• Removable ”Store-All” side cushions.</li> <li>• Auto-pivot and return headrest to open for improved exit with SCBA.</li> <li>• 12.5” wide SCBA cavity to store leading SCBA Brands.</li> <li>• Built in lumbar support.</li> <li>• Replaceable seat, side and headrest cushions.</li> <li>• Adjustable depth shroud: 28” - 29.5” depth</li> <li>• Adjustment 5” fore and aft</li> </ul>		

	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p>All seat positions shall have a bright red retractable 3-point lap and shoulder harness, providing additional safety and security for personnel. Extensions shall be provided with the seat belts so the male end can be easily grasped and the female end easily located while sitting in a normal position.</p> <p><b>Seat, Rear Facing</b></p> <p>One (1) Bostrom 400 Series tanker 450 SCBA high back SCBA storage seats shall be provided in the rear facing position over the officer side wheel well.</p> <p>Features shall include:</p> <ul style="list-style-type: none"> <li>• Removable "Store-All" side cushions.</li> <li>• Auto-pivot and return headrest to open for improved exit with SCBA.</li> <li>• 12.5" wide SCBA cavity to store leading SCBA Brands.</li> <li>• Built in lumbar support.</li> <li>• Replaceable seat, side and headrest cushions.</li> </ul> <p>All seat positions shall have a bright red retractable 3-point lap and shoulder harness, providing additional safety and security for personnel. Extensions shall be provided with the seat belts so the male end can be easily grasped and the female end easily located while sitting in a normal position.</p> <p><b>Seat, Rear Facing</b></p> <p>One (1) Bostrom 400 Series high back with SCBA storage and a single bench style bottom cushion shall be installed. It shall be located on the rear of the engine cover.</p> <p>Features shall include:</p> <ul style="list-style-type: none"> <li>• Removable "Store-All" side cushions.</li> <li>• Auto-pivot and return headrest to open for improved exit with SCBA.</li> <li>• 12.5" wide SCBA cavity to store leading SCBA Brands.</li> <li>• Built in lumbar support.</li> <li>• Replaceable seat, side and headrest cushions.</li> </ul> <p>All seat positions shall have a bright red retractable 3-point lap and shoulder harness, providing additional safety and security for personnel. Extensions shall be provided with the seat belts so the male end can be easily grasped and the female end easily located while sitting in a normal position.</p> <p><b>Seat Cover Material</b></p> <p>All seats shall have Durawear seat cover material.</p>		

	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p><b>Seat Fabric Color</b></p> <p>All seats shall be gray in color.</p> <p><b>Seating Capacity Tag</b></p> <p>A tag that is in view of the driver stating seating capacity of four (4) personnel shall be provided.</p> <p><b>Bostrom SecureAll Locking System</b></p> <p>The H.O. Bostrom SecureAll™ SCBA Locking System shall be one bracket model and store all U.S. and international SCBA brands and sizes while in transit or for storage on fire trucks. The bracket shall be easily adjustable; all adjustment points shall utilize similar hardware and adjustments shall be made with one tool.</p> <p>The bracket system shall be free of straps and clamps that may interfere with auxiliary equipment on SCBA units. The center guide fork shall keep the tank in-place for a safe and comfortable fit in seat cavity. Fire fighters shall simply push the SCBA unit against the pivot arm to engage the patented auto-locking system. Once the lock is engaged, the top clamp shall surround the top of the SCBA tank for a secure fit in all directions.</p> <p>The SecureAll™ bracket shall fit in all H.O. Bostrom Tanker SCBA seats including ABTS and non-ABTS seats and all flip-up ABTS and non-ABTS seats. Additional seat depth shall not be required for proper bracket fit; changes to the shroud back shall not be required for proper mounting of the bracket.</p> <p>The standard release handle shall be integrated into the seat cushion for quick and easy release and shall eliminate the need for straps or pull cords to interfere with other SCBA equipment.</p> <p>The H.O. Bostrom SecureAll™ system meets NFPA 1901 standards and requirements of EN 1846-2.</p> <p>The brackets shall be located officer's seat, rear facing officer's side and engine cover seat..</p>		
<p><b>MEDICAL CABINETS</b></p> <p><b>Medical Cabinet</b></p> <p>There shall be one- (1) medical storage cabinets provided at the driver`s side wheel well of the cab. The medical cabinet shall be constructed of 1/8” smooth aluminum plate. The medical cabinet shall be approximately 45” high x 24” wide x 16” deep interior.</p> <p>Three (3) vertically adjustable shelves shall be provided and installed in the medical cabinet. The shelves shall be constructed of 1/8” smooth aluminum plate. Each shelf shall have a 1” front for added strength and reinforcement. The shelves shall be sized to the interior dimensions of the medical cabinet. The shelves shall be mounted with extruded aluminum adjustable shelf</p>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p>tracking attached to the cabinet walls and the shelves to be secured with aluminum brackets to the tracks to allow for vertical height adjustment. As necessary a 3/4" x 2-3/4" aluminum extrusion shall be mounted to the underside of the shelves to provide additional reinforcement as needed.</p> <p>There shall be a locking roll-up door provided on the rearward face on the interior of the cab to secure contents.</p>		
<p><b>Medical Storage Cabinet Finish</b></p>		
<p>The medical storage cabinet(s) shall have a zolatone grey finish.</p>		
<p><b>MISC INTERIOR CAB OPTIONS</b></p>		
<p><b>Cab Interior Color</b></p>		
<p>Cab instrument panel, overhead console, trim panels, headliner, and door panels shall be gray.</p>		
<p><b>Sunvisors</b></p>		
<p>Padded sun visors shall be provided for the driver and officer matching the interior trim of the cab and shall be flush mounted into the underside of the overhead console.</p>		
<p><b>Air Horn Lanyard</b></p>		
<p>There shall be a "Y" style lanyard mounted in the center of the cab that allows the driver and officer to operate the air horns. The lanyard shall activate an electrical air switch.</p>		
<p><b>Cab Dash - Severe Duty</b></p>		
<p>The center and officer side dash shall be constructed from .125" smooth aluminum plate painted to match the cab interior. A hinged access panel shall be provided on top of the center dash to provide easy access to components within.</p>		
<p>The lower kick panels below the dash to be constructed from .125 aluminum diamond plate. The panels shall be removable to allow for servicing components that may be located behind the panels.</p>		
<p><b>Heat, Supplemental</b></p>		
<p>A single 40,000 BTU water heater shall be supplied in the front area of the cab. The unit shall heat the lower section of the drivers and officers foot area.</p>		
<p>Dual 23,000 BTU water heaters with diamond plate covers shall be supplied in the rear of the cab to heat the rear cab lower section.</p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>Dual climate control will be achieved via dual switches installed on a front instrument panel.</p> <p><b>Engine Cover - Severe Duty</b></p> <p>A severe duty engine cover shall be provided. The cover shall be constructed using 1/8" (.125) thick WearTrak™ floor type matting material on the forward sides, top forward area between driver and officer and top rearward area between wheel wells. 3/8" (.375) thick foam insulation shall be provided below the matting to dampen noise and vibrations. Smooth plate aluminum trim painted to match cab interior shall be provided at each transitioning area of the matting and around the engine access door.</p> <p><b>CAB ELECTRICAL OPTIONS</b></p> <p><b>Cab Dome Lights</b></p> <p>A dome light assembly with two (2) incandescent bulbs with one (1) white lens and one (1) red lens and plastic housing 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.</p> <p>There shall be two (2) mounted in the front of the cab, one (1) in the driver and one (1) in the officer ceiling.</p> <p>There shall be two (2) mounted in the rear of the cab, one (1) in the driver side and one (1) in the officer side ceiling.</p> <p><b>Radio</b></p> <p>Unit shall be equipped with an AC Delco model XTA2300 AM/FM stereo CD with weather band. Two (2) Prestige model 2525 5-1/4" radio speakers and antenna shall be supplied mounted in padding adjacent to drivers and officers seat.</p> <p>Unit shall be suppressed from engine noise to provide clear sound through respective speakers.</p> <p>Location: center overhead console offset to officer side</p> <p><b>Switch Horn Button Two Position</b></p> <p>A two (2) position rocker switch shall be installed in the cab dash and properly labeled to enable operator to activate one of the following from the steering wheel horn button: OEM Traffic horn or Federal Signal Q2B.</p> <p><b>Battery Charger Receptacle</b></p> <p>A 20 amp battery charger receptacle shall be installed in the specified location.</p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>The receptacle shall be located outside driver's door next to handrail</p> <p>The cover color shall be Yellow</p> <p><b>English Dominant Gauge Cluster</b></p> <p>The cab operational instruments shall be located in the dashboard on the driver side of the cab and shall be clearly visible. The gauges in this panel shall be English dominant and shall be the following:</p> <ul style="list-style-type: none"> <li>• Speedometer/Odometer</li> <li>• Tachometer with integral hour meter</li> <li>• Engine oil pressure gauge with warning light and buzzer</li> <li>• Engine water temperature gauge with warning light and buzzer</li> <li>• Two (2) air pressure gauges with a warning light and buzzer (front air and rear air)</li> <li>• Fuel gauge</li> <li>• Voltmeter</li> <li>• Transmission oil temperature gauge</li> </ul> <p>This panel shall be backlit for increased visibility during day and night time operations.</p> <p><b>Headlights</b></p> <p>The front of the cab shall have four (4) headlights. The headlights shall be mounted on the front of the cab in the lower position. The headlights shall be day time operational.</p> <p><b>Cab Turn Signals</b></p> <p>There shall be a pair of Federal Signal QuadraFlare model QL64Z-ARROW LED (Light Emitting Diode) turn signal light heads with populated arrow pattern and amber lens mounted upper headlight bezel and wired with weatherproof connectors.</p> <p><b>Battery Charger</b></p> <p>A Supersmart microprocessor controlled charging system shall be installed. The system shall have a 110 volt, 60 hertz, 5.25 amp input with output of 20 amps 12 volts DC.</p> <p>The battery charging system shall be installed and connected directly to the shoreline to ensure the batteries remain fully charged while the vehicle is in the fire station or firehouse.</p> <p>The system shall provide a visual signal if battery voltage drops below 11.5 volts. The microprocessor shall be continuously powered from the battery to provide the charge status.</p> <p>Equalization charge shall only occur when necessary, not with every cycle. The system shall fully charge the batteries while allowing up to 8 amps of additional load for onboard systems.</p> <p><b>Antenna Bases</b></p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>There shall be (2) Tessco P/N 90942 universal antenna base mounted on the cab roof with a weatherproof connector. The antenna base shall be NMO Motorola Style (equivalent to a MATM style). The antenna shall be located driver side rearward with coaxial cable terminating at the center of the dash board and officer side rearward with coaxial cable terminating at the center of the dash board</p> <p><b>Battery Charger Location</b></p> <p>The battery charger shall be located behind driver's seat.</p> <p><b>BODY COMPT LEFT SIDE</b></p> <p><b>Driver Side Assembly</b></p> <p>The driver side assembly shall be constructed entirely of aluminum extrusions and interlocking aluminum plates. This aluminum modular design shall provide a high strength-to-weight ratio for increased equipment carrying capacity.</p> <p>The driver side body corners shall be 6063-T5 extruded aluminum corner sections with a 3/16" (0.188") wall thickness. The side body extrusions shall be 6063-T5 aluminum tubing with a 3/16" (0.188") wall thickness and 3/16" (0.188") outside corner radius. The corners and sides shall be welded both internally and externally at each joint using an aluminum alloy welding wire.</p> <p>The driver side body shall be completely sanded and deburred to assure a smooth finish and painted job color.</p> <p><b>Driver Side Compartments</b></p> <p>The three (3) driver side compartments shall be constructed from 3003 H14 1/8" (.125") smooth aluminum plate. The compartments shall be modular in design and shall not be a part of the body support structure.</p> <p>There shall be one (1) compartment located ahead of the rear wheels. This compartment shall be approximately 36" wide x 68" high x 26" deep in the lower 30" high section and 12" deep in the upper 38" high section. The compartment shall contain approximately 25.7 cu. ft. of combined storage space. The door opening shall be approximately 36" wide x 68" high.</p> <p>There shall be one (1) compartment located over the rear wheel. The compartment shall be approximately 56" wide x 34" high x 12" deep and contain approximately 13.2 cu. ft. of storage space. The door opening shall be approximately 56" wide x 34" high.</p> <p>There shall be one (1) compartment located behind of the rear wheels. This compartment shall be approximately 50" wide x 68" high x 26" deep in the lower 30" high section and 12" deep in the upper 38" high section. The compartment shall contain approximately 35.8 cu. ft. of combined storage space. The door opening shall be approximately 50" wide x 68" high.</p>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p>Each compartment seam shall be sealed using a permanent pliable silicone caulk. The walls of each compartment shall be machine-louvered for adequate ventilation.</p>		
<p>An externally-mounted compartment top shall be provided and constructed of a 1/8" (.125") aluminum treadplate.</p>		
<p><b>BODY COMPT RIGHT SIDE</b></p>		
<p><b>Officer Side Assembly</b></p>		
<p>The officer side assembly shall be constructed entirely of aluminum extrusions and interlocking aluminum plates. This aluminum modular design shall provide a high strength-to-weight ratio for increased equipment carrying capacity.</p>		
<p>The officer side body corners shall be 6063-T5 extruded aluminum corner sections with a 3/16" (0.188") wall thickness. The side body extrusions shall be 6063-T5 aluminum tubing with a 3/16" (0.188") wall thickness and 3/16" (0.188") outside corner radius. The corners and sides shall be welded both internally and externally at each joint using an aluminum alloy welding wire.</p>		
<p>The officer side body shall be completely sanded and deburred to assure a smooth finish and painted job color.</p>		
<p><b>Officer Side Compartments</b></p>		
<p>The three (3) officer side compartments shall be constructed from 3003 H14 1/8" (.125") smooth aluminum plate. The compartments shall be modular in design and shall not be a part of the body support structure.</p>		
<p>There shall be one (1) compartment located ahead of the rear wheels. This compartment shall be approximately 36" wide x 68" high x 26" deep in the lower 30" high section and 12" deep in the upper 38" high section. The compartment shall contain approximately 25.7 cu. ft. of combined storage space. The door opening shall be approximately 36" wide x 68" high.</p>		
<p>There shall be one (1) compartment located over the rear wheel. The compartment shall be approximately 56" wide x 34" high x 12" deep and contain approximately 13.2 cu. ft. of storage space. The door opening shall be approximately 56" wide x 34" high.</p>		
<p>There shall be one (1) compartment located behind of the rear wheels. This compartment shall be approximately 50" wide x 68" high x 26" deep in the lower 30" high section and 12" deep in the upper 38" high section. The compartment shall contain approximately 35.8 cu. ft. of combined storage space. The door opening shall be approximately 50" wide x 68" high.</p>		
<p>Each compartment seam shall be sealed using a permanent pliable silicone caulk. The walls of each compartment shall be machine-louvered for adequate ventilation.</p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>An externally-mounted compartment top shall be provided and constructed of a 1/8" (.125") aluminum treadplate.</p> <p><b>BODY COMPT REAR</b></p> <p><b>Rear Body Platework</b></p> <p>The rear body platework shall be 3/16" aluminum smooth plate painted job color.</p> <p><b>Rear Body Compartment</b></p> <p>The rear body shall be constructed entirely of aluminum extrusions and interlocking aluminum plates and includes a lower full height center rear compartment.</p> <p>The rear body frame shall be 6063-T5 1.5" x 4" and 1.5" x 3" aluminum extrusions with a 3/16" (0.188") wall thickness and 3/16" (0.188") outside corner radius and 1/8" (0.125") aluminum plate. The rear extrusions shall be welded both internally and externally at each joint using an aluminum alloy welding wire.</p> <p><b>Rear Body Compartment</b></p> <p>The rear compartment shall be constructed from 3003 H14 1/8" (.125") smooth aluminum plate. The compartment shall be modular in design and shall not be a part of the body support structure.</p> <p>The compartment shall be approximately 40" wide x 30" high x 40" deep. The compartment shall contain approximately 27.7 cu. ft. of storage space. The door opening shall be approximately 40" wide x 30" high. This compartment shall be transverse through to the side rear compartments.</p> <p>The compartment seams shall be sealed using a permanent pliable silicone caulk. Machined louvers shall be provided for adequate ventilation.</p> <p><b>Tailboard</b></p> <p><b>Tailboard Step</b></p> <p>A tailboard step shall be provided at the rear of the body. The tailboard shall 10" in depth and in accordance with NFPA in both step height and stepping surface. The maximum rear step height to the tailboard shall not exceed 24".</p> <p>The tailboard step shall be formed from 3/16" (0.188") aluminum treadplate and shall be reinforced with 6063-T5 1.5" x 3" aluminum extrusion. The tailboard shall be in accordance with current NFPA requirements and shall include a multi-directional aggressive gripping surface incorporated into the diamond plate. The surface shall extend vertically from the diamond plate sheet a minimum of 1/8" (0.125"). Gripping surfaces shall be circular in design, a minimum of 1" diameter and on centers not to exceed 4".</p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>The tailboard step shall be bolted on to the body from the underside assuring a clear surface and shall be easily removable for replacement in the case of damage.</p> <p><b>Rear Access Handrails</b></p> <p>Handrails shall be provided at the rear of the body to assist ground personnel accessing the tailboard step and hosebed area. Each handrail shall be constructed of 6063T5 1.25" OD anodized aluminum tube, with an integral ribbed surface to assure a good grip for personnel safety, and shall be mounted between chrome stanchions.</p> <p>The handrails shall be located- two (2) handrails, one (1) on each side, appropriately sized handrail mounted vertically on the trailing edge of the body and appropriately sized handrail(s) mounted horizontally below the rear hosebed opening.</p> <p><b>DOORS</b></p> <p><b>Roll Up Compartment Door</b></p> <p>A ROM brand roll up door with satin finish shall be provided on compartments: L1, L2, L3, R1, R2, R3 and B1.</p> <p>The Robinson door slats shall be double wall box frame and manufactured from anodized aluminum. The slats shall have interlocking end shoes on each slat. The slats shall have interlocking joints with a PVC/vinyl inner seal to prevent any metal to metal contact and inhibit moisture and dust penetration.</p> <p>The track shall be anodized aluminum with a finishing flange incorporated to provide a finished look around the perimeter of the door without additional trim or caulking. The track shall have a replaceable side seal to prevent water and dust from entering the compartment.</p> <p>The doors shall be counterbalanced for ease in operation. A full width latch bar shall be operable with one hand, even with heavy gloves. Securing method shall be a positive latch device.</p> <p>A magnetic type switch integral to the door shall be supplied for door ajar indication and compartment light activation.</p> <p>The door opening shall be reduced by 2" in width and approximately 8-9" in height depending on door height.</p> <p><b>Drip Pan</b></p> <p>A ROM drip pan shall be supplied for each roll-up door. The drip pan shall be made from a high strength aluminum alloy. The splashguard and end caps shall be made from extruded and injection molded high-impact plastic. Drip pan location(s): L1, L2, L3, R1, R2, R3, B1</p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p><b>SHELVES</b></p> <p><b>Permanent Shelves</b></p> <p>There shall be a permanent aluminum shelf provided at the depth offset on compartments L1, L3, R1 and R3.</p> <p>The shelf shall be constructed of 3/16" (.187") smooth aluminum plate. The shelf shall have a minimum 2" front lip for added strength and reinforcement and to accommodate optional plastic interlocking compartment tile systems.</p> <p>The shelf shall be capable of holding 100 lbs.</p> <p><b>Adjustable Shelf</b></p> <p>There shall be an aluminum adjustable shelf provided for the lower area of compartments R1 and R3.</p> <p>The shelf shall be constructed of 3/16" (.187") smooth aluminum plate. The shelf shall have a minimum 2" front and rear lips to accommodate optional plastic interlocking compartment tile systems. For additional strength and reinforcement of the shelf a return break shall be provided on the outward lip. The adjustable shelf shall be capable of holding 250 lb.</p> <p>The shelf shall be sized, width and depth, to match the size and location in the compartment.</p> <p><b>Adjustable Tracks</b></p> <p>Tracks shall be provided in L1 lower, R1 lower, R3 lower for use with adjustable shelves and/or trays in deep non-transverse compartments. The tracks shall be vertically mounted and attached to the side and/or rear walls of the compartments.</p> <p><b>TRAYS / TOOLBOARDS</b></p> <p><b>Floor Mounted Roll-Out Tray</b></p> <p>There shall be a floor mounted roll-out tray provided in compartment L3.</p> <p>The roll-out tray shall be constructed of 3/16" (.187") smooth aluminum plate with a sanded finish and welded corners for increased strength and rigidity. The tray shall be sized in width and depth as applicable.</p> <p>For greater tray accessibility, the drawer slides shall feature one hundred percent extension. The tray shall utilize a pneumatic shock to secure the tray in the open or closed position.</p> <p>The tray shall have a total capacity of 500 lbs.</p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p><b>Adjustable Roll-Out Tray</b></p> <p>There shall be an adjustable roll-out tray provided in compartment L1.</p> <p>The roll-out tray shall be constructed of 3/16” (.187) smooth aluminum with welded corners for strength and rigidity. The tray shall be sized in width and depth as applicable.</p> <p>For greater tray accessibility, the drawer slides shall feature one hundred percent extension. The tray shall utilize a gas shock to hold the tray in an open or closed position.</p> <p>The tray shall have a total capacity of 500 lb.</p> <p><b>COVERS</b></p> <p><b>Hosebed Cover</b></p> <p>A cover constructed of Black 18 oz. PVC vinyl coated polyester shall be installed over the apparatus hosebed. The base fabric shall be 1000 x 1300 Denier Polyester with a fabric count of 20 x 20 square inch.</p> <p>The front edge of the cover shall be mechanically attached to the body. The sides of the cover shall be held in place with heavy duty Velcro strips running the length of the hosebed. The rear of the cover shall have an integral flap that extends down to cover the rear of the hosebed. This flap shall be secured in place with heavy duty nylon straps to comply with the latest edition of NFPA 1901.</p> <p><b>Crosslay Cover</b></p> <p>A cover constructed of Black 18 oz. PVC vinyl coated polyester shall be installed on the apparatus crosslay. The base fabric shall be 1000 x 1300 Denier Polyester with a fabric count of 20 x 20 square inch.</p> <p>The cover shall be held in place across the top of the body by chrome snaps. The sides of the cover shall have integral flaps that extend down to cover the sides of the crosslay. The side flaps shall be secured in place to comply with the latest edition of NFPA 1901.</p> <p><b>Hose Storage Area Cover</b></p> <p>A cover constructed of Black 18 oz. PVC vinyl coated polyester shall be installed over the upper hose storage area right side above the ladder tunnel. The base fabric shall be 1000 x 1300 Denier Polyester with a fabric count of 20 x 20 square inch.</p> <p>The front edge of the cover shall be mechanically attached to the body. The sides of the cover shall be held in place with heavy duty Velcro strips running the length of the hose storage area. The rear of the cover shall have an integral flap that extends down to cover the rear of the hose</p>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p>storage area. This flap shall be secured in place with heavy duty nylon straps to comply with the latest edition of NFPA 1901.</p>		
<p><b>PUMP MODULE</b></p>		
<p><b>Pump Module Width</b></p>		
<p>Pump Module shall be 76" wide.</p>		
<p><b>Pump Module</b></p>		
<p>An aluminum extruded pump module shall be provided and located forward of the body. The pump module shall be provided with a forward area for a double crosslay and dunnage storage shall be provided. The pump module shall be constructed entirely of aluminum extrusions and interlocking aluminum plates. The pump module design and mounting shall be separate from the body to allow the pump module and body to move independently of each other in order to reduce stress from frame twisting and vibration. The exterior surface of the pump module shall have a sanded finish. The pump module panel opening shall be 51" in width. Lower module shall be shortened to allow 68" high crosslay height from ground. <u>Crosslays that are higher than 68inches from the ground are not acceptable.</u></p>		
<p><b>Crosslay Double Preconnect Storage</b></p>		
<p>The upper pump module design shall include an area for a single stacked double crosslay. Each crosslay area shall have a capacity of 200' of 1.75" double jacket hose. The crosslay floor shall be constructed of 3/16" (.188) smooth aluminum plate and shall be slotted to prevent the accumulation of water and allow for ventilation of wet hose. One (1) 1/4" (.25") smooth aluminum plate non-adjustable divider with a sanded finish shall be provided to separate the two (2) hose storage areas.</p>		
<p><b>Dunage Pan</b></p>		
<p>A dunnage pan constructed of 3/16" (.188") aluminum treadplate shall be located rearward of the crosslays. The dunnage pan shall be sized to maximize available storage space.</p>		
<p><b>Pump Module Running Boards</b></p>		
<p>The pump module shall include a running board on each side of the pump module. The running boards shall be in accordance with NFPA in both step height and stepping surface. The maximum step height to each running board shall not exceed 24". The running boards shall be formed from 1/8" (.125") aluminum treadplate. Each running board shall include a multi-directional, aggressive gripping surface incorporated into the treadplate. The surface shall extend vertically from the diamond plate sheet a minimum of 1/8" (.125"). Gripping surfaces shall be circular in design, a minimum of 1" diameter and on centers not to exceed 4". Each running board shall be bolted on to the pump module and be easily removable for replacement in the case of damage.</p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p><b>PUMP PANELS</b></p> <p><b>Side Mount Pump Panels</b></p> <p>The driver and officer side pump panels shall be constructed of 14 gauge stainless steel. Each panel shall have the ability to be removed from the module for easier access and for maintenance in the pump area.</p> <p><b>Hinged Gauge Panel</b></p> <p>The driver side gauge panel shall be positioned to where it can be opened downward for access to gauges and other interior pump module mounted items. The gauge panel shall include latches to secure the panel in the closed position. Two (2) cable tethers shall be provided to hold the panel in the open position.</p> <p><b>Pump Access Door</b></p> <p>The officer side pump module shall include an upper horizontally-hinged pump access door.</p> <p>The door shall be constructed of 3/16" (.187") aluminum treadplate. The compartment door shall be securely attached with a full-length stainless steel piano type hinge with 1/4" pins. The hinge shall be "staked" on every other knuckle to prevent the pin from sliding. The door shall include two (2) push-button style latches to secure the door in the closed position and two (2) hold-open devices to hold the door in the open position.</p> <p><b>MISC PUMP PANEL OPTIONS</b></p> <p><b>Pump Panel Tags</b></p> <p>Color coded pump panel labels shall be supplied to be in accordance with NFPA compliance.</p> <p><b>PUMP MODULE OPTIONS</b></p> <p><b>Pump Compartment Heaters</b></p> <p>Two (2) 25,000 Btu heaters shall be installed in the pump compartment area. The heaters shall be connected to the chassis engine coolant system and shall include a 12 volt blower. The heaters shall be controlled at the pump operators panel.</p> <p><b>Pump Module Crosslay Divider Notch</b></p> <p>The crosslay divider(s) shall be notched on both ends for line(s) nozzle end storage with NFPA cover(s) in closed position .</p> <p><b>Module Logos</b></p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>Logos with the OEM brand name shall be provided and shall be mounted one (1) each side on pump module/pre-connect panels. Logos shall be sized as applicable to available space on panel(s).</p> <p><b>Air Horn Switch</b></p> <p>A heavy duty, weatherproof, push button switch shall be installed at the left side pump operators panel to operate the air horns.</p> <p>The switch shall be labeled "Evacuation Alert".</p> <p><b>WATER TANK</b></p> <p><b>780 Gallon Water Tank</b></p> <p>A 780 gallon (U.S.) "L" booster tank shall be supplied. The booster tank shall be of a pinned baffle design. The booster tank shall be completely removable without disturbing or dismantling the apparatus body structure.</p> <p>The booster tank top, sides, and bottom shall be constructed of 1/2" (0.50") black UV-stabilized copolymer polypropylene. The copolymer polypropylene tank material shall be welded together utilizing thermoplastic welding technology. A clean hot air temperature controlled process, shall ensure that each weld reaches its plasticized state without cold or hot spots. The copolymer polypropylene material shall be used for its high strength and corrosion resistance for a prolonged tank life.</p> <p>The booster tank shall have a fill tower with a rearward hinged lid. The fill tower shall be located in the forward area of the tank and shall assist with tank ventilation. The fill tower shall include a removable 1/4" (0.25") thick polypropylene screen.</p> <p>The booster tank shall have two (2) tank plumbing openings. One (1) for a tank-to-pump suction line with an anti-swirl plate, and one (1) for a tank fill line. A 3" cleanout plug shall be shall be provided at the bottom of the tank sump.</p> <p>The booster tank shall include longitudinal and latitudinal baffles. The baffles shall be interlocking and thermo welded to the shell of the tank to minimize water surge during travel and provide enhanced road handling stability. The baffle design shall allow waterflow in accordance with NFPA during tank filling or pump operations.</p> <p>A 2.5' length of black flex hose shall be installed to the bottom of the tank. This shall direct the draining of overflow water past the rear axle and fuel tank, thus reducing the possibility of freeze-up of these components in cold environments. This drain configuration shall also assure that rear axle tire traction shall not be affected when moving forward.</p> <p>The booster tank shall undergo extensive testing prior to installation in the truck. The testing shall include an electronic spark and tank fill test after both the internal and external tank shell welds are completed.</p>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p>A lifetime manufacture`s limited warranty shall be included.</p> <p><b>TANK PLUMBING</b></p> <p><b>Tank Fill 2 Akron Valve</b></p> <p>One (1) 2” pump-to-tank fill line having a 2” manually operated full flow valve. The valve control shall be located at the pump operator`s panel and shall visually indicate the position of the valve at all times. The fill line shall be controlled using a chrome handle with an integral tag.</p> <p>The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position with water flowing through it.</p> <p>The valve shall be of unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.</p> <p>All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.</p> <p><b>Tank To Pump 3 Akron Valve</b></p> <p>One (1) manually operated 3” Akron valve shall be installed between the pump suction and the booster tank, 4” piping, with flex hose and stainless steel hose clamps connect to the tank. The valve control shall be located at the pump operators panel and shall visually indicate the position of the valve at all times.</p> <p>The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position and water is flowing through it.</p> <p>The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.</p> <p>All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.</p> <p><b>LADDER STORAGE / RACKS</b></p> <p><b>Ladders</b></p> <p>The length of ladder(s) capable of being stored shall be the following length: 24' 2-Section and 14' roof ladder and a Little Giant Model 17.</p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p><b>Bracket Horizontal Ladder</b></p> <p>A ladder mounting assembly shall consist of a 1/8” diamond plate boot welded to the officer side of the hosebed storage pan and a chrome plated handle to secure the ladder into the boot.</p> <p>Location and type of ladder: in the officer side of the hosebed storage pan to hold one (1) Little Giant model 17.</p> <p><b>Hosebed Officer Side Tunnel Storage</b></p> <p>There shall be an officer side vertical storage tunnel. Tunnel shall hold: 2-Section 24’, 14’ roof, 10’ attic and (2) pike poles. Includes vertically hinged rear diamond plate door with push-button latch. The upper storage area will have an open top and run full length of the body with hosebed style flooring.</p> <p><b>Ladder Brand</b></p> <p>The ladder brand capable of being carried on the unit shall be AlcoLite.</p> <p><b>HANDRAILS / STEPS</b></p> <p><b>Hosebed Folding Steps</b></p> <p>Dual lighted LED folding steps shall be positioned to the driver side rear of the body. The steps shall be NFPA compliant for access to the hosebed storage area and in step height and surface area. The steps shall be staggered stepped as applicable with tailboard depth, not applicable with recessed step mounting.</p> <p>Dual lighted LED folding step with LED lights integral to the step on the top to provide NFPA requirements of 2 FC on the stepping surface. Each step shall also have a LED light integral to the bottom of the step to meet NFPA requirements of a stepping surfaces up to 18” below the step.</p> <p>The folding step shall sustain a minimum static load of 500LB. The folding step shall also meet NFPA slip resistance qualifications.</p> <p>One (1) handrail shall be installed (as applicable) in compliance with current NFPA. The handrail shall be constructed of 6063T5 1.25” OD anodized aluminum tube, with an integral ribbed surface to assure a good grip for personnel safety, mounted between chrome stanchions.</p> <p><b>Slide-out Platforms</b></p> <p>A slide-out platform shall be provided integral with the driver and officer side running board adjacent to the pump panel. The platform shall be 21” deep and shall be constructed of 1/8” (0.125”) aluminum treadplate with a multi-directional, aggressive gripping surface. The</p>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p>platform shall utilize a maintenance-free slide system incorporating stainless steel shoulder bolts that slide in slotted heavy-wall aluminum angles. Notches shall be provided at each end of the slots to hold the platform in both the extended and retracted positions.</p> <p><b>Folding Steps</b></p> <p>Six (6) dual lighted LED folding steps shall be located (3) on the officer side front compartment face and (3) driver side front compartment face. The folding step shall meet current NFPA in step height and surface area.</p> <p>Dual lighted LED folding step with LED lights integral to the step on the top to provide NFPA requirements of 2 FC on the stepping surface. Folding step shall also have a LED light integral to the bottom of the step to meet NFPA requirements of a stepping surface up to 18” below the step. The folding step shall sustain a minimum static load of 500LB. The folding step shall also meet NFPA slip resistance qualifications.</p> <p>One (1) handrail shall be installed in compliance with current NFPA. The handrail shall be constructed of 6063T5 1.25” OD anodized aluminum tube, with an integral ribbed surface to assure a good grip for personnel safety, mounted between chrome stanchions.</p>		
<p><b>MISC BODY OPTIONS</b></p>		
<p><b>Rear Mud Flaps</b></p> <p>The rear tires shall have a set of black mud flaps mounted behind the rear chassis wheels.</p>		
<p><b>Body Mainframe</b></p> <p>The body mainframe shall be entirely constructed of aluminum. The complete framework shall be constructed of 6061 T6 and 6063T5 aluminum alloy extrusions welded together using 5356 aluminum alloy welding wire.</p> <p>The body mainframe shall include 3” x 3” 6061-T6 aluminum 3/8” (0.375”) wall crossmember extrusion or 3” x 3” I-beam section aluminum extrusion depending on the application at the front of the body . A solid 3” x 3” ”I-beam” section aluminum extrusion shall be provided the full width of the body forward and rearward of the rear wheel well. The crossmembers shall be designed to support the compartment framing and shall be welded to 1-3/16” x 3” (1.188” x 3”) solid 6063-T5 aluminum frame sill extrusions. The frame sill extrusions shall be shaped to contour with the chassis frame rails and shall be protected from contact with the chassis frame rails by 5/16” x 2” (0.31” x 2”) fiber-reinforced rubber strips to prevent wear and galvanic corrosion caused when dissimilar metals come in contact.</p>		
<p><b>Body Mounting System</b></p> <p>The main body shall be attached to the chassis frame rails with six (6) of 5/8” (0.625”) diameter steel U-bolts. The rear of the body shall be spring mounted to allow for chassis flex. This body</p>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p>mounting system shall be used to allow easy removal of the body for major repair or disassembly.</p> <p><b>Water Tank Mounting System</b></p> <p>The body design shall allow the booster tank to be completely removable without disturbing or dismounting the apparatus body structure. The water tank shall rest on top of a 3" x 3" frame assembly covered with rubber shock pads and corner braces formed from 3/16" angled plate to support the tank. The booster tank mounting system shall utilize a floating design to reduce stress from road travel and vibration. To maintain low vehicle center of gravity the water tank bottom shall be mounted within 5" of the frame rail top.</p> <p><b>Hosebed Side Assembly</b></p> <p>The hosebed side assemblies shall be made of 3" x 3" slotted aluminum extrusion and 3/16" (.188") smooth plate. The hosebed side assemblies shall provide a 85" high body.</p> <p>The exterior hosebed side surface shall be completely sanded and deburred to assure a smooth finish and painted job color. The interior hosebed side surface shall be completely sanded and deburred to assure a smooth sanded finish.</p> <p><b>Hosebed Capacity</b></p> <p>The hosebed shall have the capacity to store the following hose from the driver side to the officer side: 300ft of 2-1/2", 300ft of 2-1/2" and 900ft of 4inch LDH.</p> <p><b>Hosebed</b></p> <p>The area rear of the booster tank shall have a hose storage area provided. The hosebed shall be constructed entirely from maintenance-free, 3/4" deep x 7.5" wide, extruded aluminum slats that shall be pop-riveted into a one-piece grid system. Each slat shall have all sharp edges removed and have an anodized ribbed top surface that shall prevent the accumulation of water and allow for ventilation of wet hose.</p> <p>The hosebed design shall incorporate adjustable tracks in the forward area rear of the tank and the rearward area of the hosebed for the installation of an adjustable divider(s). The adjustable tracks shall hold an adjustable divider(s) mounting nut straight, so only a philips head screwdriver is required to adjust a divider(s) from side to side.</p> <p><b>Hosebed Dividers</b></p> <p>There shall be (2) hosebed dividers provided the full fore-aft length of the hosebed.</p> <p>The hosebed divider shall be constructed of 1/4" (0.25") smooth aluminum plate with an extruded aluminum base welded to the bottom. The rear end of the divider shall have a 3" radius corner to protect personnel. The divider shall be natural finish aluminum for long-lasting appearance and shall be sanded and deburred to prevent damage to the hose.</p>		

	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p>The divider shall be adjustable from side to side in the hosebed to accommodate varying hose loads.</p> <p><b>Hosebed Divider Hand Hold</b></p> <p>There shall be a hand hole cutout on the trailing edge of each hosebed divider. The cutout is specifically sized for use in adjusting of the hosebed divider.</p> <p><b>Divider Support</b></p> <p>Divider Support shall run full width of hosebed (side to side) at the front of the hosebed and towards the rear of the hosebed at top of the divider(s). Attach to each hosebed divider to provide additional support.</p> <p><b>Storage Pan</b></p> <p>A storage pan shall be provided in the area forward of the hosebed. The storage pan shall be constructed of 3/16" (.188") aluminum treadplate.</p> <p><b>Overall Height Restriction</b></p> <p>The apparatus shall have overall height restriction of 9ft 4in.</p> <p><b>Overall Length Restriction</b></p> <p>The apparatus cab shall have overall length restriction of 30ft 8in.</p> <p><b>Fuel Fill</b></p> <p>A recessed fuel fill shall be provided at the driver side rear wheel well area.</p> <p><b>Body Wheel Well</b></p> <p>The body wheel well frame shall be constructed from 6063-T5 aluminum extrusion with a slot the full length to permit an internal fit of 1/8" (0.125") aluminum treadplate. The wheel well trim shall be constructed from 6063-T5 formed aluminum extrusion. The wheel well liners shall be constructed of a 3/16" (.187") composite material. The liners shall be bolt-on and shall provide a maintenance-free and damage-resistant surface.</p> <p><b>Rubrail</b></p> <p>The pump area module(s) and body shall have rubrails mounted along the sides and at the rear.</p> <p>The rubrail shall be C-channel in design and constructed of 3/16" thick 6463T6 anodized aluminum extrusion. The rubrail shall be 2.75" high x 1.25" deep and shall extend beyond the</p>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p>body width to protect compartment doors and the body side. The rubrail depth shall allow marker and/or warning lights to be recessed inside for protection.</p> <p>The top surface of the rubrail shall have minimum of five (5) raised serrations. Each serration being a minimum of .1” in height and with cross grooves to provide a slip-resistant edge for the tailboard step and pump module running board areas. The rubrail shall be mounted a minimum of 3/16” off the pump module and body with nylon spacers. The ends of each section shall be provided with a finished rounded corner piece.</p> <p><b>SCBA BOTTLE STORAGE</b></p> <p><b>SCBA Storage</b></p> <p>Four (4) SCBA bottle storage compartments shall be provided. The compartments shall be 8” diameter by 25” deep and located two (2) each side in the body wheel well area.</p> <p>Each SCBA bottle shall be held in place by a hinged cast aluminum door with a positive latch and shall include an inner door seal for increased protection against the elements.</p> <p>The inner SCBA storage tube shall be made of high strength polyethylene to provide additional protection to the surface of the SCBA bottles.</p> <p><b>PUMPS</b></p> <p><b>Pump System</b></p> <p>The pump shall be a midship mounted Waterous CSU 1500-2250 single stage centrifugal pump. The pump shall be mounted on the chassis frame rails and shall be split drive driven.</p> <p>The entire pump body and related parts shall be of fine grain alloy cast iron, with a minimum tensile strength of 30,000 psi (207 (MPa). All metal moving parts in contact with water shall be of high quality bronze or stainless steel. Pump body shall be horizontally split in two (2) sections, for easy removal of impeller assembly including wear rings and bearings from beneath the pump without disturbing pump mounting or piping.</p> <p>The pump impeller shall be hard, fine grain bronze of the mixed flow design and shall be individually ground and hand balanced. Impeller clearance rings shall be bronze, easily renewable without replacing impeller or pump volute body, and of wrap-around double labyrinth design for maximum efficiency.</p> <p>The impeller shaft shall be stainless steel, accurately ground with a 2-3/4” dia. spline shaft, and shall be rigidly supported at each end by oil or grease-lubricated anti-friction ball bearings for rigid and precise support. Bearings shall be protected from water and sediment by suitable stuffing boxes, flinger rings, and oil seals. The remaining bearings shall be heavy -duty, deep groove ball bearings in the gearbox and shall be splash lubricated. Pump shaft must be sealed with double-lip oil seal to keep road dirt and water out of the gearbox.</p>		

	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p>Two (2) 6.0” diameter suction ports with 6” NST male threads and removable screens shall be provided, one each side. The ports shall be mounted one (1) on each side of the midship pump and shall extend through the side pump panels. Inlets shall come equipped with long handle chrome caps.</p> <p>Stuffing boxes shall be integral with the pump body and be equipped with two-piece glands to permit adjustment or replacement of packing without disturbing pump. Lantern rings shall be located at inner ends of stuffing boxes so that all rings of packing can be removed without removal of the lantern rings. Water shall be fed into stuffing box lantern rings for proper lubrication and cooling when pump is operating.</p> <p><b>Discharge Manifold</b></p> <p>The pump system shall utilize a stainless steel discharge manifold system that allows a direct flow of water to all discharge valves. The manifold and fabricated piping systems shall be constructed of a minimum of Schedule 10 stainless steel, to reduce corrosion.</p> <p>The apparatus manufacturer shall provide a full 10 year stainless steel plumbing components warranty. This warranty shall cover defects in materials or workmanship of apparatus manufacturer designed foam/water plumbing system stainless steel components for 10 years. A copy of the warranty document shall be provided with the proposal.</p> <p><b>Priming System</b></p> <p>The oil free electrically driven priming pump shall be a positive displacement vane type. One (1) priming control, located at the pump operator’s position, shall open the priming valve and start the priming motor. The priming valve shall be electronically interlocked to the ”Park Brake” circuit to allow priming of the pump before the pump is placed in gear.</p> <p><b>Pump Shift</b></p> <p>The pump shift shall be pneumatically controlled using a power shifting cylinder.</p> <p>The power shift control valve shall be mounted in the cab, and be labeled ”PUMP SHIFT”. The apparatus transmission shift control shall be furnished with a positive lever, preventing accidental shifting of the chassis transmission.</p> <p>A green indicator light shall be located in the cab, and be labeled ”PUMP ENGAGED”. The light shall not activate until the pump shift has completed its full travel into pump engagement position.</p> <p>A second green indicator light shall be located in the cab and be labeled ”OK TO PUMP”. This light shall be energized when both the pump shift has been completed and the chassis automatic transmission has obtained converter lockup (4th gear lockup).</p> <p><b>System</b></p>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p>Two (2) test plugs shall be pump panel mounted for third party testing of vacuum and pressures of the pump.</p> <p>A master drain valve shall be installed and operated from the pump operator`s panel. The master pump drain assembly shall consist of a Class 1 bronze master drain with a rubber disc seal and turning handle.</p> <p>The manual Master Drain Valve shall have six individually sealed ports that allow quick, simultaneous, draining of multiple intake and discharge lines. It shall be constructed of corrosion resistant material and be capable of operating at a pressure of up to 600 psi</p> <p>The master drain shall provide independent ports for low point drainage of the fire pump and auxiliary devices.</p> <p><b>Auxiliary Engine Cooler</b></p> <p>An engine cooler used to lower engine water temperature during prolonged pumping operations and controlled at the pump operator`s panel shall be provided.</p> <p>The engine cooler shall be installed in the engine coolant system in such a manner as to allow cool pump water to circulate around engine water, thus forming a true heat exchanger action. Cooler inlet and outlet shall be continuous, preventing intermixing of engine coolant and pump water.</p> <p><b>Pump Rating</b></p> <p>The fire pump shall be rated at 2000 GPM.</p> <p><b>PUMP CERTIFICATION</b></p> <p><b>Pump Certification</b></p> <p>The pump, when dry, shall be capable of taking suction and discharging water in accordance with current NFPA 1901. The pump shall be tested at the manufacturers facility by an independent, third-party testing service. The conditions of the pump test shall be as outlined in current NFPA 1901.</p> <p>The tests shall include, at a minimum, the pump test, the pumping engine overload test, the pressure control system test, the priming device tests, the vacuum test, and the water tank to pump flow test as outlined in current NFPA 1901.</p> <p>A piping hydrostatic test shall be performed as outlined in current NFPA 1901.</p> <p>The pump shall deliver the percentage of rated capacities at pressures indicated below:</p> <p>100% of rated capacity at 150 psi net pump pressure  100% of rated capacity at 165 psi net pump pressure</p>		

	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p>70% of rated capacity at 200 psi net pump pressure 50% of rated capacity at 250 psi net pump pressure</p> <p>A test plate, installed at the pump panel, shall provide the rated discharges and pressures together with the speed of the engine as determined by the certification test, and the no-load governed speed of the engine.</p> <p>A Certificate of Inspection certifying performance of the pump and all related components shall be provided at time of delivery. Additional certification documents shall include, but not limited to, Certificate of Hydrostatic Test, Electrical System Performance Test, Manufacturer's Record of Pumper Construction, and Certificate of Pump Performance from the pump manufacturer.</p> <p><b>PUMP OPTIONS</b></p> <p><b>Pump Cooler</b></p> <p>The pump shall have a 3/8" line installed from the pump discharge to the booster tank to allow a small amount of water to circulate through the pump casing in order to cool the pump during sustained periods of pump operation when water is not being discharged. The pump cooler line shall be controlled from the pump operator's panel by a 3/8" snubber valve.</p> <p><b>Steamers Flush+1</b></p> <p>The pump 6" Steamer/Intake(s) shall be mounted approximately 1" from the pump panel to back of cap when installed. Location: driver's side, officer's side</p> <p><b>Pump Seal Packing Waterous</b></p> <p>A pump packing shall be supplied with the pump and shall include stuffing boxes which shall be integral with the pump body and be equipped with two-piece glands to permit adjustment or replacement of packing without disturbing pump. Lantern rings shall be located at inner ends of stuffing boxes so that all rings of pacing can be removed without removal of the lantern rings. Water shall be fed into stuffing box lantern rings for proper lubrication and cooling when pump is operating.</p> <p><b>Master Drain</b></p> <p>A manual master drain valve shall be installed on the pump panel. The master pump drain assembly shall consist of a Class 1 bronze master drain with a rubber disc seal. The master drain shall have a rubber seal to prevent water from running out on the running board.</p> <p>The manual Master Drain Valve shall have twelve (12) individually-sealed ports that allow quick and simultaneous draining of multiple intake and discharge lines. It shall be constructed of corrosion-resistant material and be capable of operating at a pressure of up to 600 PSI.</p>		

	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p>The master drain shall provide independent ports for low point drainage of the fire pump and auxiliary devices.</p> <p><b>INTAKES</b></p> <p><b>Left Intake 2.5 Akron Valve</b></p> <p>One (1) 2 1/2” suction inlet with a manually operated 2 1/2” Akron valve shall be provided on the left side of the apparatus at the pump panel.</p> <p>The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position and water is flowing through it.</p> <p>The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.</p> <p>The outlet of the valve shall be connected to the suction side of the pump with the valve body located behind the pump panel. The valve shall come equipped with a brass inlet strainer, 2 1/2” NST female chrome inlet swivel and shall be equipped with a chrome-plated, rocker-lug plug with a retainer device.</p> <p>The valve control shall be located at the pump operator’s panel and shall visually indicate the position of the valve at all times.</p> <p>All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance, and decreased friction loss.</p> <p>A 3/4” bleeder valve assembly will be installed on the left side pump panel.</p> <p><b>Right Intake 2.5 Akron Valve</b></p> <p>One (1) 2-1/2” gated suction inlet with a manually operated Akron valve shall be installed in the right side pump panel with the valve body behind the panel. The valve control shall be located at the intake and shall visually indicate the position of the valve at all times.</p> <p>The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position and water is flowing through it.</p> <p>The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.</p> <p>The outlet of the valve shall be connected to the suction side of the pump with the valve body located behind the pump panel. The valve shall come equipped with a brass inlet strainer, 2-1/2”</p>		

	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p>NST female chrome inlet swivel and shall be equipped with a chrome-plated, rocker-lug plug with a retainer device.</p> <p>All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance, and decreased friction loss.</p> <p>A 3/4" bleeder valve assembly will be installed on the right side pump panel.</p> <p><b>INTAKE OPTIONS</b></p> <p><b>Intake Relief Valve</b></p> <p>The pump shall be equipped with an Akron style 59 cast brass, variable-pressure-setting relief valve on the pump suction side. It shall be designed to operate at a maximum inlet pressure of 250 psi. The relief valve shall be normally closed and shall be set to begin opening at 125 psi in order to limit intake pressures in the pumping system. When the relief valve opens, the overflow water shall be directed through a plumbed outlet to discharge below the apparatus body in an area visible to the pump operator. The overflow outlet shall terminate with a male 2-1/2" NST threaded fitting to allow the overflow water to be directed away from the vehicle with a short hose (supplied by the fire department) during freezing weather or under other conditions where an accumulation of water around the apparatus might be hazardous.</p> <p><b>DISCHARGES AND PRECONNECTS</b></p> <p><b>Front Jumpline 1.5 Akron Valve</b></p> <p>One (1) 1-1/2" preconnect outlet with a manually operated Akron valve shall be supplied to the extended front bumper. The preconnect shall consist of a 2" heavy-duty hose coming from the pump discharge manifold to a 2" FNPT x 1-1/2" MNST mechanical swivel hose connection to permit the use of the hose from either side of the apparatus.</p> <p>The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position with water flowing through it.</p> <p>The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.</p> <p>An air blowout valve shall be installed between the chassis air reservoir and the front jump line. The control shall be installed on the pump operator's panel.</p> <p>The discharge shall be supplied with a Class 1 automatic 3/4" drain valve assembly. The automatic drain shall have an all-brass body with stainless steel check assembly. The drain shall normally be open and automatically close when the pressure is greater than 6 psi.</p>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p>The valve control shall be located at the pump operator panel and shall visually indicate the position of the valve at all times.</p> <p>All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.</p> <p><b>Swivel FJL Brass In Tray</b></p> <p>There shall be a brass swivel provided for the front bumper discharge located in hose tray center front bumper centered on lower back wall.</p> <p><b>1.5 Crosslays Akron Valves [Qty: 2]</b></p> <p>Two (2) single crosslay discharges shall be provided at the front area of the body. The crosslay shall include one (1) 2” brass swivel with a 1-1/2” hose connection to permit the use of hose from either side of the apparatus.</p> <p>The crosslay hosebed shall consist of a 2” heavy-duty hose coming from the pump discharge manifold to the 2” swivel. The hose shall be connected to a manually operated 2” Akron valve. The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position with water flowing through it.</p> <p>The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.</p> <p>The valve control shall be located at the pump operator`s panel and shall visually indicate the position of the valve at all times.</p> <p>All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.</p> <p>Location: crosslay 1 &amp; 2</p> <p><b>Left Panel 2.5 Discharge Akron Valve</b></p> <p>One (1) 2-1/2” discharge outlet with a manually operated Akron valve shall be provided at the left hand side pump panel.</p> <p>The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position with water flowing through it.</p> <p>The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.</p>		

	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p>The valve control shall be located at the pump operator panel and shall visually indicate the position of the valve at all times.</p> <p>All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.</p> <p><b>Right Panel 2.5 Discharges Akron Valves</b></p> <p>Two (2) 2-1/2" discharge outlets with manually operated Akron valves shall be provided at the right side pump panel.</p> <p>The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position with water flowing through it.</p> <p>The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.</p> <p>The valve control shall be located at the pump operator panel and shall visually indicate the position of the valve at all times.</p> <p>All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.</p> <p><b>Left Rear 2.5 Discharge Akron Valves</b></p> <p>Two (2) 2-1/2" discharge outlets with manually operated Akron valves shall be supplied to the left rear of the apparatus below the hosebed. using a 2-1/2" stainless steel pipe.</p> <p>The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position with water flowing through it.</p> <p>The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.</p> <p>The valve control shall be located at the pump operator panel and shall visually indicate the position of the valve at all times.</p> <p>All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.</p> <p><b>Discharge 3 Right Panel Akron Handwheel</b></p>		

	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p>One (1) 3” discharge outlet with a handwheel operated Akron valve shall be provided at the right side pump panel.</p> <p>The valve shall be an Akron 8600HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position and water is flowing through it.</p> <p>The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.</p> <p>The handwheel valve control shall have the following features:</p> <ul style="list-style-type: none"> <li>• Handwheel driven worm gear rotates a gear sector for smoother and easier operation under pressure.</li> <li>• A 50:1 ratio</li> <li>• 4” handwheel</li> <li>• 12 1/2 turns for full open/close.</li> <li>• Opening and closing speed complies with the current edition of NFPA.</li> <li>• Portrait position indicator which shows the position of the valve ball to meet NFPA 1901.</li> </ul> <p>The valve control shall be located at the pump operator panel and shall visually indicate the position of the valve at all times.</p> <p>All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.</p> <p><b>Deck Gun 3 Akron Handwheel</b></p> <p>One (1) 3” deck gun discharge outlet with a handwheel operated Akron valve and 3” stainless steel pipe shall be provided above the pump compartment.</p> <p>The valve shall be an Akron 8600HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position and water is flowing through it.</p> <p>The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.</p> <p>The handwheel valve control shall have the following features:</p> <ul style="list-style-type: none"> <li>• Handwheel driven worm gear rotates a gear sector for smoother and easier operation under pressure.</li> <li>• A 50:1 ratio</li> <li>• 4” handwheel</li> <li>• 12 1/2 turns for full open/close.</li> </ul>		

	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <ul style="list-style-type: none"> <li>• Opening and closing speed complies with the current edition of NFPA.</li> <li>• Portrait position indicator which shows the position of the valve ball to meet NFPA 1901.</li> </ul> <p>The valve control shall be located at the pump operator panel and shall visually indicate the position of the valve at all times.</p> <p>All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.</p>		
<h2 data-bbox="159 541 678 583">DISCHARGE OPTIONS</h2> <h3 data-bbox="159 630 487 667">Bleeder Drain Valves</h3> <p data-bbox="159 709 1372 814">All discharges shall be supplied with a 3/4" bleeder valve assembly. The bleeder valve shall be installed to drain water from the gauge pressure line to prevent freezing of the line. The drain shall be controlled with a quarter-turn valve on the pump panel.</p> <p data-bbox="159 856 1323 924">Plumbed to: front bumper discharge, left rear discharge, deck gun, crosslay preconnect, left discharge, right discharge</p> <h3 data-bbox="159 966 592 1003">Control Push Pull T Handle</h3> <p data-bbox="159 1045 1380 1297">Control handles for tank supply, tank fill and all discharges except those that are handwheel controlled, shall be Push/Pull "T" style controls. The valve control levers shall be a chrome push-pull locking "T" handle located at the pump operator's panel and shall visibly indicate the position of the valve at all times. The control levers shall be located directly adjacent to one another and shall be mounted in line so they are in the same position when shut off. The control lever shall be connected directly to its respective valve by a .718" OD rod to form a direct linkage control system.</p>		
<h2 data-bbox="159 1344 730 1386">PRESSURE GOVERNORS</h2> <h3 data-bbox="159 1428 454 1465">Pressure Governor</h3> <p data-bbox="159 1507 1388 1801">The apparatus shall be equipped with a Class 1 engine/pump pressure governor/throttle system connected directly to the Electronic Control Module (ECM) mounted on the engine. The governor shall control and monitor the pump master discharge pressure, eliminating any need for a relief valve on the discharge side of the pump. A special preset feature shall permit a predetermined pressure or RPM to be set and hold it against varying flow rates at independent discharge lines by modulating engine rotation speed. Control of the engine speed shall be dictated by preprogrammed software in the electronic control module. The preset shall be easily adjustable by the operator.</p> <p data-bbox="159 1843 1364 1906">The Class 1 system shall be installed in place of the discharge relief valve and the pump panel mounted hand throttle.</p>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p>A display/control unit shall be mounted on the pump operator`s panel. The control unit shall be a self-contained, weatherproof module, approximately 4.5”W x 6”H. The display unit shall provide alpha-numeric display.</p> <p><b>GAUGES</b></p> <p><b>Tank Level Gauges</b></p> <p>One (1) Class 1 brand Intelli-Tank™ water tank level gauge shall be located at the pump operator`s panel of the apparatus to provide wide angle viewing and a high-visibility display of the water tank level. Four (4) ultra-bright LED`s (light emitting diodes) on the display module allow the full, 3/4, 1/2 and refill levels to be easily distinguished at a glance.</p> <p>The long life and extreme durability of LED indicators eliminates light bulb replacement and maintenance. Color coded cover plates shall complete the assembly of the display module.</p> <p>The system shall calibrate to any size and shape of tank and has a built-in diagnosis feature. It comes complete with an industrial pressure transducer, which will provide nine (9) accurate levels of indications. Each display also has a programmable night dimming feature.</p> <p>An additional Class 1 brand Intelli-Tank™ water tank level gauge shall be located officer side pump panel of the apparatus to provide wide angle viewing and a high-visibility display of the water tank level. Four (4) ultra-bright LED`s (light emitting diodes) on the display module allow the full, 3/4, 1/2 and refill levels to be easily distinguished at a glance.</p> <p>The long life and extreme durability of LED indicators eliminates light bulb replacement and maintenance. Color coded cover plates shall complete the assembly of the display module.</p> <p><b>Engine Gauge Package</b></p> <p>A gauge package shall be supplied at the pump operator`s panel to monitor the vehicle`s engine. The weatherproof package shall include the following:</p> <ul style="list-style-type: none"> <li>• Tachometer - to monitor engine revolutions per minute.</li> <li>• Oil pressure gauge - to monitor engine oil pressure.</li> <li>• Water temperature gauge - to monitor the engine water temperature.</li> <li>• Voltmeter - connected to the vehicle electrical system.</li> <li>• Engine alarm system - Two (2) warning lights, one (1) to indicate low oil pressure and one (1) to indicate high water temperature, and a buzzer alarm for audible warning.</li> </ul> <p><b>Master Gauges [Qty: 2]</b></p> <p>(2) Span weatherproof 4-1/2” compound vacuum pressure gauges with a range of 30-0-600 shall be installed on the pump panel for use as master intake and discharge gauges. The gauge shall be filled with a liquid solution.</p>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p>Specification for:</p> <p><b>Compound Pressure Gauges</b></p> <p>A Span weatherproof 2-1/2” compound vacuum pressure gauge with a range of 30-0-600 shall be installed on the pump panel for each discharge. The gauge shall be filled with a liquid solution to assure visual reading to within 1% accuracy.</p> <p><b>ELECTRICAL SYSTEMS</b></p> <p><b>Multiplex Electrical System</b></p> <p>The following specifications describe the low voltage electrical system on the specified fire apparatus. The electrical system shall include all panels, electrical components, switches and relays, wiring harnesses and other electrical components. The electrical equipment installed by the apparatus manufacturer shall conform to current automotive electrical system standards, the latest Federal DOT standards, and the requirements of the applicable NFPA #1901 standards.</p> <p>The apparatus shall have a multiplexing system to provide diagnostic capability. The system shall have the capability of delivering multiple signals via a CAN bus, utilizing specifications set forth by SAE J1939. The electrical system shall be pre-wired for computer modem accessibility to allow service personnel to easily plug in a modem to allow remote diagnostics, troubleshooting, or program additions.</p> <p>For superior system integrity, the networked system shall meet the following minimum requirement components:</p> <ul style="list-style-type: none"> <li>• Power management center</li> <li>• Load shedding power management</li> <li>• Solid-state circuitry</li> <li>• Switch input capability</li> <li>• Responsible for lighting device activation</li> <li>• Self-contained diagnostic indicators</li> <li>• Power distribution module</li> </ul> <p>All wiring shall be stranded copper or copper alloy conductors of a gauge rated to carry 125 percent of the maximum current for which the circuit is protected. Voltage drops in all wiring from the power source to the using device shall not exceed 10 percent. The wiring and wiring harness and insulation shall be in conformance to applicable SAE and NFPA standards. The wiring harness shall conform to SAE J-1128 with GXL temperature properties. All exposed wiring shall be run in a loom with a minimum 289 degree Fahrenheit rating. All wiring looms shall be properly supported and attached to body members. The electrical conductors shall be constructed in accordance with applicable SAE standards, except when good engineering practice requires special construction.</p> <p>The wiring connections and terminations shall use a method that provides a positive mechanical and electrical connection and shall be installed in accordance with the device manufacturer’s instructions. Electrical connections shall be with mechanical type fasteners and large rubber grommets where wiring passes through metal panels.</p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>The wiring between the cab and body shall be split using Deutsche type connectors or enclosed in a terminal junction panel area. This system will permit body removal with minimal impact on the apparatus electrical system. All connections shall be crimp-type with heat shrink tubing with insulated shanks to resist moisture and foreign debris such as grease and road grime. Weather-resistant connectors shall be provided throughout to ensure the integrity of the electrical system.</p> <p>Any electrical junction or terminal boxes shall be weather-resistant and located away from water spray conditions. In addition, the main body junction panel shall house the automatic reset breakers and relays where required.</p> <p>There shall be no exposed electrical cabling, harnesses, or terminal connections located in compartments, unless they are enclosed in an electrical junction box or covered with a removable electrical panel. The wiring shall be secured in place and protected against heat, liquid contaminants and damage. Wiring shall be uniquely identified at least every two feet (2') by color coding or permanent marking with a circuit function code and identified on a reference chart or electrical wiring schematic per requirements of applicable NFPA #1901 standards.</p> <p>The electrical circuits shall be provided with low voltage overcurrent protective devices. Such devices shall be accessible and located in required terminal connection locations or weather-resistant enclosures. The overcurrent protection shall be suitable for electrical equipment and shall be automatic reset type and meet SAE standards. All electrical equipment, switches, relays, terminals, and connectors shall have a direct current rating of 125 percent of maximum current for which the circuit is protected. The system shall have electro-magnetic interference suppression provided as required in applicable SAE standards.</p> <p>The electrical system shall include the following:</p> <p>a) Electrical terminals in weather exposed areas shall have a non-conductive grease or spray applied. A corrosion preventative compound shall be applicable to all terminal plugs located outside of the cab or body.</p> <p>b) The electrical wiring shall be harnessed or be placed in a protective loom.</p> <p>c) Heat shrink material and sealed connectors shall be used to protect exposed connections.</p> <p>d) Holes made in the roof shall be caulked with silicone. Large fender washers shall be used when fastening equipment to the underside of the cab roof.</p> <p>e) Any electrical component that is installed in an exposed area shall be mounted in a manner that will not allow moisture to accumulate in it.</p> <p>f) A coil of wire must be provided behind an electrical appliance to allow them to be pulled away from mounting area for inspection and service work.</p> <p>g) All lights that have their sockets in a weather exposed area shall have corrosion preventative compound added to the socket terminal area.</p>		

	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p>The warning lights shall be switched in the chassis cab with labeled switching in an accessible location. Individual rocker switches shall be provided only for warning lights provided over the minimum level of warning lights in either the stationary or moving modes. All electrical equipment switches shall be mounted on a switch panel mounted in the cab convenient to the operator. For easy nighttime operation, an integral indicator light shall be provided to indicate when the circuit is energized. All switches shall be appropriately identified as to their function.</p> <p>A single warning light switch shall activate all required warning lights. This switch will allow the vehicle to respond to an emergency and "call for the right of way". When the parking brake is activated, a "blocking right of way" system shall be automatically activated per requirements of NFPA #1901. All "clear" warning lights shall be automatically shed on actuation of parking brake.</p> <p><b>NFPA Required Testing of Electrical System</b></p> <p>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 following minimum testing shall be completed by the apparatus manufacturer:</p> <p>1. Reserve capacity test:</p> <p>The engine shall be started and kept running until the engine and engine compartment temperatures are stabilized at normal operating temperatures and the battery system is fully charged. The engine shall be shut off and the minimum continuous electrical load shall be activated for ten (10) minutes. All electrical loads shall be turned off prior to attempting to restart the engine. The battery system shall then be capable of restarting the engine. Failure to restart the engine shall be considered a test fail.</p> <p>2. Alternator performance test at idle:</p> <p>The minimum continuous electrical load shall be activated with the engine running at idle speed. The engine temperature shall be stabilized at normal operating temperature. The battery system shall be tested to detect the presence of battery discharge current. The detection of battery discharge current shall be considered a test failure.</p> <p>3. Alternator performance test at full load:</p> <p>The total continuous electrical load shall be activated with the engine running up to the engine manufacturer's governed speed. The test duration shall be a minimum of two (2) hours. Activation of the load management system shall be permitted during this test. However, an alarm sounded by excessive battery discharge, as detected by the system required in NFPA #1901 Standard, or a system voltage of less than 11.7 volts dc for a 12 volt nominal system, for more than 120 seconds, shall be considered a test failure.</p> <p>4. Low voltage alarm test:</p>		

	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p>Following the completion of the above tests, the engine shall be shut off. The total continuous electrical load shall be activated and shall continue to be applied until the excessive battery discharge alarm activates. The battery voltage shall be measured at the battery terminals. With the load still applied, a reading of less than 11.7 volts dc for a 12 volt nominal system shall be considered a test failure. The battery system shall then be able to restart the engine. Failure to restart the engine shall be considered a test failure.</p> <p><b>NFPA Required Documentation</b></p> <p>The following documentation shall be provided on delivery of the apparatus:</p> <p>a. Documentation of the electrical system performance tests required above.  b. A written load analysis, including:</p> <ol style="list-style-type: none"> <li>1. The nameplate rating of the alternator.</li> <li>2. The alternator rating under the conditions.</li> <li>3. Each specified component load.</li> <li>4. Individual intermittent loads.</li> </ol> <p><b>Vehicle Data Recorder</b></p> <p><b>Data Recorder</b></p> <p>A vehicle data recorder system shall be provided to comply with NFPA 1901, 2009 edition. The following data shall be monitored:</p> <ul style="list-style-type: none"> <li>• Vehicle speed MPH</li> <li>• Acceleration (from speedometer) MPH/Sec.</li> <li>• Deceleration (from speedometer) MPH/Sec.</li> <li>• Engine speed RPM</li> <li>• Engine throttle position % of full throttle</li> <li>• ABS Event On/Off</li> <li>• Seat occupied status Occupied Yes/No by position</li> <li>• Seat belt status Buckled Yes/No by position</li> <li>• Master Optical Warning Device Switch On/Off</li> <li>• Time 24 hour time</li> <li>• Date Year/Month/Day</li> </ul> <p><b>Occupant Detection System</b></p> <p>There shall be a visual and audible warning system installed in the cab that indicates the occupant buckle status of all cab seating positions that are designed to be occupied during vehicle movement.</p> <p>The audible warning shall activate when the vehicle's park brake is released and a seat position is not in a valid state. A valid state is defined as a seat that is unoccupied and the seat belt is unbuckled, or one that has the seat belt buckled after the seat has been occupied.</p>		

	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p>The visual warning shall consist of a graphical display that will continuously indicate the validity of each seat position.</p> <p>The system shall include a display panel with LED back-lit ISO indicators for each seating position, seat sensor and safety belt latch switch for each cab seating position, audible alarm and braided wiring harness.</p> <p>The display panel shall be located officer's overhead.</p> <p><b>LIGHT BARS</b></p> <p><b>Light Bar</b></p> <p>A Federal Signal JLX6001C 60" LED JetStream light bar shall be installed with clear domes. The light bar shall contain nine (9) SOL 6 Red LED Solaris reflectors, and six (6) SOL 3 red LED Solaris reflectors.</p> <p>The light bar shall be installed in the following location: Centered on the front of cab roof.</p> <p><b>WARNING LIGHT PACKAGES</b></p> <p><b>Lower Level Warning</b></p> <p>Eight (8) Federal Signal QL64XF-R LED light heads &amp; Two (2) Federal Signal Model 360501-04 LED light heads all with red lens shall be provided.</p> <p>The light heads shall be mounted as close to the corner points of the apparatus (as is practical) as follows:</p> <ul style="list-style-type: none"> <li>• Two (2) QL64XF-R light heads on the front of the apparatus facing forward.</li> <li>• Two (2) QL64XF-R light heads on the rear of the apparatus facing rearward.</li> <li>• Two (2) QL64XF-R light heads each side of the apparatus, one (1) each side at the forward most point and one (1) centrally located to provide midship warning lighting.</li> <li>• Two Model 360501-04 LED light heads shall be mounted one (1) each side at the rearward most point (as practical).</li> </ul> <p>The side facing lights shall be located at forward most position, centered in rear wheelwell, and side facing at rear of body in the rubrail.</p> <p>All warning devices shall be surface mounted in compliance with NFPA standards.</p> <p><b>Upper Rear Warning Lights</b></p> <p>Two (2) Federal Signal Model IVP100 Individual Vector Pods shall be supplied. Each unit shall consist of a 175 FPM rotating light. The dome colors to be driver red, officer amber.</p>		

	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p>The lights shall be located (1) each side of body on rearward compartment top to meet Zone C upper requirements.</p> <p><b>Hazard (Door Ajar) Light</b></p> <p>There shall be a 2.5” red incandescent hazard light installed as specified.</p> <p>The light shall be located center overhead.</p> <p><b>Preemption Emitter</b></p> <p>A Tomar model EMIT3 preemption emitter with chrome plated housing shall be installed.</p> <p>The emitter shall be located driver's side brow.</p> <p><b>SIRENS</b></p> <p><b>Electronic Siren</b></p> <p>A Federal PA300 siren model 690010 solid state electronic siren with attached noise-canceling microphone shall be installed. The unit shall be capable of driving a single high power speaker up to 200 watts to achieve a sound output level that meets Class "A" requirements.</p> <p>Operating modes shall include Hi-Lo, yelp, wail, P.A., air horn and radio re-broadcast.</p> <p>The siren shall be recessed mounted in the cab.</p> <p><b>Electronic Siren Control Location</b></p> <p>The electronic siren control shall be located in the center overhead console offset to driver side.</p> <p><b>Mechanical Siren</b></p> <p>A chrome plated and exterior mounted Federal Q2B-P coaster siren shall be installed on top of the front bumper extension. An electric siren brake switch shall be located on the main cab switch panel.</p> <p>The siren shall be located officer side front bumper.</p> <p><b>SPEAKERS</b></p> <p><b>Speaker</b></p> <p>One (1) Federal model ES100 Dynamax 100 watt speaker shall be flush-mounted as far forward and as low as possible on the front of the cab. A polished Model MSFMT-EF "Electric F" grille</p>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p>shall be provided on the outside of the speaker to prevent road debris from entering the speaker. Speaker dimensions shall be: 5.5 in. high x 5.9 in. wide x 2.5 in. deep. Weight = 5.5 lbs.</p> <p>The speaker shall produce a minimum sound output of 120 db(A) at 10 feet to meet current NFPA 1901 requirements.</p> <p>The speaker shall be located driver side front bumper.</p>		
<p><b>DOT LIGHTING</b></p>		
<p><b>License Plate Light</b></p>		
<p>One (1) Truck-Lite Model 15905 white LED license plate light mounted in a Truck-Lite Model 15732 chrome-plated plastic license plate housing shall be mounted at the rear of the body.</p>		
<p><b>LED Marker Lights</b></p>		
<p>LED clearance/marker lights shall be installed as specified.</p>		
<p><b>Upper Cab:</b></p> <ul style="list-style-type: none"> <li>• Five (5) amber LED clearance lights on the cab roof.</li> </ul>		
<p><b>Lower Cab:</b></p> <ul style="list-style-type: none"> <li>• One (1) amber LED side turn/marker each side of cab ahead of the front door hinge.</li> </ul>		
<p><b>Upper Body:</b></p> <ul style="list-style-type: none"> <li>• One (1) red Trucklite LED clearance light each side, rear of body to the side.</li> </ul>		
<p><b>Lower Body:</b></p> <ul style="list-style-type: none"> <li>• Three (3) red Trucklite LED clearance lights centered at rear, recessed in the rubrail.</li> <li>• One (1) red Trucklite LED clearance light each side at the trailing edge of the apparatus body, recessed in the rubrail.</li> <li>• One (1) amber Trucklite LED clearance/auxiliary turn light each side front of body/module, recessed in the rubrail.</li> </ul>		
<p><b>Tail Lights</b></p>		
<p>One (1) Federal Signal model QL64Z-BTT red L.E.D. (Light Emitting Diode) light, one (1) Federal Signal model QL64Z-ARROW amber LED light and one (1) Federal Signal QL64Z-BACKUP white LED light shall be installed in a Cast 3 housing in a vertical position each side at rear and wired with weatherproof connectors.</p>		
<p>Light functions shall be as follows:</p> <ul style="list-style-type: none"> <li>• L.E.D. red running light with red brake light in upper position.</li> <li>• L.E.D. amber populated arrow pattern turn signal in middle position.</li> <li>• L.E.D. white backup light in lower position.</li> </ul>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p>A one-piece polished aluminum trim casting shall be mounted around the three (3) individual lights in a vertical position.</p> <p><b>LIGHTS - COMPARTMENT, STEP &amp; GROUND</b></p> <p><b>Medical Cabinet Lighting</b></p> <p>Two (2) ROM V3 LED compartment light strips shall be mounted in the cab medical cabinet and located on either side of the roll-up door.</p> <p>The light bar shall include super bright white LEDs (16 per 12” strip) mounted to circuit boards that have acrylic conformal coating for corrosion protection. The LED curcuit boards shall be mounted to an extruded aluminum base with lexan lens. The light shall be waterproof up to 1 meter (3.3 feet).</p> <p>The light shall be controlled by a compartment door switch.</p> <p><b>Compartment Light Package</b></p> <p>R.O.M. V3 compartment light strips shall be mounted in each body compartment on either side of the door opening.</p> <p>Each light bar shall include sixteen (16) super bright white LEDs per foot mounted to circuit boards that have acrylic conformal coating for corrosion protection. The LED curcuit boards shall be mounted to an extruded aluminum base with lexan lens. The lights shall be waterproof up to 1 meter (3.3 feet).</p> <p>Compartment lights shall be wired to a master on/off rocker switch on the cab switch panel.</p> <p>The wiring connection for the compartment lights shall be made with a weather-resistant plug in style connector. A single water- and corrosion-resistant switch with a polycarbonate actuator and sealed contacts shall control each compartment light. The switch shall allow the light to illuminate if the compartment door is open.</p> <p><b>Ground Lights</b></p> <p>The apparatus shall be equipped with a sufficient quantity of lights to properly illuminate the ground areas around the apparatus in accordance with current NFPA requirements. The lights shall be 4” circular with clear lenses mounted in a resilient shock absorbent mount for improved bulb life. The wiring connections shall be made with a weather-resistant plug in style connector.</p> <p>Ground area lights shall be switched from the cab dash with the work light switch.</p> <p>One (1) ground light shall be supplied under each side of the front bumper extension if equipped.</p>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p>Lights in areas under the driver and crew area exits shall be activated automatically when the exit doors are opened.</p> <p><b>LIGHTS - DECK AND SCENE</b></p> <p><b>Hosebed Lights</b></p> <p>Two (2) Federal Signal GHSCENE flush-mounted scene light with a clear lens shall be installed at the front area of the hosebed to provide hosebed lighting per current NFPA 1901. The light shall include (2) 20-watt halogen light fixtures within the light housing. The two light fixtures shall be adjustable horizontally and vertically to provide the desired coverage. All electrical connectors are to be enclosed in the housing providing protection against the elements.</p> <p>The hosebed light shall be switched with work light switch in the cab.</p> <p><b>Crosslay Light</b></p> <p>A Truck-Lite rectangular light shall be installed at the rear area of the crosslay to provide crosslay lighting per current NFPA 1901. The rectangular rubber housing shall contain a 12-volt 2700 candlepower halogen floodlight bulb. The hosebed light shall be switched with work light switch in the cab.</p> <p><b>Scene Lights</b></p> <p>Two (2) Federal GHSCENE lights with clear lenses shall be provided at the rear, one each side on the rear compartment face high as possible. Each light shall include (2) 20 watt halogen fixtures within the light housing. Both lights within each housing, shall be adjustable horizontally and vertically to provide desired coverage. All electrical connectors are to be enclosed in the housing providing protection against the elements.</p> <p><b>Deck/Scene Light Wired to Back-up</b></p> <p>The rear deck or scene lights shall be activated when the chassis is placed in reverse to provide additional lighting, in addition to the back-up lights, when backing the vehicle.</p> <p><b>LIGHTS - NON-WARNING</b></p> <p><b>Engine Compartment Light</b></p> <p>There shall be lighting provided in compliance with NFPA to illuminate the engine compartment area.</p> <p><b>Pump Compartment Light</b></p> <p>An incandescent light shall be provided in the pump compartment area for NFPA compliance. The light shall be wired to operate with the work light switch in the cab.</p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p><b>Pump Panel Light Package</b></p> <p>Three (3) Weldon #2030 lights shall be mounted under a light shield directly above each pump panel. The work light switch in the cab shall activate the lights when the park brake is set.</p> <p><b>Map Light</b></p> <p>A Federal "Little Light" map light shall be supplied. The map light shall be 12 volt with 18" flexible gooseneck with a on/off switch and matte black finish. It shall be located at officer's A post.</p> <p><b>Handheld Spotlight</b></p> <p>A specialty #2150 hand held spotlight with mounting bracket shall be provided. It shall be hardwired and located at the officers side of the cab dash.</p> <p><b>CONTROLS / SWITCHES</b></p> <p><b>Foot Switch</b></p> <p>A heavy-duty metal floor-mounted foot switch shall be installed to operate the Q2B siren. It shall be located officer's side.</p> <p><b>Officer Q2B Rocker Switch</b></p> <p>A 12 volt rocker switch shall be installed. The switch shall be located officer's side overhead console for Q2B brake.</p> <p><b>CAMERAS / INTERCOM</b></p> <p><b>Backup Camera</b></p> <p>A Safety Vision Back-Up Camera model SV-625B-Kit, color monitor model SV-CLCD70B, and the control box model SV-CBB56-70 shall be installed. The monitor shall be installed on the front console area visible at night and in bright sunlight to the driver. The camera shall be mounted up high at the rear of the vehicle to provide a wide angle rear view. The system shall include a cable with metallic waterproof threaded o-ring seal connectors to ensure positive connection between video cable and camera to prevent unplugging due to vibration resulting in video loss to vehicle operator.</p> <p><b>MISC ELECTRICAL</b></p> <p><b>Alternating Headlights</b></p>		

	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p>The chassis high beam headlights shall alternately flash and shall be controlled by a rocker switch mounted inside the cab.</p> <p><b>Back-up Alarm</b></p> <p>An electronic back-up alarm shall be supplied. The 97 dB(A) alarm shall be wired into the chassis back-up lights to signal when the vehicle is in reverse.</p> <p><b>GENERATOR</b></p> <p><b>Hydraulic Generator</b></p> <p>A Smart Power Model HR-6 top mount style 5500 watt hydraulic generator shall be provided. The generator shall be installed dunnage pan above the pump panel offset to driver side</p> <p>The unit shall come equipped with: modular generator unit (which includes the hydraulic motor and filter, generator, and cooler), axial piston hydraulic pump, hydraulic reservoir, and a gauge panel.</p> <p>The gauge panel shall display voltage, hour meter, frequency, and amperage.</p> <p>The hydraulic motor, generator, blower, cooler, and necessary hydraulic components shall be mounted in a rugged steel case.</p> <p>The modular generator unit shall be 32” long x 13.50” wide x 17.00” high and weigh approximately 190 pounds.</p> <p>The hydraulic pump shall be driven by a chassis transmission mounted power take off (PTO).</p> <p>A PTO engage switch and generator control switch shall be mounted on the cab instrument panel to engage the PTO and start the generator.</p> <p><b>Ratings and Capacity</b></p> <p>Rating:                                6200 watts continuous           7500 watts peak</p> <p>Volts:                                    120/240 volts</p> <p>Phase:                                  Single, 4 wire</p> <p>Frequency:                            60 Hz</p> <p>Amperage:                              46 amps @ 120 volts or 23 amps @ 240 volts</p> <p>Engine speed at engagement:    Recommend below 1000 RPM</p> <p>Operation range:                      880 to 3120 RPM</p> <p><b>Testing</b></p> <p>The generator shall be tested in accordance with current N.F.P.A. 1901 standards.</p>		

	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p>Notes:            *All ratings and capacities shall be derived utilizing current NFPA 1901 test parameters.            *Extreme ambient temperatures could affect generator performance.</p> <p><b>GENERATOR TEST</b></p> <p><b>3rd Party Generator Testing</b></p> <p>The generator shall be tested at the manufacturers facility by an independent, third-party testing service. The conditions and testing of the generator shall be as outlined in current NFPA 1901.</p> <p>The test shall include operating the generator for two hours at 100% of the rated load. Power source voltage, amps, frequency shall be monitored. The prime mover's oil pressure, water temperature, transmission temperature (if applicable) and power source hydraulic fluid temperature (if applicable) shall be monitored during testing.</p> <p>The results of the test shall be recorded and provided with delivery documentation.</p> <p><b>BREAKER BOXES</b></p> <p><b>Breaker Panel</b></p> <p>An eight (8) place breaker box with up to six (6) appropriately sized ground-fault interrupter circuit breakers shall be supplied. The breaker box will include a master breaker sized according to the generator output which will occupy two (2) places. The breaker box will be located in the specified compartment, not to exceed 12' run of wire.</p> <p>Dimensions: 12.50" high x 8.88" wide x 3.80" deep.</p> <p>Location: L1 back wall above offset forward area</p> <p><b>LIGHTS - QUARTZ</b></p> <p><b>Quartz Lights</b></p> <p>Two (2) Kwik-Raze model 36 Magnafire quartz light heads with 750-watt, 120-volt halogen bulb rated at 19,200 Lumens shall be installed They shall be mounted on a Kwik-Raze model 500-W/2 bottom raising aluminum telescopic pole with up indicator switch.</p> <p>The light assembly shall be externally mounted as specified. The pole shall allow for 360-degree rotation of the light. A locking knob shall hold the pole at the desired height.</p> <p>Location: officer side back of cab, driver side back of cab</p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p><b>ELECTRIC CORD REELS</b></p> <p><b>Electric Cord Reel</b></p> <p>Hannay electric cord reel(s) (ECR 1616-17-18) shall be installed and located pump module storage pan on the officer side.</p> <p>The reel(s) shall include 200` of black 10 gauge 3 conductor type SOWA cord. The cord shall be rated at 20 amps @ 110 volts. The end of the cord shall be terminated for the installation of a department required connector.</p> <p><b>Cord Reel Rewind Switch</b></p> <p>A heavy duty rubber covered electric reel rewind button shall be installed officer side pump panel.</p> <p><b>Cord Reel Rollers</b></p> <p>Stainless steel cord reel rollers shall be installed bracket mounted and located on top of pump module storage pan officer side</p> <p>The rollers shall facilitate smooth removal of the electric cord.</p> <p><b>GROUND LADDERS</b></p> <p><b>Folding Ladder</b></p> <p>An AlcoLite 10` folding attic ladder shall be provided.</p> <p><b>Roof Ladder</b></p> <p>An AlcoLite 14` roof ladder shall be provided. Folding steel roof hooks shall be attached to one end of the ladder with steel spikes on the other.</p> <p><b>Extension 2 Section Ladder</b></p> <p>An AlcoLite 24` two-section extension ladder shall be provided.</p> <p><b>MISC LOOSE EQUIPMENT</b></p> <p><b>DOT Required Drive Away Kit</b></p> <p>Three (3) triangular warning reflectors with carrying case shall be supplied to satisfy the DOT requirement.</p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p><b>EXTERIOR PAINT</b></p> <p><b>Paint Custom Cab</b></p> <p>The apparatus cab shall be painted Akzo-Nobel FLNA3047 Red. The paint process shall meet or exceed current State regulations concerning paint operations. Pollution control shall include measures to protect the atmosphere, water, and soil. Contractor shall, upon demand, provide evidence that the manufacturing facility is in compliance with State EPA rules and regulations.</p> <p>The aluminum cab exterior shall have no mounted components prior to painting to assure full coverage of metal treatments and paint to the exterior surfaces of the body. Any vertically- or horizontally-hinged smooth-plate compartment door shall be painted separately to assure proper paint coverage on body, door jambs and door edges.</p> <p>Paint process shall feature Akzo-Nobel's high solid LV products and be performed in the following steps:</p> <ul style="list-style-type: none"> <li>• Corrosion Prevention - all raw material shall be pre-treated with the Weather Jacket Corrosion Prevention system to provide superior corrosion resistance and excellent adhesion of the top coat.</li> <li>• Akzo-Nobel Sealer/Primer LV - acrylic urethane sealer/primer shall be applied to guarantee excellent gloss hold-out, chip resistance and a uniform base color.</li> <li>• Akzo-Nobel High Solid LV (Top coat) - a lead-free, chromate-free high solid acrylic urethane top coat shall be applied, providing excellent coverage and durability. A minimum of two (2) coats shall be applied.</li> <li>• Akzo-Nobel High Solid LV (Clear coat) - high solid LV clear coat shall be applied as the final step in order to ensure full gloss and color retention and durability. A minimum of two (2) coats shall be applied.</li> </ul> <p>Any location where aluminum is penetrated, after painting, for the purpose of mounting steps, handrails, doors, lights, or other specified components shall be treated at the point of penetration with a corrosion inhibiting pre-treatment. The pre-treatment shall be applied to the aluminum sheet metal or aluminum extrusions in all locations where the aluminum has been penetrated. All hardware used in mounting steps, handrails, doors, lights, or other specified components shall be individually treated with the corrosion inhibiting pre-treatment.</p> <p>After the paint process is complete, the gloss rating of the unit shall be tested with a 20 degree gloss meter.</p> <p><b>Paint Body</b></p> <p>The apparatus body shall be painted Akzo-Nobel FLNA3047 Red. The paint process shall meet or exceed current State regulations concerning paint operations. Pollution control shall include measures to protect the atmosphere, water, and soil. Contractor shall, upon demand, provide evidence that the manufacturing facility is in compliance with State EPA rules and regulations.</p>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p>The aluminum body exterior shall have no mounted components prior to painting to assure full coverage of metal treatments and paint to the exterior surfaces of the body. Any vertically- or horizontally-hinged smooth-plate compartment door shall be painted separately to assure proper paint coverage on body, door jambs and door edges.</p> <p>Paint process shall feature Akzo-Nobel's high solid LV products and be performed in the following steps:</p> <ul style="list-style-type: none"> <li>• Corrosion Prevention - all raw material shall be pre-treated with the Weather Jacket Corrosion Prevention system to provide superior corrosion resistance and excellent adhesion of the top coat.</li> <li>• Akzo-Nobel Sealer/Primer LV - acrylic urethane sealer/primer shall be applied to guarantee excellent gloss hold-out, chip resistance and a uniform base color.</li> <li>• Akzo-Nobel High Solid LV (Top coat) - a lead-free, chromate-free high solid acrylic urethane top coat shall be applied, providing excellent coverage and durability. A minimum of two (2) coats shall be applied.</li> <li>• Akzo-Nobel High Solid LV (Clear coat) - high solid LV clear coat shall be applied as the final step in order to ensure full gloss and color retention and durability. A minimum of two (2) coats shall be applied.</li> </ul> <p>Any location where aluminum is penetrated, after painting, for the purpose of mounting steps, handrails, doors, lights, or other specified components shall be treated at the point of penetration with a corrosion inhibiting pre-treatment. The pre-treatment shall be applied to the aluminum sheet metal or aluminum extrusions in all locations where the aluminum has been penetrated. All hardware used in mounting steps, handrails, doors, lights, or other specified components shall be individually treated with the corrosion inhibiting pre-treatment.</p> <p>After the paint process is complete, the gloss rating of the unit shall be tested with a 20 degree gloss meter.</p> <p><b>INTERIOR PAINT</b></p> <p><b>Cab Interior Color</b></p> <p>The interior of the cab shall be painted with Zolatone 20-64.</p> <p><b>LETTERING</b></p> <p><b>Sign Gold Lettering</b></p> <p>Sixty (60) 3" high Sign Gold letters shall be applied as specified.</p> <p><b>Lettering Shade and Outline</b></p> <p>Existing letter shall be shaded and outlined in black to contrast the letters.</p>		

	BIDDER COMPLIES	
Specification for:	YES	NO
<p>Specification for:</p> <p><b>STRIPING</b></p> <p><b>Trim Stripe</b></p> <p>A 1” Scotchlite stripe shall be applied above the existing stripe. The stripe shall be spaced 1” away from the main stripe.</p> <p>The stripe shall be Gold.</p> <p><b>Scotchlite Stripe</b></p> <p>A ”Hockey Stick” Scotchlite reflective stripe, 4” minimum in width, shall be applied horizontally across the front of cab and shall contour as it transitions from cab to body to comply with NFPA 1901. The color and location of the stripe to be specified by the purchaser.</p> <p>Location: top of stripe flush with top of bumper and straight back</p> <p>Color: White</p> <p><b>Rear Body Scotchlite Striping</b></p> <p>Printed chevron style Scotchlite striping shall be provided on the rear of the apparatus. The stripes shall consist of 6” Yellow/Red alternating stripes in an ”A” pattern. The striping shall be located on the rear facing extrusions, panels, doors and inboard/outboard of the beavertails if applicable.</p> <p><b>WARRANTY / STANDARD &amp; EXTENDED</b></p> <p><b>Standard 1 Year Warranty</b></p> <p>Statement of Warranty</p> <p>1-Year Standard</p> <p>The apparatus manufacturer shall provide a full 1-year standard warranty. All components manufactured by the apparatus manufacturer shall be covered against defects in materials or workmanship for a 1-year period. All components covered by separate suppliers such as engines, transmissions, tires, and batteries shall maintain the warranty as provided by the component supplier. A copy of the warranty document shall be provided with the proposal.</p> <p><b>Lifetime Frame Warranty</b></p> <p>The apparatus manufacturer shall provide a full lifetime frame warranty. This warranty shall cover all apparatus manufacturer designed frame, frame members, and crossmembers against defects in materials or workmanship for the lifetime of the covered apparatus. A copy of the</p>		

Specification for:

warranty document shall be provided with the proposal. Frame warranties that do not cover crossmembers for the life of the vehicle shall not be acceptable.

**10 Year 100000 Mile Structural Warranty**

The apparatus manufacturer shall provide a comprehensive 10-year/100,000-mile structural warranty. This warranty shall cover all structural components of the cab and/or body manufactured by the apparatus manufacturer against defects in materials or workmanship for 10 years or 100,000 miles, whichever occurs first. Excluded from this warranty are all hardware, mechanical items, electrical items, or paint finishes. A copy of the warranty document shall be provided with the proposal.

**10 Year Stainless Steel Plumbing Warranty**

The apparatus manufacturer shall provide a full 10-year stainless steel plumbing components warranty. This warranty shall cover defects in materials or workmanship of apparatus manufacturer designed foam/water plumbing system stainless steel components for 10 years. A copy of the warranty document shall be provided with the proposal.

**10 Year Paint and Corrosion Warranty**

The apparatus manufacturer shall provide a 10-year limited paint and corrosion perforation warranty. This warranty shall cover paint peeling, cracking, blistering, and corrosion provided the vehicle is used in a normal and reasonable manner.

The paint shall be prorated for 10 years as follows:

Topcoat & Appearance: Gloss, Color Retention, Cracking		Coating System, Adhesion & Corrosion: Includes Dissimilar metal corrosion, Flaking, Blistering, Bubbling	
0 to 72 months	100%	0 to 36 months	100%
73 to 120 months	50%	37 to 84 months	50%
		85 to 120 months	25%

Corrosion perforation shall be covered 100% for 10 years.

The warranty period shall begin upon delivery of the apparatus to the original user-purchaser. A copy of the warranty document shall be provided with the proposal.

UV paint fade shall be covered in a separate warranty supplied by Akzo Nobel (Sikkens) and shall be for a minimum of 10 years.

**SUPPORT, DELIVERY, INSPECTIONS AND MANUALS**

**Approval Drawings**

	BIDDER COMPLIES	
	YES	NO
<p>Specification for:</p> <p>A general arrangement drawing depicting the vehicle`s appearance shall be provided. The drawing shall consist of left side, right side, front, and rear elevation views</p> <p>Vehicles requiring pump controls shall include a general arrangement view of the pump operator`s position, scaled the same as the elevation views.</p> <p><b>Electronic Manuals</b></p> <p>Two (2) copies of all operator, service, and parts manuals MUST be supplied at the time of delivery in electronic format (CD-ROMs) -NO EXCEPTIONS! The electronic manuals shall include the following information:</p> <p>Operating Instructions, descriptions, specifications, and ratings of the cab, chassis, body, installed components, and auxiliary systems.</p> <p>Warnings and cautions pertaining to the operation and maintenance of the fire apparatus and fire fighting systems.</p> <p>Charts, tables, checklists, and illustrations relating to lubrication, cleaning, troubleshooting, diagnostics, and inspections.</p> <p>Instructions regarding the frequency and procedure for recommended maintenance.</p> <p>Maintenance instructions for the repair and replacement of installed components.</p> <p>Parts listing with descriptions and illustrations for identification.</p> <p>Warranty descriptions and coverage.</p> <p>The CD-ROM shall incorporate a navigation page with electronic links to the operators manual, service manual, parts manual, and warranty information, as well as instructions on how to use the manual. Each copy shall include a table of contents with links to the specified documents or illustrations.</p> <p>The CD must be formatted in such a manner as to allow not only the printing of the entire manual, but to also the cutting, pasting, or copying of individual documents to other electronic media, such as electronic mail, memos, and the like.</p> <p>A find feature shall be included to allow for searches by text or by part number.</p> <p>These electronic manuals shall be accessible from any computer operating system capable of supporting portable document format (PDF). Permanent copies of all pertinent data shall be kept file at both the local dealership and at the manufacturer`s location.</p> <p>NOTE: Engine overhaul, engine parts, transmission overhaul, and transmission parts manuals are not included.</p>		

Specification for:	BIDDER COMPLIES	
	YES	NO
<p><b>DEALER ADDED EQUIPMENT</b></p> <p><b>Dealer</b></p> <p>In Station Delivery and Training with this Unit shall be supplied.</p> <p>A set of On-Spot Automatic Tire Chains shall be installed on your truck.</p> <p>Travel for 2 Members of the Fire Department to the Factory for Final Inspection and Acceptance shall be supplied.</p> <p>A set of Aluminum Cast Wheel Chocks and Mounting Hardware shall be included and installed in Department specified location.</p> <p><b>Electrical</b></p> <p>A 4 way Portable Electric Junction Box shall be supplied.</p> <p>A box style mounting bracket to hold the cord end electrical junction box shall be supplied. The box shall be smooth aluminum powder coated white.</p> <p><b>Graphics</b></p> <p>[1] Cab &amp; Body Lettering to meet Dept. Specification shall be supplied.</p>		